



**DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE PROPOSED
ARBORETUM SPECIFIC PLAN**

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DRAFT ENVIRONMENTAL IMPACT REPORT

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ARBORETUM SPECIFIC PLAN

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Table of Contents

SECTION	PAGE
EXECUTIVE SUMMARY	S-1
1.0 INTRODUCTION	1-1
1.1 Overview.....	1-1
1.2 Purpose of the EIR	1-1
1.3 Methodology	1-5
1.4 Scope and Format of the EIR	1-7
2.0 ENVIRONMENTAL SETTING	2-1
2.1 Project Location and Environmental Setting	2-1
2.2 Project Background.....	2-8
2.3 Applicable Plans and Policies	2-9
3.0 PROJECT DESCRIPTION	3-1
3.1 Objectives of the Project	3-1
3.2 Project Characteristics	3-1
3.3 Discretionary Actions	3-16
4.0 ENVIRONMENTAL IMPACT ANALYSIS	4.1-1
4.1 Introduction.....	4.1-1
4.2 Land Use and Planning	4.2-1
4.3 Population and Housing.....	4.3-1
4.4 Transportation and Circulation.....	4.4-1
4.5 Air Quality	4.5-1
4.6 Noise	4.6-1
4.7 Geology and Soils	4.7-1
4.8 Hydrology and Water Quality	4.8-1
4.9 Biological Resources	4.9-1
4.10 Cultural Resources.....	4.10-1
4.11 Public Services and Recreation	4.11-1
4.11.1 Police Protection and Law Enforcement Services.....	4.11-1
4.11.2 Fire Protection Services	4.11-7
4.11.3 School Services	4.11-10
4.11.4 Parks and Recreation.....	4.11-14
4.11.5 Library Services.....	4.11-18
4.11.6 Medical Services	4.11-21
4.12 Utilities	4.12-1
4.12.1 Water Services.....	4.12-1
4.12.2 Wastewater and Sewer Services	4.12-11
4.12.3 Storm Drainage	4.12-17
4.12.4 Solid Waste Disposal	4.12-21
4.12.5 Electrical Power Service.....	4.12-25
4.12.6 Natural Gas Service	4.12-28
4.12.7 Telephone and Cable Television Services	4.12-31
4.13 Human Health and Hazards.....	4.13-1
4.14 Visual Quality and Aesthetics	4.14-1

Table of Contents

SECTION	PAGE
5.0	SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES AND UNAVOIDABLE ADVERSE IMPACTS..... 5-1
6.0	CUMULATIVE IMPACTS 6-1
6.1	Related Projects 6-1
6.2	Cumulative Impact Analysis..... 6-4
7.0	GROWTH-INDUCING IMPACTS 7-1
8.0	IMPACTS FOUND TO BE INSIGNIFICANT 8-1
8.1	Agricultural Resources 8-1
8.2	Mineral Resources 8-4
9.0	ALTERNATIVES TO THE PROJECT 9-1
9.1	Summary of Project Actions and Objectives 9-1
9.2	Summary of Significant Impacts 9-1
9.3	Alternatives Analysis 9-1
9.3.1	No Project Alternative 9-3
9.3.2	Existing Land Use Designations..... 9-5
9.3.3	Lower Intensity Development 9-10
9.3.4	Alternative Sites 9-13
9.4	Environmentally Superior Alternative..... 9-17
10.0	MITIGATION MONITORING AND REPORTING PROGRAM 10-1
10.1	Standard Conditions..... 10-2
10.2	Mitigation Measures 10-7
11.0	REFERENCES AND PREPARERS 11-1
11.1	References 11-1
11.2	Persons Contacted..... 11-3
11.3	Preparers of the EIR 11-4

APPENDICES

A	NOTICE OF PREPARATION (NOP) AND MAILING LIST
B	RESPONSES TO NOP
C	TRAFFIC IMPACT STUDY
D	AIR QUALITY ANALYSIS
E	NOISE ANALYSIS
F	GEOTECHNICAL INVESTIGATION
G	DRAINAGE STUDIES
H	BIOLOGICAL RESOURCE STUDIES
I	CULTURAL RESOURCE STUDY AND HISTORICAL EVALUATION
J	PUBLIC SERVICE LETTERS
K	WATER SUPPLY ASSESSMENT
L	SEWER SYSTEM ANALYSIS
M	PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

Table of Contents

LIST OF FIGURES	PAGE
2-1 Regional Map.....	2-2
2-2 Vicinity Map	2-5
2-3 Aerial Photograph	2-7
2-4 General Plan Land Use Designations.....	2-11
2-5 Zoning Designations	2-13
2-6 North Fontana Redevelopment Plan Boundaries	2-14
2-7 North Economic Zone.....	2-17
2-8 Specific Plan Areas.....	2-18
2-9 North Fontana MSHCP Area.....	2-19
3-1 Proposed Villages.....	3-4
3-2 Conceptual Land Use Plan	3-5
3-3 Circulation Plan.....	3-9
3-4 Proposed Land Use Plan Amendment	3-12
3-5 Proposed Zone Change.....	3-13
3-6 Project Phasing.....	3-15
4.4-1 Study Intersections	4.4-5
4.4-2 Existing Intersection Lane Configurations	4.4-6
4.4-3 Existing Peak Hour Traffic Volumes	4.4-9
4.4-4 2010 Without Project Peak Hour Traffic Volumes	4.4-16
4.4-5 2010 With Project Peak Hour Traffic Volumes	4.4-19
4.4-6 2030 Without Project Peak Hour Traffic Volumes	4.4-24
4.4-7 2030 With Project Peak Hour Traffic Volumes	4.4-25
4.4-8 Proposed Traffic Mitigation	4.4-34
4.6-1 Acoustical Scale	4.6-2
4.6-2 Noise from Construction Equipment	4.6-7
4.6-3 Project Access	4.6-10
4.7-1 Existing Topography	4.7-2
4.7-2 Geologic Map.....	4.7-3
4.7-3 Soil Associations.....	4.7-5
4.7-4 Earthquake Faults.....	4.7-7
4.7-5 Proposed Grading.....	4.7-12
4.8-1 Groundwater Basin	4.8-2
4.9-1 Existing Vegetation	4.9-2
4.11-1 Public Services and Recreation Facilities	4.11-2
4.12-1 Existing and Proposed Water Lines.....	4.12-6
4.12-2 Existing and Proposed Sewer Lines	4.12-13
4.12-2 Existing and Proposed Storm Drainage.....	4.12-19
4.14-1 Site Photographs	4.14-2
4.14-2 Site Photographs	4.14-3

Table of Contents

LIST OF FIGURES	PAGE
6-1 Location of Related Projects	6-5
8-1 Farmland Designation	8-3
8-2 Mineral Land Classification	8-7
 LIST OF TABLES	 PAGE
S-1 Summary of Environmental Impacts and Mitigation Measures	S-5
2-1 Population Growth	2-3
3-1 Land Use Summary	3-1
3-2 Land Use Designation Changes	3-10
4.2-1 General Plan Consistency	4.2-5
4.2-2 Consistency with SCAG Policies.....	4.2-12
4.3-1 Population Growth	4.3-1
4.3-2 Regional Projections.....	4.3-3
4.3-3 Change in Development Capacity	4.3-6
4.4-1 LOS Standards for Signalized Intersections	4.4-2
4.4-2 LOS Standards for Unsignalized Intersections	4.4-3
4.4-3 Freeway LOS Standards	4.4-4
4.4-4 Existing Intersection LOS	4.4-7
4.4-5 Existing Freeway Segment LOS	4.4-10
4.4-6 Project Trip Generation.....	4.4-13
4.4-7 Year 2010 Intersection LOS Without Project.....	4.4-14
4.4-8 Year 2010 Freeway Segment LOS Without Project.....	4.4-15
4.4-9 Year 2010 Intersection LOS With Project	4.4-17
4.4-10 Year 2010 Freeway Segment LOS With Project.....	4.4-20
4.4-11 Year 2030 Intersection LOS Without Project	4.4-21
4.4-12 Year 2030 Freeway Segment LOS Without Project.....	4.4-22
4.4-13 Year 2030 Intersection LOS With Project	4.4-26
4.4-14 Year 2030 Freeway Segment LOS With Project.....	4.4-27
4.4-15 Year 2010 Mitigated Intersection LOS	4.4-36
4.4-16 Year 2030 Mitigated Intersection LOS.....	4.4-36
4.5-1 Health Effects of Pollutants	4.5-2
4.5-2 Ambient Air Quality Standards	4.5-3
4.5-3 Air Quality Monitoring Data.....	4.5-5
4.5-4 Construction Activity Emissions	4.5-13
4.5-5 Project Related Operational Emissions	4.5-16
4.5-6 One-hour CO Concentrations During AM Peak Hour.....	4.5-18
4.5-7 One-hour CO Concentrations During PM Peak Hour.....	4.5-18
4.5-8 Greenhouse Gas Reduction Strategies	4.5-25

Table of Contents

LIST OF TABLES	PAGE
4.6-1 Land Use Compatibility Standards.....	4.6-3
4.6-2 Projected Noise Levels	4.6-9
4.6-3 Project-Related 2010 Noise Impacts	4.6-11
4.6-4 Project-Related 2030 Noise Impacts	4.6-12
4.6-5 2030 Noise Levels at 50 Feet of Roadways	4.6-15
4.6-6 Noise Wall Heights	4.6-16
4.6-7 Acoustical Upgrades.....	4.6-18
4.7-1 Earthquake Faults.....	4.7-6
4.7-2 Historic Earthquakes	4.7-8
4.9-1 Plant Communities.....	4.9-1
4.9-2 Plant Species	4.9-4
4.9-3 Animal Species	4.9-4
4.11-1 Crime Incidence.....	4.11-3
4.11-2 School Enrollment.....	4.11-10
4.11-3 Student Generation.....	4.11-11
4.12-1 Estimated Water Consumption	4.12-4
4.12-2 Estimated Sewage Generation	4.12-12
4.12-3 Typical Wastewater Characteristics.....	4.12-14
4.12-4 Estimated Solid Waste Generation	4.12-22
4.12-5 Estimated Power Consumption.....	4.12-26
4.12-6 Estimated Gas Consumption	4.12-29
6-1 Related Projects in Fontana	6-1
6-2 Related Projects in San Bernardino County	6-4
6-3 GHG Global Warming Potential and Atmospheric Lifetimes	6-27
9-1 Existing Land Use Designation Development.....	9-6
9-2 Comparison of Alternatives	9-17
10-1 Standard Conditions	10-2
10-2 Mitigation Monitoring Program	10-7

Executive Summary

➤ Introduction

This Draft Environmental Impact Report (EIR) analyzes the potential environmental impacts of the proposed *Arboretum Specific Plan*. The proposed Specific Plan would regulate future development on approximately 531.3 acres of land in the northern section of the City of Fontana in San Bernardino County. The site is located west of Sierra Avenue, east of Citrus Avenue and north of the Metropolitan Water District (MWD) right-of-way along the future alignment of Casa Grande Avenue.

The Specific Plan calls for the development of the project site with a total of 3,526 residential units, along with an 8.8-acre activity center within a commercial zoned parcel, a regional arboretum, various parks, an elementary school, and a combined elementary and middle school. Cypress Avenue and Duncan Canyon Road would be extended across the site, dividing the site into the four villages: the Arboretum, the Resort, the Meadows, and the Gardens.

Aside from the adoption of the Specific Plan, the proposed project will involve a General Plan Amendment (GPA) to change the land use designations of the project site; a Zone Change (ZC) to rezone the site as Specific Plan; and a Development Agreement (DA). Future development on the site would require approval of parcel maps and tentative tract maps to subdivide the site into various planning areas, building parcels, and individual lots; and design review approval for the site and architectural plans of individual villages and proposed structures.

This EIR has been prepared in accordance with the criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970, as amended, (Public Resources Code Sections 21000 et seq.), the State CEQA Guidelines (California Administrative Code Sections 15000 et seq.), and the City's local CEQA Guidelines. This EIR serves as an informational document intended for use by the City of Fontana, decision-makers, responsible and trustee agencies, interested parties, and members of the general public in evaluating the potential environmental effects of the proposed *Arboretum Specific Plan*.

Per Section 21067 of CEQA and Sections 15367 and 15050 through 15053 of the State CEQA Guidelines, the Lead Agency is the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect on the environment. The City of Fontana would be responsible for the approval and adoption of the proposed Specific Plan. Thus, the City is serving as the Lead Agency and has the authority to oversee and complete the environmental review process for the project.

➤ Environmental Review Process

As part of the environmental review process for the project, an Initial Study was prepared to determine the potential environmental impacts of the proposed Specific Plan and to identify the environmental issues likely to have significant adverse effects associated with development of the project site, as planned under the proposed *Arboretum Specific Plan*. The analysis in the Initial Study indicated that the proposed project could result in significant adverse effects on a number of issue areas and an EIR would have to be prepared.

In accordance with CEQA, the City of Fontana circulated a Notice of Preparation (NOP) of a Draft EIR on July 24, 2006 (Appendix A), to inform public agencies, special districts, surrounding cities, and interested individuals that the City intends to prepare an EIR for the proposed Specific Plan. The purpose of the NOP was to solicit guidance from various agencies regarding the scope and content of

Executive Summary

the environmental information to be included in the EIR. Agencies and individuals receiving copies of the NOP had 30 days to respond. Concerns raised in the responses to the NOP are presented in letters provided as Appendix B to this EIR. Issues raised in comment letters, which pertain to the environmental effects of the project, have been addressed in this EIR.

A scoping meeting was held on August 17, 2006 at the City of Fontana Executive Conference Room to discuss the project and the environmental review process and to solicit comments on the environmental analysis to be included in the EIR. Affected public agencies and adjacent property owners were invited to the scoping meeting.

Subsequent to completion of the Draft EIR, the document was sent out to various public agencies and interested individuals and was subject to a public review period of 45 days, from May 19 to July 2, 2008. During this time, comments on the environmental analysis will be accepted from interested agencies, groups, and individuals. Responses to these comments will be prepared by the City and mailed out to commenting agencies and individuals, as well as incorporated into the Final EIR, prior to the certification of the Final EIR and the Fontana City Council's decision on the proposed Specific Plan.

➤ ***Project Location and Setting***

The northern section of Fontana sits at the base of the San Gabriel Mountains and was historically an agricultural area with scattered residential uses. The City's northern section is currently defined by the I-15 Freeway on the northwest, the SR-210 Freeway on the south, and the City of Rialto on the east. The majority of the land in this area is currently vacant, with high-voltage power transmission lines crossing the area at several locations. However, the North Fontana area has been experiencing rapid development within the last five years. New developments in the area have included several residential subdivisions north and south of the SR-210 Freeway and east and west of the I-15 Freeway, within the Sierra Lakes, Summit Heights, Citrus Heights, Coyote Canyon, and Shady Trails/Citrus Heights North Specific Plan areas. In addition, several residential tracts have been proposed on various parcels along Citrus, Sierra, and Summit Avenues and Lytle Creek Road. The North Fontana area now features a number of new residential communities and some commercial developments along the I-15 and SR-210 Freeways.

The 531.3-acre project site is located in the northern section of the City of Fontana. The project site is bounded by Citrus Avenue on the west, Sierra Avenue on the east, a dirt road (located approximately ½ mile north of Duncan Canyon Road and proposed as Grapeland Street) on the north, an SCE and SCG easement on the northwest and the MWD right-of-way (which is proposed as the future alignment of Casa Grande Avenue) on the south. The site has an irregular shape, with three sides running along existing streets, one side generally along a Metropolitan Water District (MWD) right-of-way; and another side defined by the SCE/SCG easement. While Citrus Avenue and Sierra Avenue are developed as two-lane roadways on the west and east sides of the site, Casa Grande Avenue is not developed at this time. A dirt road (proposed as Grapeland Street) provides access to a former single-family residence at its northwestern corner and the MWD right-of-way is a dirt road providing access to the underlying pipeline. Duncan Canyon Road ends at the western edge of the site and Cypress Avenue ends at the southern edge of the site. These roads would cut through the site, when they are developed in the future.

The site is vacant, with the recent burning of a single-family residence and its accessory structures at the northwestern corner of the site, at the end of a dirt road extending west from Sierra Avenue. This

Executive Summary

house burned down during a brush fire in the Fall of 2007.

Section 2.0, *Environmental Setting*, of the EIR discusses the project site and the surrounding area in greater detail.

➤ ***Project Description***

The North Fontana Investment Company is seeking to develop approximately 531.3 acres of land at the northern section of the City of Fontana under the proposed *Arboretum Specific Plan*. The proposed Specific Plan would regulate the development of a master planned residential community on the site. Planned developments on the site would include four residential villages with a total of 3,526 residential units, along with an 8.8-acre activity center within a commercial zoned parcel, various parks, one elementary school, and a combined elementary-middle school.

The housing units would include 592 single-family detached units, 986 cluster homes and high density detached units, 906 high density attached townhomes, and 1,042 attached condominium units. These units would be constructed within four villages within the site: the Resort, Meadows, Gardens and Arboretum villages to be located in the four quadrants on the site. In addition, a Commercial Activity Center would be located on 8.8 acres at the northwest corner of Sierra Avenue and Duncan Canyon Road, and at the southeast corner of the Resort village. This area would be developed with retail sales and offices with approximately 95,832 square feet of commercial floor area.

A combined elementary school and middle school (K-8) is planned on a 34.3-acre site at the northeast corner of Citrus Avenue and Casa Grande Avenue. This site is located in the southwestern section of the Meadows village. Another elementary school would be located on a 12.1-acre site at the northeast corner of Cypress Avenue and Duncan Canyon Road, and in the southwestern section of the Resort village. In addition, approximately 31.9 acres of parks and recreational areas would be provided through neighborhood and community parks in each village, along with a network of pedestrian trails and bikeways to connect the proposed parks and the regional trail on the SCE/SCG easement.

The project would require approval of a General Plan Amendment to change the land use designations at the project site to match the residential densities proposed within the Specific Plan. This would include a change of the Regional Mixed Use (R-MU) and Residential Planned Community (R-PC) to Multi-Family Residential (R-MF), Public Facility (Schools and Parks) and of 20 acres from Community Commercial (C-C) to R-MF, with the remaining areas retaining their designations as Public Facility and C-C. A Zone Change would also be needed to rezone the site from RMU, CC, and RPC to Specific Plan.

Approval and adoption of the *Arboretum Specific Plan* would provide a policy document to control development of the project site, in accordance with the land uses and development standards contained in the Specific Plan document. Thus, the Specific Plan would supersede the City's Zoning and Development Code, as it relates to allowable land uses, development density, and development standards for future developments on the project site. Parking requirements would continue to be regulated by the City's Zoning and Development Code.

Implementation of the *Arboretum Specific Plan* and construction of each residential village or the individual planning areas within each village may occur concurrently, consecutively or independently of each other, depending on market demand. The actual timing of development may occur

Executive Summary

consecutively or time gaps may occur between the development of each village, with each village taking approximately 1 to 2 years to complete, for a 7- to 8-year buildout under the shortest time frame.

➤ ***Project Objectives***

The City of Fontana and the applicant, North Fontana Investment Company, LLC, seek to accomplish the following objectives with the proposed *Arboretum Specific Plan*:

- To implement a comprehensive development plan for the project site;
- To provide a complementary mix of housing types that will appeal to a wide range of future homebuyers;
- To assist in creating a synergistic community; and
- To create an integrated lifestyle community, which incorporates a regional arboretum as part of the living environment.

Section 3.0, *Project Description*, of the EIR discusses the physical and operational characteristics of the proposed Specific Plan in greater detail.

❑ **SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION**

The *Arboretum Specific Plan* would regulate development on approximately 531.3 acres located west of Sierra Avenue, east of Citrus Avenue, north of the future alignment of Casa Grande Avenue and southeast of the SCE/SCG easement at the northern section of the City of Fontana. As a policy document, the adoption of the Specific Plan would not lead to direct or immediate changes to the environment. However, the implementation of the proposed Specific Plan would lead to the development of as many as 3,526 residential units, approximately 95,832 square feet of commercial uses, an elementary school and a combined elementary and middle school, and various parks on the site.

The analysis in Section 4.0, *Environmental Impact Analysis*, of this EIR shows that future development on the project site, as allowed under the proposed Specific Plan, is not expected to have any significant adverse impacts in terms of population and housing, mineral resources and agricultural resources. However, the analysis indicates that the proposed project has the potential for direct and indirect adverse environmental impacts associated with several other environmental issue areas, including land use and planning, transportation and circulation, air quality, noise, geology and soils, hydrology and water quality, biological resources, cultural resources, public services, utilities, hazards and human health, and aesthetics. These impacts would be associated with the construction and occupancy/operation of future residential units, commercial development, and schools on the site.

The EIR identifies standard conditions for some issue areas (such as land use and planning, public services, utilities, and aesthetics); where compliance with current City regulations or standard conditions is expected to result in the avoidance of potentially significant adverse impacts that could be generated by future developments under the *Arboretum Specific Plan*. For other issue areas (such as transportation and circulation, air quality, noise, geology and soils, hydrology and water quality, biological resources, cultural resources, and hazards and human health), both standard conditions and specific mitigation measures are necessary to reduce potentially significant adverse impacts to below a level of significance.

Executive Summary

With the exception of transportation/circulation and air quality, the analysis in this EIR has determined that implementation of the proposed Specific Plan would not result in any significant unmitigated impacts, provided that standard conditions and the recommended mitigation measures presented in the EIR are incorporated into specific development projects that are allowed under the *Arboretum Specific Plan*.

Table S-1 summarizes the potential environmental impacts of the proposed Specific Plan by issue area, as analyzed in Section 4.0, *Environmental Impact Analysis*, of this EIR. The table also lists the standard conditions and mitigation measures that would help avoid or reduce the potentially significant adverse impacts of the project. The significance of environmental impacts after implementation of the standard conditions and the recommended mitigation measures is provided in the last column of Table S-1. As noted, transportation and circulation impacts would remain significant until off-site roadway and intersection improvements are implemented by the City under its Development Impact Fee program. Also, air quality impacts associated with vehicle emissions would continue to exceed SCAQMD thresholds of significance even after the implementation of standard conditions and mitigation measures.

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
Land Use and Planning – Future development under the proposed <i>Arboretum Specific Plan</i> would include as many as 3,526 residential units, approximately 95,832 square feet of commercial uses, an elementary school and a combined elementary and middle school, and various parks. A General Plan Amendment and Zone Change would be needed to allow these developments on-site.	The following standard conditions would reduce or avoid potential adverse impacts: <i>Standard Condition 4.2.1:</i> Future developments on the project site shall comply with the development and design standards in the Arboretum Specific Plan and the City's Zoning and Development Code for requirements not superseded by the Specific Plan. <i>Standard Condition 4.2.2:</i> Future developments on the project site shall comply with the City's performance standards and the development policies for land use compatibility.	No significant impact.
Population and Housing - Future development under the proposed <i>Arboretum Specific Plan</i> would lead to as many as 3,526 dwelling units, an increase in the resident population of the City by approximately 14,019 residents, and 386 employment positions on the site. Regional projections would not be exceeded. These impacts are not considered significant and adverse.	None recommended.	No significant impact.
Traffic and Circulation – Future development under the proposed <i>Arboretum Specific Plan</i> would generate approximately 35,236 new vehicle trips utilizing local roadways and freeway arterials, with as much as 3,454 AM peak hour trips and 3,256 PM peak hour trips. <i>Impact 4.4.1:</i> The proposed project would lead to unacceptable LOS at three intersections at opening year (2010).	The following standard conditions and mitigation measures would reduce or avoid potentially significant adverse impacts: <i>Standard Condition 4.4.1:</i> The project shall pay development impact fees as set by the City to fund roadway maintenance and improvement projects in the area. <i>Standard Condition 4.4.2:</i> Future developments would be subject to plan	Significant adverse impacts are expected at off-site intersections where the applicant would only provide fair share fees for the needed improvements, as part of the City's Circulation Impact Fees. Funds would be

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
<i>Impact 4.4.2: The proposed project would result in unacceptable LOS at four freeway segments at opening year (2010).</i> <i>Impact 4.4.3: The proposed project would lead to unacceptable LOS at several intersections at buildout (2030).</i> <i>Impact 4.4.4: The proposed project would result in unacceptable LOS at several freeway segments at buildout (2030).</i>	check review to ensure that the necessary access, parking, and roadway improvements are provided as part of individual developments, in accordance with the City's traffic safety design criteria. Standard Condition 4.4.3: The proposed roundabout shall be constructed per FHWA standards and subject to review and approval by the City during plan check of the final roadway improvement plans. Mitigation Measure 4.4.1a: In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share contribution to the City of Fontana for the implementation of the following improvements: • <u>Sierra Avenue and I-15 Southbound Ramp:</u> Install a traffic signal. • <u>Sierra Avenue and I-15 Northbound Ramp:</u> Install traffic signal. • <u>Sierra Avenue and Riverside Avenue:</u> Add a northbound through lane, a southbound through lane and a southbound right turn lane. Convert the southbound shared right-through lane into a through lane Mitigation Measure 4.4.1b: In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements: • <u>Project Access 4 and Duncan Canyon Road:</u> Install a traffic signal. • <u>Project Access 5 and Duncan Canyon Road:</u> Add a dedicated southbound left turn lane. Mitigation Measure 4.4.2: The proposed project shall pay its fair share contribution for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2010. These improvements include: • <u>I-15 Freeway:</u> Add a lane in for the southbound segment from Glen Helen Parkway to Sierra Avenue • <u>I-15 Freeway:</u> Add a lane in for the southbound segment from Baseline Road to Foothill Boulevard • <u>I-15 Freeway:</u> Add a lane in for the northbound segment from Foothill Boulevard to Baseline Road • <u>I-15 Freeway:</u> Add a lane in for the	collected from the applicant for the needed intersection improvements but the off-site intersections would not be improved immediately, but will be constructed when additional funding is in place. Thus, traffic impacts at these intersections would remain significant until needed off-site roadway and intersection improvements are implemented by the City in the future. The City will need to adopt a Statement of Overriding Considerations based on City's disbursement of fees collected for circulation impacts on the following off-site intersections: By 2010 • Sierra Avenue and I-15 Southbound Ramp • Sierra Avenue and I-15 Northbound Ramp. • Sierra Avenue and Riverside Avenue • I-15 Freeway from Glen Helen Parkway to Sierra Avenue • I-15 Freeway from Baseline Road to Foothill Boulevard By 2030 • Sierra Avenue and Riverside Avenue • Sierra Avenue and Grapeland Street • Lytle Creek Road (E) and Duncan Canyon Road • Citrus Avenue and Duncan Canyon Road • Citrus Avenue and Casa Grande Avenue • I-15 Southbound

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	northbound segment from Sierra Avenue to Glen Helen Parkway <i>Mitigation Measure 4.4.3a:</i> In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share contribution to the City of Fontana for the implementation of the following improvements: • <u>Sierra Avenue and Riverside Avenue:</u> Add a second northbound left-turn lane and two northbound through lanes. Add a second southbound left turn lane and a two southbound through lanes. Convert the shared southbound through-right lane into a dedicated right-turn lane. Add a westbound left turn lane and convert the existing shared left-through into a through lane. • <u>Sierra Avenue and Grapeland Street:</u> Add a second northbound left turn lane and a dedicated northbound right turn lane. Add a second southbound left turn lane and a dedicated southbound right turn lane. Add a westbound left turn lane and an eastbound left turn lane. • <u>Lytle Creek Road (E) and Duncan Canyon Road:</u> Convert one northbound through lane to a dedicated right turn lane. Provide overlap phasing for the eastbound right turn and the northbound right turn. Add an additional eastbound through lane. • <u>Citrus Avenue and Duncan Canyon Road:</u> Add a second left turn lane and a dedicated right turn lane on each approach. Provide overlap phasing for the eastbound and southbound right turn. Add a second westbound left turn lane. • <u>Citrus Avenue and Casa Grande Avenue:</u> Add a second eastbound and westbound left turn lane. • <u>I-15 Southbound Ramps and Beech Avenue:</u> Add a second eastbound left turn lane. • <u>I-15 Northbound Ramps and Beech Avenue:</u> Add a second southbound left turn lane and a dedicated westbound right turn lane. Provide overlap phasing for the westbound	Ramps and Beech Avenue • I-15 Northbound Ramps and Beech Avenue • Citrus Avenue and SR-210 Westbound Ramps • Citrus Avenue and SR-210 Eastbound Ramps • Citrus Avenue and Highland Avenue • Sierra Avenue and Sierra Lakes Parkway • Sierra Avenue and SR-210 Eastbound Ramps • Sierra Avenue and Highland Avenue • Sierra Avenue and Casa Grande Avenue • Sierra Avenue and Duncan Canyon Road • I-15 Freeway • SR-210 Westbound from Citrus Avenue to I-15 • SR-210 Westbound from I-15 to Day Creek Boulevard • SR-210 Eastbound from Day Creek Boulevard to I-15 • SR-210 Eastbound from Riverside Avenue to Pepper Avenue No significant adverse impacts are expected upon completion of the needed roadway and freeway improvements.

Executive Summary

TABLE S-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	right turn. • <u>Citrus Avenue and SR-210 Westbound Ramps</u>: Add a second westbound left turn lane and a southbound shared through/right turn lane. • <u>Citrus Avenue and SR-210 Eastbound Ramps</u>: Reconfigure the off-ramp to include one left turn lane, one shared through/left turn lane, and a free right turn lane. • <u>Citrus Avenue and Highland Avenue</u>: Provide overlap phasing for the westbound right turn. • <u>Sierra Avenue and Sierra Lakes Parkway</u>: Provide overlap phasing for the eastbound right turn. • <u>Sierra Avenue and SR-210 Eastbound Ramps</u>: Convert the eastbound left turn lane into a shared left through lane. Convert the eastbound shared left-right lane into an exclusive right-turn lane. • <u>Sierra Avenue and Highland Avenue</u>: Convert the existing northbound right turn lane into a shared through/right turn lane. Provide overlap phasing for the eastbound right turn and the westbound right turn. • <u>Sierra Avenue and Casa Grande Avenue</u>: Add a second northbound left turn lane and a second southbound left turn lane. Convert the shared through/right turn lane at each approach to a through lane. Add a right turn lane to each approach. • <u>Sierra Avenue and Duncan Canyon Road</u>: Add dual left turn lanes and a dedicated right turn lane at the northbound and southbound approaches. <i>Mitigation Measure 4.4.3b</i>: In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements: • <u>Project Access 1 and Grapeland Street</u>: Provide exclusive left and right turning lanes at the northbound approach and provide a westbound left-turn lane. • <u>Project Access 4 and Duncan Canyon Road</u>: Install a traffic signal. • <u>Project Access 5 and Duncan Canyon</u>	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	<u>Road</u>: Install a traffic signal and add a dedicated southbound and northbound left turn lane. • <u>Project Access 6 and Cypress Avenue</u>: Install a traffic signal. • <u>Project Access 10 and Citrus Avenue</u>: Install a traffic signal. • <u>Cypress Avenue and Duncan Canyon Road</u>: Convert the eastbound shared through/right turn lane into a through lane and add a right turn lane. <i>Mitigation Measure 4.4.4</i>: The proposed project shall pay its fair share costs for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2030. These improvements include: • <u>I-15 Freeway</u>: Construction of additional lane to provide a total of seven travel lanes in each direction. • <u>SR-210 Westbound from Citrus Avenue to I-15</u>: Construction of one additional travel lane. • <u>SR-210 Westbound from I-15 to Day Creek Boulevard</u>: Construction of one additional travel lane. • <u>SR-210 Eastbound from Day Creek Boulevard to I-15</u>: Construction of one additional travel lane. • <u>SR-210 Eastbound from Riverside Avenue to Pepper Avenue</u>: Construction of one additional travel lane.	
Air Quality – Future development under the proposed <i>Arboretum Specific Plan</i> would generate construction-related short-term emissions and long-term vehicle and stationary emissions. These emissions would exceed SCAQMD thresholds. <i>Impact 4.5.1: Grading and soil disturbance activities associated with the proposed project would exceed SCAQMD thresholds for PM₁₀.</i> <i>Impact 4.5.2: Grading and soil disturbance activities associated with the proposed project would generate nuisance dust that may affect nearby residences, schools, and parks.</i> <i>Impact 4.5.3: Construction activities associated with the proposed project would exceed SCAQMD thresholds for ROG, NOx, CO, PM₁₀ and PM_{2.5}.</i> <i>Impact 4.5.4: Vehicle emissions associated with</i>	The following standard condition and mitigation measures would reduce potentially significant adverse impacts: <i>Standard Condition 4.5.1</i>: Future development under the proposed Arboretum Specific Plan shall comply with pertinent SCAQMD regulations in order to contribute to the incremental reduction in air pollution levels in the region. <i>Mitigation Measure 4.5.1</i>: Dust control during grading activities on the site shall implement best available control measures (BACMs) exceeding the minimum dust control requirements of SCAQMD Rule 403. Recommended construction activity mitigation includes: ◆ Disturb, grade or clear no more than 75 acres per day. ◆ Apply soil stabilizers to inactive areas. ◆ Prepare a high wind dust control plan	Emissions would continue to exceed SCAQMD thresholds and air quality impacts would remain significant after mitigation. The City will need to adopt a Statement of Overriding Considerations for the project's contributions to regional air pollution.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
<i>the proposed project would exceed SCAQMD thresholds for air pollutants.</i> <i>Impact 4.5.5: Area source emissions associated with the proposed project would exceed SCAQMD thresholds for ROG.</i>	and implement plan elements and terminate soil disturbance when winds exceed 25 miles per hour. ◆ Limit the simultaneous disturbance area to as small an area as practical when winds exceed 25 mph. ◆ Stabilize previously disturbed areas if subsequent construction is delayed. ◆ Water exposed surfaces and haul roads 3 times per day. ◆ Cover all stock piles with tarps. ◆ Replace ground cover in disturbed areas quickly. ◆ Reduce speeds on unpaved roads to less than 15 miles per hour. <i>Mitigation Measure 4.5.2:</i> Grading, excavation, and ground disturbance activities within 100 feet of an existing residence, school or park shall implement enhanced dust control procedures such as continual soil wetting, use of supplemental binders or chemical stabilizers, early paving of roadways, driveways and other paved surfaces, early landscaping of exposed areas, and use of sand fences. <i>Mitigation Measure 4.5.3a:</i> The following measures shall be implemented to reduce exhaust emissions during construction: ◆ Construction and paving shall be segregated into at least 5 non-overlapping phases. ◆ Require 90-day low-NOx tune-ups for off-road equipment. Such controls are expected to reduce daily NOx emissions from all off- and on-road equipment, but not to less-than-significant levels. ◆ Limit allowable idling to 5 minutes for trucks and heavy equipment before shutting the equipment down. ◆ Require use of Tier 3-rated engines for all equipment exceeding 100 horsepower, during site grading. ◆ Use aqueous diesel fuel for construction equipment. ◆ Utilize diesel particulate filter for construction equipment. ◆ Give preference to contractors using equipment with oxidation catalysts, soot traps or other modern emissions control technology. ◆ Use low emission mobile construction equipment. The property	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	owner/developer shall comply with CARB requirements for heavy construction equipment. ◆ Maintain construction equipment engines by keeping them tuned. ◆ Avoid unnecessary idling by shutting of engines that are expected to idle for more than five minutes ◆ Use low sulfur fuel for all diesel powered construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. ◆ Utilize existing power sources (i.e., power poles) when available. ◆ Configure construction parking to minimize traffic interference ◆ Minimize obstruction of through-traffic lanes. Construction shall be planned so that lane closures on existing streets are kept to a minimum. ◆ Schedule construction operations affecting traffic for off-peak hours to the best extent, when possible. ◆ Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service. <i>Mitigation Measure 4.5.3b:</i> The following measures shall be implemented to reduce ROG pollutant emissions during construction: ◆ Minimize the amount of paint used by using pre-coated, pre-colored and naturally colored building materials. ◆ Use high transfer efficiency painting methods such as High Volume Low Pressure (HVLP) sprayers and brushes/rollers where possible. ◆ Use SCAQMD-required low-VOC coatings where practical. <i>Mitigation Measure 4.5.3c:</i> The following measures shall be implemented to reduce off-site emissions during construction: ◆ Encourage car pooling for construction workers. ◆ Limit lane closures to off-peak travel periods. ◆ Park construction vehicles off traveled roadways. ◆ Wet down or cover dirt hauled off-site. ◆ Wash or sweep access points daily.	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	◆ Encourage receipt of construction materials during non-peak traffic hours. ◆ Sandbag construction sites for erosion control. ◆ Erect dust control fencing around individual construction area perimeters. <i>Mitigation Measure 4.5.4:</i> The proposed project shall implement transportation control measures (TCMs) to reduce vehicle emissions generated by the project, which may include the following: Non-Motorized Strategies 1. Bicycle Lanes and Storage Facilities – Bicycle paths and bike racks shall be provided at scattered locations on-site, including bicycle lanes on project arterial roads and bike racks at schools and commercial uses. 2. Pedestrian Improvements – Sidewalks and pedestrian walkways shall be provided throughout the site for land use interconnections. Telecommunications 1. Adequate and modern system connections in all homes – Telecommunication systems shall be provided in residential villages. 2. Wi-Fi “hot spots” within the community - High-speed wireless local area network shall be provided at select locations on-site. <i>Mitigation Measure 4.5.5:</i> Prior to issuance of building permits, the property owner/developer shall demonstrate compliance with the following measures to reduce criteria pollutant emissions from stationary sources directly related to the project: ◆ Install low-emission water heaters. ◆ Use built-in, energy-efficient appliances. ◆ Incorporate bus turnouts into roadway design and construction. ◆ Ensure that sidewalks and pedestrian paths are installed throughout the project area. <i>Mitigation Measure 4.5.6:</i> The following measures shall be implemented to reduce greenhouse gas emissions from project construction and operation: ◆ Utilize high efficiency HVAC equipment.	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	◆ Install Energy Star labeled roof materials. ◆ Wire homes to facilitate installation of roof-top solar panels. ◆ Exceed Title 24 energy conservation design by 20%. ◆ Incorporate solar orientation into site planning. ◆ Hardwire buildings to incorporate current telecommunication technologies. ◆ Install 220-volt electric vehicle charging system in garages. ◆ Utilize light-colored hardscape in common areas. ◆ Use highly reflective “cool roofs” in commercial uses. ◆ Utilize recycled building materials, where feasible. ◆ Install energy-reducing day lighting (skylights). ◆ Use low-water use appliances.	
Noise - Future development under the proposed <i>Arboretum Specific Plan</i> would generate construction, vehicle and stationary noise impacts. On-site and nearby residential uses and noise-sensitive receptors would be exposed to vehicular and stationary noise levels that could exceed standards. <i>Impact 4.6.1: Construction noise impacts may affect existing and future residences and schools on and near the site.</i> <i>Impact 4.6.2: Residences along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue may be exposed to exterior noise levels exceeding City standards of 65 dBA CNEL.</i> <i>Impact 4.6.3: Outdoor areas at the proposed commercial retail center may be exposed to noise levels exceeding City standards of 70 dBA CNEL for exterior areas and 55 dBA CNEL for interior areas.</i> <i>Impact 4.6.4: Residences along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue may be exposed to interior noise levels exceeding City standards of 45 dBA CNEL.</i> <i>Impact 4.6.5: Schools along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, and Casa Grande Avenue may be exposed to interior noise</i>	The following standard condition and mitigation measures would reduce or avoid potential adverse noise impacts: <i>Standard Condition 4.6.1:</i> Construction activities on the project site shall comply with City regulations on time limits for construction activity. Construction activities would have to comply with the construction time limits (7 AM to 6 PM on weekdays, unless otherwise approved by the City and the Engineer or in case of an emergency); loading/unloading of boxes; transport of metal rails, pillars and columns; and the use of pile drivers, steam shovels, pneumatic hammers and other noisy construction equipment shall be conducted within allowable times (7 AM to 10 PM) as set by the Fontana Noise Ordinance. <i>Mitigation Measure 4.6.1a:</i> During construction, the following measures shall be implemented to reduce noise on sensitive receptors: ◆ All off-road construction equipment shall have properly operating and maintained mufflers. ◆ Stockpiling and equipment/vehicle staging shall be conducted as far as practicable from occupied dwelling units or other nearby noise-sensitive land uses. ◆ Idling of construction equipment shall be limited to 5 minutes, as required by law. Equipment shall be turned off when	No significant impact after mitigation.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
levels exceeding City standards of 45 dB CNEL. <i>Impact 4.6.6: The proposed commercial area may generate stationary noise impacts on the adjacent residential developments.</i> <i>Impact 4.6.7: The proposed schools may generate stationary noise impacts on the adjacent residences.</i>	not in use. ◆ Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, during the late morning and early afternoon hours near residences, or temporary barriers shall be erected, if necessary. ◆ Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, near schools when schools are not in session or temporary barriers shall be erected, if necessary. ◆ Inform abutting residents and schools of the construction schedule for areas under construction. <i>Mitigation Measure 4.6.1b:</i> A noise impact mitigation plan shall be submitted and implemented for major construction within 500 feet of any occupied residence that incorporates temporary barriers, maximum set-backs and upgraded equipment as necessary. <i>Mitigation Measure 4.6.2a:</i> Perimeter walls shall be provided along residential areas to meet the City's exterior noise standard of 65 dBA CNEL, as follows: Citrus Avenue – 6 feet Sierra Avenue – 6 feet Grapeland Street – 5 feet Duncan Canyon Road – 6 feet Casa Grande Avenue – 5 feet <i>Mitigation Measure 4.6.2b:</i> Increased setbacks from the roadway centerline shall be provided if noise wall heights are less than those listed above, which are capable of achieving an exterior noise level of 65 dBA CNEL or less. Setback requirements are as follows: Citrus Avenue – 260 feet Cypress Avenue – 50 feet Sierra Avenue – 275 feet Grapeland Street – 115 feet Duncan Canyon Road – 200 feet Casa Grande Avenue – 110 feet <i>Mitigation Measure 4.6.3:</i> The proposed commercial retail center shall be required to provide supplemental noise analysis to show that indoor commercial areas would meet the interior standard of 55 dBA CNEL and outdoor use areas (such as patio dining areas) would meet the exterior standard of 70 dBA CNEL. <i>Mitigation Measure 4.6.4:</i> A supplemental acoustical analysis shall be submitted in conjunction with the issuance of building	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	permits to verify that adequate structural noise protection will be provided in residences adjoining arterial roadways to meet the 45 dBA CNEL interior standard. This includes the provision of closed dual-paned windows with supplemental ventilation for residences along Duncan Canyon Road, Cypress Avenue, and Casa Grande Avenue. The use of upgraded dual-paned windows, with supplemental ventilation, baffles in vents, and absorbers in ducts shall be provided for residences along Citrus Avenue. Dual layer drywall, triple-paned windows, steel doors and other custom upgrades shall be provided for residences along Sierra Avenue. <i>Mitigation Measure 4.6.5:</i> Design and planning of the schools shall implement structural noise protection as necessary to meet the 45 dBA CNEL interior standard. <i>Mitigation Measure 4.6.6:</i> Conditional use permits for proposed commercial uses shall contain measures that control noise generation from goods deliveries, facility maintenance, and mechanical equipment to meet the City's interior and exterior noise standards at adjacent land uses. These may include: ◆ Location of commercial HVAC equipment away from residences or shielding of HVAC equipment ◆ Location of loading docks and trash compactors away from residences ◆ Time restrictions on deliveries to commercial uses ◆ Orientation of fast-food restaurant sound boards away from nearby residences; sound walls around the order boards; or time restrictions on sound board use ◆ Time restrictions on refuse collection or parking lot sweeping, or stacking or retrieval of temporary outdoor storage <i>Mitigation Measure 4.6.7:</i> Design and planning of the schools shall install or implement the following provisions, as necessary, to keep noise levels within the City's interior and exterior noise standards at adjacent land uses: sound walls, setbacks between abutting residences and the schools' outdoor fields; location of	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	HVAC equipment away from residences or provision of shielding around HVAC equipment; location of loading docks and trash compactors away from residences; and time restrictions on truck deliveries, trash pick-ups, and parking lot sweeping.	
Geology and Soils – Future development under the proposed <i>Arboretum Specific Plan</i> would be exposed to on-site geologic and seismic characteristics. <i>Impact 4.7.1: On-site excavations may be subject to caving.</i>	The following standard conditions and mitigation measure would reduce or avoid potentially significant adverse impacts related to soils and geology: <i>Standard Condition 4.7.1:</i> The project shall comply with seismic design criteria in the California Building Code, the City's building standards, and other pertinent building regulations. <i>Standard Condition 4.7.2:</i> Recommendations of the geotechnical investigation for the project site, as they pertain to structural design and construction recommendations for earthwork, grading, slopes, foundations, pavements, and other necessary geologic and seismic considerations would need to be implemented for building construction. <i>Mitigation Measure 4.7.1:</i> Excavations shall be constructed in accordance with the recommendations of the geotechnical investigation for the site, including the following: ◆ Temporary excavations may be constructed to a vertical depth of five feet without rigorous lateral supports. ◆ Excavated surfaces shall be wetted during construction in order to minimize potential surface soil raveling. ◆ No surcharge loading (from, vehicles, materials, or workmen on the surface adjacent to the trench excavation) shall be allowed within an imaginary 1:1 line drawn upward from the toe of temporary excavations. ◆ Should excavations exceed five feet, those shall be made using cantilevered or braced shoring to support side walls. ◆ Temporary excavations in excess of five feet shall be made at a slope of 2 :1 (H:V) or flatter, and as per the construction guidelines provided by the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act and current amendments, and the Construction Safety Act.	No significant impact after mitigation.
Water and Hydrology – Future development under the proposed <i>Arboretum Specific Plan</i>	The following standard conditions and mitigation measures would reduce or	No significant impact after mitigation.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
would lead to a demand for water and increase in groundwater pumping from local wells. Increases in impervious surfaces on the site would lead to increases in off-site runoff rates and volumes. Stormwater runoff pollutants would also be generated by future developments on-site. <i>Impact 4.8.1: Removal of the existing septic tank may pose hazards to the groundwater if not properly abandoned or removed.</i> <i>Impact 4.8.2: Conveyance of untreated stormwater from the southern section of the site to Sierra Lakes may result in adverse impacts to water quality at the lake and create hydrologic conditions of concern.</i>	avoid potentially significant adverse impacts on hydrology and water quality: <i>Standard Condition 4.8.1:</i> The project shall comply with the NPDES General Permit for Construction Activity, which requires projects on one acre or more to notify the RWQCB and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. SWPPPs shall be prepared for each construction phase or construction area. <i>Standard Condition 4.8.2:</i> The project shall comply with the NPDES regarding the implementation of source and treatment control measures and other best management practices for long-term stormwater pollutant mitigation, as contained in the project's Water Quality Management Plan (WQMP) and as approved by the City. WQMPs shall be prepared for each village or planning area, which provide specific locations, sizes, and calculations for BMPs to be implemented on-site. <i>Standard Condition 4.8.3:</i> The project shall construct the necessary on-site and off-site storm drain infrastructure to connect to the City of Fontana's storm drainage system, in order to prevent the creation of flood hazards on-site and in downstream areas, as approved by the Fontana City Engineer. <i>Standard Condition 4.8.4:</i> The project shall provide temporary detention basins on site to maintain runoff flows at 90 percent of existing volume and at existing rates, if downstream storm drain lines are not in place at the time of development, subject to approval of the City Engineer. <i>Mitigation Measure 4.8.1:</i> The existing septic tank shall be abandoned and removed prior to redevelopment of the parcel occupied by the former residence, in accordance with San Bernardino County Environmental Health Department permits and procedures. <i>Mitigation Measure 4.8.2a:</i> Future developments on the southern section of the site would need to prepare and implement a WQMP that provides hydrologic and hydraulic calculations showing there is capacity at Sierra Lakes to handle additional stormwater pollutants from the site and other tributary areas of the lake and that no adverse impacts on	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	downstream water bodies and other hydrologic conditions of concern would occur, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana. <i>Mitigation Measure 4.8.2b:</i> Improvements needed to allow the existing risers, drainage pipes, and Sierra Lake to serve the stormwater treatment needs of future developments on the southern section of the site would need to be provided prior to the connection of on-site storm drain lines to the Sierra Lake system and as part of the development, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana.	
Biological Resources – Future development under the proposed <i>Arboretum Specific Plan</i> would lead to the removal of existing vegetation and animal habitats and the introduction of landscaping plant materials. <i>Impact 4.9.1: Ground disturbance that would accompany future development may lead to the disturbance or destruction of burrowing owls.</i> <i>Impact 4.9.2: Disturbance of breeding birds or removal of occupied nests would adversely impact migratory birds.</i>	The following standard condition and mitigation measures would reduce or avoid potentially significant adverse impacts: <i>Standard Condition 4.9.1:</i> In accordance with the City's Interim Program for the North Fontana MSHCP, the developer shall pay a fee for the future acquisition of preserved habitat for sensitive species. <i>Standard Condition 4.9.2:</i> The removal of trees on-site shall be subject to the City's Preservation of Heritage, Significant and Specimen Trees (Municipal Code Section 28-60) for the replacement of any Heritage, Significant and Specimen Trees that may be affected by the project. <i>Mitigation Measure 4.9.1a:</i> Focused surveys for the burrowing owl shall be conducted during the nesting season (March to August) and no more than 30 days prior to the onset of construction to ensure avoidance of this species. If no occupied burrows are found, a report shall be submitted to the City and construction may begin without further actions. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation, or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. <i>Mitigation Measure 4.9.1b:</i> Mitigation for loss of burrowing owl habitat shall include passive relocation of resident animals on the project site to the approved	No significant impact after mitigation.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	replacement habitat location. The Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC, 1993) shall be utilized for current methods for passive relocation of any owls found during the survey. A qualified biologist shall conduct the relocation activities and provide construction monitoring during construction activities near the burrows. <i>Mitigation Measure 4.9.1c:</i> If burrowing owls are found on-site, off-site relocation shall be provided in conformance with the 1995 (CDFG) Staff Report on Burrowing Owl Mitigation, which requires the acquisition and permanent protection of a minimum of 6.5 acres of off-site foraging habitat (based on providing a 100-yard foraging radius around the burrow) per pair or unpaired resident bird. The protected lands should be within the vicinity of the project site in suitable habitat and at a location approved by the CDFG. Any occupied burrows within the project site that will be destroyed by implementation of the project shall be mitigated through enhancement of existing unsuitable burrows or creation of artificial burrows at a ratio of 2:1 on the protected site. <i>Mitigation Measure 4.9.1d:</i> The developer shall pay the adopted mitigation fee for the loss of burrowing owl habitat from the project area. Fees shall be as set forth in the interim program for the North Fontana MSHCP. <i>Mitigation Measure 4.9.2:</i> Removal of vegetation or other potential nesting bird habitat shall be conducted outside of the avian nesting season (February through August). If removal of vegetation must occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted within 7 days prior to any ground disturbing activities. If at any time, birds are found to be nesting inside or within 250 feet (500 feet for raptors) of the proposed construction disturbance area, construction activities within 250 feet (500 feet for raptors) of the nest must cease and the area flagged and protected from any ground disturbing activities until it is determined by a qualified biologist that the nest is no longer active.	
Cultural Resources – Future development under the proposed <i>Arboretum Specific Plan</i>	The following standard condition and mitigation measures would reduce or	No significant impact after mitigation.

Executive Summary

TABLE S-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
would lead to ground disturbance, which may affect on-site cultural resources. <i>Impact 4.10.1: Grading and excavation along the SCE/SCG easements have the potential to impact unknown archeological resources on or near the foundation remains.</i> <i>Impact 4.10.2: Grading and excavation to a depth of more than 10 feet of undisturbed subsurface Pleistocene sediments have the potential to impact paleontological resources on the site.</i>	avoid potentially significant adverse impacts on cultural resources: <i>Standard Condition 4.10.1:</i> If human remains are encountered during excavation activities at the site, all work shall halt and the County Coroner shall be notified (Section 5097.98 of the Public Resources Code). The Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved archaeologist, determines that the remains are prehistoric, he/she will contact the Native American Heritage Commission (NAHC). The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD will make his/her recommendation within 24 hours of their notification by the NAHC. The recommendation of the MLD shall be followed and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (Section 70580.5 of the Health and Safety Code). <i>Mitigation Measure 4.10.1:</i> Prior to removal of the foundation remains at the SCE/SCG easements, a formal evaluation of the area shall be completed, to determine eligibility to the California Register of Historic Places. Initial evaluation of significance for this site will focus on archival research, including a title search to identify former property owners, historical research at the Fontana Historical Society and the San Bernardino Historical Society to identify historical maps, aerial photographs and photographs of the building. Oral interviews with local residents and Historical Society members shall also be conducted. This initial evaluation will seek to determine when the building was constructed, its function and history of use, and whether it was associated at any time with important people or events in the past. This initial evaluation will not include subsurface testing. However, if the evaluation determines that the site has archaeological or historical research potential, subsurface testing may be recommended to identify subsurface features and deposits, and to evaluate such	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	deposits under criterion D of the CEQA Guidelines Section 15064.5.a3. If the foundation is determined to be significant, then a mitigation plan shall be developed, in accordance with Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines, to ensure mitigation below a level of significance. Mitigation shall include photograph, recordation, collection, and archival of collected materials. In the event that significant cultural resources cannot be mitigated, avoidance shall be required. <i>Mitigation Measure 4.10.2:</i> Monitoring shall be conducted for excavation activities extending to estimated depths of 10 feet or more below the existing ground surface. If required, the paleontologic monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially-fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. Also, the following measures shall be made during the monitoring of excavation activities on undisturbed subsurface Pleistocene sediments. ◆ During monitoring, preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates shall occur. ◆ During monitoring, identification and curation of specimens into a museum repository with permanent retrievable storage shall occur. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. ◆ During monitoring, preparation of a report of findings with an itemized inventory of specimens shall occur. The report and inventory, when submitted to the City of Fontana (as the Lead Agency), will signify completion of the program to	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	mitigate impacts to paleontologic resources.	
Public Services – Future development under the proposed <i>Arboretum Specific Plan</i> would create demands for police and fire protection services, schools, parks, libraries, and medical services.	The following standard conditions would reduce or avoid potential adverse impacts on public services: <i>Standard Condition 4.11.1:</i> Future developments shall implement Building Security Specifications and shall be consistent with the principles of Crime Prevention through Environmental Design, as required by the Fontana Police Department. To ensure compliance, all developments shall be subject to building and site plan review and approval by the Fontana Police Department. <i>Standard Condition 4.11.2:</i> Future developments would be required to pay development impact fees for police services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site. <i>Standard Condition 4.11.3:</i> Future developments shall be subject to building and site plan review by the San Bernardino County Fire District, for compliance with pertinent fire safety and emergency access standards and to identify additional development features which could reduce demand for fire services, prevent the creation of fire hazards, and facilitate emergency response to the project site. <i>Standard Condition 4.11.4:</i> Future developments would be required to pay development impact fees for fire services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site. <i>Standard Condition 4.11.5:</i> Future developments would be required to pay school impact fees to the Fontana Unified School District, which would help fund the needed school facility expansion and service improvements to serve the proposed project. <i>Standard Condition 4.11.6:</i> As required under the City's Municipal Code (Chapter 21, Article IV), the proposed development shall pay Quimby fees for the development of parks and recreational facilities in North Fontana. The collected fees will be used for the development of neighborhood and	No significant impact.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	community parks in the area, to serve the proposed project. <i>Standard Condition 4.11.7:</i> Recreational facilities would be provided on-site as part of the proposed residential developments, in compliance with the City's Optional Density Standard Policy. <i>Standard Condition 4.11.8:</i> Future developments would be required to pay development impact fees for library services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the project.	
Utilities – Future development under the proposed <i>Arboretum Specific Plan</i> would require utility services and the extension of existing infrastructure systems to serve future residential and commercial uses, schools and parks on the site. Coordination with utility agencies would ensure adequate and timely services and water and energy conservation and recycling programs would reduce total demands. Impacts of existing utility infrastructure in the area may also occur. <i>Impact 4.12.1: Construction of Casa Grande Avenue over the MWD right-of-way could adversely impact the MWD's Rialto Pipeline.</i> <i>Impact 4.12.2: Construction of Duncan Canyon Road across the SCE easement and the proposed trails and gardens within the easement could adversely impact the SCE's facilities.</i> <i>Impact 4.12.3: Construction of Duncan Canyon Road across the SCG easement and the proposed trails and gardens within the easement could adversely impact the SCG's facilities.</i>	The following standard conditions and mitigation measures would reduce or avoid potentially significant adverse impacts relating to utilities: <i>Standard Condition 4.12.1:</i> The developer shall comply with the requirements of the West Valley Water District on water line extensions to serve individual developments on the site. <i>Standard Condition 4.12.2:</i> The developer shall comply with the requirements of the West Valley Water District, Fontana Water Company, San Gabriel Municipal Water District, and/or the Cucamonga Water District on excavation and construction near existing water lines on and near the site. <i>Standard Condition 4.12.3:</i> Future developments shall implement water conservation measures into the project design of the individual developments on the site to reduce water demand, in accordance with the Water Conservation Plan of the West Valley Water District. <i>Standard Condition 4.12.4:</i> The developer shall comply with the requirements of the Inland Empire Utilities Agency and the City of Fontana on sewer line extensions and service connections to serve individual parcels and building pads on the site. <i>Standard Condition 4.12.5:</i> The developer shall comply with the requirements of the City of Fontana on the construction of needed storm drain lines and facilities to prevent flood hazards in the area and to provide adequate storm drainage for the future developments under the proposed <i>Arboretum Specific Plan</i>.	No significant impact after mitigation.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	<i>Standard Condition 4.12.6:</i> The developer shall comply with the requirements of Burrtec on the provision of solid waste collection services to individual developments on the project site. <i>Standard Condition 4.12.7:</i> Burrtec and the City shall promote the recycling of wastes through the provision of informational brochures, recycling bins, barrel service, and recycled waste collection services to future residential and commercial developments on the site. Information on hazardous waste collection facilities would also be provided to allow for convenient and proper disposal of hazardous wastes. <i>Standard Condition 4.12.8:</i> The developer shall comply with the requirements of SCE on line extensions to serve individual parcels and building pads on the site. <i>Standard Condition 4.12.9:</i> Future developments shall incorporate energy conservation measures into the project design of the individual developments, in compliance with the California Energy Efficiency Standards and as mandated under Title 24 of the California Code of Regulations (California Building Standards Code). <i>Standard Condition 4.12.10:</i> The developer shall comply with the requirements of SCG on gas line extensions to serve individual parcels and building pads on the site, as well as for construction in or near the SCG right-of-way. <i>Standard Condition 4.12.11:</i> The developer shall comply with the requirements of AT&T and Time Warner on telephone and cable line extensions to serve individual parcels and building pads on the site. <i>Mitigation Measure 4.12.1a:</i> The City of Fontana shall submit a letter of intent to the MWD for their approval to use the MWD right-of-way as a public street right-of-way. <i>Mitigation Measure 4.12.1b:</i> Any grading, excavation, or construction work near the MWD right-of-way or the MWD pipelines shall follow the MWD's guidelines, with plans submitted for review and approval by the MWD prior to the start of work.	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	<i>Mitigation Measure 4.12.2:</i> Improvements proposed within the SCE easement shall be subject to review and approval by SCE to ensure no adverse impacts to the high-voltage transmission lines and for compliance with SCE's development guidelines. <i>Mitigation Measure 4.12.3:</i> Improvements proposed within the SCG easement and near the gas pumping facility shall be subject to review and approval by SCG to ensure no adverse impacts to the natural gas lines and facilities and for compliance with SCG's development guidelines.	
Hazards and Human Health – Construction activities and future residential and commercial uses, schools and parks on the project site have the potential to utilize hazardous materials and generate hazardous wastes. <i>Impact 4.13.1:</i> Waste oil drums and other illegally dumped hazardous wastes on the site may lead to soil contamination <i>Impact 4.13.2:</i> Agricultural chemical residue in areas historically used for agriculture may present hazards to construction workers and future site users/occupants. <i>Impacts 4.13.3:</i> Construction activities near the gas pipelines may cause damage to the existing gas lines and pumping facility. <i>Impact 4.13.4:</i> The proposed residential developments at the northwestern edge of the site may be exposed to hazards associated with the high-pressure gas lines and pumping facility at this location.	The following standard conditions and mitigation measures would reduce or avoid potential adverse impacts: <i>Standard Condition 4.13.1:</i> Construction activities, school maintenance, and commercial uses that utilize hazardous materials shall comply with applicable regulations regarding hazardous materials use, handling, storage, transport, and disposal. <i>Standard Condition 4.13.2:</i> As needed, future commercial uses and schools shall obtain a hazardous materials handler permit from the San Bernardino County Fire Department, prior to the issuance of a Certificate of Occupancy, which would include the development of a business emergency/contingency plan for hazardous materials and wastes that would be stored, generated, or treated at these facilities. <i>Mitigation Measure 4.13.1:</i> Waste oil drums, television, and other illegally dumped hazardous wastes on the site shall be disposed at a facility licensed to accept such hazardous wastes, prior to grading and excavation activities at the site. <i>Mitigation Measure 4.13.2:</i> Prior to the development of the eastern central section of the site (APN 0239-131-045), shallow soil sampling shall be made at areas which were formerly utilized for agricultural purposes, to determine if residues from pesticide applications remain in the soil. If the results of the soil testing show chemical levels are below regulatory levels, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above	No significant impact after mitigation.

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	regulatory standards. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established maximum contaminant levels. <i>Mitigation Measure 4.13.3:</i> In order to protect the gas pipelines and pumping facility, the developer shall coordinate and obtain approval from the Southern California Gas Company for grading and construction activities and any improvements and structures on or near the 100-foot wide gas line easement along the northwestern boundary of the site and the pumping facility at the western section of the site. Specifically, the following measures shall be followed: • No structures shall be built over the 100-foot wide gas line easement although parking areas, driveways and landscaped areas may be developed over the easement. • Structures and uses that would preclude or obstruct access to the aboveground or underground gas lines, through an approximately 50-foot wide trench along the gas lines, are not allowed. • Deep-rooting trees and shrubs that would need to be pulled out to obtain access to the gas lines are not allowed over the easement. • Mechanical equipment are not allowed within three horizontal feet of the gas lines, in order to prevent damage to the lines during construction and grading activities. Any closer work would have to be done by hand. • At least seven feet of fill is needed over the gas lines where heavy construction equipment will be crossing over the easement during construction activities. • Approval by the Southern California Gas Company would be needed for any plans over the easement. • A representative of the Southern California Gas Company must observe excavation work around and near the facilities to insure protection of the gas lines.	

Executive Summary

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impacts	Standard Conditions and Mitigation Measures	Level of Significance After Mitigation
	<i>Mitigation Measure 4.13.4:</i> A perimeter wall and/or security fence shall be provided around the gas pumping facility, along with a secured gate to prevent unauthorized entry and damage to the facility. <i>Mitigation Measure 4.13.5:</i> The applicant shall provide information on the presence of high-voltage power transmission lines to all potential home buyers.	
Aesthetics and Visual Quality – Future development under the proposed <i>Arboretum Specific Plan</i> would change the visual quality of the project site from a largely vacant area to four residential villages, a commercial activity center, schools and parks. New sources of light and glare would also be created.	The following standard condition would reduce or avoid potential adverse impacts: <i>Standard Condition 4.14.1:</i> Future development on the project site shall be subject to site plan and design review for compliance with the development regulations and design guidelines in the adopted Specific Plan and applicable regulations in the City's Zoning and Development Code.	No significant impact.

❑ IRREVERSIBLE ENVIRONMENTAL CHANGES

Implementation of the proposed *Arboretum Specific Plan* would lead to new residential and commercial developments, schools and parks on the project site and would result in certain irreversible environmental changes. Primary resources that would be eliminated include the loss of vacant land and open space in the City of Fontana.

Development on the project site would also entail the commitment of energy and natural resources. This commitment of energy and natural resources and building materials would be commensurate with that of other development projects of similar size. Labor would be committed for the construction of buildings at the site and the upgrading and maintenance of infrastructure systems and public facilities necessary to support the proposed developments. Once constructed, use of the residential and commercial structures would entail a further commitment of energy resources in the form of diesel fuel and electricity. This commitment would be a long-term obligation, since the proposed structures are likely to have a useful life of 30 years or more.

Other environmental changes that would occur with the project include changes in surface soils and drainage patterns; removal of existing on-site vegetation, including habitat for plants and animals in the area; the introduction of landscaping materials; and changes in the visual quality of the site. Traffic, noise and pollutant emission generation would also accompany the proposed developments, as will the demand for public services and utilities. These environmental changes would be mitigated by standard conditions and the recommended mitigation measures and are expected to be less than significant after mitigation, except for air quality. These irreversible changes are discussed in Section 5.0, *Significant Irreversible Environmental Changes and Unavoidable Adverse Impacts*, of the EIR.

Executive Summary

❑ CUMULATIVE IMPACTS

As discussed in Section 6.0, *Cumulative Impacts*, of this EIR, a number of development proposals have been approved in the surrounding area which, together with the proposed project, could lead to cumulative environmental impacts in the City and in the project area. Approximately 7,718 single-family homes, 1,206 multi-family residences, a total of approximately 3.43 million square feet of commercial floor area (assuming a floor area ratio (FAR) of 0.25 for commercial uses), 2 elementary schools, a fire station, 4 parks, and several freeway/roadway widening and improvement projects are expected to be developed and constructed in North Fontana as part of approved and proposed developments in the project area. An additional 2,325 new single-family residential dwelling units, a religious retreat, a telecommunications tower, and a dog kennel would be developed in San Bernardino County, north of the project area.

While the impacts of the proposed project and these related projects may be individually insignificant, they could incrementally increase the magnitude of environmental changes in the project area on a number of issue areas (such as traffic, population and housing, land use, biological resources, air quality, noise, public service demands, and utility consumptions). Other impacts of individual development projects in the City may be site-specific and project-specific (such as impacts on soils and geology, water and hydrology, cultural resources, and hazards and human health) and, thus, would have to be mitigated on a case-by-case basis so as to prevent significant cumulative impacts.

Site-specific impacts would be addressed by mitigation for individual developments. Expansion of service and utility infrastructure capacities would meet increasing demands for public services and utilities in the project area. The City's interim North Fontana MSHCP is expected to mitigate the cumulative loss of biological resources in the project area. While cumulative air quality impacts would further degrade air quality in the region, the proposed project and the related projects would have to comply with applicable regulations and programs of the SCAQMD, as part of implementation of the AQMP. Compliance with pertinent SCAQMD regulations is also expected to reduce cumulative adverse air quality impacts from the proposed *Arboretum Specific Plan* and other developments in the South Coast air basin and allow for the improvement of regional air quality in the long-term. Cumulative greenhouse gas emissions are expected to remain significant.

❑ GROWTH-INDUCING IMPACTS

Growth-inducing effects are ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Projects that remove obstacles to population growth or tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects, are also considered to have growth-inducing impacts. Growth-inducing effects of the proposed project are discussed in Section 7.0, *Growth-Inducing Impacts*, of this EIR.

The North Fontana area, in particular, has been experiencing rapid development within the last five years. New developments in the area have included residential subdivisions along the SR-210 and I-15 Freeways, within the Sierra Lakes, Summit Heights, Citrus Heights, and Westgate Specific Plan areas. Commercial uses have also been developed at the SR-210 Freeway and Sierra Avenue interchange and at the I-15 Freeway and Summit Avenue interchange. A number of other residential tracts and specific plans have been proposed on various parcels along Sierra, Citrus and Summit Avenues and Lytle Creek Road. These include the Summit at Rosena Specific Plan, the Ventana at

Executive Summary

Duncan Canyon Specific Plan, Empire North Fontana, Annexation No. 169, the Lytle Creek North Specific Plan, and other smaller tracts.

The project site is located at the northern section of the City of Fontana and is surrounded by vacant land to the north, east, west, and south. However, the area west of the site is proposed for development under the Ventana at Duncan Canyon Specific Plan, the area to the east proposed for development under the Empire North Fontana project, and the area to the south is planned for development under the Summit at Rosena Specific Plan. The vacant lands north and southeast of the site are the only remaining vacant lands where no development proposals are known at this time.

The proposed project is not likely to induce development in the areas where proposed development projects have been planned and are likely to precede the development within the *Arboretum Specific Plan*. The project's potential to induce development would be limited to the "unplanned" areas southeast and north of the site.

The roadway and infrastructure improvements that would accompany the proposed project would improve access to nearby vacant areas and could increase pass-by traffic. These improvements may result in a more attractive area for new development. The construction of Duncan Canyon Road through the site as a full six-lane roadway would improve access to adjacent areas to the east. Similarly, improvement of Cypress Avenue would improve access to the north. The development of these areas could be further induced by the construction of Casa Grande Avenue, Citrus Avenue, Sierra Avenue, and Grapeland Street along the site boundaries.

The proposed street improvements that would accompany the proposed project would add travel lanes and traffic signals to improve traffic flow in the area. These improvements may also make the areas near the site more attractive to investors, property owners and future residents and, thus, create additional housing demand and induce new development in these areas.

But new developments would have to pay on a fair share basis for the costs of roadway and signal improvements, as part of their development. Thus, a perceived decrease in development costs for adjacent lands, due to existing improved roadways, would not necessarily translate to a decrease in development costs for roadway improvements.

The proposed *Arboretum Specific Plan* would connect to utility lines that have been extended from the south and those planned to the west. Utility line extensions on Grapeland Street (approximately ½ mile north of Duncan Canyon Road), Citrus Avenue, and Cypress Avenue would provide services to the vacant lands north of the site. The extension of the utility lines on Sierra Avenue and Duncan Canyon Road would provide future service to developments east and northeast of the site. This could reduce the cost of development for adjacent lands. However, the need for utility line upgrades or the costs to pay for new service would still have to be paid by individual developments.

Since no police or fire stations are proposed as part of the project, no growth-inducing impacts associated with these public services would occur with the project. Also, library and medical services will be provided at their existing locations, with residents and employees at the site going to existing facility locations. Thus, the project would not bring public facilities to the site or the area.

An elementary school and a combined elementary and middle school are proposed on-site. These schools are expected to serve residents of the site and surrounding area. Thus, the presence of the schools could induce additional residential development in the surrounding areas. New developments

Executive Summary

would have to pay school impact fees for school facilities. Thus, a perceived decrease in development costs for adjacent lands, due to the presence of schools, would actually not translate to a decrease in development costs for school facilities.

Together with other proposed developments in the surrounding area, future development under the proposed *Arboretum Specific Plan* would contribute to the ongoing growth and development in the North Fontana area. However, future development of the adjacent vacant parcels would be subject to review and approval by the City of Fontana. The review and approval of individual developments would ensure that adequate services and infrastructure are available to serve each project and that no land use conflicts are created. Mitigation measures, standard conditions, and conditions of approval imposed on development projects in the area are expected to avoid or reduce environmental impacts, which may be indirectly attributed as growth-inducing impacts of the project. Thus, the growth-inducing impacts of the proposed Specific Plan are not expected to result in significant adverse effects to the environment.

➤ ***Impacts Found Not To Be Significant***

Pursuant to Section 15128 of the CEQA Guidelines, an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. Impacts found not to be significant are presented in Section 8.0, *Impacts Found to be Insignificant*, of the EIR. The discussion in this section is based on the findings of the Initial Study prepared for the project.

Based on the environmental analysis in the Initial Study, the proposed project was determined to have no potential to cause significant adverse effects on mineral resources and agricultural resources, since no mineral or agricultural resources are present on or near the site, which may be affected by future development under the proposed Specific Plan.

➤ ***Project Alternatives***

CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain most of the basic project objectives, while reducing or avoiding potentially significant environmental effects, and to evaluate the comparative merits of the alternatives. Section 9.0, *Alternatives Analysis*, of this EIR discusses potential alternatives to the proposed project and evaluates their potential environmental impacts, as required by CEQA. These alternative development scenarios have been developed in accordance with the CEQA Guidelines and are directed at addressing alternative development scenarios under the proposed Specific Plan, which have the potential to reduce or avoid potentially significant impacts associated with the proposed *Arboretum Specific Plan*.

The alternatives considered for the proposed project include the following:

- **No Project Alternative.** The No Project Alternative anticipates that the project site would remain in its existing condition, unaltered. This alternative assumes that the site will retain its undeveloped condition indefinitely, as it presently exists.
- **Existing Land Use Designation.** As a subset of the No Project Alternative, the Existing Land Use Designation Alternative would allow future development on the site in accordance with the City's Land Use Plan. The site is currently designated as Regional Mixed Use (RMU),

Executive Summary

Community Commercial (C-C), Public Utility Corridor (P-UC), and Residential Planned Community (R-PC). Under these designations, The Existing Land Use Alternative considers the development of the site with as much as 2,455 dwelling units, 1.2 million square feet of commercial retail and office uses, and 606,682 square feet of light industrial uses.

- **Lower Intensity Alternative.** Under this alternative, the project site would be developed with subject to the same residential land uses as proposed under the *Arboretum Specific Plan*, but at lower densities, in order to reduce demand-driven impacts and significant unavoidable impacts on air quality. While less development intensities may be constructed on the project site, the intensity of development that would be constructed on the site under this alternative would still not reduce potential air quality impacts to levels below SCAQMD thresholds. The project would have to scale down to 297 condominiums only to fall below SCAQMD thresholds. This would leave much of the site as open space, either as part of individual lots or as in common open space areas. The lower density development under this alternative would not be compatible and consistent with planned land uses in the North Fontana area under the RMU, R-PC, P-UC, and C-C designations, where a mix of commercial, light industrial and residential land uses are allowed on the site. A slightly reduced development is proposed under this alternative, featuring 1,500 single-family detached housing units, with the same commercial development at the northwest corner of Sierra Avenue and Duncan Canyon Road, along with an elementary school, a combined elementary and middle school, and various parks.
- **Alternative Sites.** Under this alternative, vacant parcels in other areas of the City, which may accommodate the same residential and retail commercial developments, schools and parks, as proposed for the project site, are considered as potential alternative sites for the project. The majority of existing vacant sites in the North Fontana area have been proposed for residential and commercial developments under approved specific plans and tentative tracts. Since there are no remaining undeveloped areas in Fontana with as much as 531.3 acres, this alternative assumes that the proposed developments under the *Arboretum Specific Plan* would be developed on separate sites located to the north and southeast of the site. This alternative would move the demand-driven impacts of the project to other sites but would not necessarily reduce them. Also, the alternative sites present a different set of constraints to development or would lead to environmental impacts based on the presence of environmental resources at each site. Thus, they do not necessarily avoid or reduce the impacts associated with the proposed project.

➤ **Environmentally Superior Alternative**

CEQA requires that the EIR identify the environmentally superior alternative among all of the alternatives considered, including the proposed project. If the No Project Alternative is selected as environmentally superior, then the EIR shall also identify another environmentally superior alternative among the other alternatives.

Based on the comparative analysis of alternatives, as provided in Section 9.0, the No Project Alternative is considered to be environmentally superior because its implementation would result in no development on the project site and no environmental impacts or changes to existing conditions would occur. However, this alternative would not provide any future economic use of the site and would not be consistent with the Fontana General Plan, which calls for urban land uses on the site and in North Fontana. This alternative would also not implement the City's Circulation Master Plan.

Executive Summary

Aside from the No Project Alternative, the Lower Intensity Alternative, which would result in lower density residential developments on the project site, would also be considered as the environmentally superior alternative. This alternative would generate lesser environmental impacts than the proposed project, as they relate to land use, population and housing, transportation, air quality, noise, hydrology, public services, utilities, and aesthetics. However, this alternative would still not reduce potential air quality impacts to below a level of insignificance. Also, traffic impacts would remain significant and adverse until off-site roadway and intersection improvements are implemented by the City and adjacent developments, similar to the proposed project.

➤ Areas of Controversy / Issues to be Resolved

A number of comment letters were received in response to the Notice of Preparation (NOP). Areas of controversy or issues that need to be addressed, as raised by comments made in response to the NOP, include:

- ❖ The United States Fish and Wildlife Service (USFWS) indicated that the San Bernardino Kangaroo Rat, a federally “Endangered” species, is known to occupy the site. The site also supports Riversidean alluvial fan sage scrub, which serves as habitat for the California Gnatcatcher, a federally “Threatened” species. The USFWS suggests that an EIR be prepared for the project.
- ❖ The County of San Bernardino Department of Public Works would like to receive a copy of the environmental document and any technical reports that will be prepared for the project. The Department also wants waste generation and impact on existing landfill capacity, requirements for construction and demolition debris, hazardous wastes quantities and disposal, and availability of commercial waste haulers to be addressed in the EIR.
- ❖ The Metropolitan Water District (MWD) of Southern California indicated that they own the right-of-way along the south side of the site, where the Rialto Pipeline runs through. The City of Fontana would need to ensure that the proposed project does not encroach or otherwise interfere with MWD property and facilities. No part of the MWD right-of-way is part of or available for use by the project. Access should remain unobstructed. The submission of plans to MWD for review and approval would avoid conflict with their facilities. The MWD also requests that consistency with the growth management plan by SCAG be analyzed, as MWD uses SCAG’s population, housing, and employment projects to determine future water demand. It also encourages the use of water conservation measures, such as water-efficient fixtures, drought-tolerant landscaping, and reclaimed water use by the project.
- ❖ The South Coast Air Quality Management District (SCAQMD) indicated that the City use the District’s CEQA Air Quality Handbook or the California Air Resources Board’s Urbemis2002 model in preparing the air quality analysis in the EIR. Air quality impacts from both construction and operation should be included, as well as direct and indirect, regional and localized impacts. A mobile health risk assessment and analysis of toxic air contaminant impacts may also be needed. Mitigation measures should be identified for any significant adverse impacts. Information sources are provided for reference.
- ❖ The Native American Heritage Commission (NAHC) indicated that to adequately assess impacts on historical resources, the City needs to contact the appropriate California Historic Resource Information Center, perform an archaeological inventory survey, contact the NAHC

Executive Summary

for scared sites, include a mitigation plan for the disposition of recovered artifacts and include provisions for the discovery of Native American remains. Avoidance should be considered when significant cultural resources are discovered.

- ❖ The Southern California Gas Company indicated that the DEIR should discuss the extension of new natural gas service to the site, including the presence of existing utilities, planned gas lines, needed relocation or abandonment, temporary staging areas, permits or acquisition of right-of-way or easements, and grading or drainage improvements near SCG facilities.
- ❖ The Southern California Association of Governments indicated that the proposed project is regionally significant and the EIR should discuss the project's consistency with the Destination 2030: 2004 Regional Transportation Plan, the Regional Comprehensive Plan and Guide – 1996, and the Compass Growth Vision.

These comments to the NOP are addressed in appropriate sections of this EIR.

Section 1.0: Introduction

1.1 OVERVIEW

In accordance with the California Environmental Quality Act (CEQA), this Draft Program Environmental Impact Report (EIR) has been prepared to analyze the potential environmental impacts associated with the adoption and implementation of the proposed *Arboretum Specific Plan* ("proposed project" or "project"). The project site for the *Arboretum Specific Plan* covers approximately 531.3 acres of land located in northern section of the City of Fontana. The project site is located southeast of the Ontario Freeway (Interstate-15 Freeway) and north of the Foothill Freeway (State Route 210). The site is immediately east of Citrus Avenue, west of Sierra Avenue, and the north of the Metropolitan Water District of Southern California (MWD) right-of-way. It includes the Southern California Edison (SCE) and Southern California Gas (SCG) easements, running northeast to southwest along the northwestern boundary of the site. The site is undeveloped, with the recent burning of a single-family residence located at the northwestern corner of the site.

The *Arboretum Specific Plan* proposes the development of four residential villages on the site, with a total of 3,526 residential units, along with an 8.8-acre activity center within a commercial zoned parcel, a regional arboretum, various parks, one elementary school, and a combined elementary-middle school. Cypress Avenue and Duncan Canyon Road would be extended across the site, dividing the site into the four villages: the Arboretum, the Resort, the Meadows, and the Gardens. The adoption of the Specific Plan will require a General Plan Amendment and Zone Change, and future development under the Specific Plan will require approval of parcel maps and tentative tract maps.

The proposed *Arboretum Specific Plan* is considered a "project", as defined by Section 21065 of CEQA and Section 15378 of the CEQA Guidelines. In accordance with Section 15051 of the CEQA Guidelines, the *Lead Agency* is "the public agency with the greatest responsibility for supervising or approving the project as a whole". The City of Fontana has the primary responsibility for the adoption of the proposed *Arboretum Specific Plan*. Thus, the City is serving as the Lead Agency for the proposed project and is responsible for the environmental review and clearance of the project, pursuant to Section 15040 of the CEQA Guidelines.

1.2 PURPOSE OF THE EIR

1.2.1 Authority and Intended Uses of the EIR

The Planning Division of the Community Development Department of the City of Fontana authorized the preparation of an Initial Study to review the potential environmental impacts of the proposed *Arboretum Specific Plan*. Based on the findings of the Initial Study, the City has determined that an EIR is required and must be prepared as part of the project's environmental review process, in accordance with CEQA. A Notice of Preparation (NOP) for the EIR was circulated on July 24, 2006 to solicit comments from other agencies on the scope and content of the EIR.

Acting as the Lead Agency, the City has authorized the preparation of this EIR to determine the potential environmental impacts of the proposed Specific Plan. The EIR would facilitate the environmental review process by identifying the potential adverse environmental changes that could occur with the adoption and implementation of the Specific Plan and the development of the proposed residential and commercial uses, schools, and parks on the site, as proposed in the Specific Plan. The EIR also addresses issues raised in response to the NOP, as provided

Section 1.0: Introduction

by various affected and interested agencies. While this EIR has been prepared with consultant support, the analysis and findings in this document have been independently reviewed by the City and reflect the City's conclusions, as required by Section 15084 of the CEQA Guidelines.

The purpose of this EIR is to inform the City, trustee and responsible agencies, decision-makers, and the general public of the environmental effects anticipated with the adoption of the Specific Plan and future development on the project site. This EIR is an informational document prepared pursuant to CEQA and the State CEQA Guidelines and the City of Fontana's procedures for implementing CEQA. The EIR provides decision-makers, public agencies, and the public in general with detailed information about the potential significant adverse environmental impacts that may occur with the proposed project. The EIR also identifies mitigation measures that would be effective in reducing or avoiding any identified significant adverse impacts. In addition, feasible alternatives to the proposed Specific Plan and associated development are discussed and their potential environmental impacts are compared to that of the proposal, to provide a basis for consideration by decision-makers.

The adoption and implementation of the proposed *Arboretum Specific Plan* would not lead to any direct changes to the environment or the project site. However, future development that would be allowed under the Specific Plan would lead to changes in the existing environmental conditions at the project site by the introduction of urban land uses into the area. This future development would include the construction of a maximum of 3,526 residential units, an 8.8-acre activity center, various parks, one elementary school, a combined elementary-middle school, and greenbelts within the four villages proposed on-site.

The proposed Specific Plan would regulate future development on the site, which would result in physical changes or impacts on the environment during construction and occupancy of the proposed dwelling units and with construction, operation and use of the activity center, schools, parks, and other associated on-site facilities and improvements. Thus, the potential environmental impacts associated with implementation of the proposed Specific Plan and future developments on the project site that could occur under the proposed Specific Plan are analyzed in this Program EIR.

1.2.2 Agencies Having Jurisdiction

State law requires that all EIRs be reviewed by trustee and responsible agencies. A '*Trustee Agency*' is defined in Section 15386 of the CEQA Guidelines as "a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California." Per Section 15381 of the CEQA Guidelines, "the term '*Responsible Agency*' includes all public agencies other than the Lead Agency which have discretionary approval power over the project."

The City of Fontana is the Lead Agency for the project. The EIR would be used by the Fontana City Council in deciding whether to adopt the proposed *Arboretum Specific Plan* and approve future development on the site as allowed under the Specific Plan.

The California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS) are Trustee Agencies for sensitive wildlife resources that may be present on the site and that would be disturbed as part of the proposed developments. These trustee agencies shall use the EIR prepared by the City of Fontana in their review and approval of discretionary permits needed for the project.

Section 1.0: Introduction

Other public agencies may also review or use the EIR in considering non-discretionary permits needed for future developments on the project site. These agencies may use the EIR for evaluating the impacts of the project on their facilities or public service levels during the processing of development and building permits; in conjunction with changes in services that may occur with future development of the site; and to assist other agencies in planning for future facility expansions and service level upgrades. They include:

- ◆ California Department of Transportation
- ◆ Chaffey Community College District
- ◆ City of Fontana Department of Building and Safety
- ◆ Fontana Police Department
- ◆ Fontana Unified School District
- ◆ Inland Empire Utilities Agency
- ◆ Metropolitan Water District of Southern California
- ◆ Mid-Valley Landfill
- ◆ Omnitrans Bus Company
- ◆ San Bernardino Associated Governments
- ◆ San Bernardino Community College District
- ◆ San Bernardino County Department of Environmental Health
- ◆ San Bernardino County Fire District
- ◆ San Bernardino County Flood Control District
- ◆ San Bernardino County Library System
- ◆ San Bernardino County Public Works Department
- ◆ San Bernardino County Waste Management Department
- ◆ Santa Ana Regional Water Quality Control Board
- ◆ South Coast Air Quality Management District
- ◆ Southern California Association of Governments
- ◆ West Valley Water District

1.2.3 Notice of Preparation and Public Scoping

The City of Fontana has determined that an EIR is required for the proposed *Arboretum Specific Plan*. Based on this determination, the City complied with Section 15082 of the CEQA Guidelines by issuing a Notice of Preparation (NOP) of a Draft EIR. The NOP was distributed on July 24, 2006, and indicated that an EIR would be prepared for the proposed project, and that the City was seeking public comments on issues that needed to be addressed in the EIR. The NOP is provided in Appendix A of this EIR. Appendix A also contains the list of agencies and individuals that received a copy of the NOP and Initial Study. The NOP review/comment period extended for 30 days after receipt of the NOP and ended on August 23, 2006. Consequently, the responses to the NOP were used to refine the focus and scope of issues addressed in the Draft EIR. The responses received on the NOP are summarized in the Executive Summary, and the actual letters are included in Appendix B of this EIR.

A scoping meeting for the project was held on August 17, 2006 at the City of Fontana Executive Conference Room from 5:30 PM to 6:30 PM. Public agencies and residents of the project area were invited to the scoping meeting. Issues discussed at the meeting included existing land use designations, proposed land uses, adjacent development projects, and the EIR schedule.

Section 1.0: Introduction

1.2.4 Availability of the Draft EIR

After completion of the Draft EIR, a Notice of Completion was published in the local newspaper and mailed out to inform the public and interested and affected agencies that indicated the Draft EIR was available for public review and comment. In addition, the Draft EIR was distributed directly to affected public agencies and to interested organizations for review and comment. The Draft EIR and all related technical studies have been made available for review and copying at the City of Fontana Planning Division at the following address:

City of Fontana
8353 Sierra Avenue
Fontana, CA 92335
Charles Fahie, AICP, Senior Planner
(909) 350-6724

The documents are also available for review at the following location:

Fontana Lewis Library and Technology Center
8437 Sierra Avenue
Fontana, CA 92335
(909) 574-4500

Agencies, organizations, and individuals have been invited to comment on the information presented in the Draft EIR during a 45-day public review period from May 19 to July 2, 2008. Specifically, comments addressing the scope and adequacy of the environmental analysis contained in the EIR have been solicited. Respondents have also been asked to provide or identify additional environmental information which is germane to the project and the project site, but which they feel may not have been addressed in the analysis. Comments should be sent to Charles Fahie of the City of Fontana at the address above.

Following the public review period, responses to all substantive comments will be prepared and compiled into the Final EIR. Responses would also be sent to individual agencies that provided comments. The Final EIR will then be considered by the Fontana City Council for certification, prior to any discretionary action or decision on the proposed *Arboretum Specific Plan*.

1.2.5 Incorporation by Reference

As permitted by Section 15150 of the CEQA Guidelines, this EIR has referenced several technical studies, analyses, and reports. Information from the documents, which have been incorporated by reference into this EIR, has been briefly summarized in the appropriate section(s) which follow and the relationship between the incorporated part of the referenced document and the EIR has been described. The documents and other sources which have been used in the preparation of this EIR are identified in Section 11.0, *References and Preparers*. In accordance with Section 15150(b) of the State CEQA Guidelines, the locations where the public may obtain and review these referenced documents and other sources used in the preparation of the EIR are also identified.

Section 1.0: Introduction

1.3 METHODOLOGY

The environmental analysis contained in this EIR has been developed to adequately address all environmental issues and the concerns raised by comments on the NOP. The environmental impact analysis seeks to determine the significance of potential impacts and to develop appropriate mitigation. To facilitate the analysis of each issue, a standard format was developed to analyze each environmental issue thoroughly. This format is presented below, with a brief discussion of the information included within each topic.

1.3.1 Environmental Setting

This introductory section describes the existing environmental conditions related to each issue analyzed in the EIR. In accordance with Section 15125 of the State CEQA Guidelines, both the existing local and regional settings are discussed as they exist prior to implementation of the proposed *Arboretum Specific Plan* and when the NOP was circulated in July 2006. This section provides the baseline conditions with which environmental changes created by the proposed project would be compared and analyzed.

1.3.2 Threshold of Significance

Section 15126.2 of the CEQA Guidelines requires that an EIR “identify and focus on the significant environmental effects of the proposed project”. “Effects” and “impacts” mean the same under CEQA and are used interchangeably within this EIR. A “significant effect” or “significant impact” on the environment means “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project” (Section 15382 of the CEQA Guidelines).

In determining whether an impact is “significant”, Section 15064.7 of the CEQA Guidelines encourages each public agency to develop and publish thresholds of significance to use in determining the significance of an environmental impact. These thresholds may consist of identifiable quantitative, qualitative or performance level criteria, of which non-compliance would mean the effect would be determined to be significant and compliance with the thresholds would mean the effect normally would be determined to be less than significant.

The City of Fontana has not adopted thresholds of significance. Thus, the significance criteria used in the analysis in Section 4.0, *Environmental Impact Analysis*, of this EIR are derived from Appendix G of the CEQA Guidelines. In addition, City policies and standards, as well as thresholds adopted by other public agencies with jurisdiction over select environmental issues, are used as thresholds of significance. Also, accepted technical and scientific data are used in other instances to determine if an impact would be considered significant. An effort has been made to avoid overly subjective significance criteria, which are not based in specific CEQA policies, and to use generally accepted thresholds upon which significance can be determined. These significance criteria are identified under each environmental issue area and have been utilized in analyzing the potential effects of the proposed project.

1.3.3 Environmental Impacts

The analysis of environmental impacts presented in this EIR identifies specific project-related direct and indirect, short term and long term, and unavoidable impacts of the proposed project.

Section 1.0: Introduction

While adoption of the Specific Plan itself would not result in direct or immediate changes to the environment, implementation of the Specific Plan, as associated with future development that would be allowed on the site, as regulated by the Specific Plan, would result in environmental changes or impacts. These impacts are directly attributable to the Specific Plan and thus, are analyzed in this EIR as project impacts.

As described above, the significance criteria provide the basis for distinguishing between impacts which are determined to be significant (i.e., impact exceeds the threshold of significance) and those which are considered less than significant. The existing environmental setting (i.e., existing conditions) at the time of NOP publication is used as the basis for documenting the nature and extent of changes to the environment or the environmental impacts anticipated to result from project implementation.

In assessing the impacts of the proposed project and the various CEQA alternatives, the City has conducted the following analysis:

"Potential effects" of the project are identified. Initially, these potential effects are identified on a cursory level. No determination is made that they truly are "significant", "adverse", or "substantial". This process merely identifies issues of concern and impacts which, on a cursory level, may seem possible or may occur with the proposed project. "Potential effects" include those which have been identified in the preliminary analysis for the project, as well as those raised by the public, the City, and other public agencies during the NOP review process.

With respect to each potential effect, further analysis has been conducted in the EIR to determine if, in fact:

- ◆ The project causes the identified "effect"; and
- ◆ The effect produces a substantial, or potentially substantial change in the physical conditions within the area affected by the project (i.e., "significant"); and
- ◆ The changed conditions are "adverse".

Where the investigation of a potential effect concludes that the effect is too speculative or subjective for evaluation, that conclusion is noted and the discussion of that effect is ended.

Where the investigation demonstrates that a potential effect does or may (without undue speculation) occur, but is beneficial, that conclusion is noted. Where the investigation demonstrates that a potential effect is not significant or not adverse, that conclusion is noted.

Where the impact analysis demonstrates that a potential effect does or may (without undue speculation) occur and is found to have a substantial or potentially substantial **and** adverse impact on existing physical conditions within the area affected by the project, that conclusion is noted.

1.3.4 Standard Conditions and Mitigation Measures

When impacts are determined to be significant and adverse, a discussion of standard conditions and mitigation measures that would reduce or avoid these impacts is provided, which includes

Section 1.0: Introduction

the following:

- ◆ Existing City, County, State and Federal regulations that would reduce or avoid potential adverse impacts are identified;
- ◆ Additionally, mitigation measures are provided which would further avoid or minimize the significant effects and reduce them to less than significant levels; and/or
- ◆ Where feasible mitigation measures are not identified which can reduce the significant effects to less than significant levels, the significant effect would be identified as a "significant unavoidable adverse impact".

1.3.5 Unavoidable Significant Adverse Impacts

Unavoidable significant adverse impacts are those effects that, either cannot be mitigated or remain significant even after mitigation. The level of significance of the identified impacts after mitigation is identified in this section of the EIR.

1.4 SCOPE AND FORMAT OF THE EIR

1.4.1 Scope of EIR

As indicated earlier, an Initial Study was prepared for the proposed project and an NOP was circulated to all identified affected and interested agencies and parties to solicit their comments on the scope and analysis to be included in the EIR for the proposed *Arboretum Specific Plan*. Based on the preliminary analysis in the Initial Study for the project and the comments received in response to the NOP, the City has determined that the EIR for the proposed project should address the following environmental issues:

■ Aesthetics	■ Land Use and Planning
■ Air Quality	■ Noise
■ Biological Resources	■ Population and Housing
■ Cultural Resources	■ Public Services
■ Geology and Soils	■ Recreation
■ Hazards and Hazardous Materials	■ Transportation and Traffic
■ Hydrology and Water Quality	■ Utilities and Service Systems

The potential impacts of the proposed Specific Plan, as they relate to these environmental issues, are addressed in detail in Section 4.0, *Environmental Impact Analysis*, of the EIR. No significant adverse impacts on Mineral Resources and Agricultural Resources are expected with adoption and implementation of the proposed Arboretum Specific Plan or with future development under the Specific Plan. Thus, these environmental issues are only discussed under Section 8.0, *Impacts found to be Insignificant*, in the EIR.

1.4.2 Format of EIR

The proposed *Arboretum Specific Plan* and the analyses of its potential environmental impacts are presented in this EIR through the following sections:

Section 1.0: Introduction

- **Executive Summary.** An overview of the EIR, a description of the proposed project and a summary of impacts and mitigation measures are provided in this section. This section includes a summary of each subsequent section of the EIR and reflects the outline of the entire EIR. This section also includes the areas of controversy/issues to be resolved based on comments received on the NOP.
- **Section 1.0: Introduction.** The purpose of the EIR and a discussion of the public review process are provided in this section. This section also includes the methodology for the environmental analysis, and the scope and format of the EIR.
- **Section 2.0: Environmental Setting.** This section provides a description of the project site and the environment in the vicinity of the project site, as well as a discussion of the existing conditions at the project site. The background and history of the proposal and applicable plans and policies are also discussed.
- **Section 3.0: Project Description.** This section describes the proposed project and outlines the development proposed on the site under the proposed *Arboretum Specific Plan*. The objectives of the project and the discretionary actions needed to approve the project are also identified.
- **Section 4.0: Environmental Analysis.** This section analyzes the potential environmental impacts associated with the proposed Specific Plan, including the impacts of future development under the Specific Plan, of construction activities needed to implement the Specific Plan, and associated with future use and occupancy of the proposed residential and commercial developments, schools, and parks on the site. The existing environmental setting, potential environmental impacts, and recommended mitigation measures are discussed in this section. Unavoidable significant adverse impacts after mitigation are also identified.
- **Section 5.0: Significant Irreversible Environmental Changes and Unavoidable Adverse Impacts.** This section describes the potentially significant irreversible environmental changes and unavoidable adverse impacts that may be expected to occur with the adoption and implementation of the proposed Specific Plan, based on the analysis completed in Section 4.0.
- **Section 6.0: Cumulative Impacts.** This section describes a list of past, present, and reasonably anticipated future projects in the surrounding area, which may potentially contribute to significant cumulative impacts associated with the project. The cumulative impacts of these related projects and the *Arboretum Specific Plan* are analyzed in this section of the EIR.
- **Section 7.0: Growth-Inducing Impacts.** This section describes the project's potential for fostering growth in the adjacent areas or in the northern section of the City, as associated with the development of the project site and the extension of utility infrastructure systems and public facilities and services to the site.
- **Section 8.0: Impacts Found to be Insignificant.** This section provides a summary of the impacts of the project, which were found to be insignificant. The discussion is based

Section 1.0: Introduction

on the environmental analyses in the Initial Study, and identifies the issue areas on which the project was determined to have no potential to cause significant adverse effects.

- **Section 9.0: Alternatives to the Project.** Other projects or development scenarios which may occur on the site and which would result in a reduction or avoidance of potentially significant impacts were developed as alternatives to the proposed project and are described in this section. The No Project Alternative (with existing conditions remaining) and Alternative Sites where the proposed development may be feasibly constructed are also discussed. The impacts of these alternatives are evaluated and compared to the impacts of the proposed project.
- **Section 10.0: Mitigation Monitoring Program.** This section contains the mitigation monitoring and reporting program for the project and lists the standard conditions and how they are implemented, as well as the recommended mitigation measures and the responsible parties, time frames for implementation, and monitoring parties.
- **Section 11.0: References and Preparers.** The agencies and individuals contacted and the reference materials consulted in the course of the EIR's preparation are listed in this section, along with persons and agencies responsible for the preparation of the EIR. The locations where the references may be reviewed are also provided in this section.

The EIR also includes appendices that contain the NOP, Initial Study, and NOP mailing list (Appendix A), Responses to the NOP (Appendix B), the technical studies prepared for the proposed project and letters received from public service agencies (Appendices C to L).

Section 2.0: Environmental Setting

2.1 PROJECT LOCATION AND ENVIRONMENTAL SETTING

The proposed *Arboretum Specific Plan* would regulate development on an approximately 531.3-acre site located in northern section of the City of Fontana. The site is bounded by Citrus Avenue on the west, Sierra Avenue on the east, and the MWD right-of-way on the south. The SCE/SCG easements run along the northwestern boundary of the site. At the present time, the project site is vacant, with the recent burning of a single-family residence located at the northwestern corner of the site, due to a brush fire.

2.1.1 Regional Setting

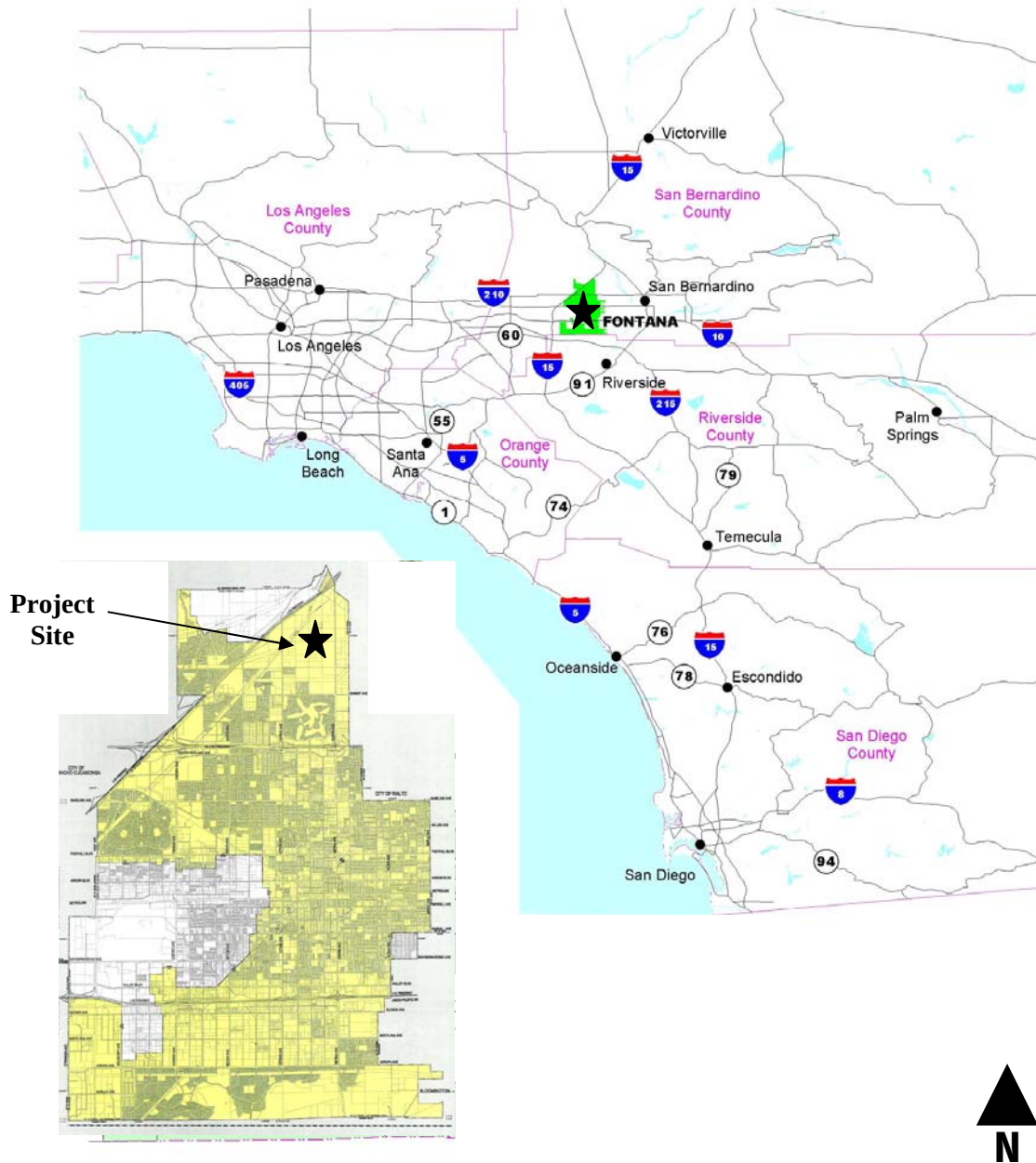
The City of Fontana covers approximately 41.7 square miles of land located in the southwestern portion of the County of San Bernardino. The counties of San Bernardino and Riverside together form the Inland Empire of the Southern California region, representing the seat of growth and development in the eastern portion of the region. The County of San Bernardino, covering approximately 22,000 square miles, is the largest county in the United States and consists of 31 incorporated cities. As of January 2007, San Bernardino County was home to approximately 2.03 million residents, making it the fifth most populated county in California. Population growth of approximately 20.6 percent is estimated to have occurred in the County between 1990 and 2000, with a 1990 population of 1,418,380 persons and a 2000 population of 1,710,139 persons. The most recent (January 2007) estimates of population and housing in the County indicate a population of 2,028,013 residents and a housing stock of 676,909 dwelling units.

The City of Fontana is located in the southwestern section of San Bernardino County, where most of the urban development in the County is present. The City is approximately 15 miles west of the City of San Bernardino, 50 miles east of the City of Los Angeles, and 50 miles northeast of the City of Santa Ana in Orange County. The City's boundaries are highly irregular and in flux because of recent and ongoing annexations of surrounding unincorporated County lands. To the west, the City of Fontana is bounded by the cities of Ontario and Rancho Cucamonga and unincorporated County land. The San Bernardino National Forest and unincorporated County land border the City to the north, while the City of Rialto and unincorporated County land border the City to the east. The San Bernardino/Riverside County line and unincorporated Riverside County land border the City on the south side.

The City of Fontana is located at the base of the San Gabriel Mountains and north of the Jurupa Hills. The San Bernardino (I-10) Freeway crosses through the southern portion of the City in an east-west direction. The Ontario (I-15) Freeway passes through the northwestern part of the City in a southwest-northeast direction. Additionally, the new Foothill (SR-210) Freeway crosses through the northern part of the City in an east-west direction. Figure 2-1, *Regional Map*, provides the regional location of the City.

The City of Fontana is currently developed with a mix of land uses, although the majority of the land is developed with residential land uses. Approximately 9,275 acres (31.5%) of the City was developed with residential land uses, 4,486 acres with industrial uses, 1,176 acres with commercial uses, 2,308 acres with public uses, and 16,183 acres remained as vacant land in 2003. The downtown area and development core of the City is located north of the I-10 Freeway and south of Foothill Boulevard, near and around Sierra Avenue. This area contains the City's older commercial and residential areas.

**Figure 2-1
Regional Map**



**Arboretum Specific Plan
City of Fontana**

Section 2.0: Environmental Setting

New residential tracts and neighborhoods are located in both the northern and southern sections of the City: north of Foothill Boulevard and the SR-210 Freeway (North Fontana area) and near the Jurupa Hills (South Fontana area). Commercial developments are located along the freeways and major highways and roadways throughout the City, including Foothill Boulevard, Sierra Avenue, and Baseline Avenue. Industrial land uses are found at the southwestern section of the City, along the I-10 Freeway and parallel the Union Pacific Railroad tracks.

Significant growth and development in the City has occurred since the 1980's, as part of land annexations and new residential subdivisions in the City's northern section (north of Foothill Boulevard and south of Highland Avenue). This growth has slowed down during the past decade, but continued residential development is occurring north of Baseline Avenue and in the southern section of the City, south of Jurupa Avenue. At the same time, new industrial developments have also been developed in the City's southwestern section. Commercial developments have followed the residential development projects, with large new commercial developments along the I-10 and the I-15 Freeways. Recent developments have occurred together with the construction of the SR-210 Freeway and in the areas north of the SR-210 Freeway and east of the I-15 Freeway.

For the last two decades, growth and development within the City of Fontana have been significant and have outpaced that of the County of San Bernardino as a whole. Fontana is also one of the fastest growing cities in the County and the State.

The City's 1970 population was estimated at 20,673 persons. By 1980, the residents in the City numbered 37,105 persons. From 1980 to 1990, the population more than doubled; increasing to 85,100 persons by 1990. The City's 2000 population was approximately 129,833 persons (a 52.6-percent increase in 10 years) and the current January 2007 population is estimated at 181,640 persons.

The California Department of Finance population estimates for the City of Fontana and the County of Bernardino are provided in Table 2-1, *Population Growth*.

TABLE 2-1
POPULATION GROWTH

Year	City of Fontana	Annual Growth	San Bernardino County	Annual Growth
1970	20,673		684,072	
1980	37,111	7.9%	895,016	3.1%
1990	87,535	13.6%	1,418,380	5.8%
2000	128,928	4.7%	1,710,139	2.1%
2001	133,577	3.6%	1,747,822	2.2%
2002	140,332	5.1%	1,794,507	2.7%
2003	146,577	4.5%	1,842,904	2.7%
2004	155,749	6.3%	1,897,950	3.0%
2005	160,015	2.7%	1,946,202	2.5%
2006	165,462	3.4%	1,991,829	2.3%
2007	181,640	9.8%	2,028,013	1.8%
Source: California Department of Finance, 2007				

Together with population growth was an increase in the City's housing stock. From 1980 to 1990, the City's housing stock more than doubled (an increase of 15,443 units) from 13,940 units in 1980 to a 1990 total of 29,383 units. From 1990 to 2000, the number of housing units in Fontana rose from 29,383 units to 35,495 units, a 21-percent increase. The January 2007

Section 2.0: Environmental Setting

housing stock is estimated at 48,075 units, and the vacancy rate is approximately 5.26 percent. This translates to an annual housing stock growth of over 5.1 percent since the year 2000.

As of January 2008, the City had an estimated labor force of 64,200 persons, of which 60,000 persons were employed. The City's unemployment rate is 6.6 percent, which is slightly higher than the San Bernardino County unemployment rate of 6.3 percent for the same period. The City's resident labor force are primarily holding jobs in sales and office occupations, in management, professional, and related occupations and in production, transportation, and material moving occupations within the manufacturing, retail trade, and educational services, and health care, and social assistance sectors. Approximately 65.5% percent worked in San Bernardino County, with 21.5 % working within the City of Fontana.

2.1.2 Site Location

The project site for the proposed *Arboretum Specific Plan* is located in the northern section of the City of Fontana, in an area referred to as North Fontana. The North Fontana area generally includes lands north of the SR-210 Freeway, southeast of the I-15 Freeway and west of the Fontana city limits with Rialto. This area sits at the base of the San Gabriel Mountains and was historically an agricultural area with scattered residential uses. A large portion of the land is currently vacant, with high-voltage power transmission lines crossing the area at several locations.

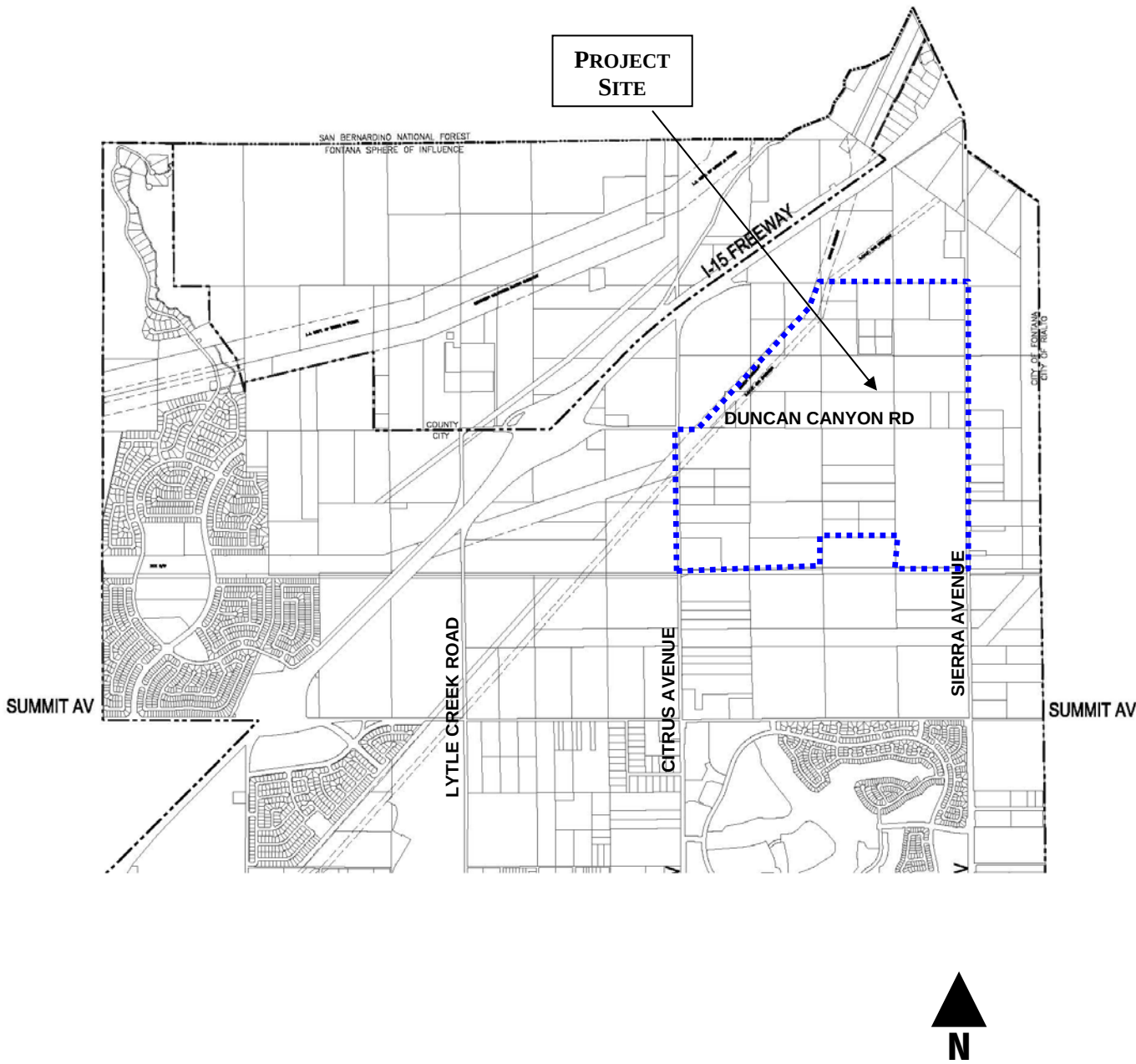
The North Fontana area has been experiencing rapid development over the last five years. New developments in the area have included several residential subdivisions north and south of the SR-210 Freeway and east and west of the I-15 Freeway, within the Sierra Lakes, Summit Heights, Citrus Heights, and Westgate Specific Plan areas. In addition, several residential developments have been proposed on various parcels along Citrus, Sierra, and Summit Avenues and Lytle Creek Road. The North Fontana area now features a number of new residential communities and commercial developments along the I-15 and SR-210 Freeways.

The 531.3-acre project site is located in the central section of North Fontana, and is bounded by Sierra Avenue on the east, Citrus Avenue on the west, a dirt road proposed a Grapeland Street on the north, and the right-of-way for the main water lines of the Metropolitan Water District of Southern California (MWD) on the south. The MWD right-of-way is proposed as the alignment for Casa Grande Avenue but is outside the site boundaries. High-voltage power transmission lines on steel towers and underground high-pressure natural gas lines run along the northwestern boundary of the site. The site is almost pentagon in shape, with its sides defined by existing roadways and utility line easements and right-of-way. Figure 2-2, *Vicinity Map*, shows the project site in relation to the surrounding area.

Access to the project site is provided by Duncan Canyon Road, Citrus Avenue, and Sierra Avenue. Duncan Canyon Road is a two-lane roadway that starts at the western boundary of the site at Citrus Avenue and runs westerly over the I-15 Freeway. On the site, Duncan Canyon Road is a private dirt road leading to the SCG pumping facility, which is located approximately 600 feet east of Citrus Avenue.

Citrus Avenue is a two-lane roadway running in a north-south direction along the site's western boundary. Sierra Avenue is a two-lane arterial roadway along the eastern boundary of the site, with ramps at the SR 210 Freeway on the south and at the I-15 Freeway on the north.

**Figure 2-2
Vicinity Map**



**Arboretum Specific Plan
City of Fontana**

Section 2.0: Environmental Setting

Sierra Avenue widens into a 6-lane road south of Summit Avenue. Casa Grande Avenue is a primarily undeveloped roadway proposed on the MWD right-of-way along the southern boundary of the site. A short segment of this road east of Citrus Avenue is developed as a two-lane roadway and provides access to the residential development to the south. An existing dirt road provided access to the former dwelling unit on the northwestern corner of the site.

Freeway access is provided by on- and off-ramps to the I-15 Freeway at Sierra Avenue to the northeast of the site and at Beech Avenue/Summit Avenue interchange to the southwest. On- and off-ramps to the SR-210 Freeway at Sierra Avenue and Citrus Avenue are also available farther to the south. A future interchange on the I-15 Freeway at Duncan Canyon Road is in the planning stages and is expected to be completed by 2010/2011.

2.1.3 Existing Site Conditions and Land Uses

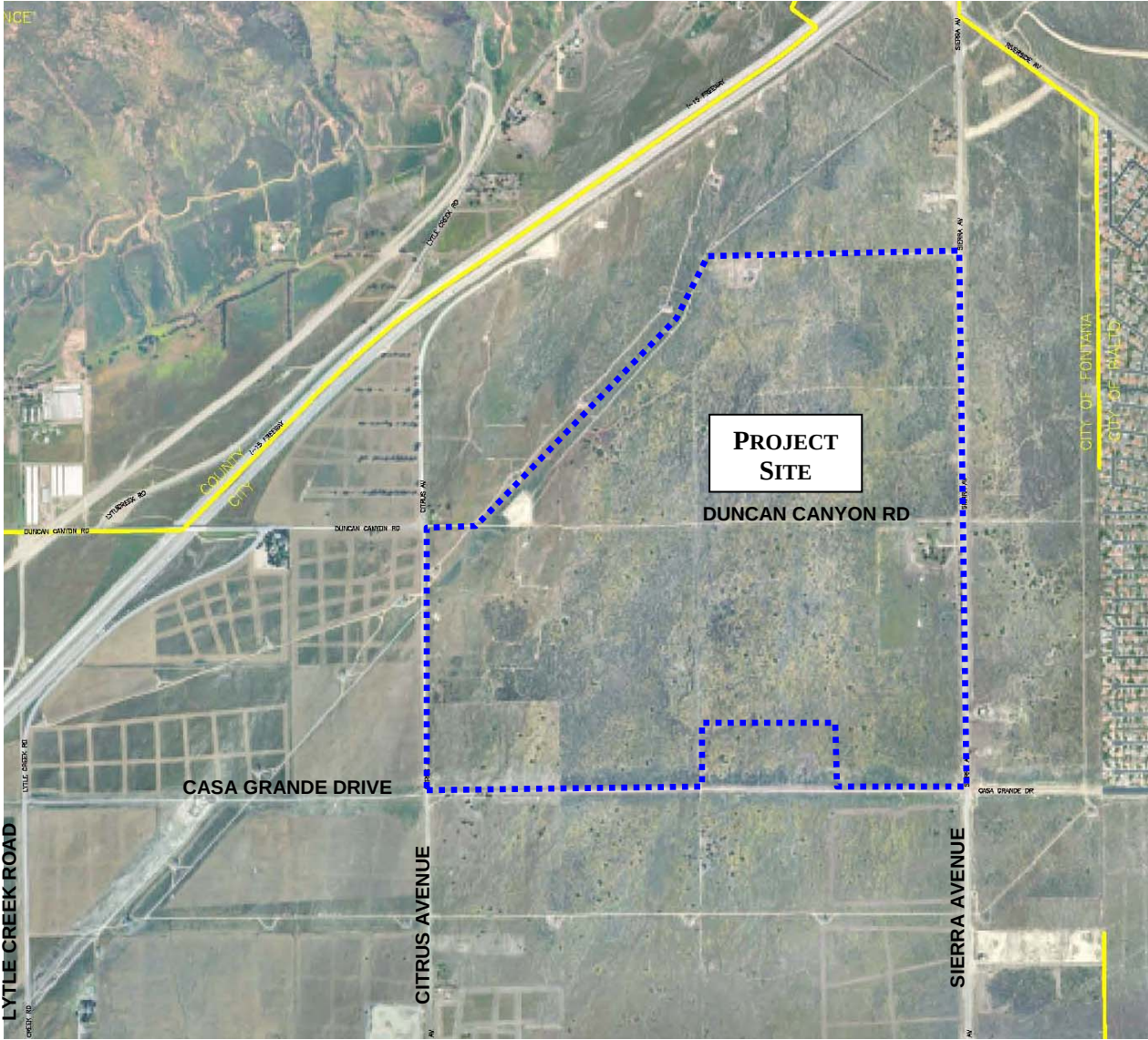
With the recent burning of a single-family residence and accessory structures located near the northwestern corner of the site (4510 Sierra Avenue), the project site is vacant and undeveloped. The project site is part of the large open fields in North Fontana. The site slopes to the south and southwest, with on-site elevations ranging from approximately 1,905 feet above mean sea level at the northeastern corner to 1,710 feet above mean sea level at the southwestern corner. The site consists of several parcels under separate ownerships; however, the majority of the site is under the control of North Fontana Investment Company, LLC, the project applicant.

The single-family residence at the northwest corner of the site burned in the Fall 2007 but was located on an approximately 4.2-acre parcel and consisted of a main residence and accessory structures. Along the easterly extension of Duncan Canyon Road, as it is planned to run through the site from Citrus to Sierra Avenues, there is an existing SCG gas pumping facility at the western section of the site. This pumping facility is located within a 0.57-acre triangular parcel and is expected to remain in place. Remnants of building foundations, concrete slabs, ditches, and walls are present on the site, suggesting the presence of former structures at scattered locations.

The SCE easement along the site's northwestern boundary is a 200- to 220-foot wide corridor that supports high voltage power transmission lines on steel trusses. Parallel and immediately southeast of the SCE easement, the SCG easement is a 100-foot wide band that contains two underground high-pressure gas lines. These utility easements run along the northwestern edge of the site. The rest of the project site is open and undeveloped, supporting shrub vegetation. A cluster of trees is present at the southwestern corner of Sierra Avenue and Duncan Canyon Road, near some foundation remains. Dirt roads and trails cut through the site at various locations, with debris and wastes (including drums of waste oil) illegally dumped at several locations. An approximately 19-acre vacant parcel at the southern boundary of the site, located at the northeastern corner of the future intersection of Casa Grande Avenue and Cypress Avenue, is not part of the site. Figure 2-3, *Aerial Photograph*, provides an aerial view of the project area and the site.

The site contains numerous rocks and boulders, as found within North Fontana. Current on-site vegetation includes chamise, sage scrub, California buckwheat, deerweed, non-native grassland, and a burn area. Wildfires in 2006 and 2007 burned vegetation on portions of the site, including the residence at the northwestern corner.

Figure 2-3
Aerial Photograph



Arboretum Specific Plan
City of Fontana

Section 2.0: Environmental Setting

Piles on debris and trash are found at scattered locations on the site, along Citrus Avenue, along the alignment of Casa Grande Avenue and along Duncan Canyon Road. Signs of off-road driving are also evident, with 15- to 20-foot wide cleared areas throughout the project site in a grid pattern.

2.1.4 Adjacent Developments

The project site is surrounded largely by vacant land, with the I-15 Freeway farther north. The San Gabriel Mountains are north and northwest of the I-15 Freeway, approximately ½ mile from the site.

Sierra Avenue is a two-lane roadway along the eastern boundary of the site. East of Sierra Avenue is vacant land and a single-family residence, with a 330-foot wide SCE right-of-way supporting high-voltage transmission lines on steel towers east of the vacant land and single-family homes within the City of Rialto farther east.

Citrus Avenue is a two-lane roadway along the western boundary of the site. Beyond Citrus Avenue to the west is vacant land. Farther west is the I-15 Freeway.

High-voltage power transmission lines on steel towers and two high-pressure gas lines run within the SCE and SCG easements, along the northwestern boundary of the site. Vacant land and a water reservoir are found farther northwest, just before the I-15 Freeway.

A 136- to 153-foot wide right-of-way owned by the Metropolitan Water District of Southern California runs along the southern boundary of the site and is the planned future alignment for Casa Grande Avenue. A short section of Casa Grande Avenue is developed east of Citrus Avenue, with Knox Avenue extending west of Casa Grande Avenue from Citrus Avenue. A 121-inch water and a 41-inch water line run east-west within this right-of-way and across the City. The Shady Trails development is located southwest on Casa Grande Avenue, with vacant land to the south and southeast of the MWD right-of-way proposed for various residential developments.

An existing dirt road located ½ mile north of Duncan Canyon Road and that provided access to the former dwelling unit on the site serves as the northern boundary of the site. North of the dirt road are vacant land and an existing single-family residence located on Sierra Avenue to the northeast.

2.2 PROJECT BACKGROUND

The North Fontana area was part of the historic Grapeland community during the late 1880's to the early 1900's. The community did not exist for long because of the lack of water to serve the residences and orchards/vineyards in the area. The area experienced very limited development during the 20th century and was mainly occupied by a few scattered residences, vineyards, and vast open lands.

Historic aerial photographs show three single-family residences were present on-site. A residence on Sierra Avenue (south of Duncan Canyon Road) and a residence at the approximate center of the site are no longer present at this time. The residence at the northwestern corner was built in 1958 and remained standing and in use until the brush fire in the Fall of 2007. The majority of the site historically consisted of undeveloped shrubland, except for a small area at the eastern boundary that was in agricultural use for a short time.

Section 2.0: Environmental Setting

The project area has now been subject to rapid development, following the opening of the SR-210 Freeway in 2003. Several new developments have occurred along the SR-210 Freeway, the I-15 Freeway, and on Sierra, Summit, and Citrus Avenues. These include the Summit Heights, Sierra Lakes, Citrus Heights, and Coyote Canyon communities, as well as the Falcon Ridge and Summit Heights shopping centers, Sierra Lakes Village, Sierra Lakes Marketplace, and the Fontana Auto Mall. A number of specific plans and tentative tracts have also been proposed for vacant lands surrounding the site.

In line with this trend, the North Fontana Investment Company, LLC is proposing the approval and adoption of the *Arboretum Specific Plan* for the future development of the project site.

2.3 APPLICABLE PLANS AND POLICIES

A number of plans and policies adopted by the City of Fontana regulate development on the project site. These are discussed below.

2.3.1 Fontana General Plan

As required by State Planning and Zoning Law, the City of Fontana has developed "a *comprehensive, long-term . . . plan for the physical development of the . . . City...* " (Section 65300 of the California Government Code). The Fontana General Plan contains goals and policies for the development and conservation of land within the City, and regulates all development within the incorporated area of the City. The General Plan contains ten elements, addressing the various issues that affect development and the quality of life in the City:

- ◆ The Land Use Element addresses the planned land uses in the City at buildout, as depicted in the Land Use Plan. This includes allowable land uses and the maximum intensity and density of development for each land use. The Land Use Element serves as the primary mechanism for controlling growth and development in the City, and reflects the goals, policies and plans of the other elements of the General Plan.
- ◆ The Circulation Element outlines the City's goals and policies for transportation and circulation in the City and includes the Circulation Master Plan, which identifies the roadway system and classification needed to support buildout of the City.
- ◆ The Community Design Element identifies the City's desired community image and the goals, policies and programs necessary to achieve that image. This element addresses main entryways, views of the adjacent mountains, major corridors, streetscapes, and a unified community image for Fontana.
- ◆ The Economic Development Element addresses the City's goals and policies as they relate to the protection and improvement of the City's economy, through commercial and industrial development, downtown revitalization, education and job training, redevelopment, and strategic planning.
- ◆ The Public Facilities, Services and Infrastructure Element identifies the City's existing and planned facilities and services, in order to adequately serve the residents of the City. These include police and fire protection, school services, libraries, medical services, civic center,

Section 2.0: Environmental Setting

wastewater and solid waste disposal services, flood control, utility and communications infrastructure.

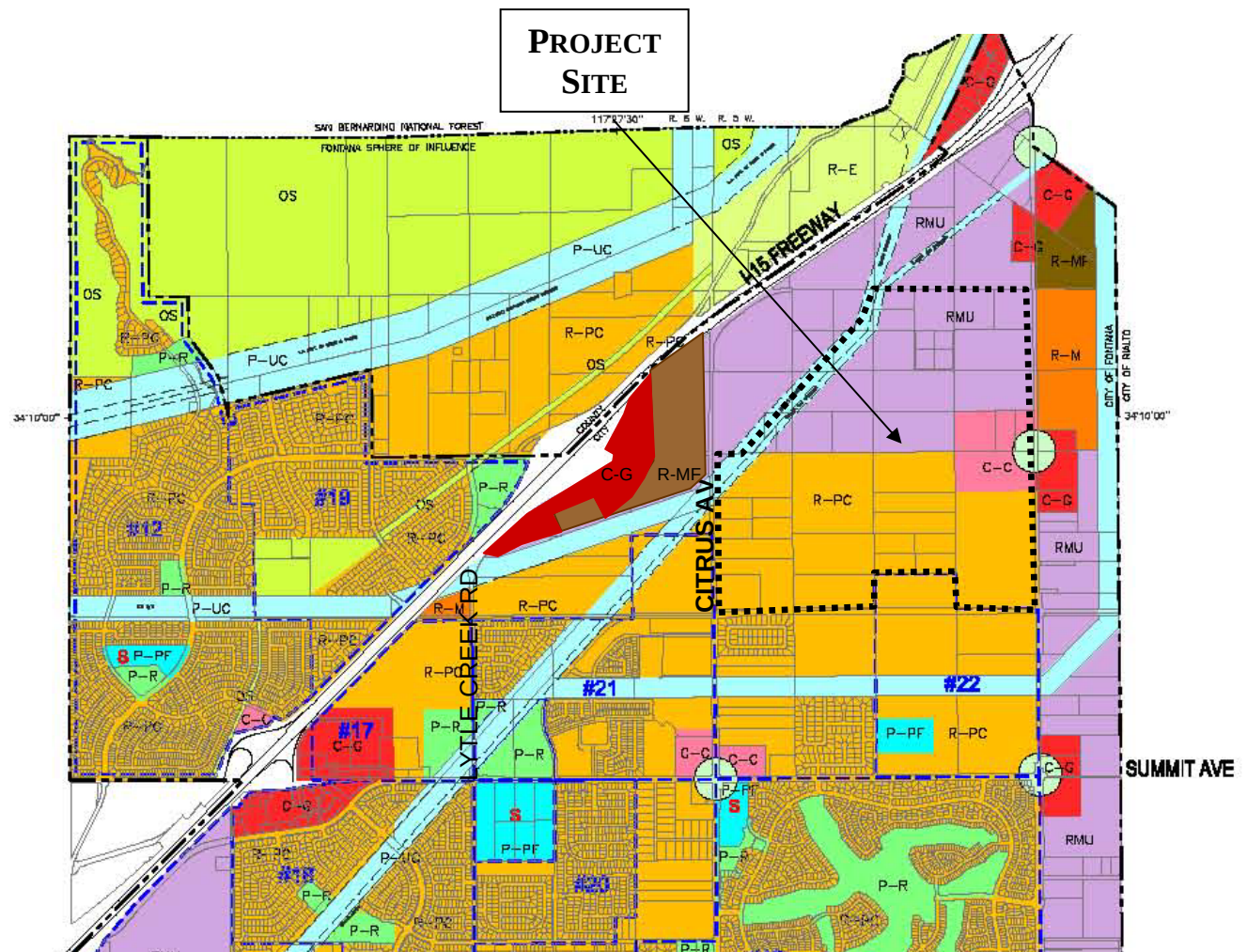
- ◆ The Open Space and Conservation Element addresses open space areas in the City as they relate to the conservation of biological and cultural resources, mixed uses for utility corridors, and water resources conservation.
- ◆ The Parks, Recreation, and Trails Element identifies existing and planned parks and recreational facilities in the City, along with standards for park provision. The Element also addresses the development of a comprehensive trail system in the City and adjacent areas.
- ◆ The Safety Element identifies existing hazards in the City, including seismic, geologic, flood, fire and hazardous material hazards, along with current regulations that address these hazards. City goals, policies, and programs to promote public safety are also identified.
- ◆ The Noise Element analyzes the existing and future noise environment in the City and identifies ways to control noise and maintain an acceptable noise environment.
- ◆ The Air Quality Element discusses the air quality in the planning area and ways in which the City could improve local air quality through land use and transportation strategies, energy conservation, and dust control.

In the Land Use Map of the Fontana General Plan, the project site is designated as Regional Mixed Use (RMU) on the northern section, Residential Planned Community (R-PC) on the southern section, and Community Commercial (C-C) at the Sierra Avenue and Duncan Canyon Road intersection, with a Local Activity Center designation at the Sierra Avenue and Duncan Canyon Road intersection. The SCE and SCG easements are designated Public – Utility Corridor (P-UC). Additionally, the project site is located within the North Fontana Redevelopment Area. Figure 2-4, *General Plan Land Use Designations*, provides the land use designations in the project area.

Review of the Fontana General Plan shows that the project site is designated as a Growth Area, due to the availability of large vacant areas in this section of the City. The Open Space and Conservation Element of the General Plan shows that the site supports Riversidean Alluvial Fan Sage Scrub vegetation. The site is also within the designated critical habitat areas for the San Bernardino Kangaroo Rat and the California Gnatcatcher and serves as a habitat area for raptors. In addition, the site is located within an area that is under-served by parks. Proposed trails/bike paths are located along the SCE/SCG easements along the northwestern boundary of the site and proposed bike lanes would be located on Citrus Avenue, Sierra Avenue, and Duncan Canyon Road.

The Safety Element shows that an inferred fault or groundwater barrier cuts through the southeastern section of the site; the site has low liquefaction susceptibility; and the majority of the site is within the 100-year floodplain. However, the Federal Emergency Management Agency recently issued a Letter of Map Revision (LOMR) which revised the floodplain limits in North Fontana and the 100-year floodplain is no longer present on or near the site.

Figure 2-4
General Plan Land Use Plan Designations



GENERAL PLAN LAND USE LEGEND

RESIDENTIAL DESIGNATIONS

- R-E Residential Estates (2 du/ac)
- R-PC Residential Planned Community (3.0–6.4 du/ac)
- R-SF Single Family Residential (2.1–5 du/ac)
- R-M Medium Density Residential (5.1–7.6 du/ac for single-family detached product type; 7.7–12 du/ac for single family attached or multiple family product type)
- R-MF Multi Family Residential (12.1–24 du/ac)

COMMERCIAL DESIGNATIONS

- C-C Community Commercial (0.1–1.0 FAR)
- C-G General Commercial (0.1–1.0 FAR)
- RMU Regional Mixed Use (0.1–1.0 FAR for non-residential; 12–24 du/acre for residential)

INDUSTRIAL DESIGNATIONS

- I-L Light Industrial (0.1–0.6)
- I-G General Industrial (0.1–0.6 FAR)

PUBLIC DESIGNATIONS

- P-PF Public Facilities
- P-R Recreational Facilities
- P-UC Public Utility Corridors

OPEN SPACE DESIGNATIONS

- OS Open Space

- City Limit
- Sphere of Influence
- Parcel
- Easement
- City Address Block
- Specific Plans
- C Civic Use
- CH City Hall
- F Fire Station
- H Hospital
- P Police Dept.
- S School
- Activity Center Overlay (0.1–1.0 FAR for non-residential uses; 7.7–24 du/acre for residential uses)
- Downtown Overlay
- Boulevard Overlay (0.1–1.0 FAR for non-residential uses; 7.7–24 du/acre for residential uses)
- Auto Center Overlay (138 acres)

Arboretum Specific Plan
City of Fontana



Section 2.0: Environmental Setting

2.3.2 Fontana Zoning and Development Code

The Zoning and Development Code of the City of Fontana establishes official zoning regulations and development standards for all developments in the City. The Code sets the zoning districts and applicable regulations for individual parcels in the City, to implement the City's General Plan and to meet the following goals:

- (1) *Encourage the most appropriate use of land and ensure compatibility between uses;*
- (2) *Provide open space for light, air, and the preservation of resources;*
- (3) *Facilitate the timely provision of adequate infrastructure and community facilities;*
- (4) *Promote excellent architectural design; and*
- (5) *Promote healthy, safety, and general welfare of the citizens and visitors of Fontana.*

As part of the Zoning and Development Code, the City of Fontana Zoning Map delineates the boundaries of zoning districts within the City. The Zoning Map has been updated to be consistent with the land use designations in the City's General Plan Land Use Map.

Figure 2-5, *Zoning Designations*, shows the zoning map for the project area. As shown, the northern portion of site, north of Duncan Canyon Road, is zoned Regional Mixed Use (RMU); the SCE and SCG easements along the northwestern boundary of the site are designated as Public – Utility Corridor (P-UC); and the southern portion of the site is zoned Residential-Planned Community (R-PC). Additionally, there is a small area zoned for Community Commercial (C-1) uses at the intersection of Duncan Canyon Road and Sierra Avenue, which is also designated as a Local Activity Center.

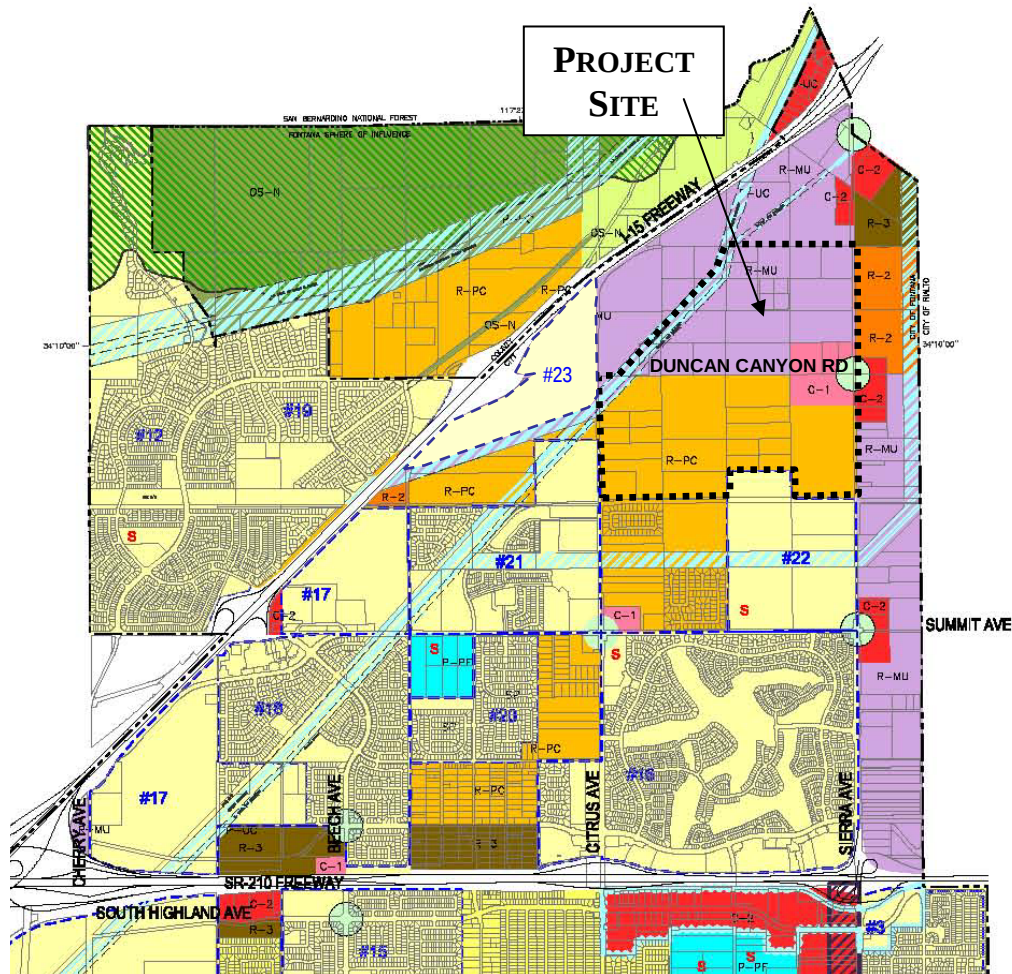
2.3.3 North Fontana Redevelopment Plan

The Fontana Redevelopment Agency established the North Fontana Redevelopment Plan in 1982 (as amended in 1994) for an approximately 8,900-acre area located generally north of Foothill Boulevard, except for the area along Sierra Avenue and south of Baseline Avenue, which is located within the Sierra Corridor Commercial Redevelopment Project Area. Figure 2-6, *North Fontana Redevelopment Plan Boundaries*, shows the boundaries of the North Fontana Redevelopment Project Area and the project site.

Under the North Fontana Redevelopment Plan, the Fontana Redevelopment Agency provides for new or upgraded public improvements and facilities and assists in the provision of private improvements to, and investments in, the Redevelopment Project Area. These improvements include street widening, interchange improvements, water, sewer, and storm drain improvements, the provision, renovation and improvement of parks and recreational facilities and fire and police facilities, the construction and rehabilitation of other public facilities and buildings, and the elimination of infrastructure deficiencies and flood hazards.

A number of residential developments have been constructed within this redevelopment area since the Redevelopment Plan was adopted. These include the Village of Heritage, Summit Heights, Sierra Lakes, Rancho Fontana, California Landings, and Citrus Heights developments. Commercial developments have also occurred near the I-15 and SR-210 freeways. In addition, major roadway and infrastructure projects have been completed and are ongoing in this area, primarily in areas that have been developed with urban uses. Several other roadway and infrastructure projects are also planned and include a freeway interchange at Duncan Canyon Road, widening and realignment of roadways, and installation of sewer and storm drain lines.

Figure 2-5 Zoning Designations



ZONING DISTRICT MAP LEGEND

RESIDENTIAL DESIGNATIONS

- R-E Residential Estates (2 du/ac)
- R-PC Residential Planned Community (3.0-6.4 du/ac)
- R-1 Single Family Residential (up to 5 du/ac)
- R-2 Medium Density Residential (up to 7.6 du/ac for single-family detached product type; 7.7-12 du/ac for single family attached or multiple family product type)
- R-3 Multi Family Residential (12.1-24 du/ac)

COMMERCIAL DESIGNATIONS

- C-1 Community Commercial (0.1-1.0 FAR)
- C-2 General Commercial (0.1-1.0 FAR)
- R-MU Regional Mixed Use (0.1-1.0 FAR for non-residential; 12-24 du/acre for residential)

INDUSTRIAL DESIGNATIONS

- M-1 Light Industrial (0.1-0.6 FAR)
- M-2 General Industrial (0.1-0.6 FAR)

PUBLIC DESIGNATIONS

- P-PF Public Facilities
- P-UC Public Utility Corridors

OPEN SPACE DESIGNATIONS

- OS-N Open Space - Natural
- OS-R Open Space - Resource

- Auto Center Overlay (138 acres)
- Activity Center Overlay (0.1-1.0 FAR for non-residential uses; 7.7-24 du/acre for residential uses)
- Downtown Overlay
- Boulevard Overlay (0.1-1.0 FAR for non-residential uses; 7.7-24 du/acre for residential uses)
- Hillside Overlay
- Utility Corridor Overlay

SPECIFIC PLANS

- #3 Walnut Village
- #12 Hunter's Ridge
- #15 California Landings
- #17 Westgate
- #18 Sierra Lakes
- #19 Coyote Canyon
- #20 Citrus Heights South
- #21 Citrus Heights North
- #22 Summit at Rosena
- #23 Ventana at Duncan Canyon



Arboretum Specific Plan City of Fontana

Figure 2-6



PROJECT SITE



Arboretum Specific Plan City of Fontana

Section 2.0: Environmental Setting

The North Fontana Redevelopment Plan defers to the Fontana General Plan for the regulation of land uses within the Redevelopment Project Area, including the project site.

2.3.4 North Economic Zone

The City of Fontana has also designated the majority of the North Fontana area, including the project site, as the North Economic Zone. This zone includes areas in the City located north of Baseline Avenue, east of the I-15 Freeway and west of the City limits with Rialto, as shown in Figure 2-7, *North Economic Zone*. The purpose and goal of the North Economic Zone is to encourage new commercial development in North Fontana by eliminating all City fees for new commercial development within the North Fontana Redevelopment Project Area (north of Baseline Avenue).

Eligible developments must be sales-tax-revenue-producing commercial developments on 20 acres or more of land. Redevelopment monies would be utilized to finance infrastructure improvements that may be required for these commercial developments. At the same time, this program will provide additional sales tax revenues to the City. The Economic Zone program was initially effective for a 3-year period from June 2003 to June 2006. This program was recently continued for an indefinite time period.

2.3.5 Specific Plans

A number of Specific Plans have been adopted or proposed near the project site. The locations of these specific plans are shown in Figure 2-8, *Specific Plan Areas*. Ongoing development is occurring within the adopted specific plan areas. Adjacent specific plans to the project site include the Summit at Rosena Specific Plan to the south and the Ventana at Duncan Canyon Specific Plan to the west. (Residential uses are proposed for the areas west and south of the site within these specific plans.) These specific plans do not include the project site and would not regulate development on the project site.

2.3.6 North Fontana Multi-Species Habitat Conservation Plan

The City of Fontana has developed a Multiple Species Habitat Conservation Plan (MSHCP) for North Fontana to address the critical habitats for the San Bernardino Kangaroo Rat (SBKR) and the California Gnatcatcher (CAGN) in this area. The MSHCP area includes vacant lands north of Summit Avenue, including lands designated as open space in the City's Sphere of Influence. Figure 2-9, *North Fontana MSHCP Area*, shows the proposed boundaries of the MSHCP.

The proposed MSHCP calls for the payment of fees by new development in the North Fontana area. Fees would be used to fund the acquisition and preservation of off-site and on-site habitat areas, in order to replace the sage scrub that would be lost due to urban development. This plan is expected to be approved by the USFWS in the near future.

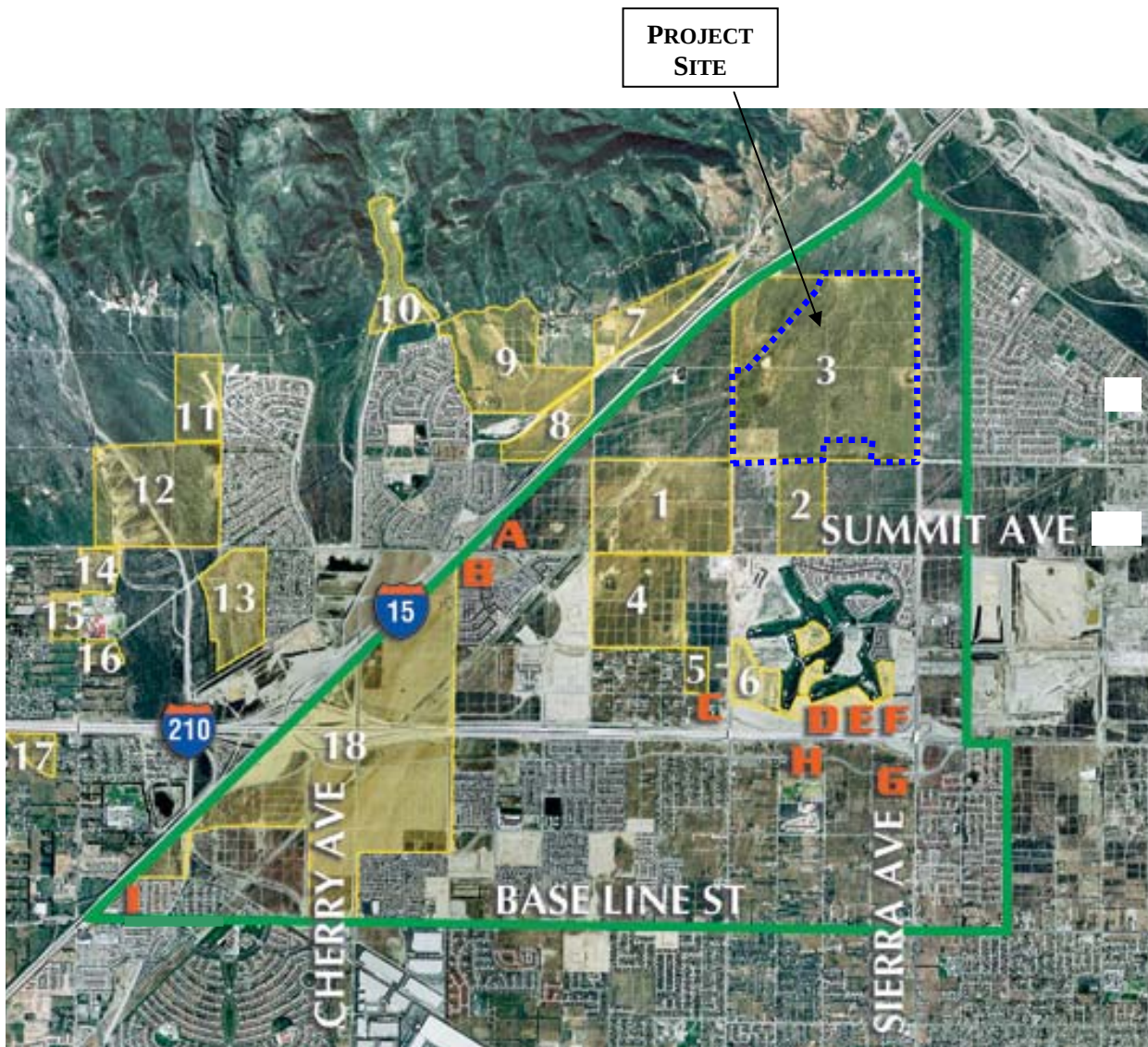
In the meantime, the City of Fontana has adopted an Interim Program that is similar to the MSHCP, in that if protocol surveys for the SBKR and CAGN yield negative results, the developer is required to pay a fee to the City for the future acquisition of preserved habitat. However, if CAGN or SBKR are found on a site, the habitat area is preserved and no development is allowed on the occupied area until the MSHCP is approved by the USFWS.

Section 2.0: Environmental Setting

2.3.7 Regional Plans

In addition to the City's land use and planning regulations that pertain to the site, a number of regional plans regulate development in Fontana and the region. These include the Southern California Association of Governments' (SCAG) Regional Comprehensive Plan and Guide (RCPG), Regional Housing Needs Assessment (RHNA), and Regional Transportation Plan (RTP); the San Bernardino Associated Governments' (SANBAG) San Bernardino County Congestion Management Program (CMP) and Comprehensive Transportation Plan (CTP); the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP); and the Regional Water Quality Control Board's (RWQCB) Water Quality Control Plan for the Santa Ana River. These plans are summarized in Section 4.2, *Land Use and Planning*, of this EIR.

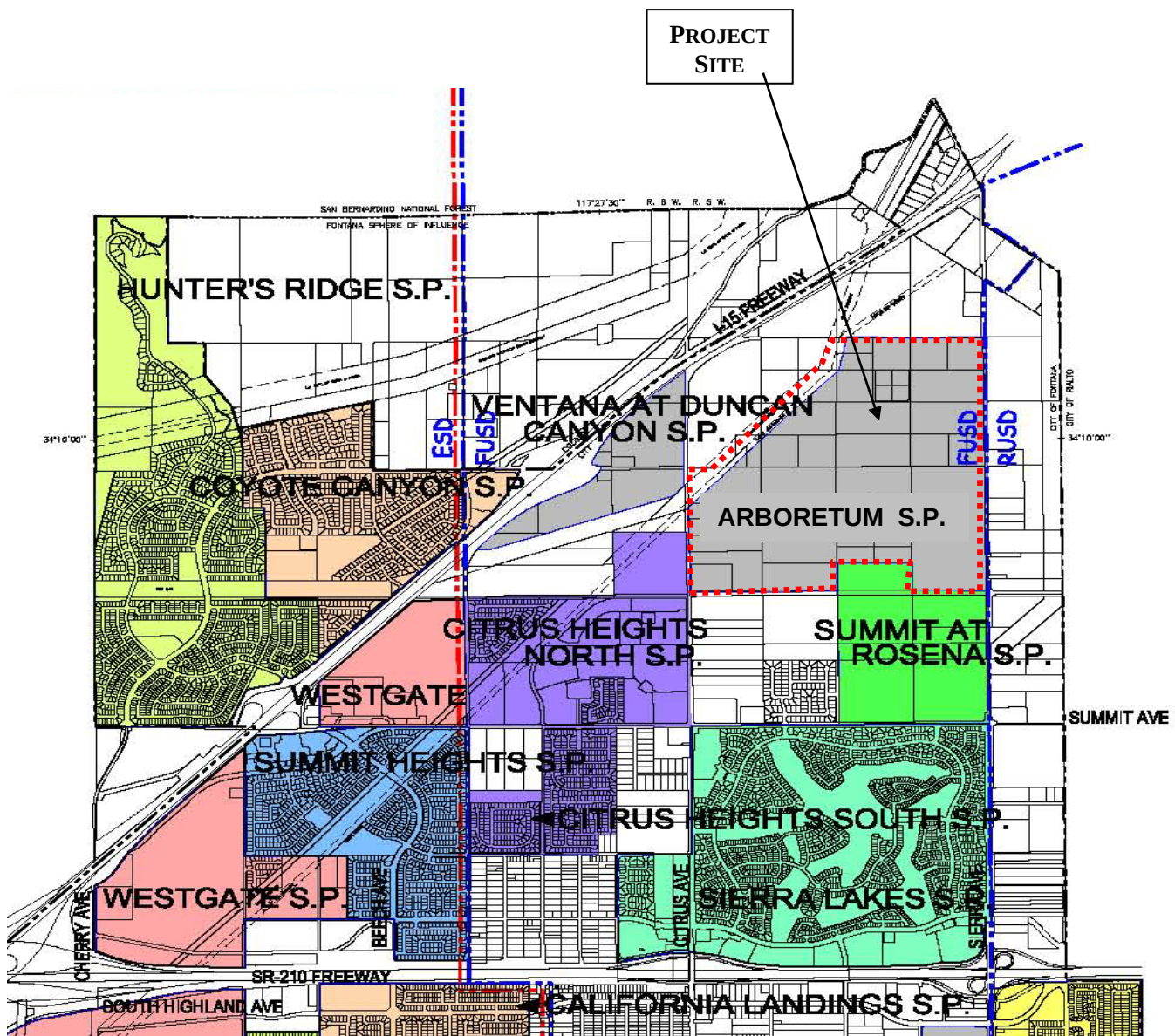
Figure 2-7
North Fontana Economic Zone



- Economic Zone Boundary
- 1 New and Proposed Residential Developments
- C New and Proposed Commercial Developments

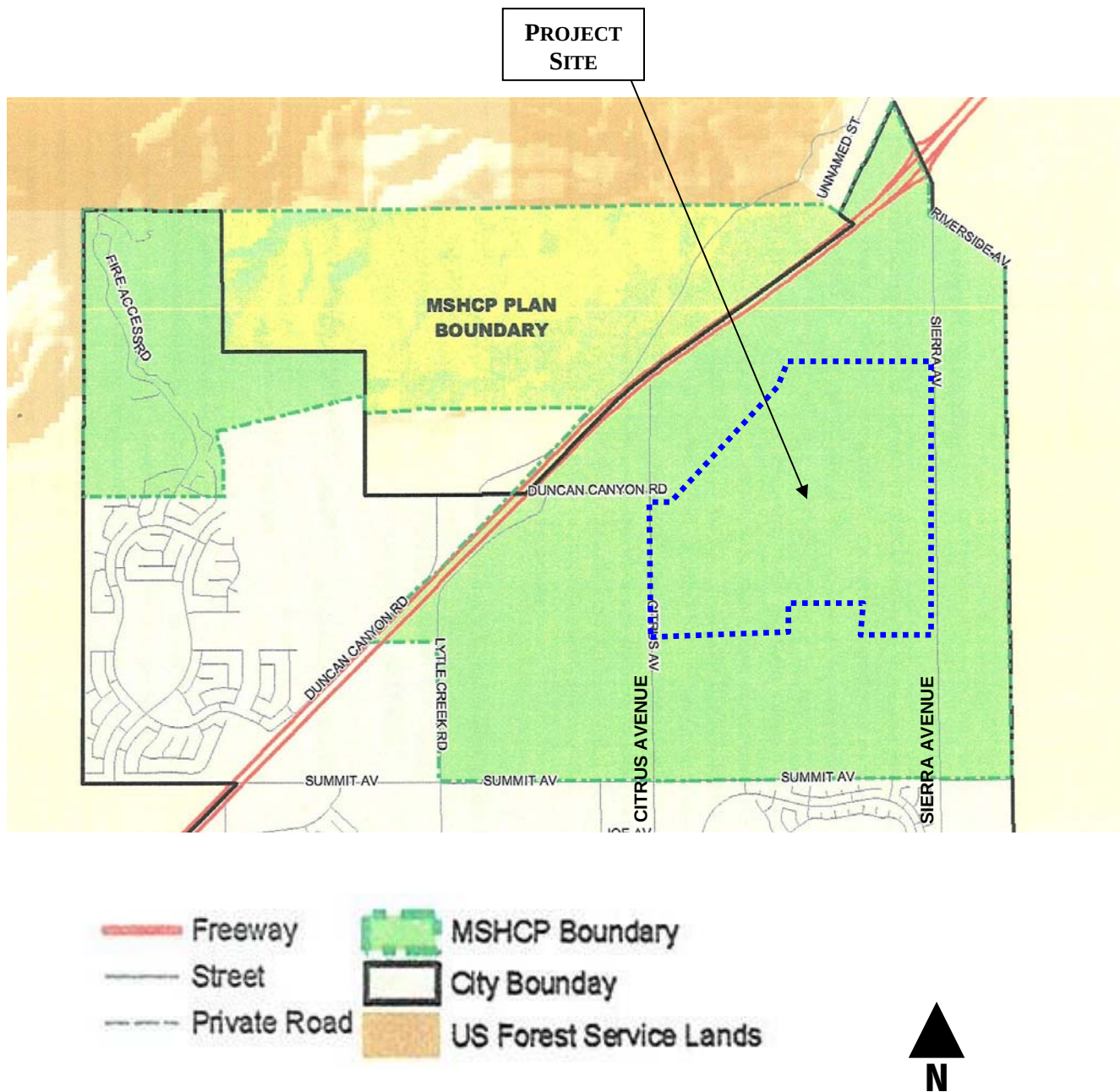


Figure 2-8 Specific Plan Areas



Arboretum Specific Plan City of Fontana

**Figure 2-9
North Fontana MSHCP Area**



**Arboretum Specific Plan
City of Fontana**

Section 3.0: Project Description

The proposed *Arboretum Specific Plan* would regulate future development on approximately 531.3 acres of land that is bounded by Citrus Avenue on the west, Sierra Avenue on the east, and the future alignments of Casa Grande Avenue on the south and a dirt road ½ mile north of Duncan Canyon Road on the north. The SCE and SCG easements run along the northwestern boundary of the site. The proposed Specific Plan calls for the development of the project site into four residential villages, with as many as 3,526 dwelling units, including scattered parks, an 8.8-acre commercial activity center, and two schools.

The proposed *Arboretum Specific Plan* has been developed in accordance with the requirements of California Government Code Section 65450 to 65457, regarding the content of specific plans, and is consistent with the goals and policies of the Fontana General Plan. The proposed Specific Plan has also been developed in accordance with Section 30-62 of the Fontana Zoning and Development Code, as it pertains to the content and processing of specific plans in the City.

Adoption of the *Arboretum Specific Plan* would provide a planning document to control future development on the project site in accordance with the land uses and development standards contained in the Specific Plan. Thus, the Specific Plan would supersede the City's Zoning and Development Code, as it relates to allowable land uses, development density, and development standards for future development on the project site. Regulations and standards in the City's Zoning and Development Code that are not covered by the Specific Plan shall continue to be applicable to future developments on the site.

3.1 OBJECTIVES OF THE PROJECT

The City of Fontana and the applicant, North Fontana Investment Company, LLC, seek to accomplish the following objectives with the proposed *Arboretum Specific Plan*:

- To implement a comprehensive development plan for the project site;
- To provide a complementary mix of housing types that will appeal to a wide range of future homebuyers;
- To assist in creating a synergistic community; and
- To create an integrated lifestyle community which incorporate a regional arboretum as part of the living environment.

3.2 PROJECT CHARACTERISTICS

The proposed Specific Plan would contain four villages containing a mix of residential building types. In addition, a commercial activity center, a regional arboretum, various parks, and two schools would be provided on-site. Table 3-1, *Land Use Summary*, identifies the breakdown of land uses proposed under the Specific Plan.

TABLE 3-1
LAND USE SUMMARY

Village	Location	Acres	Land Use	Proposed Development
Arboretum	Northwestern section	25.2	Residential (16 to 24 du/ac)	574 attached townhomes and condominium units
		10.7	Park	Arboretum Park (plus four 0.3-acre neighborhood parks)

Section 3.0: Project Description

TABLE 3-1
LAND USE SUMMARY

Village	Location	Acres	Land Use	Proposed Development
		3.5	Local Streets	Internal roadways
		6.7	Non-local Streets	Arterials
		25.9	Utility Easements	SCE/SCG easements
Subtotal		72.0		574 units
Gardens	Southeastern section	57.9	Residential (< 8 du/ac)	268 single-family detached units
		31.1	Residential (8 to 16 du/ac)	306 detached cluster homes
		18.2	Residential (16 to 24 du/ac)	332 attached townhomes
		6.0	Parks	Neighborhood and Community Parks
		15.3	Local Streets	Internal roadways
		13.5	Non-local Streets	Arterials
Subtotal		142.0		906 units
Meadows	Southwestern section	52.3	Residential (< 8 du/ac)	239 single-family detached units
		31.2	Residential (8 to 16 du/ac)	344 detached cluster homes
		34.3	Schools	K-8 School at southwest corner
		5.5	Parks	Neighborhood and Community Parks
		16.3	Local Streets	Internal roadways
		12.8	Non-local Streets	Arterials
		5.3	Utility Easements	SCE/SCG easements
Subtotal		157.7		583 units
Resort	Northeastern section	12.2	Residential (< 8 du/ac)	85 single-family detached units
		48.4	Residential (8 to 16 du/ac)	336 high density detached units, and 256 condominium units
		41.0	Residential (16 to 24 du/ac)	786 attached condominium units
		8.8	Activity Center	95,832 square feet of commercial retail and office uses
		12.1	School	Elementary School site with the potential to be developed as MDR
		8.5	Parks	Neighborhood and Community Parks
		14.6	Local Streets	Roads
		14	Non-local Streets	
Subtotal		159.6		1,463 units
Total		531.3		3,526 units; 95,832 square feet of commercial uses; 2 schools; and parks
Source: Draft Arboretum Specific Plan, July 2007				

Source: Draft Arboretum Specific Plan, July 2007

The conceptual land use plan for the proposed *Arboretum Specific Plan* shows that the site would be bisected by Duncan Canyon Road and Cypress Avenue, forming four separate quadrants, which would represent the different residential villages. Each village would feature a different mix of residential housing types at varying densities, with parks and recreational facilities within each village. Also, two villages would each include a school to serve the area. Development density for the residential villages would range from 3.0 units per acre to 24.0 dwelling units per acre, with an average of 7.8 dwelling units per acre.

Section 3.0: Project Description

Roadway improvements will be made to the surrounding circulation system, including new roadways, roadway widening, parkway landscaping, and street lighting and sidewalk installation along the project's frontages on Citrus Avenue, Casa Grande Avenue, Sierra Avenue, and Grapeland Street, as well as the extension and improvement of Cypress Avenue and Duncan Canyon Road through the site. Internal streets would also be provided throughout the project site.

The project would also involve the extension and provision of utility lines and infrastructure systems to serve individual dwelling units and facilities at the site. These include water, sewer and storm drain lines, as well as power, natural gas, telephone, and cable lines. The two utility easements that define the northwestern boundaries of the project site will be utilized for trails, street crossings, and passive recreation areas. These easements cover a total of 31.2 acres. In addition, a 0.5-acre gas pumping facility is located north of Duncan Canyon Road and east of the SCE/SCG easements and is expected to remain in place.

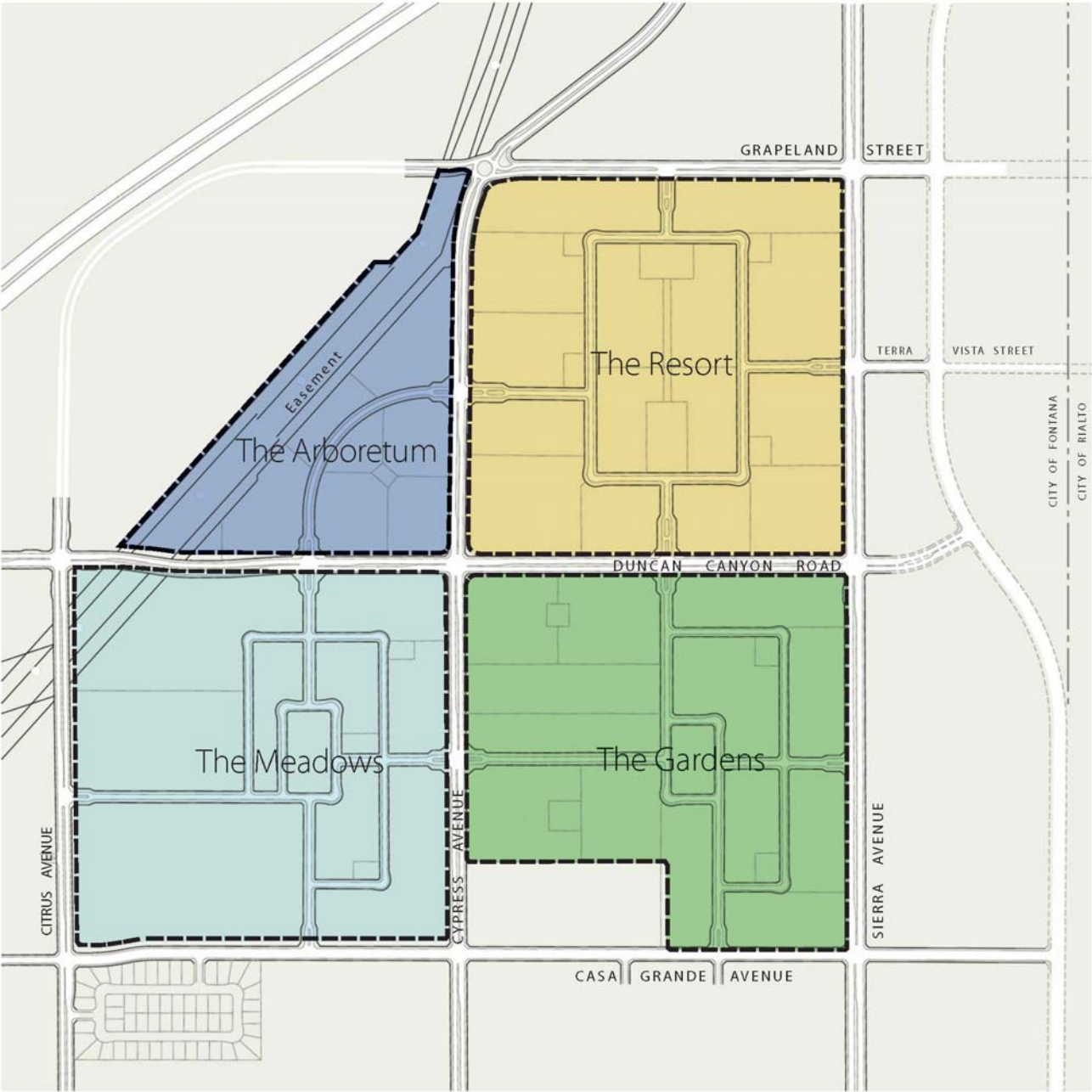
Figure 3-1, *Proposed Villages*, and Figure 3-2, *Conceptual Land Use Plan*, shows the proposed development under the *Arboretum Specific Plan*.

Residential Villages

Four separate residential villages are proposed, each consisting of several planning areas. Each planning area is defined by a specific land use and residential density (as shown in Figure 3-2).

- ◆ **Arboretum:** The Arboretum Village would be located on approximately 72.0 acres north of Duncan Canyon Road and west of Cypress Avenue. This village would feature a total of 574 attached townhomes and condominiums. Homes would be oriented around a regional arboretum - the Arboretum Park, which is a 10.7-acre community park at the center of the village. Direct connections to proposed pedestrian walkways and trails along the adjacent SCE/SCG utility easements and the corner of Duncan Canyon Road and Cypress Avenue would be provided from the park. Also, four 0.3-acre parks would be provided within each planning area in this village. A loop road would run from Duncan Canyon Road northerly, northeasterly and then easterly across the Arboretum Park to Cypress Avenue. Residential density would be 14.5 units per gross acre.
- ◆ **Gardens:** The Gardens village would be located south of Duncan Canyon Road, west of Sierra Avenue and east of Cypress Avenue, on approximately 142 acres. It would feature 268 single family lots ranging from 4,000 to 10,000 square feet in size, along with 306 detached cluster homes and 332 attached townhomes. A 3.0-acre park would be located at the center of the village, with high and medium density units surrounding the park and single-family units along Duncan Canyon Road and Sierra Avenue. In addition, four pockets parks would be scattered throughout the village. Primary access would be provided at Cypress Avenue and Duncan Canyon Road, and two secondary access roads to be located on Casa Grande Avenue and Sierra Avenue. Residential density would be 7.1 units per gross acre.
- ◆ **Meadows:** The Meadows village would be located at the southwest quadrant of the site, bounded by Citrus Avenue, Duncan Canyon Road, Casa Grande Avenue, and Cypress Avenue. This village would accommodate 583 dwelling units on approximately 157.7

**Figure 3-1
Proposed Villages**



**Arboretum Specific Plan
City of Fontana**



- R-MF (Residential Multi-Family)
3.0–8.0 du/ac
- R-MF (Residential Multi-Family)
8.0–16.0 du/ac
- R-MF (Residential Multi-Family)
16.0–24.0 du/ac
- Activity Center
- School
- Park

The map illustrates a proposed 100-acre subdivision in the City of San Diego. The subdivision is bounded by Grapeland Street to the north, Duncan Canyon Road to the east, Casa Grande Avenue to the south, and Cypress Avenue to the west. A water feature is shown on the left side. The lots are color-coded: yellow for lots 1-10, orange for lots 11-20, green for lots 21-30, and blue for lot 31. The map includes a north arrow and a scale bar.

Lot Number	Acreage	Color
1	10.1	Yellow
2	9.5	Yellow
3	9.0	Yellow
4	8.1	Yellow
5	6.6	Yellow
6	12.1	Blue
7	5.6	Yellow
8	9.3	Yellow
9	10.2	Yellow
10	7.4	Yellow
11	7.7	Orange
12	7.5	Orange
13	6.0	Orange
14	6.0	Orange
15	8.3	Orange
16	5.5	Orange
17	8.8	Red
18	8.4	Orange
19	5.1	Orange
20	6.4	Orange
21	3.0	Green
22	2.0	Green
23	3.0	Green
24	3.0	Green
25	3.7	Green
26	6.0	Green
27	15.4	Yellow
28	10.2	Orange
29	8.0	Orange
30	5.7	Orange
31	7.0	Yellow
32	6.8	Yellow
33	7.5	Orange
34	3.0	Green
35	3.0	Green
36	0.5	Green
37	0.5	Green
38	0.7	Green
39	0.7	Green
40	0.7	Green
41	0.7	Green
42	0.7	Green
43	0.7	Green
44	0.7	Green
45	0.7	Green
46	0.7	Green
47	0.7	Green
48	0.7	Green
49	0.7	Green
50	0.7	Green



Arboretum Specific Plan City of Fontana

Section 3.0: Project Description

acres. There would be 239 units on single-family lots ranging from 5,000 to 7,000 square feet in size and 344 detached cluster homes. A combined elementary and middle school (K-8) would be located at the southwestern corner of the village, with a 3.7-acre park at the center of the village and three other scattered pocket parks. The cluster homes would be located at the central and northeastern section and the single-family units at the southeastern and northwestern sections. The SCE/SCE easements run through the northwestern corner of the site. Residential density would be 4.2 units per gross acre.

- ◆ **Resort:** The Resort village covers 159.6 acres on the northeastern quadrant of the site. This village will feature a mix of single-family lots, medium and high-density residential units, an elementary school, and a commercial activity center area. The commercial activity center would be located at the southeastern corner at the Sierra Avenue and Duncan Canyon Road intersection. Scattered parks would be provided within the village, connected by streets and walking trails. The high density units will be clustered in the central and southeastern sections. Lower density units will be located around the elementary school site to be located in the southwestern corner of the village. Residential density would be 10 units per gross acre.

Residential buildings would consist of one to four-story buildings featuring the Santa Barbara, Spanish Colonial, Monterey, Tuscan, Provence, Italianate, California Craftsman, Prairie, and European Cottage architectural styles. While the villages would feature mainly residential land uses, the Specific Plan also proposes commercial uses, schools, and parks to be provided at scattered locations. These developments are discussed further below.

Commercial Area

The Commercial Activity Center would be located on 8.8 acres at the northwest corner of Sierra Avenue and Duncan Canyon Road, and at the southeast corner of the Resort village. As stated in the proposed *Arboretum Specific Plan*, this area would be developed with commercial uses as allowed under the City's C-1 zoning. Permitted uses in the City's C-1 zone include retail sales, offices and businesses providing administrative and professional services, medical offices, and clinics. Thus, the Commercial Activity Center is expected to be developed with a multi-tenant commercial center.

Future development of the Commercial Activity Center would have to comply with all development standards and guidelines in the City's Zoning and Development Code. Thus, setbacks for the abutting residential zone and along major and secondary highways would have to be provided within this development. This includes 20-foot setbacks along the northern and western site boundaries, a 25-foot setback along Sierra Avenue, and a 15-foot setback along Duncan Canyon Road. In addition, landscaping requirements at 15% of the un-built area would have to be provided to meet existing City standards. Buildout of the City was estimated in the Fontana General Plan in light of the City's development standards and assumed a floor area ratio (FAR) of 0.25 for Community Commercial areas. Thus, while a maximum allowable FAR of 0.50 may be built on this site, a more realistic assumption using an FAR of 0.25 is used (based on the Fontana General Plan buildout estimates). At this FAR, approximately 95,832 square feet of commercial floor area is anticipated on the site, which accounts for setback, landscaping, and parking requirements.

Section 3.0: Project Description

Schools

The Fontana Unified School District (FUSD) serves the project site. The project site would accommodate two school locations for the FUSD. A combined elementary school and middle school (K-8) is planned on a 34.3-acre site at the northeast corner of Citrus Avenue and Casa Grande Avenue. This site is located in the southwestern section of the Meadows village and would be separated from the residential areas by local streets. An elementary school (K-6) would be located on a 12.1-acre site at the northeast corner of Cypress Avenue and Duncan Canyon Road, and in the southwestern section of the Resort village.

The elementary school would have capacity for approximately 700 students and the combined elementary school and middle school would have capacity for 1,950 students.

If the FUSD does not acquire the school sites within two years of the Specific Plan adoption, the developer may file a notice with the City for the development of these sites with residential uses, within the allowable dwelling unit capacity of the Specific Plan. No increase over the maximum 3,526 units would be developed on-site with or without the schools.

Parks and Trails

The *Arboretum Specific Plan* features a system of parks and trails integrated into the residential villages. Proposed park facilities within each village would include:

- ◆ **Arboretum Village** - The Arboretum Park would be a 10.7-acre community park running diagonally through this village. The park would feature thematic gardens, a botanical garden, lake or water gardens, picnic areas, and trails that would create a loop through all four villages and the neighborhood parks in these villages. The park would also be located adjacent to the regional trails proposed along the SCE/SCG easement, which would connect to community parks and other trails in North Fontana. In addition, 0.3-acre neighborhood parks would be provided within each planning area of the Arboretum village.
- ◆ **Gardens Village** – A 3.0-acre community park featuring active recreation facilities and 4 neighborhood parks ranging in size from 0.5 to 1.0 acre would be provided as part of this village. The parks would be developed with open fields, tot lots, picnic areas, and/or swimming pool and spa.
- ◆ **Meadows Village** - A 3.7-acre community park featuring open fields, tot lot, demonstration garden, adventure play area, and basketball half-courts would be developed at the center of this village. In addition, 3 neighborhood parks ranging in size from 0.5 to 0.8 acre would be provided at the eastern section of the Meadows village.
- ◆ **Resort Village** – A 3.0-acre primary recreation center with a clubhouse facility, fitness center, meeting rooms, swimming pool, game courts, picnic areas, and gardens, along with a 2.0-acre secondary recreation center with a swimming pool, game courts, picnic areas, gardens and outdoor lounge would be provided near the high-density residential areas of this village. The Resort Community Paseo would be a 40- to 50-foot wide walking trail between the recreation centers and would feature focal plazas, fountains,

Section 3.0: Project Description

seating, shade structures, special paving, and a central lawn area. Four neighborhood parks ranging in size from 0.5 to 0.7 acre would also be provided at scattered locations within this village.

The various parks would be connected by a network of pedestrian trails and bikeways. As indicated, a ten-foot-wide Arboretum trail will connect the major parks and recreation centers located within the four villages. In addition, six-foot-wide pedestrian walkways would be provided along major arterials and four- to five-foot-wide pedestrian walkways on local interior streets. Five-foot-wide Class II bicycle lanes would be provided along Duncan Canyon Road, Cypress Avenue; Sierra Avenue, Citrus Avenue, Casa Grande Avenue, and Grapeland Street. A 12-foot-wide community trail would also be provided along the edge of the utility easement at the northwest boundary of the project site. This community trail would connect the Arboretum Park to the regional trail on the SCE/SCG easement, the Fontana Park, and adjacent developments in North Fontana.

Infrastructure Improvements

The *Arboretum Specific Plan* would include the improvement of public roadways running through the site, such as Duncan Canyon Road and Cypress Avenue, as well as the half-width improvements of roadways abutting the site (Sierra Avenue, Citrus Avenue, Grapeland Street and Casa Grande Avenue). The following roadway improvements would be constructed as part of the project:

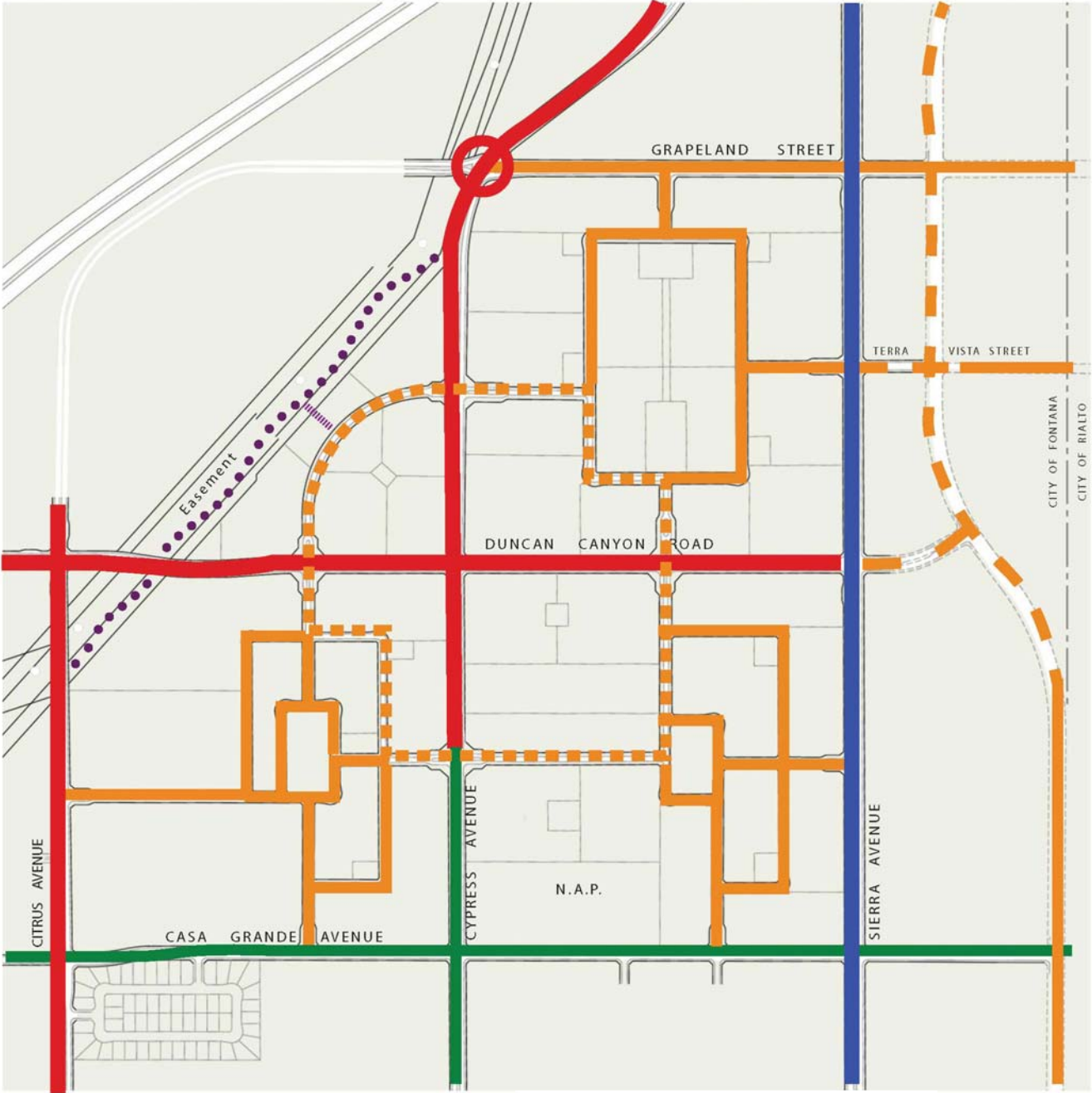
- ◆ Street improvements for a four-lane roadway along the 128-foot wide right-of-way for Duncan Canyon Road from Sierra Avenue to Citrus Avenue through the site;
- ◆ Street improvements for a four-lane roadway along the 128-foot wide right-of-way for Cypress Avenue from Casa Grande Avenue to Grapeland Street through the site;
- ◆ Street improvements for a four-lane roadway on the eastern half of the 104-foot wide right-of-way for Citrus Avenue along the project site;
- ◆ Street improvements for a six-lane roadway on the western half of the 108-foot wide right-of-way for Sierra Avenue along the project site;
- ◆ Street improvements for a four-lane roadway on the northern half of the 68-foot wide right-of-way for Casa Grande Avenue along the project site;
- ◆ Street improvements for a two-lane roadway on the southern half of the 84-foot wide right-of-way for Grapeland Street along the project site;
- ◆ Full street improvements on two-lane internal streets with varying right-of-way widths.

Figure 3-3, *Circulation Plan*, shows the perimeter, collector and local streets that would be improved on and near the site.

As a separate undertaking, the City of Fontana, in concert with the California Department of Transportation, is currently planning the construction of a new interchange at the I-15 Freeway and Duncan Canyon Road. This interchange is expected to start construction 2009 and be completed by 2010.

Development of the project site would also be accompanied by on-site infrastructure improvements that would be needed by the proposed developments on the site. These include the provision of water, sewer, storm drain, power, natural gas, telephone, and cable services to

**Figure 3-3
Circulation Plan**



LEGEND

- Major Highway
- Primary Highway
- Secondary Highway
- Collector Street
- Collector Street Alignment Undetermined
- ■ ■ ■ Arboretum Trail at Collector Street
- ● ● ● Community Trail
- - - - Arboretum Trail - Community Trail Pedestrian Connection ¹
- Roundabout



**Arboretum Specific Plan
City of Fontana**

Section 3.0: Project Description

individual dwelling units, schools, activity center, and parks. Water lines would be extended to the site and service connections to individual parcels and building pads would be provided. The developer would extend the existing water lines on Sierra Avenue, Casa Grande Avenue, Duncan Canyon Road, and Citrus Avenue to run along Cypress Avenue and to serve individual parcels for development, in coordination with the West Valley Water District. Hydrants and valves along Sierra Avenue would also be moved outside the widened roadway pavement in this area.

The developer would also extend the existing sewer lines present at the southwestern corner of the site (on Citrus Avenue and Casa Grande Avenue) to run along major streets on-site and to individual parcels and structures, in coordination with the City of Fontana and the Inland Empire Utilities Agency.

The project would also include the construction of a 108- to 120-inch reinforced concrete storm drain line on Duncan Canyon Road from Citrus Avenue to Sierra Avenue (through the site). An on-site storm drainage system would be provided for the individual villages and would include curbs and gutters on local streets, catch basins and inlets, and underground storm drain lines connecting to storm drains proposed on Duncan Canyon Road and connecting to the San Sevaine Channel to the west and to existing lines on Cypress Avenue that convey runoff to the Sierra Lakes to the south.

Similarly, power, natural gas, telephone, and cable line extensions would be made to the project site and service connections provided to individual dwelling units and building pads to serve individual users. Existing overhead power and telephone lines on Citrus Avenue and the dirt road proposed as Grapeland Street would also be placed underground as part of the project. Entry monumentation, landscaping, gated and non-gated entries, perimeter walls would be provided throughout the development site.

Project Approvals

The *Arboretum Specific Plan* would require the following approvals from the City of Fontana:

- ◆ **General Plan Amendment (AMD No. 06-006)** – To make the land uses in the proposed *Arboretum Specific Plan* consistent with the Fontana General Plan Land Use Plan, a General Plan Amendment would be needed as part of the project approval and would involve a change in areas designated as Regional Mixed Use (RMU) to Multi-Family Residential (R-MF); areas designated as Residential Planned Community (R-PC) to R-MF;; and some areas designated as Community Commercial (C-C) to R-MF. The SCE and SCG easements will remain designated as Public Utility Corridors (P-UC) and the existing Activity Center Overlay would remain. Table 3-2 shows the proposed land use designation changes and the new land use designations for the site are shown in Figure 3-4, *Proposed Land Use Plan Amendment*.

TABLE 3-2
LAND USE DESIGNATION CHANGES

Village	Existing Land Use Designations	Acreage	Proposed Land Use Designations	Acreage	Location
Arboretum	RMU	46.1	R-MF	25.2	Residential areas Parks
			R-MF	10.7	

Section 3.0: Project Description

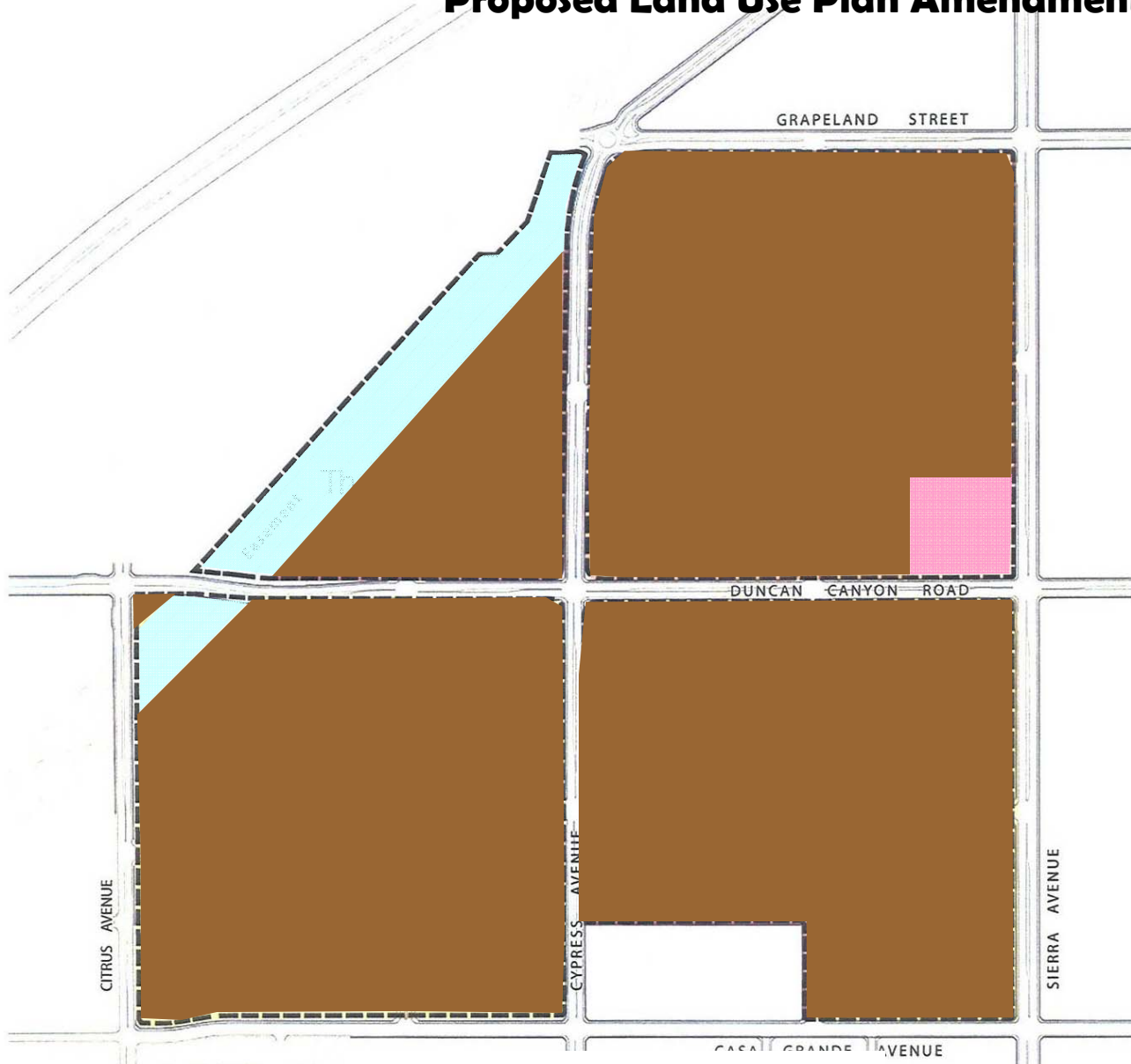
TABLE 3-2
LAND USE DESIGNATION CHANGES

Village	Existing Land Use Designations	Acreage	Proposed Land Use Designations	Acreage	Location
			Street ROW	10.2	Streets
	P-UC	25.9	P-UC	25.9	SCE/SCG Easement
Gardens	CC	20	R-MF	20	NE Residential area
	R-PC	122.0	R-MF	87.2	Residential areas
			R-MF	6.0	Parks
			Street ROW	28.8	Streets
Meadows	R-PC	152.4	R-MF	83.5	Residential areas
			R-MF	5.5	Parks
			R-MF	34.3	School
			Street ROW	29.1	Streets
	P-UC	5.3	P-UC	5.3	SCE/SCG Easement
Resort	RMU	139.6	R-MF	96.1	Residential areas
			R-MF	8.5	Parks
			R-MF	12.1	School
			Street ROW	22.9	Streets
	CC	20	CC	8.8	Activity Center
			R-MF	5.5	Residential areas
			Street ROW	5.7	Streets
	Total	531.3	Total	531.3	

The Land Use Element of the General Plan would also be revised to include the adopted Specific Plan in the list of adopted Specific Plans in the City. The General Plan Amendment would also change the text in Chapter 3 of the Land Use Element to allow detached residential uses on single-family lots of 3,000 square feet within a Specific Plan.

- ◆ **Zone Change (ZC No. 07-005)** – The proposed Specific Plan would also require a change in the Zoning Map of the City to reflect the Specific Plan boundaries. The existing zoning designations on the project site (RMU, R-PC, and C-1) would have to be replaced with a Specific Plan zone. The existing Utility Corridor Overlay would remain. Figure 3-5, *Proposed Zone Change*, shows the proposed zoning of the site.
- ◆ **Specific Plan Adoption (SPL No. 04-006)** – The proposed *Arboretum Specific Plan* would regulate future development on the project site and replace the development and design standards applicable to the project site, upon adoption of the Specific Plan. The City will need to adopt the proposed Specific Plan by Ordinance. Once adopted, the *Arboretum Specific Plan* would supersede the City's development and design standards for the project site and the Specific Plan would serve as the primary regulatory mechanism for future developments on the site. Regulations and standards in the City's Zoning and Development Code that are not covered by the Specific Plan shall continue to be applicable to future developments on the site. These include parking requirements, sign regulations, and development standards for land use compatibility, lighting, room additions, pools, spas, keeping of animals, and accessory structures, and performance standards for noise, vibration, light and glare, odors, and electromagnetic interference.

Figure 3-4
Proposed Land Use Plan Amendment



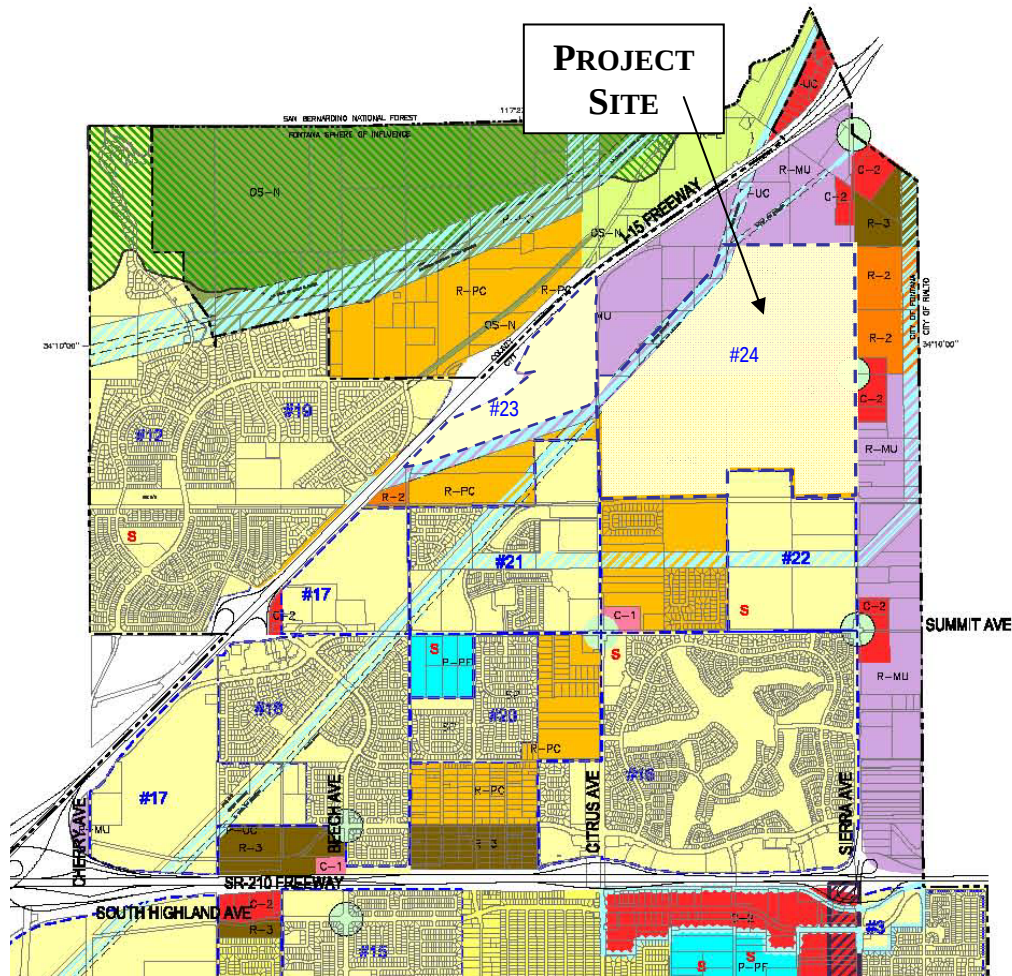
LEGEND

- R-MF (Residential Multi Family)
12.1–24.0 du/ac
- C-C (Community Commercial)
0.1–1.0 FAR
- P-UC (Public Utility Corridor)

Arboretum Specific Plan
City of Fontana



**Figure 3-5
Proposed Zone Change**



ZONING DISTRICT MAP LEGEND

RESIDENTIAL DESIGNATIONS

- R-E Residential Estates (2 du/ac)
- R-PC Residential Planned Community (3.0-6.4 du/ac)
- R-1 Single Family Residential (up to 5 du/ac)
- R-2 Medium Density Residential (up to 7.6 du/ac for single-family detached product type; 7.7-12 du/ac for single family attached or multiple family product type)
- R-3 Multi Family Residential (12.1-24 du/ac)

COMMERCIAL DESIGNATIONS

- C-1 Community Commercial (0.1-1.0 FAR)
- C-2 General Commercial (0.1-1.0 FAR)
- R-MU Regional Mixed Use (0.1-1.0 FAR for non-residential; 12-24 du/acre for residential)

INDUSTRIAL DESIGNATIONS

- M-1 Light Industrial (0.1-0.6)
- M-2 General Industrial (0.1-0.6 FAR)

PUBLIC DESIGNATIONS

- P-PF Public Facilities
- P-UC Public Utility Corridors

OPEN SPACE DESIGNATIONS

- OS-N Open Space - Natural
- OS-R Open Space - Resource

- Auto Center Overlay (138 acres)
- Activity Center Overlay (0.1-1.0 FAR for non-residential uses; 7.7-24 du/acre for residential uses)
- Downtown Overlay
- Boulevard Overlay (0.1-1.0 FAR for non-residential uses; 7.7-24 du/acre for residential uses)
- Hillside Overlay
- Utility Corridor Overlay

SPECIFIC PLANS

- # 3 Walnut Village
- #12 Hunter's Ridge
- #15 California Landings
- #17 Westgate
- #18 Sierra Lakes
- #19 Coyote Canyon
- #20 Citrus Heights South
- #21 Citrus Heights North
- #22 Summit at Rosena
- #23 Ventana at Duncan Canyon
- # 24 Arboretum



**Arboretum Specific Plan
City of Fontana**

Section 3.0: Project Description

- ◆ **Development Agreement** – The proposed *Arboretum Specific Plan* would include a Development Agreement between the applicant and the City of Fontana for the funding and construction of public infrastructure improvements, public facilities, and amenities to be provided on-site or off-site, as needed to serve the North Fontana area. The Development Agreement would include agreements on development impact fees and fee credits, infrastructure and public facilities to be constructed by the developer, and the phasing of public improvements.
- ◆ **Parcel Maps/Tentative Tract Maps** – The project site currently includes 45 parcels under separate ownerships. While the proposed Specific Plan has tried to match parcel ownership with the boundaries for each village, a consolidation and/or subdivision of parcels is necessary for the individual planning areas and development sites. The proposed project would require the re-subdivision of the site into the planning areas, residential lots, school and commercial building sites, parks, and public rights-of-way to allow for the development of the various villages, schools, and commercial activity centers, as well as for condominium purposes for the multi-family developments. Where parcel lines do not patch planning areas, the parcels would be consolidated first and re-subdivided into the various villages, with the main roadways defined. Subsequently, individual parcel maps or tentative tract maps would be submitted for City approval, for the phased development of smaller planning areas within the different villages of the Specific Plan area.
- ◆ **Design Review** - The developer will need to submit site plans and architectural plans for the proposed developments within the planning areas and residential villages, which will be subject to site plan and architectural design review and approval by the City.

Operational Characteristics

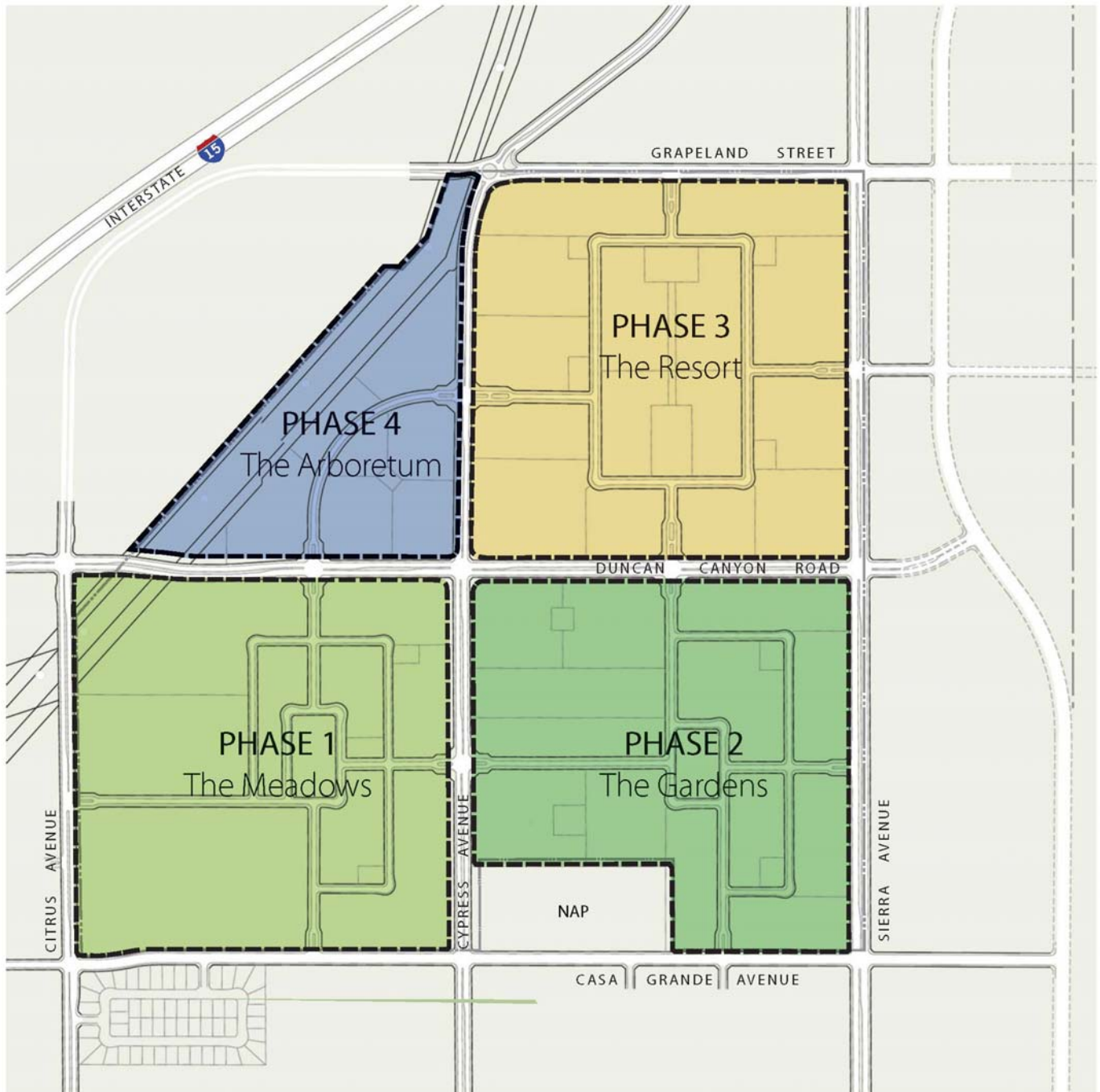
Approval and adoption of the *Arboretum Specific Plan* would provide a policy document to control future development on the project site, in accordance with the land uses and development standards contained in the Specific Plan document. Thus, the Specific Plan would supersede the City's Zoning and Development Code, as it relates to allowable land uses, development density, and development standards for future development on the project site. Regulations and standards in the City's Zoning and Development Code that not covered by the Specific Plan shall continue to be applicable to future developments on the site.

Implementation of the *Arboretum Specific Plan* and construction of each residential village or the individual planning areas within each village may occur concurrently, consecutively or independently of each other, depending on market demand. The actual timing of development may occur consecutively or time gaps may occur between the development of each village, with each village taking approximately 1 to 2 years to complete, for a 7- to 8-year buildout.

Figure 3-6, *Project Phasing*, shows the Meadows would be built first (Phase 1), with the Gardens built second (Phase 2). These villages would be followed by the Resort under Phase 3 and the Arboretum village under Phase 4.

Commensurate public improvements would be constructed as part of each phase, to provide the necessary roadway, utility infrastructure, parks, entryways, and other amenities to serve each village, as outlined in the proposed Specific Plan and the Development Agreement between the City and the applicant.

**Figure 3-6
Project Phasing**



**Arboretum Specific Plan
City of Fontana**

Section 3.0: Project Description

The earliest schedule for the start of construction of the project is anticipated by 2009. Clearing and grading of the site may start in late 2009, with the construction of utility lines and major street infrastructure beginning in mid-2010 and ending in late 2010. Subsequently, the villages would be constructed according to anticipated housing demand in the area.

Using the City's average household size of 3.976 persons per household, approximately 14,019 residents are expected on-site at full buildout. The proposed elementary school would accommodate 700 students, and the combined elementary and middle school would accommodate 700 K-6 students and the 1,250 Grade 7-8 students. In addition, employees for the schools and recreational centers would be present at the site. Tenant occupancy of retail stores and offices within the Activity Center would be dependent on demand and the developer's efforts to find and secure tenants. Assuming one employee per 500 square feet of commercial retail floor area, approximately 192 potential jobs are expected at the proposed Activity Center on the site, with 95,832 square feet of commercial floor area. In addition, based on current employee counts at the schools of the Fontana Unified School District, estimates of the potential employment generation from the proposed schools at the site are approximately 58 employees at each elementary school and 78 employees at the middle school, for a total 194 school employees. Thus, a total of 386 jobs would be available at buildout of the project.

A community facilities district or homeowner's association will be formed for the maintenance of internal streets, parkways, landscaped easements, open space areas, parks/recreational areas and facilities, and other common areas at the site. The school sites would be acquired by the Fontana Unified School District for future construction and operation of the schools. Opening of the schools are expected to coincide with the development of the residential villages and the projected demand for school services on and near the site.

While the site is located within the North Fontana Redevelopment Plan boundaries, no owner participation agreement or development and disposition agreement is proposed as part of the project.

Major roadways, such as Duncan Canyon Road, Cypress Avenue, Sierra Avenue, Casa Grande Avenue, Grapeland Street, and Citrus Avenue, along with sewer and storm drain infrastructure lines, would be dedicated to the City of Fontana for long-term maintenance.

Main water lines would be dedicated to the West Valley Water District for long-term maintenance. Telephone, power, natural gas, and cable lines would be extended by the developer or the respective utility agencies, in accordance to current State regulations and agency policies. Long term maintenance would be provided by the utility agencies.

3.3 DISCRETIONARY ACTIONS

A discretionary action is a decision taken by a government agency that calls for the exercise of judgment in deciding whether to approve a project or not. For this project, the government agency with discretionary approval authority is the Fontana City Council. The proposed *Arboretum Specific Plan* would require the following specific discretionary approvals from the City of Fontana:

Section 3.0: Project Description

- **AMD No. 06-006** - Approval of a General Plan Amendment to change the Fontana Land Use Map by changing the land use designations of the site to reflect the Land Use Plan in the proposed Specific Plan
- **ZC No. 07-005** – Approval of a Zone Change to replace the zoning designations of the site to Specific Plan
- **SPL No. 04-006** - Adoption of the *Arboretum Specific Plan* by Ordinance, to serve as the planning and development tool for the project site
- **Development Agreement** – Approval of a Development Agreement between the applicant and the City on public infrastructure systems, programs, and services that would be provided by the City or the developer, as well as funding mechanisms.
- **Parcel Maps/Tentative Tract Maps** - Approval of Parcel Maps and Tentative Tracts to consolidate the lots and/or subdivide the site into the different residential villages, development sites, condominium units, and residential lots.
- **Design Review** – Design review and approval of site plans and architectural plans for the different residential villages by the Fontana Community Development Department/ Development Review Board and the Planning Commission/Design Review Board

Other permits needed by the project include:

- All work within the Southern California Edison Company (SCE) transmission line easement would require a Temporary Entry Permit from the SCE.
- All work within the Southern California Gas Company (SCG) gas line easement, including the extension of Duncan Canyon Road through the easement, would require review and approval from SCG.
- All work within the Metropolitan Water District (MWD) water line right-of-way would require review and approval from the MWD.
- The project would require a Roadway Easement from the SCE to allow Duncan Canyon Road to cross the SCE easement, which would include approval of the roadway plans on or near the SCE easement.
- Permits from the County Environmental Health Department would be needed for the abandonment of the existing septic tank at the site.

Section 4.0: Environmental Impact Analysis

4.1 INTRODUCTION

This section analyzes the potential environmental impacts associated with adoption and implementation of the proposed *Arboretum Specific Plan*. While adoption of a policy document, such as the proposed Specific Plan, would not lead to any immediate or direct changes to the environment, the proposed Specific Plan would regulate future development on the project site and these future developments would generate environmental impacts. As such, implementation of the Specific Plan would indirectly lead to the construction and operation of urban land uses on the site, which would be accompanied by environmental changes. Thus, the analysis on this section focuses on the impacts of future development that would be allowed under the proposed *Arboretum Specific Plan* for a 531.3-acre area at the northern section of the City of Fontana.

The environmental issues on which potentially significant adverse impacts may occur are analyzed in this section. Based on the preliminary analysis of the project, the environmental analysis in this EIR addresses the project's potential impacts on the following issues:

■ Land Use and Planning	■ Biological Resources
■ Population and Housing	■ Cultural Resources
■ Traffic and Circulation	■ Public Services
■ Air Quality	■ Utilities
■ Noise	■ Recreation
■ Geology and Soils	■ Human Health and Hazards
■ Hydrology and Water Quality	■ Aesthetics

The purpose of this section is to describe the existing conditions on the project site and in the surrounding area and to identify the potential changes to existing conditions or environmental impacts that may result from implementation of the proposed project. In addition, standard conditions and mitigation measures are provided for any identified significant adverse impacts.

In order to facilitate the analysis of each issue, a standard format was developed to analyze each environmental issue thoroughly. This format is presented below, with a brief discussion of the information included within each topic.

- ◆ **Environmental Setting** - This section describes the existing physical and regulatory conditions related to each issue area. In accordance with Section 15125, *Environmental Setting*, of the State CEQA Guidelines, both the local and regional settings are discussed, as they exist prior to implementation of the proposed project and during the NOP publication.
- ◆ **Threshold of Significance** - The threshold of significance identifies criteria used in determining whether an impact is considered significant and is derived from the environmental concerns outlined in the Environmental Checklist provided as Appendix G to the CEQA Guidelines. In addition, City policies, as well as standards and thresholds adopted by other public agencies with jurisdiction over select environmental issues, are used as thresholds of significance. Accepted technical and scientific data are used in other instances to determine if an impact would be considered significant.

Section 4.0: Environmental Impact Analysis

- ◆ **Environmental Impacts** - This section of the EIR identifies and describes the short-term and long-term environmental impacts, direct and indirect impacts, both adverse and beneficial, which would result from project implementation. All project-related impacts are analyzed in accordance with Section 15126, *Consideration and Discussion of Environmental Impacts*, of the State CEQA Guidelines. Impacts are compared to the threshold of significance to determine if they exceed the threshold and thus, are considered significant and adverse. Impacts, which are considered significant and adverse, are identified as such and analyzed accordingly. Cumulative impacts are discussed separately in Section 6.0, and growth-inducing impacts are discussed in Section 7.0 of this EIR.
- ◆ **Standard Conditions and Mitigation Measures** - Existing regulations that the proposed project would need to comply with are identified in this section. In addition, where a potentially significant and adverse environmental effect has been identified in the environmental analysis, mitigation measures have been included in this section of the document. These measures are designed to “.... *minimize significant adverse impacts ... for each significant environmental effect identified in the EIR*”, as stated in Section 15126 of the State CEQA Guidelines.
- ◆ **Unavoidable Significant Adverse Impacts** - Unavoidable significant adverse impacts are project impacts which, either, cannot be mitigated or remain significant even after mitigation. The level of significance of any potentially significant adverse impact, after the implementation of the standard conditions and recommended mitigation measures, is identified in this section the EIR. Unavoidable significant adverse impacts are called out.

Section 4.2: Land Use and Planning

4.2.1 Environmental Setting

Existing Land Uses

The project site is vacant, with the recent burning of a single-family residence located at the northwestern corner of the site. The project site supports scrub vegetation and annual grasses on the majority of the site, with a cluster of trees at the central eastern boundary. Vacant land and the I-15 Freeway are located to the north of the site, and Sierra Avenue and Citrus Avenue serve as the eastern and western boundaries of the site. The SCE transmission towers within the existing SCE right-of-way define the northwestern boundary of the site. Vacant land is found south of the site and a new residential tract is present to the southwest.

Planned Land Uses

The northern half of the project site is designated as Regional Mixed Use (RMU) in the Fontana Land Use Plan. The RMU designation is found in areas proposed as employment centers, to be developed with a variety of commercial and industrial uses. This designation allows a mix of retail commercial, office, light manufacturing, civic, and residential uses. The preferred mix of land uses for areas designated as RMU is 0 to 30% retail; 5 to 15% office; 15 to 30% light industrial/business park; 25 to 35% residential and 4 to 6% public open space. Residential uses are allowed at a density of 12 to 24 units per acre and commercial and industrial uses are allowed with a floor area ratio ranging from 0.1 to 1.0.

The southern section of the site is designated as Residential Planned Community (R-PC). The R-PC designation allows the development of residential communities at densities ranging from 3.0 to 6.4 dwelling units per acre. Specific plans are required for sites over 145 acres and single-family detached units on 10,000-square-foot lots are required for sites less than 145 acres.

The area at the intersection of Duncan Canyon Road and Sierra Avenue is designated as Community Commercial (C-C) in the Fontana Land Use Plan. The C-C designation is intended to accommodate retail development including shopping centers and restaurants, as well as offices and businesses providing professional services. The allowable development intensity is a floor area ratio between 0.1 and 1.0. This corner has an Activity Center Overlay, which promotes the development of intimately scaled activity centers/mixed use developments. These centers are expected to serve the surrounding residential neighborhood with a mix of retail commercial; professional offices, service businesses, entertainment centers, sales outlets, restaurants, day care centers, institutional, live-work units, public and quasi public uses. The development density allowed in activity centers is a floor area ratio of 0.1 to 1.0 for non-residential uses and 7.7 to 24 dwelling units per acre for residential uses.

The SCE and SCG easements are designated as Public Utility Corridor (PUC), which does not allow urban development.

Consistent with the City's Land Use Plan, the north section of the project site is zoned RMU, the southern section is zoned R-PC, and the corner of Sierra Avenue and Duncan Canyon Road is zoned C-1(Community Commercial) with an Activity Center Overlay.

Section 4.2: Land Use and Planning

The site is also located within the North Fontana Redevelopment Project Area, the North Fontana Economic Zone, and the North Fontana Multiple Species Habitat Conservation Plan. The site is located outside adopted Specific Plans and Community Plans.

Regional Plans

In addition to the City's planning regulations discussed in Section 2.0, *Environmental Setting*, a number of regional plans regulate development in Fontana and the region. A brief discussion of these plans is provided below.

SCAG's *Regional Comprehensive Plan and Guide (RCPG)* provides a policy and framework for regional planning in Southern California to manage growth and development. The RCPG calls for the involvement and coordination of all cities and counties in growth management, regional mobility and transportation investment, air quality management, and hazardous waste management, as well as housing development, economy, human resources and services, finance and environmental management.

Population, housing and employment forecasts by SCAG in support of the RCPG show that the County of San Bernardino would have an estimated 2.7 million residents, approximately 897,739 housing units, and 1.18 million jobs by the year 2030. The City of Fontana is projected to be occupied by 240,650 residents, with 66,323 households and 54,488 jobs by 2030. The RCPG addresses regional issues through its adopted goals and policies, but does not specifically address the project site or the North Fontana area. Workshops on the Draft 2008 Regional Comprehensive Plan are currently underway, as an update to the RCPG.

SCAG's *Compass* program considers future growth in the region through an informed and analytically based policy framework. The goal of the program is to develop a preferred growth scenario that will guide SCAG's future planning efforts and serve as an implementation guide for development and land use decision-making for other agencies. The *Compass* will help define a Regional Growth Management Vision and an Implementation Strategy that will guide Southern California's future. The Growth Visioning effort has developed a number of goals:

- Improve mobility for all residents
- Foster livability in all communities
- Enhance prosperity for all people
- Promote sustainability for future generations

SCAG's *Regional Housing Needs Assessment (RHNA)* provides an allocation by jurisdiction of the existing and future housing needs relative to income level, based on existing housing needs and the projected regional population growth. The allocations are driven by the intent that a better balance between jobs and housing should occur in various areas of the region and that every city should take its fair share in the development of affordable housing units, as well as in addressing existing housing concerns. SCAG has updated the RHNA and adopted regional housing allocations for the 2006-2014 planning period. The City of Fontana is identified as having a future housing construction need of 5,699 units and an existing housing need of 17,655 housing units/households. The RHNA also provides guidance on the development of housing projects in the City.

Section 4.2: Land Use and Planning

SCAG's *Regional Transportation Plan (RTP)* outlines the regional transportation needs and projects for the region to the year 2030. This plan was recently updated and outlines a multi-modal approach for the improvement of mobility and funding of transportation projects. Projects in the RTP include airport access and arterials, freeway and highway improvements, commuter rail, light rail, high speed rail, shuttles, transit centers, truck lanes and freight movement. The strategies serve to link communities within the region, to meet air quality standards, and to improve the quality of life. The RTP does not address the project site, although freeways and arterials near the site are considered for potential transportation improvements under the RTP. The updated RTP was adopted on May 8, 2008.

SANBAG's *San Bernardino County Congestion Management Program (CMP)* addresses county-wide traffic congestion through an interrelation of transportation, land use, and air quality programs. The CMP was developed by the San Bernardino Associated Governments (SANBAG) and sets standards for the CMP highway network in terms of Level of Service (LOS). LOS is a qualitative measure used to describe the operational conditions within a traffic stream, and a motorist's and/or passenger's perception of the roadway's performance. LOS is designated a letter from A to F, with LOS A representing free flowing traffic conditions and LOS F representing forced flow, many stoppages, and low operating speeds. The CMP sets a standard of LOS E for the County's CMP-designated highway system and implements an enhanced transportation management program to ensure that the designated roadways meet this standard. Monitoring of the CMP highway system and traffic forecasts are made yearly, with local agency preparation of deficiency plans for areas expected to exceed LOS standards. The CMP also requires that local governments inform SANBAG of development projects, Transportation Demand Management (TDM) activities, and transit programs. SANBAG then compiles the CMP reports and coordinates the needed transportation improvements into the Comprehensive Transportation Plan. The CMP also outlines the requirements for traffic impact analyses (TIA) for individual development projects. Cities that have adopted development impact fee programs that account for future improvement of the regional transportation network have a waiver for the TIA requirements.

SANBAG's *Comprehensive Transportation Plan (CTP)* identifies the County's 20-year transportation program and the probable funding sources for these projects. As part of the update, SANBAG is in the process of validating the regional transportation model, which would be used to identify existing deficiencies in the transportation network, as well as the needed improvements to accommodate growth to the year 2030. No specific transportation projects have been developed for the CTP. The CTP would identify needed roadway improvements to serve future development in the region, including future development within the City of Fontana and the project site.

SCAQMD's *Air Quality Management Plan (AQMP)* prescribes a means by which air quality in the Southern California region may be brought into compliance with the National Ambient Air Quality Standards (NAAQS) established by the Clean Air Act. The AQMP outlines methods and regulations to control direct and indirect sources of air pollution, such as industrial and commercial activities, motor vehicle use, construction, energy use and production, toxic air pollutant generators, and other sources of air pollution. The AQMP was recently updated in 2007. Individual businesses in the South Coast Air Basin that are subject to SCAQMD regulations are required under the AQMP to obtain permits directly from SCAQMD. Residential developments are generally precluded from the need for air pollutant permits, but commercial and industrial land uses may require permits according to the type of equipment that would be used with each

Section 4.2: Land Use and Planning

development. SCAQMD rules regulate stationary sources of pollutant emissions and construction activities in Fontana and the rest of the South Coast Air Basin.

RWQCB's *Water Quality Control Plan for the Santa Ana River* provides water quality standards for water resources in the Santa Ana River and its watershed and includes an implementation plan to maintain these standards. The Plan discusses the existing water quality, beneficial uses of the ground and surface waters, and local water quality conditions and problems within the Santa Ana River watershed. The Plan also sets water quality goals and is used as a basis for the basin's regulatory programs.

4.2.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on land use and planning, if its implementation results in any of the following:

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

Land use impacts may also result when incompatible land uses are located adjacent to each other.

4.2.3 Environmental Impacts

The proposed *Arboretum Specific Plan* would regulate future development on the project site and this future development would result in changes to the existing land uses on the project site.

Established Communities *(Would the project physically divide an established community?)*

Future development under the proposed *Arboretum Specific Plan* would lead to the introduction of urban development on the vacant project site. Vacant land would be replaced with residential, commercial, school, and park uses. As proposed, a maximum of 3,526 residential units would be developed within four villages on-site, along with schools, a regional arboretum, various parks and a commercial activity center.

The site is largely surrounded by vacant land, except for the southwestern boundary where a new residential development is present. Future development on the site would not divide this adjacent residential community. The proposed Specific Plan would lead to the development of four residential villages but would not divide an established community, since the project site is undeveloped and adjacent lands are also largely vacant. No adverse impact on established communities is expected.

Applicable Land Use Plans and Policies *(Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not*

Section 4.2: Land Use and Planning

limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?)

Fontana General Plan

Future development under the *Arboretum Specific Plan* is not consistent with the current land use designations for the site, as provided in the Fontana General Plan Land Use Map. The proposed Specific Plan would lead to the development of residential uses on the site, requiring an amendment to the current land use designations of the site. To make the Specific Plan consistent with the Fontana General Plan and the City's Zoning and Development Code, a General Plan Amendment would be needed to change the land use designations and zoning from Regional Mixed Use (RMU) to Multi-Family Residential (R-MF); areas designated as Residential Planned Community (R-PC) to R-MF; and some areas designated as Community Commercial (C-C) to R-MF. The SCE and SCG easements will remain designated as Public Utility Corridors (P-UC) and the existing Activity Center Overlay would remain.

Future development under the proposed Specific Plan would include as many as 3,526 dwelling units featuring a variety of housing types and 95,832 square feet of non-residential development (commercial and office uses). Development densities of 3.0 units per acre to 24.0 dwelling units per acre, with an average of 7.8 dwelling units per acre are expected within the residential villages. The Specific Plan would allow development at up to 24 dwelling units per acre, consistent with the proposed R-MF designation that would occur with General Plan Amendment, which allows as much as 24 units per acre.

Project consistency with the goals of the Fontana General Plan is provided in Table 4.2-1, *General Plan Consistency*, below.

TABLE 4.2-1
GENERAL PLAN CONSISTENCY

General Plan Goal	Project Consistency
Land Use Element	
Goal 1: Land use in our community is balanced between residential, commercial, industrial, open space and recreational land uses that are developed to high standards of quality and provide diverse economic, social, and cultural opportunities for our citizens and those who wish to invest here.	The proposed Specific Plan would allow the residential and commercial developments, schools and parks on the site, with development and design guidelines that promote quality development and amenities that would attract residents and businesses.
Goal 2: Quality of life in our community is supported by development that avoids negative impacts on residents and businesses and is compatible with, and enhances, our natural and built environment.	No significant adverse impact on residents and businesses is expected with the project, as discussed in Section 4.3, <i>Population and Housing</i> . The significant adverse impacts of the proposed project would be mitigated by measures outlined in this EIR. While air quality and traffic impacts would remain significant, these impacts would remain the same on alternative sites.
Goal 3: Our community is developing in a unified, orderly, logical, environmentally sound manner, which ensures that the City is unified and accessible to all residents, and results in economically sound commercial areas, vibrant neighborhoods, and jobs rich centers.	The project would lead to the development of residential villages, with supports parks, schools, a commercial activity, and a host of amenities.

Section 4.2: Land Use and Planning

**TABLE 4.2-1
GENERAL PLAN CONSISTENCY**

General Plan Goal	Project Consistency
Goal 4: The quality of life and economic vitality in our City's core areas are enhanced by strategic infill of new development and revitalization of existing development.	The project is not an infill or redevelopment project. This goal is not applicable to the project.
Goal 5: Our Downtown is a vibrant, pedestrian-friendly, economically healthy, safe, convenient and accessible district that serves as the true heart and focal point of the community.	The project is not proposed in the City's downtown area. This goal is not applicable to the project.
Circulation Element	
Goal 1: A balanced transportation system for Fontana is provided that meets the mobility needs of current and future residents and ensures the safe and efficient movements of vehicles, people and goods throughout the City.	The proposed project would provide street improvements on and near the site and would pay its fair share cost for improvements at off-site intersections.
Goal 2: A regional network of multi-modal transportation facilities including an improved citywide public transit system is provided that ensure the safe and efficient movement of vehicles, people and goods throughout the City of Fontana and to and from the region, and provides mobility to all City residents and helps reduce vehicular trips City-wide.	No public transit is currently available in North Fontana or near the site. The project proposes a system of bikeways and hiking trails, which would provide area residents with opportunities to walk and bike from home to nearby commercial uses, schools and parks.
Goal 3: A circulation system is provided that reduces conflicts between commercial trucking, private/public transportation and land uses.	The proposed project would provide street improvements on and near the site and would pay its fair share cost for improvements at off-site intersections. The proposed project would help implement the Circulation Master Plan for the North Fontana area.
Goal 4: Rail facilities continue to develop while minimizing the impacts to land uses and arterial circulation.	There are no rail facilities on or near the site. This goal is not applicable to the project.
Housing Element	
Goal 1: A wide range of housing units by location, type of unit and price are provided in our City to meet the existing and future needs of Fontana residents.	The project would provide 3,526 housing units featuring a wide range of housing types to meet the needs of Fontana residents.
Goal 2: We promote equal opportunity for all residents of our City to reside in the housing of their choice.	The proposed project would provide equal opportunity housing for all residents.
Goal 3: The supply of sound housing at prices affordable by all segments of the community is increased here through the rehabilitation of substandard housing units.	The proposed project does not propose the rehabilitation of housing units or removal of any housing unit. This goal is not applicable to the project.
Goal 4: The supply of sound, affordable housing in Fontana is maintained through the conservation of the currently sound housing stock.	The site is vacant and the proposed project would not conserve existing housing. This goal is not applicable to the project.
Community Design Element	
Goal 1: Our City has a unified overall community image and appearance with distinct districts and neighborhoods.	The proposed Specific Plan includes design guidelines for the development of distinct residential villages on the site.
Goal 2: We preserve and use our open spaces as recreational amenities, visual boundaries and view corridors.	A regional arboretum and various parks would be provided onsite and views of the San Gabriel Mountains would be available on north-south streets.

Section 4.2: Land Use and Planning

TABLE 4.2-1
GENERAL PLAN CONSISTENCY

General Plan Goal	Project Consistency
Goal 3: The major arterial thoroughfares of the City contribute to the overall image and diverse character of the community.	Project improvements on Sierra Avenue and Duncan Canyon Road would be made consistent with the City's standards for these major corridors.
Goal 4.1: We have a vibrant, identifiable downtown that serves the diverse needs of its residents and readily attracts visitors.	The project site is not located in the City's downtown area. This goal is not applicable to the project.
Goal 4.2: Our revitalized downtown incorporates a new Civic Center Campus, existing notable architecture, enhanced pedestrian amenities and cultural centers.	The project site is not located in the City's downtown area. This goal is not applicable to the project.
Goal 5.1: Existing and new development reflects extensive use of high quality, contemporary design, incorporating unifying, community-wide design elements.	The proposed Specific Plan includes design guidelines that promote high quality and contemporary design.
Goal 5.2: Neighborhood organization and design reflect diverse and high quality development standards, strong integration into the broader community, and energy-efficient environmental siting standards.	Under the proposed Specific Plan, the site would be developed into four distinct villages, each with its own character and identity. Energy conservation features and environmental siting standards are included in the proposed Specific Plan.
Goal 5.3: Activity centers, including shopping centers, contain a high level of pedestrian amenities, distinct and varied architectural details, and careful integration into surrounding residential areas.	The Commercial Activity Center on the site would be developed in accordance with the City's development and design standards for the C-1 zone and would comply with the City's land use compatibility standards.
Goal 6: Conflict and spillover effects at the interface of differing land uses are minimized with appropriate design standards.	Future development on the site would comply with the City's land use compatibility standards.
Economic Development Element	
Goal 1: A sustainable balance of residential, commercial and industrial uses supports our City's economy.	The proposed Specific Plan would include residential and commercial developments to support the City's economy.
Goal 2: Fontana's industrial/manufacturing employment base is expanding and diversified.	The proposed Specific Plan would not include industrial and manufacturing uses. This goal is not applicable to the project.
Goal 3: Our downtown promotes civic pride and provides ample opportunities for shopping, entertainment, recreation and community events, as well as "close-in" residential development.	The proposed project is not located in the City's downtown area. This goal is not applicable to the project.
Goal 4: Our City, independently and in collaboration with school and community college districts, provides a comprehensive education, training and job placement program to develop and maintain a competitive workforce.	The proposed Specific Plan would include the development of 2 schools on-site, to serve the residents of the project and the surrounding area.
Goal 5: Expanded commercial development at key locations throughout the City serves the needs of the community and captures earlier revenue losses to surrounding areas.	The proposed Specific Plan would include the development of a Commercial Activity Center to serve the proposed residential uses on the site and in the surrounding area.
Goal 6: The City's Redevelopment Project Areas are fiscally sound and contribute significantly to the	The proposed project would lead to new development within the City's North Fontana

Section 4.2: Land Use and Planning

TABLE 4.2-1
GENERAL PLAN CONSISTENCY

General Plan Goal	Project Consistency
community's economic vitality, public safety, and the creation of its infrastructure.	Redevelopment Project Area.
Goal 7: Fontana's Economic Strategy continues to succeed in strengthening and diversifying our economic base, stimulating economic vitality, and making the City a net importer of dollars.	The proposed project expands the economic base of the City by providing new commercial uses and employment opportunities.
Public Facilities, Services and Infrastructure Element	
Goal 1: High quality schools with adequate physical capacity are provided in all areas of our City.	The proposed Specific Plan would include the development of 2 schools on-site, to serve the residents of the project and the surrounding area.
Goal 2: Our law enforcement and fire protection services meet our population's public safety needs and contribute to a sense of safety and high quality of life in our community.	Future development on the site would comply with building security and fire safety regulations. The project would pay development impacts fees and property taxes to fund police and fire protection services in the City.
Goal 3: Our new civic center campus, along with the new Fontana library, fulfills its vision as a multi-use community focal point, providing civic, educational, entertainment and cultural uses.	The site is not located near the City's civic center campus. This goal is not applicable to the project.
Goal 4: Health care services in our City are accessible and comprehensive, meeting the needs of all segments of the population.	The proposed project does not propose health care services. This goal is not applicable to the project.
Goal 5: Careful planning ensures the timely, logical and cost-effective development of infrastructure facilities in our City.	The proposed project would include roadway and infrastructure improvements on and near the site well, as well as utility connections to serve future development.
Goal 6: Our City manages its wastewater in an environmentally sound and cost-effective manner.	The project also involves the extension of a sewer line to the site and would help complete the City's sewer system.
Goal 7: Our City has one of the most effective solid waste reduction and recycling records in the County.	The proposed project would comply with the City's waste reduction and recycling programs.
Goal 8: Our City's flood control and drainage system is equitably financed and offers exceptional protection of lives and property over a full range of minor to major floods.	The project also involves the extension of a storm drain lines on Sierra Avenue, Duncan Canyon Road, Citrus Avenue, Casa Grande Avenue and Cypress Avenue and would help complete the City's storm drain system.
Goal 9: Public utility companies provide contemporary levels of service in our community at competitive rates.	The project applicant would coordinate with utility companies to obtain utility services for future developments.
Goal 10: Our City uses the latest in communication technology to conveniently link homes, businesses, schools and public facilities to a dynamic community Intranet.	This goal is not applicable to the project. The project site would be developed to have communication links that would allow future connection.
Open Space and Conservation Element	
Goal 1.1: Preserve Natural Open Space in the San Gabriel Mountains and Jurupa Hills	The project site is not located on or near the San Gabriel Mountains or Jurupa Hills.
Goal 1.2: Conserve Natural Habitat and Protect Rare, Threatened and Endangered Species	The project would comply with the North Fontana MSHCP. Mitigation is proposed for potential impacts to sensitive biological resources in

Section 4.2: Land Use and Planning

**TABLE 4.2-1
GENERAL PLAN CONSISTENCY**

General Plan Goal	Project Consistency
	Section 4.9 of this EIR.
Goal 2.1: Provide public access to and allow joint recreational use of utility corridors, wherever feasible.	The project proposes the use of the SCE/SCG utility corridor as a regional hiking trail and passive recreation area.
Goal 2.2: Expand the open space and conservation system, where feasible, to include private and public lands that offer multi-use open space and cultural resource opportunities.	The project would lead to the development of a regional arboretum that would be connected to other parks and residential areas by the hiking trail along the SCE/SCG easements.
Goal 3.1: Maximize efficient allocation and water resource use for existing and future water consumers.	The proposed project would implement water conservation measures under Tile 24 and would utilize drought tolerant landscaping.
Goal 3.2: Protect water resources in the planning area from urban runoff and other potential pollution sources.	Future development would provide detention basins, vegetated swales, and the use of Sierra Lakes for the removal of pollutants in the runoff.
Goal 4.1: The City will seek to identify and inventory all historical and archaeological resources within the City boundaries and its sphere of influence.	The proposed project would implement measures to prevent adverse impacts to cultural resources, as discussed in Section 4.10 of this EIR.
Goal 4.2: The City will encourage and support the preservation, rehabilitation, and/or restoration of historical and archaeological resources within the City boundaries and its sphere of influence.	The project would implement measures to prevent significant adverse impacts to cultural resources, as discussed in Section 4.10 of this EIR.
Goal 4.3: The City will seek to integrate preservation of historical and archaeological resources into an economic development strategy.	This goal is not applicable to the project. The project would comply with City policies for historical and archaeological resources.
Goal 4.4: The City will seek to increase public awareness and enjoyment of Fontana's heritage.	The proposed project would include a regional arboretum that would include a botanical garden, historic agricultural working garden, and other gardens and facilities that would promote public awareness programs on Fontana's heritage.
Parks, Recreation and Trails Element	
Goal 1.1: Our City's parks and recreation facilities meet the diverse needs of all segments of our population.	The project would include a community park, neighborhood park, tot lots and various recreational facilities for site by residents of the site and the City.
Goal 1.2: Our parks and recreation programs incorporate the latest recreational features, responsive to population trends and citizen input.	The project would provide centralized parks and recreational amenities for residents within each village, as well as for the general public.
Goal 2: Adequate parks, recreation facilities and after-school programs are provided in newly developed areas of our City.	The project would provide on-site parks and a regional arboretum, as well as pay Quimby fees for the development of parks in North Fontana.
Goal 3: Our parks will be safe and well maintained.	The project proposes the construction of various parks that would be maintained by the HOA or the City.
Goal 4: Our parks are developed in conjunction with school facilities and other agencies to maximize recreational facilities in our City.	The school fields at the 2 schools proposed on-site will made available for use by residents after school hours.
Goal 5: Our parks and recreational facilities are conveniently located and accessible to existing and future residents of our City.	The project would provide community parks and neighborhood parks within each village, with pedestrian connections to allow easy access by

Section 4.2: Land Use and Planning

**TABLE 4.2-1
GENERAL PLAN CONSISTENCY**

General Plan Goal	Project Consistency
	residents.
Goal 1: There is extensive use of non-motorized transportation, such as bicycles, equestrian, and pedestrian activity, throughout our City for recreation, access to community facilities, and even local commuting.	The proposed project would provide biking, hiking and pedestrian trails to connect the residential planning areas to the schools, parks, and commercial activity center, as well as to the regional trail along the SCE/SCG easement.
Goal 2: Bicycle and trail systems are connected to neighboring city facilities and to the regional network of trails and bikeways.	Bicycle or hiking trails are proposed throughout the site to connect residential areas to the on-site parks and the trail proposed along the SCE/SCG easement.
Goal 3: Proper design, development and maintenance standards for bikeways and trails are used for all trails and bikeways within our City.	Bikeways and hiking trails are proposed on and near the site, with stands in the Specific Plan for proper design, development, and maintenance.
Goal 4: Our City's bikeways and trails are uniformly safe and accessible.	The proposed project would provide access and connections to other bikeways or trails in the City.
Goal 5: Our system of bikeways and trails is benefited by efficient use of utility easements, flood-control easements and railroad rights-of-way.	The proposed project would utilize the SCE/SCG easement as a bikeway and hiking trail.
Goal 6: Improvements to our parks and trails system are funded as a regular component of our capital improvement program along with a variety of sources both within and outside of the City.	The project would provide on-site parks and a regional arboretum, as well as pay Quimby fees for the development of parks in North Fontana.
Safety Element	
Goal 1: Injury and loss of life, property damage, and other impacts caused by seismic shaking, fault rupture, ground failure, earthquake induced landslides, and other earthquake-induced ground deformation are minimized in our City.	Future development under the proposed Specific Plan would comply with existing seismic safety regulations and criteria.
Goal 2: The risk to life or limb, and property damage resulting from geologic hazards is minimized in our City.	Future development would be constructed in accordance with the recommendations of the geotechnical investigation for the site.
Goal 3: Injury, loss of life, property damage, and economic and social disruption caused by flood and inundation hazards are minimized in our City.	The project site is not located in an area with flood and inundation hazards. The project would construct storm drain lines on major streets to help complete the City's storm drain system in North Fontana.
Goal 4: Threats to public and private property from urban and wildland fire hazards are reduced in our City.	The proposed project would comply with pertinent requirements of the Uniform Fire Code, as part of the plan check by the San Bernardino County Fire District.
Goal 5: The potential for hazardous contamination is reduced in our City.	Future development shall comply with existing regulations regarding the use, storage and disposal of hazardous materials.
Goal 6: Plans for emergency response and recovery from natural and urban disasters are prepared for our City.	Future development shall have an emergency plan and shall comply with the emergency evacuation and access requirements of the San Bernardino County Fire District.
Noise Element	
Goal 1: Our City protects its sensitive land uses from	Noise impacts on sensitive land uses would be

Section 4.2: Land Use and Planning

TABLE 4.2-1
GENERAL PLAN CONSISTENCY

General Plan Goal	Project Consistency
excessive noise through diligent planning.	reduced by the standard condition and mitigation measures provided in Section 4.6 of this EIR.
Goal 2: Our City has a diverse and efficiently operated ground transportation system that generates the minimum feasible noise on its residents.	Mitigation measures provided in Section 4.6 would reduce impacts on future residential uses on the site from vehicle noise on the surrounding roadways. Impacts would be less than significant, as discussed in Section 4.6 of this EIR.
Goal 3: Our City's residents are protected from the negative effects of "spill over" noise in our community.	Noise impacts on sensitive land uses would be reduced by the standard condition and mitigation measures provided in Section 4.6 of this EIR.
<i>Air Quality Element</i>	
Goal 1: Air quality improvements are achieved in our City while continued economic growth has been sustained.	The proposed project would mitigate significant adverse air quality impacts, as discussed in Section 4.3 of this EIR. However, impacts would remain significant due to existing air pollution in the South Coast Air Basin.
Goal 2: Our City has a diverse and efficiently operated ground transportation system that generates the minimum feasible pollutants.	This goal is not directly applicable to this project.
Goal 3: A concerted effort to reduce energy consumption in our City results in reduced emissions.	Future development shall comply with energy conservation measures under Title 24. Measures to reduce pollutant emissions are provided in Section 4.3 of this EIR.
Goal 4: The minimum practicable particulate emissions are released in our City from construction and operation of roads and buildings.	The proposed project would mitigate significant adverse air quality impacts, as discussed in Section 4.3 of this EIR. Impacts would remain significant due to existing air pollution in the South Coast Air Basin.

As discussed above, while the project does not promote City goals related to manufacturing uses, the downtown area, and City programs, no conflict with the Fontana General Plan is expected with the project.

The *Arboretum Specific Plan's* consistency with the Fontana General Plan is provided in Appendix A of the Specific Plan document. The proposed Specific Plan complies with the goals and policies of the Fontana General Plan and future development under the Specific Plan would be consistent with the City's General Plan. Any future amendments to the *Arboretum Specific Plan* are also required to be consistent with the Fontana General Plan. No conflict with the Fontana General Plan is expected.

Fontana Zoning and Development Code

To make the Specific Plan consistent with the City's Zoning and Development Code, a Zone Change of the entire site to Specific Plan would be needed. The proposed Specific Plan has been prepared in accordance with the provisions of Division 9, Specific Plans (Section 30-62), of the Zoning and Development Code.

Section 4.2: Land Use and Planning

Changes to the development standards that would apply to the site would under the proposed Specific Plan, accompanied by changes to the overall development that would occur on the site. While minimum lot sizes in some planning areas would be less than currently allowed in the City, the smaller lots would create a more cohesive residential community that would reduce driveway pavements and yard setbacks than typical single-family detached housing. This decrease in lot size would be balanced with the provision of more and centralized amenities, such that the overall residential density on-site would still be less than the maximum allowable under the Fontana General Plan and the City's Zoning and Development Code (24 units per acre). Front setbacks would also be less due to rear-loaded units, leading to more intimate and walkable residential areas, where less roadway pavement is provided. However, parking requirements would be the same as in the City's current Code. While changes in the type and size of amenities would be required under the Specific Plan, more amenities would be provided on-site, including the regional arboretum. These changes to the development standards are not expected to result in environmental impacts separate than those analyzed in this EIR or in addition to those expected in the City under buildout conditions. No conflict with the Fontana Zoning and Development Code is expected.

North Fontana Redevelopment Plan

The proposed Specific Plan would help implement the North Fontana Redevelopment Plan through future development of the site and provision of utility infrastructure to serve future developments on the site. No conflict with the North Fontana Redevelopment Plan is expected.

North Fontana Economic Zone

The project would also be consistent with the goals of the North Fontana Economic Zone, by the development of future commercial uses on the site. No conflict with the North Fontana Economic Zone is expected. No conflict with other City plans and programs is expected to occur with the proposed Specific Plan and future development on the site.

Applicable Regional Plans

The Southern California Association of Government (SCAG) has adopted regional policies that relate to the future development in the region. These policies are contained in SCAG's regional plans, including the Regional Comprehensive Plan and Guide (RCPG), Regional Housing Needs Assessment (RHNA) and Regional Transportation Plan (RTP). The proposed Specific Plan's consistency with the relevant policies in the RCPG is discussed in Table 4.2-2, *Consistency with SCAG Policies*.

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
Growth Management		
3.01	The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.	A General Plan Amendment would be needed to accommodate the residential development, commercial activity center, schools and parks under the proposed Arboretum Specific Plan. This future development would not exceed SCAG's population, housing and job forecasts for the City, as analyzed in

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
		Section 4.3, <i>Population and Housing</i> , of this EIR. An increase in housing development would occur over those accounted for under City buildout, and would be forwarded to SCAG for use in future forecasting. The project is consistent with this policy.
	Region wide Forecasts San Bernardino County Forecasts	The population, household, and employment growth with proposed project would represent less than 1% of the forecasted growth in San Bernardino County. The project would also be within projections for the City of Fontana, as discussed in Section 4.3, <i>Population and Housing</i> , of this EIR. The project is consistent with this policy.
3.03	The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.	SCAG was informed about this project and will continue to be informed of public and private developments that are proposed in the City. The project is consistent with this policy.
Standard of Living		
3.09	Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.	The project would provide on-site infrastructure; would pay fair share fees for the development of infrastructure systems needed to serve the site; and would pay development impact fees and property taxes for public service provision. The project is consistent with this policy.
3.10	Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.	This policy is not applicable to the project. Permitting for the project would occur in accordance with the City's standard practices.
Quality of Life		
3.12	Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.	No public transit is currently available in North Fontana or near the site. The project proposes a system of bikeways and hiking trails, which would provide area residents with opportunities to walk and bike from home to nearby commercial uses, schools and parks.
3.13	Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.	The site is located south of the I-15 Freeway but no transit services are currently available on or near the site. This policy is not applicable to the project.
3.16	Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling	The site is located south of the I-15 Freeway and is located in an area designated for redevelopment. The

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
	and redevelopment.	project is consistent with this policy.
3.18	Encourage planned development in locations least likely to cause environmental impact.	The significant adverse environmental impacts of the project would be mitigated by measures outlined in this EIR. Traffic and air quality impacts would largely remain the same at alternative locations. The project is consistent with this policy.
3.20	Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.	The project site does not contain wetlands and is not used for groundwater recharge. The site is also not designated as farmland and impacts on sensitive biological resources are addressed in Section 4.9, <i>Biological Resources</i> . The project would comply with the North Fontana MSHCP. The project is consistent with this policy.
3.23	Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.	Noise impacts are addressed in Section 4.6, <i>Noise</i> . Important biological resources are identified in Section 4.9, <i>Biological Resources</i> . Seismic hazards are addressed in Section 4.7, <i>Geology and Soils</i> . Hazards are addressed in Section 4.13, <i>Human Health and Hazards</i> . Measures have been provided under these sections to mitigate significant adverse impacts, as necessary. The project is consistent with this policy.
3.27	Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.	The project would provide a variety of housing types to meet the housing needs of the City. Public services would be made available to future developments on the site, as discussed in Section 4.11, <i>Public Services and Recreation</i> . The project is consistent with this policy.
Growth Visioning Compass		
Principle 1	Improve mobility for all residents	The proposed project would provide a commercial retail and office uses, schools, parks, and open space on the site to support the residential areas of the project. This will allow residents to work, shop, and go to the park by walking or by bicycle, rather than using automobiles. The proposed project would include roadway improvements needed to adequately serve the transportation needs of future development on the project site and

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
		would promote mobility. Internal roadways and the half-widths of all abutting roadways would be improved and the project would pay fair share for the improvement of off-site intersections. The project is consistent with this policy.
Principle 2	Foster livability in all communities	The proposed Specific Plan would provide high density residential developments, schools, parks and open space, and a commercial area. A walkable community would be created through pedestrian walkways and trails connecting residential areas to schools, parks and commercial areas. The project is consistent with this policy.
Principle 3	Enable prosperity for all people	The project would include a commercial area, which would provide convenient goods and services and employment opportunities for the residents of the project and the surrounding area to live and work within short distances. Residential villages would be developed with attached and detached dwelling units, to complement the single-family detached housing units found in the surrounding area and to meet the housing need of various households in the project area and the region. The project is consistent with this policy.
Principle 4	Promote sustainability for future generations	Urban developments are under construction and/or are planned near the site and the project would eventually serve as an extension of these developments. No impacts on agricultural lands are expected. Project impacts on biological resources would be mitigated by measures outlined in Section 4.9, <i>Biological Resources</i> . The project would incorporate energy and water conservation measures. The proposed project would also be located in an area that the City of Fontana has planned for urban development. The project is consistent with this policy.
Regional Transportation Plan Goal		
Goal 1	Maximize mobility and accessibility for all people and goods in the region.	The proposed project would include a commercial area, which would serve residents of the site and the surrounding area. The project would construct on-site and perimeter roads and pay fair

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
		share for off-site roadway improvements. The project is consistent with this policy.
Goal 2	Ensure travel safety and reliability for all people and goods in the region.	The project would pay fair share for roadway improvements needed to serve the project, as discussed in Section 4.4, <i>Transportation and Circulation</i> . No traffic safety hazards are expected from the project. The project is consistent with this policy.
Goal 3	Preserve and ensure a sustainable regional transportation system	The project's impacts on the on- and off-ramps of the I-15 and SR-210 freeways are analyzed in Section 4.4, <i>Transportation and Circulation</i> . Mitigation is recommended for potentially significant adverse impacts but impacts will remain significant until the needed off-site intersection improvements are fully funded and implemented by the City. The project is consistent with this policy.
Goal 4	Maximize the productivity of our transportation system.	The roadway improvements that would be constructed to serve the project have been designed to achieve established LOS standards. Transportation system productivity would be maximized by the tie-in of the on-site roads to existing roads, thereby allowing through-traffic. The project is consistent with this policy.
Goal 5	Protect the environment, improve air quality and promote energy efficiency.	This EIR addresses project impacts and measures to protect the environment, including air quality in Section 4.5, <i>Air Quality</i> , and energy efficiency in Section 4.12, <i>Utilities</i> . The project is consistent with this policy.
Goal 6	Encourage land use and growth patterns that complement our transportation investments.	The proposed project would be located adjacent to Sierra Avenue that connects to the I-15 and SR-210 Freeways. Duncan Canyon Road would be developed through the site, with a future interchange proposed at Duncan Canyon Road and the I-15 Freeway. The project would take advantage of this regional and local accessibility. The project is consistent with this policy.
Regional Transportation Plan Policy		
Policy 1	Transportation investments shall be based on SCAG's adopted Regional Performance Indicators. These are mobility, accessibility, reliability, safety, cost-effectiveness, productivity, sustainability,	The project would include a commercial retail and office area, which would reduce vehicle travel by on-site residents and neighboring residential

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
	preservation, environmental, and environmental justice.	uses. The project would include roadway improvements that would be needed to maintain mobility and accessibility for the proposed development. The traffic impact analysis in Section 4.4, <i>Transportation and Circulation</i> , of this EIR identifies roadway improvements needed to serve the project. The project is consistent with this policy.
Policy 2	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system investments.	The project would improve roadways on and near the site and pay fair share fees for the improvement of the City's area-wide transportation system. The project is consistent with this policy.
Policy 3	RTP land use and growth strategies that differ from the currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and sub-regions.	The City will continue to work with regional agencies on the improvement and development of the regional transportation system to serve the project area. This policy is not applicable to the project.
Air Quality		
5.07	Determine specific programs and associated actions needed (indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.	This policy is not applicable to the project. The project's impacts on air quality are addressed in Section 4.5, <i>Air Quality</i> .
5.11	Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional, and local) consider air quality, land use, transportation, and economic relationships to ensure consistency and minimize conflicts.	The EIR addresses the project's consistency with local and regional plans in this Section 4.2, <i>Land Use and Planning</i> . Air quality impacts are addressed in Section 4.5 and traffic impacts are addressed in Section 4.4 of this EIR. The project is consistent with this policy.
Open Space		
9.07	Maintain adequate viable resource production land, particularly lands devoted to commercial agriculture and mining operations.	The site is not used for agricultural purposes and will have no impact on agricultural resources. Less than significant impacts on mineral resources are expected. The project is consistent with this policy.
9.08	Develop well-managed visible ecosystems or known habitats of rare, threatened and endangered species, including wetlands.	The project would comply with the North Fontana MSHCP. The project's impacts on rare, threatened and endangered species are discussed in Section 4.9, <i>Biological Resources</i> . No wetlands are present on or near the site. The project

Section 4.2: Land Use and Planning

TABLE 4.2-2
CONSISTENCY WITH SCAG POLICIES

Policy No.	SCAG Policy	Project Consistency
		is consistent with this policy.
Water Quality		
11.07	Encourage water reclamation throughout the region where it is cost-effective, feasible and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.	Reclaimed water is not available to the project site but could be available in the future. The City is currently investigating the feasibility of a city-wide reclaimed water system. Development of the site shall comply with adopted City policies regarding the use of reclaimed water. The project is consistent with this policy.

As discussed above, the proposed project would not be inconsistent with SCAG policies.

In the RHNA, the City of Fontana is identified as having a future housing construction need of 5,699 units and an existing housing need of 17,655 housing units/households. The proposed 3,526 dwelling units under the Arboretum Specific Plan would help meet approximately 61.9% of the City's future housing needs. Thus, beneficial impacts related to the RHNA would occur with the project.

The project would not conflict with the RTP and CTP since no RTP and CTP projects are proposed on or adjacent to the site. Consistency with the San Bernardino County CMP is discussed in Section 4.4, *Transportation and Circulation*.

The SCAQMD's AQMP is discussed in Section 4.5, *Air Quality*. Future development under the proposed Specific Plan would need to comply with applicable regulations of the SCAQMD that implement the AQMP, including the procurement of permits for on-site activities and equipment use which would generate pollutant emissions.

The RWQCB's Water Quality Control Plan for the Santa Ana River Basin is discussed in Section 4.8, *Hydrology and Water Quality*. The proposed project would implement stormwater pollution control measures to comply with the Water Quality Control Plan for the Santa Ana River Basin and the National Pollutant Discharge Elimination System (NPDES). No conflict is expected from the proposed project.

Thus, the proposed project would not conflict with regional plans.

Habitat Conservation Plans (*Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?*)

The City has developed a Multi-Species Habitat Conservation Plan (MSHCP) for the North Fontana area. The MSHCP is currently under review by the USFWS. During this review and approval stage, the City adopted an Interim MSHCP Program, which requires a project developer to pay a fee to the City for the future acquisition of preserved habitat if protocol surveys performed within the proposed MSHCP boundaries for the SBKR and CAGN yield negative results. This is discussed further in Section 4.9, *Biological Resources*. No conflict with the North Fontana Multi-Species Habitat Conservation Plan is expected.

Section 4.2: Land Use and Planning

Land Use Compatibility (*Would the project result in land use conflict or incompatible land uses?*)

The site is vacant. A few residences are present at scattered locations near the site but are not part of an established community. A single-family residence is present to the northeast of the site and another residence to the east. A new residential tract is present south of Casa Grande Avenue and east of Citrus Avenue. Other residential tracts are located farther away. These include the residences in the Las Colinas community in Rialto to the east, the Sierra Lakes development to the south, and the Shady Trails development to the southwest.

A combined elementary and middle school is proposed at the southwestern corner of the site, near the adjacent residential tract. The school is not expected to create conflicts with adjacent residences as Casa Grande Avenue provides distance separation; a block wall is present on the south side of Casa Grande Avenue; and residences face away from Casa Grande Avenue. No land use incompatibility with nearby residences is expected with the project.

The adjacent vacant areas are expected to develop at some future date. The vacant land to the south is proposed for residential development under the Summit at Rosena Specific Plan. The vacant land to the west is proposed for the development of residential uses under the Ventana at Duncan Canyon Specific Plan. Similarly, the vacant areas to the east are proposed for residential development under the Empire North Fontana project (Tract 16445). Since these adjacent vacant areas are designated for residential development, the proposed Specific Plan would not result in land use conflicts with future residential developments on and near the site.

The vacant land to the north is designated as RMU under the Fontana Land Use Plan. Future development in this area would be separated from the residential uses planned on the site by a perimeter block wall and Grapeland Street - a 92-foot wide planned Secondary Highway along the northern boundary of the site. Grapeland Street is expected to provide adequate separation between the RMU development in this area and the residential uses proposed along the northern section of the site, preventing the potential for land use conflicts. No significant adverse impacts are expected.

Development on the site shall be required to comply with the development standards in the City's Zoning and Development Code, which are otherwise not regulated in the Specific Plan. The City standards for residential districts promote land use compatibility by calling for the provision of open space buffers, topographic features, landscaping, physical barriers, building orientation, infill development, and community design features that prevent land use conflicts between adjacent incompatible uses. In addition, standards for setbacks and screening, performance standards for noise, vibration, light and glare, odors, and radiation are also included in the City's Zoning and Development Code, but not addressed in the Specific Plan. Specifically, the standards for land use compatibility, as contained in Sections 30-150 and 30-196, Land Use Compatibility for Residential and Commercial and Mixed Use Zoning Districts, of the City's Zoning and Development Code, state:

- (a) Open space buffer. Landscaped parkways, parking lots and similar open space areas will be used as appropriate to separate commercial and mixed uses from potentially incompatible uses. The width and treatment of the open space buffer*

Section 4.2: Land Use and Planning

will vary depending upon the types of potential conflicts to be resolved. To soften visual impacts, the open space buffer should include landscaping.

- (b) Topography. Grading plans will incorporate natural earth forms and graded earthen berms as appropriate to create visual screens and to buffer noise.*
- (c) Streets. Street design and site access shall be configured to prevent through commercial traffic from using adjacent residential streets. Features such as medians which restrict turning movements can discourage such through traffic.*
- (d) Landscaping. Landscaping shall be used alone or in conjunction with other features (e.g., open space buffer, topography) to reduce potential visual and light and glare conflicts.*
- (e) Physical barriers. Physical barriers such as masonry block walls shall be provided as specified in these regulations to reduce noise, visual, light and glare impacts. These barriers may also be used to restrict unwanted access between abutting land uses.*
- (f) Building orientation. All buildings shall be sited and oriented to reduce noise, light and glare, and other conflicts. For example, loading areas shall be located in areas where noise from such operations will not adversely impact adjacent residential uses.*
- (g) Infill development. Infill development in established commercial areas shall be especially sensitive to compatibility concerns and shall be developed in a manner sensitive to existing uses in terms of scale, design theme, etc."*

Compliance with these standards would avoid land use incompatibility between different land uses on the site.

The proposed *Arboretum Specific Plan* also proposes the adoption of Covenants, Conditions, and Restrictions (CC&Rs) for the maintenance, rehabilitation, and general upkeep of the private facilities, infrastructure systems and improvements on the project site. In addition, development regulations and design guidelines in the Specific Plan include setback, landscaping, walls, building separation, and lighting standards for future development under the Specific Plan.

Thus, compliance with the City's development standards and with the design guidelines in the proposed Specific Plan is expected to prevent land use conflicts and incompatibilities between differing land uses on the project site and with adjacent land uses.

Future developments adjacent to the site would be subject to review and approval for compliance with existing City regulations, including the development standards, performance standards, and design guidelines discussed above and other applicable regulations contained in the City's Zoning and Development Code. Compliance of future adjacent developments with applicable City development standards and design guidelines would provide buffers, barriers and other features that would prevent land use conflicts with on-site uses. Thus, no significant adverse impacts are expected in terms of land use compatibility.

Section 4.2: Land Use and Planning

Land use compatibility in terms of on-site noise, light, aesthetics, loading/unloading by delivery trucks, and other related impacts are also addressed in other sections of the EIR (see Section 4.6, *Noise*, Section 4.5, *Air Quality*, Section 4.4, *Transportation and Circulation*, and Section 4.14, *Visual Quality and Aesthetics*).

4.2.4 Standard Conditions and Mitigation Measures

Standard Conditions

Future development on the project site would lead to the location of commercial land uses near residential uses. The implementation of the following standard conditions would ensure that no land use incompatibility occurs:

Standard Condition 4.2.1: Future developments on the project site shall comply with the development and design standards in the Arboretum Specific Plan and the City's Zoning and Development Code for requirements not superseded by the Specific Plan.

Standard Condition 4.2.2: Future developments on the project site shall comply with the City's performance standards and the development policies for land use compatibility.

Mitigation Measures

Implementation of the standard conditions would prevent land use incompatibility associated with the adjacent location of differing land uses. No significant adverse impacts are expected and no mitigation measures are recommended.

4.2.4 Unavoidable Significant Adverse Impacts

The proposed Specific Plan is consistent with the main goals and policies of the Fontana General Plan and the of City's Zoning and Development Code. Potential conflicts between future land uses can be avoided by compliance with the Specific Plan's development standards and design guidelines and the City's applicable development standards. No conflict with regional plans is expected from the project. No unavoidable significant adverse impacts related to land use are expected.

Section 4.3: Population and Housing

4.3.1 Environmental Setting

Population

For the last two decades, growth and development within the City of Fontana have been significant and have outpaced that of the County of San Bernardino, as a whole. The City's rapid population growth can be attributed to land annexations, as well as the construction of large residential tracts at the northern and southern sections of the City, which have significantly increased the number of housing units and residents in Fontana.

The California Department of Finance population estimates for the City of Fontana and the County of Bernardino are provided in Table 4.3-1, *Population Growth*.

TABLE 4.3-1
POPULATION GROWTH

Year	City of Fontana	Annual Growth	San Bernardino County	Annual Growth
1970	20,673		684,072	
1980	37,111	7.9%	895,016	3.1%
1990	87,535	13.6%	1,418,380	5.8%
2000	128,928	4.7%	1,710,139	2.1%
2001	133,577	3.6%	1,747,822	2.2%
2002	140,332	5.1%	1,794,507	2.7%
2003	146,577	4.5%	1,842,904	2.7%
2004	155,749	6.3%	1,897,950	3.0%
2005	160,015	2.7%	1,946,202	2.5%
2006	165,462	3.4%	1,991,829	2.3%
2007	181,640	9.8%	2,028,013	1.8%

Source: California Department of Finance, 2007

The project site is currently undeveloped, with the recent burning of a single-family residence at the northwestern corner of the site. This residence is expected to have housed approximately 4 persons, based on the City's average household size for 2007.

Housing

Historic population growth in the City has been accompanied by an increase in its housing stock. From 1980 to 1990, the City's housing stock more than doubled (an increase of 15,443 units) from 13,940 units in 1980 to a 1990 total of 29,383 units. From 1990 to 2000, the housing stock of Fontana rose from 29,383 units to 35,495 units by 2000, a 21-percent increase.

The City's 2007 housing stock of 48,075 housing units includes 38,243 single-family detached residences (or 79.5 percent of the housing stock), 1,208 single-family attached homes (2.5 percent), 1,644 dwelling units within small multi-family developments consisting of 2 to 4 units (3.4 percent), 5,821 units within large multi-family development projects with 5 units or more (12.1 percent), and 1,159 mobile homes (2.4 percent). As of January 2007, approximately 45,544 housing units were occupied and 2,528 units were vacant (translating to a 5.26-percent vacancy rate). The average household size is estimated at 3.976 persons per household.

Section 4.3: Population and Housing

As stated, there was one-single family residence located at the northwestern corner of the site. There are no other existing housing units on or abutting the project site; however, foundation remains of residences that may have been present on-site in the past are found along the SCE easement and at the southwest corner of Duncan Canyon Road and Sierra Avenue.

There is a single-family residence north of the project site on Sierra Avenue; another residence on Sierra Avenue, southeast of the site. Single-family homes within the Las Colinas residential community in the City of Rialto are located farther east of the site beyond the City boundaries, the Sierra Lakes community is found to the south (south of Summit Avenue), and the Shady Trails residential development was recently constructed southwest of the site (across Citrus Avenue).

Employment

The largest employer in the City of Fontana is the Kaiser Hospital/Medical Group with approximately 5,000 employees. Other large employers include Target Distribution, TAB Warehouse, Forged Metal, and other industrial uses. The largest labor market in the San Bernardino/Riverside area (where the City of Fontana is located) is the Services and Retail Trade sectors.

According to the California Employment Development Department, the City had an estimated 2000 labor force of 53,200 persons, of which 50,500 persons are employed. Jobs within the Riverside-San Bernardino area are primarily in the wholesale and retail sales, services, and government sectors. As of March 2007, the City had an estimated labor force of 65,700 persons, of which 62,500 persons are employed. The City's unemployment rate is 4.9 percent, which decreased slightly from the November 2005 rate of 5.1 percent and is slightly higher than the San Bernardino County unemployment rate for March 2007 of 4.7 percent.

In January 2008, the City had an estimated labor force of 64,200 persons, of which 60,000 persons were employed. The City's unemployment rate is 6.6 percent, which is still slightly higher than the San Bernardino County unemployment rate of 6.3 percent for the same period. The City's resident labor force are primarily holding jobs in sales and office occupations, in management, professional, and related occupations and in production, transportation, and material moving occupations within the manufacturing, retail trade, and educational services, and health care, and social assistance sectors. Approximately 65.5% percent worked in San Bernardino County, with 21.5 % working within the City of Fontana.

The project site currently does not support commercial or industrial uses, which generate jobs. There are no employees or businesses on the project site. Maintenance personnel for the SCE, SCG, and MWD lines come to the project area for regular inspection activities.

Projections

The Southern California Association of Governments (SCAG) has developed regional projections for growth by city in the region. These projections are provided in Table 4.3-2, *Regional Projections*. As shown, the City of Fontana is expected to have 240,650 residents, 66,323 households in housing units, and 54,488 jobs by the year 2030. This translates to a population growth of 32.5 percent from the 2007 population and a 38-percent growth in housing stock within the next 23 years. The City's population, housing stock, and employment base would also

Section 4.3: Population and Housing

represent 8.8 percent of the County's total population; 7.4 percent of the County's total households; and 4.6 percent of the County's employment base by 2030.

TABLE 4.3-2
REGIONAL PROJECTIONS

Year	Fontana			County		
	Population	Households	Employment	Population	Households	Employment
2005	160,015	39,400	32,530	1,946,202	567,172	669,028
2010	179,426	45,291	37,661	2,059,420	618,782	770,877
2015	195,373	50,391	41,758	2,229,700	686,584	870,491
2020	211,105	55,669	45,954	2,397,709	756,640	972,243
2025	226,186	60,955	50,186	2,558,729	826,669	1,074,861
2030	240,650	66,323	54,488	2,713,149	897,739	1,178,890

Source: SCAG Growth Forecasts, 2004.

4.3.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on population and housing, if its implementation results in any of the following:

- ◆ Induces substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- ◆ Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- ◆ Displaces substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.3.3 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would lead to the construction of new housing units on the site, resulting in an increase in the City's housing stock and resident population. The proposed schools and activity center would also generate jobs for the local community.

Population Growth (*Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*)

Population

Future development on the site would lead to as many as 3,526 new dwelling units. Full occupancy of the 3,526 dwelling units proposed on the site would increase the City's resident population by approximately 14,019 residents, based on the City's 2007 average household size of 3.976 persons per household. This would increase the City's 2007 resident population of 181,640 residents by 7.7 percent to 195,659 residents.

While the project would increase the local population, the increase in population itself is not considered a significant adverse impact. Rather, demand for goods and services that may be created by the new residents could indirectly lead to impacts. Commercial goods and services would be provided by the development of the Commercial Activity Center at the site, as well as

Section 4.3: Population and Housing

existing and proposed commercial developments on Sierra Avenue, Duncan Canyon Road, and along the SR-210 and I-15 Freeways northwest and south of the site. Demand for public services and impacts of future development on these services are discussed in Section 4.11, *Public Services and Recreation*. Demands for utility services are discussed in Section 4.12, *Utilities*. Direct Impacts related to the increase in residents in the area are expected to be less than significant.

Housing

Future development on the site would include as much as 3,526 residential units within four villages. These housing units would include large- and small-lot single-family detached units, high density single-family detached units, and attached condominium units. The future housing units on the site would increase the City's housing stock and contribute to population and housing growth in the City. The 3,526 new housing units would represent a 7.3-percent increase in the City's 2007 housing stock of 48,075 units. These new residences would help meet the City's future housing need of moderate and upper income households within the City. This is not considered a significant adverse impact.

Employment

The proposed schools, activity center, and recreational uses planned on the site would serve the residential villages and would meet the demand for these services created by the residents of the project and surrounding developments.

The proposed schools and activity center would lead to job creation. The jobs that would be generated by these uses could be filled by residents of the site, of the City, or of the surrounding communities. Based on current employee counts at the schools of the Fontana Unified School District, estimates of the potential employment generation from the proposed schools at site are approximately 58 employees at each elementary school and 78 employees at the middle school, for a total 194 school employees. In addition, another 192 jobs are expected from the proposed commercial activity center at the site, based on one employee for every 500 square feet of commercial floor area and a development potential of 95,832 square feet of gross floor area. Thus, a total of 386 employment positions could be generated by the project.

These jobs can be filled by the City's unemployed labor force (4,200 persons) or others in the region; thus, increasing employment opportunities in the City and the County. In addition, these jobs would improve jobs-housing balance in the area. The on-site jobs can also reduce commutes by local residents to urban areas in Los Angeles and Orange counties. No significant adverse impact on employment is expected.

In addition, short-term construction employment would also be generated when the project is under construction at various times. The number of persons that would be employed as part of the construction crew for the project would be highly dependent on the contractor and the construction schedule. These employees would be temporarily on-site during the different phases of development and are not expected to generate a permanent demand for housing, goods, or services in the surrounding area. Thus, no indirect change in the population and housing of the City or the surrounding area is expected with the presence of construction crews on-site. Impacts associated with demand for goods and services from construction crews are expected to be short-term and would be met by commercial uses near the site. Impacts are expected to be less than significant.

Section 4.3: Population and Housing

Infrastructure

The project would include construction and improvement of roadways and utility infrastructure systems on and near the site. The availability of utility infrastructure in the project area could induce the development of adjacent vacant lands. However, the need for utility line upgrades or costs to pay for new service would still have to be paid by individual developments and future developments connecting to the water, sewer, storm drain, power, gas, telephone and cable lines would pay development impact fees to the City, the West Valley Water District, or other utility agencies. The reduction in the costs of the utility infrastructure extensions that would be provided by the project may reduce development costs of adjacent vacant lands and thus, induce growth. This is discussed further in Section 7.0, *Growth-Inducing Impacts*.

Regional Projections

Future development under the proposed Specific Plan would not adversely affect population, housing and employment growth in the City and would not contribute to any exceedance of population, housing and employment projections.

The 14,019 residents that are expected to occupy the housing units proposed on the site would lead to an increase in the City's resident population. The on-site population would represent 17.4 percent of the projected 25-year population increase in the City between 2005 and 2030 (80,635 new residents). Thus, the project would be consistent with regional population growth forecasts.

The 3,526 residential units that would be built on the site would increase the City's housing stock. The dwelling units that would be built on the project site would represent 13.1 percent of the projected 25-year housing growth in the City between 2005 and 2030 (26,923 new housing units). Thus, the project would be consistent with regional housing growth forecasts.

The approximately 386 jobs that could be created by future schools and commercial activity center would be filled by the local workforce and residents of surrounding communities and within the region. The increase in employment would represent 1.8 percent of the anticipated job growth in the City between 2005 and 2030 (21,958 jobs). Thus, the project would be consistent with regional employment growth forecasts.

No exceedance of population, housing and employment projections would occur with the project and no significant adverse impact is expected. With the 386 jobs created, improvements to the City's unemployment rate and jobs-housing balance would also occur.

The Regional Housing Needs Assessment (RHNA) was recently updated and the RHNA housing allocation shows an existing housing need of 17,655 units for the City of Fontana and a future housing need of 5,699 units for the 2006 to 2014 planning period. The 3,526 new residential units that would be built on the site would help meet the City's regional housing needs and would represent 61.9% of the City's total regional allocation. No conflict with the RHNA is expected.

The Fontana General Plan anticipates buildout of the City to include a total housing stock of 55,986 units, with as many as 215,001 residents. Development under the proposed Specific Plan would represent 6.3 percent of the City's housing stock and 6.5 percent of the City's resident population at buildout.

Section 4.3: Population and Housing

Under the current land use designations for the site, as much as 2,455 dwelling units and 3,904 jobs would be created, as shown in Table 4.3-3, *Change in Development Capacity*. This assumes that 25% of the RMU area is developed at 18 units per acre; R-PC areas are developed at 5.9 units per acre; CC areas are developed at FAR 0.25 with one employee per 500 square feet; 75 % of RMU areas are developed with retail, office and light industrial uses at a FAR of 0.25 with one employee per 500 square feet.

TABLE 4.3-3
CHANGE IN DEVELOPMENT CAPACITY

Current Land Use Designation	Area	Capacity	Proposed Land Use Designation	Area	Capacity
RMU	185.7 acres	836 du 2831 jobs	R-MF	394.6 acres	7,103 du
R-PC	274.4 acres	1619 du	PUC	31.2 acres	--
CC	40 acres	871 jobs	CC	8.8 acres	192 jobs
PUC	31.2 acres	--	Streets	96.7 acres	--
Total	531.3 acres		Total	531.3 acres	
du – dwelling units					

This is 4,648 units less and 3,712 jobs more than the capacity of the proposed land use designations. It is also 1,071 dwelling units less and 3,518 jobs less than the development anticipated under the proposed Specific Plan.

While a change in buildout capacity would occur due to the proposed General Plan Amendment, the change in housing (1,071 units or 1.9% more) and population (4,258 residents or 2.0% more) capacity would represent a minor amount of the City's total housing and population capacity. The decrease in employment capacity (3,518 jobs less) is also only 6.4% of 2030 projections for the City. No significant adverse impact to the City's future population, housing stock, and employment base are anticipated to occur with implementation of the proposed Specific Plan.

The proposed development is not expected to induce substantial development in the area since adjacent areas were planned for development prior to or at the same time the proposed Specific Plan was submitted to the City for review and approval. Thus, development of nearby vacant areas are likely to occur before and concurrent with the development of the *Arboretum Specific Plan*. Additionally, the proposed roadway and infrastructure improvements that would be built on and near the site would serve the proposed development. Any growth-inducing impacts would be limited to the remaining "unplanned" areas north and southeast of the site, as discussed in greater detail in Section 7.0, *Growth Inducing Impacts*, of the EIR.

Housing Displacement (*Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*)

Since the existing residence at the site has burned down, there is no need to demolish it as part of the project, and the current residents have relocated off-site. Housing displacement is not expected to occur with future development on the site. The loss of one residence at the site would also be replaced by the development of 3,526 new housing units on the site, for a net increase of 3,525 units. No significant adverse impact related to housing displacement is expected.

Section 4.3: Population and Housing

Population Displacement (*Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*)

Since the residents of the former on-site residence have left, no population or household displacement is expected with future development under the proposed Specific Plan. No impact is expected.

There are no existing businesses or employees located at the project site. Thus, no displacement of businesses or employees would occur. No impact is expected.

4.3.4 Standard Conditions and Mitigation Measures

No significant adverse impact on population and housing is expected with implementation of the proposed Specific Plan. Thus, no standard conditions or mitigation measures are identified.

4.3.5 Unavoidable Significant Adverse Impacts

Increases in housing stock, population, and employment associated with future development under the proposed *Arboretum Specific Plan* are not expected to generate significant adverse impacts. Thus, no unavoidable significant adverse impacts on population and housing are expected.

Section 4.4: Transportation and Circulation

A Traffic Study, dated March 2008, has been prepared by Meyer, Mohaddes Associates to estimate trip generation associated with future development under the proposed *Arboretum Specific Plan* and to determine potential impacts on traffic and circulation that may occur on local intersections and roadway segments in the project area. The findings of the traffic study are summarized below, and the complete traffic study is provided in Appendix C of this EIR.

4.4.1 Environmental Setting

Roadway Network

Primary vehicular access to the project site is currently provided by Citrus Avenue to the west and Sierra Avenue to the east. The Interstate 15 (Ontario Freeway) is located north of the site, with on- and off-ramps at Sierra Avenue approximately 0.5 mile to the northeast. The State Route 210 (Foothill Freeway) is located approximately 1.5 miles south of the site.

I-15 (Ontario) Freeway runs in a northeast-southwest direction and has four travel lanes in each direction near the site. The I-15 Freeway provides regional access to the project area, and extends south to San Diego and north to Barstow and the Las Vegas area. Located just northwest of the project site, the I-15 Freeway has interchanges at Baseline Road, Beech/Summit Avenue, Sierra Avenue, Glen Helen Parkway, and at the SR-210 Freeway junction. The California Department of Transportation (Caltrans) is currently planning construction of high-occupancy vehicle (HOV) lanes in the median of the I-15 Freeway and a new interchange at Duncan Canyon Road. The I-15 Freeway segment between Summit and Sierra Avenues carried approximately 139,000 vehicles per day in 2005, with 9,900 vehicles during the peak hour. The I-15 Freeway is part of the CMP system.

Duncan Canyon Road runs in an east-west direction within the northern portion of the City. Duncan Canyon Road is a two-lane road west of the site, but is undeveloped through the site. It is designated in the City's Circulation Master Plan as Major Highway from Coyote Canyon Road to the I-15 Freeway and from the freeway to approximately 1,000 feet of Citrus Avenue (at the future realignment of Lytle Creek Road) and as a Primary Highway east to Citrus Avenue. Within the site (east of the Duncan Canyon Road and Citrus Avenue intersection), this road is classified as a Secondary Highway. Duncan Canyon Road would be constructed as a four-lane roadway through the project site. It is designated as a Primary Highway west of the site and as a Collector Street east of the site.

Citrus Avenue is a north-south roadway located at the northern section of the City, with two undivided travel lanes near the project site, but with four lanes south of Casa Grande Avenue. This roadway provides access to the SR-210 to the south, and runs along the project site's western boundary. In the City's Circulation Master Plan, Citrus Avenue is designated as a Primary Highway along the site. It is also a CMP arterial.

Sierra Avenue is an existing north-south Major Highway extending through the City of Fontana from the I-15 Freeway at the northern border, south to Jurupa Avenue. Sierra Avenue serves as a primary roadway within and through the City and runs along the eastern boundary of the site. It is currently improved as a divided four- to six-lane arterial, with traffic signals at major intersections within the developed areas of the City, but remains a two-lane roadway along the site boundaries. In the City's Circulation Master Plan, Sierra Avenue is designated as a Major Highway along the site. It is also a CMP arterial.

Section 4.4: Transportation and Circulation

Cypress Avenue is a north-south arterial, which provides two travel lanes in each direction south of the SR 210 Freeway, except for approximately 1,400 feet north of Summit Avenue, where the western half of this street is developed. It is undeveloped north of Casa Grande Avenue and through the site. Cypress Avenue runs from the SR-210 Freeway to the southern end of the City at Jurupa Avenue. The City's Circulation Master Plan designates Cypress Avenue as a Secondary Highway through the site.

Casa Grande Avenue is a largely undeveloped roadway that is planned as a Secondary Highway along the southern boundary of the site, from Sierra Avenue to just east of Citrus Avenue. It is a two-lane roadway running east for approximately 500 feet from Citrus Avenue. It becomes Knox Avenue west of Citrus Avenue.

SR 210 (Foothill) Freeway is located approximately two miles south of the project site, with on- and off-ramps at Sierra Avenue and Citrus Avenue. It has six travel lanes between Citrus Avenue and Sierra Avenue, and ends at Alder Avenue, approximately one mile east of Sierra Avenue. This freeway runs in an east-west direction and carried approximately 66,000 vehicles per day in 2005, with 4,400 vehicles during the peak hour. The SR-210 Freeway is part of the CMP system.

Levels of Service (LOS)

The Level of Service (LOS) is a qualitative and quantitative measure used to describe the operational conditions within a traffic stream and a motorist's and/or passenger's perception of the roadway's performance. LOS is designated a letter from A to F, with LOS A representing free flowing traffic conditions; LOS B represents stable flow, more restrictions, operating speeds beginning to be affected by traffic volumes; LOS C represents stable flow, more restrictions, speed and maneuverability more closely controlled by higher traffic volumes; LOS D represents conditions approaching unstable flow, traffic volumes profoundly affect arterial flow; LOS E represents unstable flow, and some stoppages; and LOS F represents forced flow, many stoppages, and low operating speeds. LOS C is typically used as a design standard, while LOS D is considered acceptable for peak period operating conditions by most jurisdictions, including the City of Fontana. The Highway Capacity Manual Level of Service interpretation in terms of vehicle delay at signalized intersections is provided in Table 4.4-1, *Table 4.4-2, LOS Standards for Signalized Intersections*, below.

TABLE 4.4-1
LOS STANDARDS FOR SIGNALIZED INTERSECTIONS

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

Section 4.4: Transportation and Circulation

TABLE 4.4-1
LOS STANDARDS FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
		cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays at level D, where 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 (i.e. SANBAG) 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 (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 high delay levels.

Source: Highway Capacity Manual, 2000.

The Level of Service (LOS) criteria for unsignalized intersections is different and is defined in Table 4.4-2, *LOS Standards for Unsignalized Intersections*.

TABLE 4.4-2
LOS STANDARDS FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS)	Control Delay per vehicle (seconds/vehicle)	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.

Roadway performance is controlled by the performance of intersections, and more specifically, intersection performance during peak traffic periods. This is because traffic control at intersections interrupts traffic flow that would otherwise be relatively unimpeded. For this reason, existing peak hour operating conditions were evaluated for study intersections in the project area. The criteria above are used in determining the level of service and operational conditions at the study intersections during the morning (AM) and afternoon (PM) peak hours. Levels of service for freeway segments are determined by the volume-to-capacity (v/c) ratio on the segment. Table 4.4-3, *Freeway LOS Standards*, provides these standards.

Section 4.4: Transportation and Circulation

TABLE 4.4-3
FREEWAY LOS STANDARDS

Level of Service (LOS)	V/C Ratio	Description
A	≤ 0.6	Little or no delay
B	> 0.6 and ≤ 0.7	Short traffic delays
C	> 0.7 and ≤ 0.8	Average traffic delays
D	> 0.8 and ≤ 0.9	Long traffic delays
E	> 0.9 and ≤ 1.0	Very long traffic delays
F	> 1.0	Severe congestion

Source: San Bernardino County CMP, 2004.

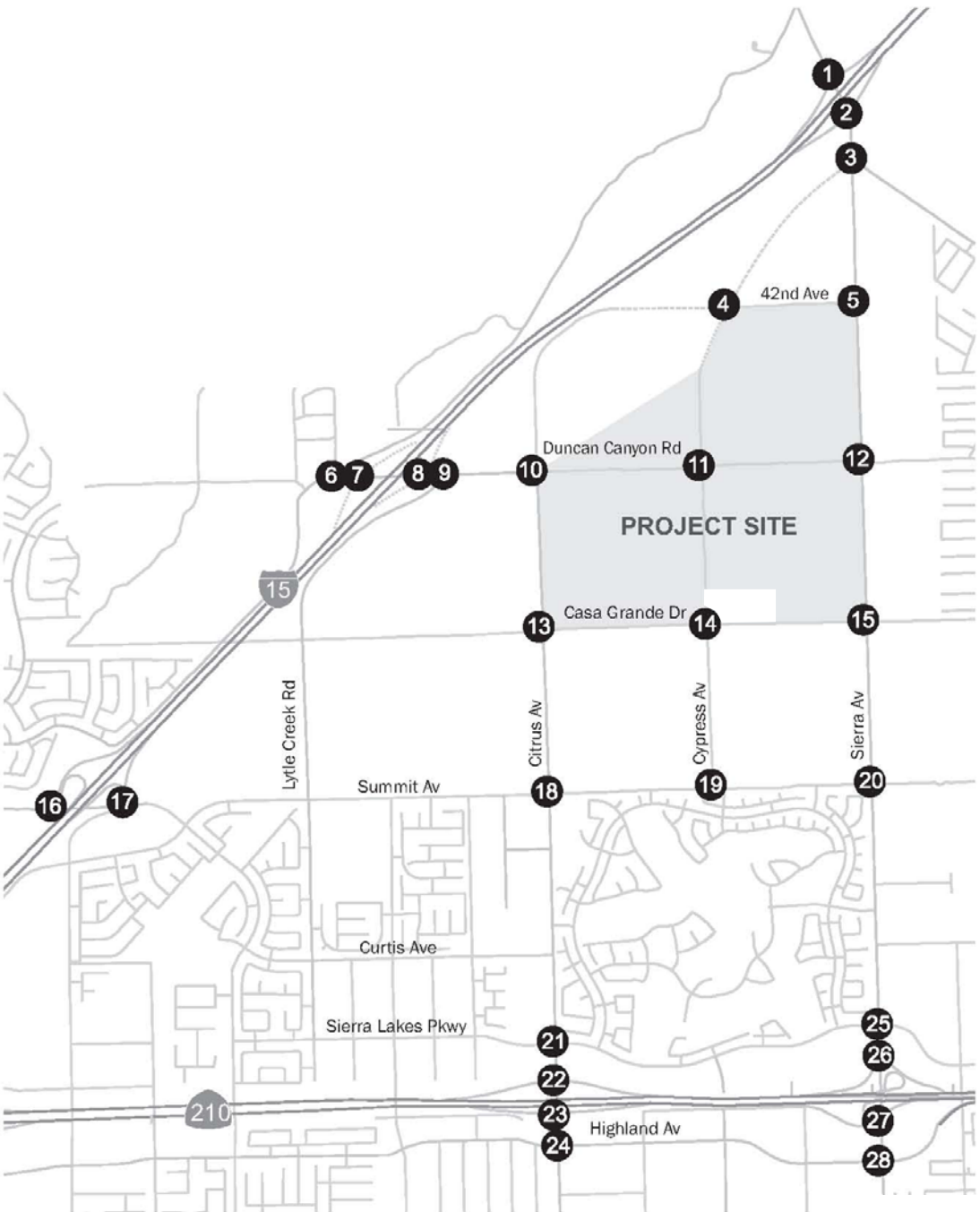
Roadway Intersections

The Traffic Study analyzed a total of 28 study intersections within the project area. The study area was determined utilizing data from SCAG's Comprehensive Transportation Plan (CTP) travel demand model. Additionally, new Traffic Analysis Zones (TAZ) were added to the model to represent each village within the site. The study area was also determined in consultation with City staff to include key intersections which would likely be affected by future development on the project site. The following key intersections are included in the study area:

1. Sierra Avenue and I-15 Southbound Ramps
2. Sierra Avenue and I-15 Northbound Ramps
3. Sierra Avenue and Riverside Avenue
4. Cypress Avenue and Grapeland Street
5. Sierra Avenue and Grapeland Street
6. Lytle Creek Road (W) and Duncan Canyon Road
7. I-15 Southbound Ramps at Duncan Canyon Road
8. I-15 Northbound Ramps at Duncan Canyon Road
9. Lytle Creek Road (E) and Duncan Canyon Road
10. Citrus Avenue and Duncan Canyon Road
11. Cypress Avenue and Duncan Canyon Road
12. Sierra Avenue and Duncan Canyon Road
13. Citrus Avenue and Casa Grande Avenue
14. Cypress Avenue and Casa Grande Avenue
15. Sierra Avenue and Casa Grande Avenue
16. I-15 Southbound Ramps and Beech Avenue
17. I-15 Northbound Ramps and Beech Avenue
18. Citrus Avenue and Summit Avenue
19. Cypress Avenue and Summit Avenue
20. Sierra Avenue and Summit Avenue
21. Citrus Avenue and Sierra Lakes Parkway
22. Citrus Avenue and SR-210 Westbound Ramps
23. Citrus Avenue and SR-210 Eastbound Ramps
24. Citrus Avenue and Highland Avenue
25. Sierra Avenue and Sierra Lakes Parkway
26. Sierra Avenue and SR-210 Westbound Ramps
27. Sierra Avenue and SR-210 Eastbound Ramps
28. Sierra Avenue and Highland Avenue

Figure 4.4-1, *Study Intersections*, and Figure 4.4-2, *Existing Intersection Lane Configuration*, show the roadway network and geometrics at the study intersections.

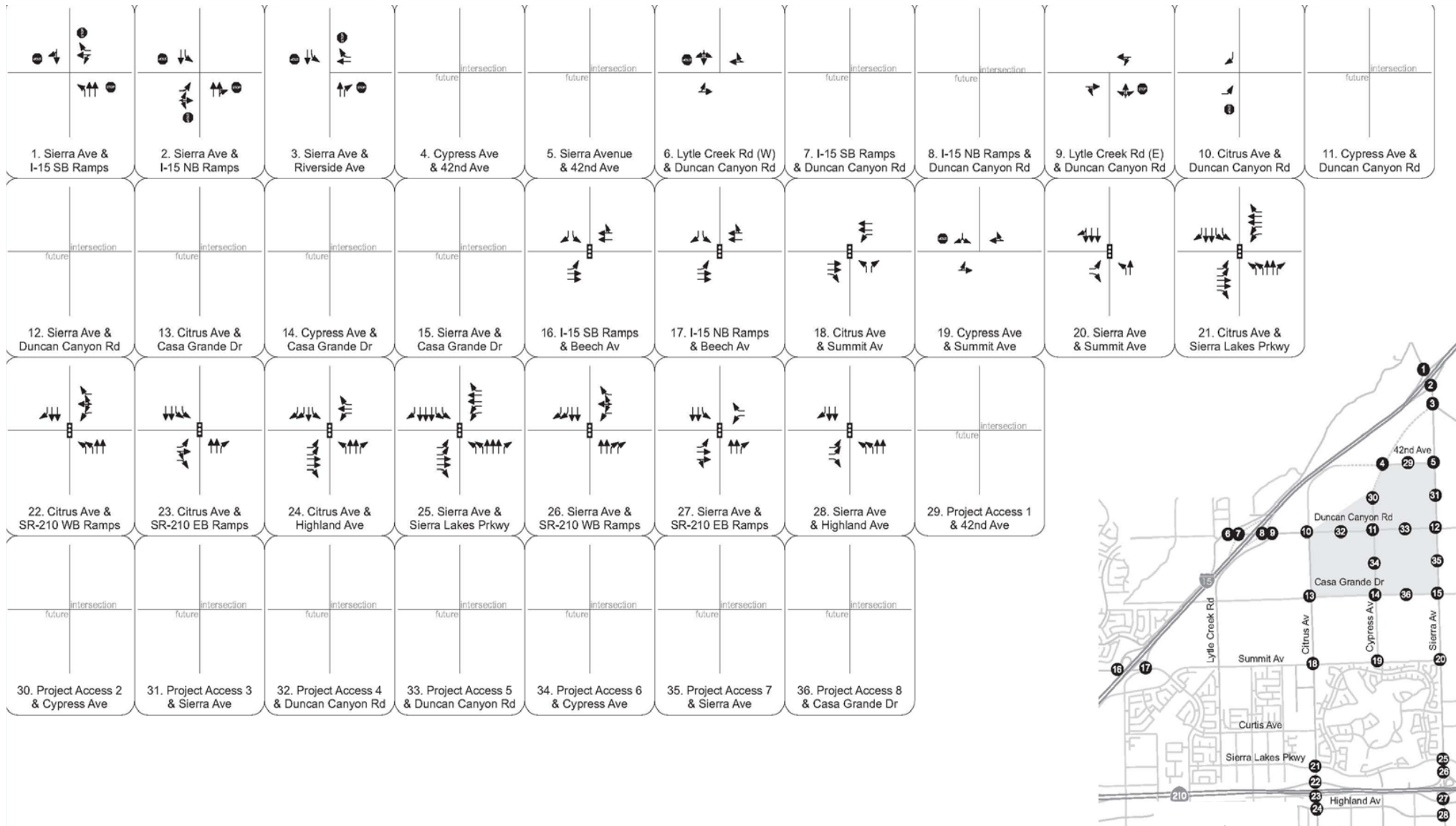
Figure 4.4-1
Study Intersections



Arboretum Specific Plan
City of Fontana



**Figure 4.4-2
Existing Intersection Lane Configurations**



**Arboretum Specific Plan
City of Fontana**

Section 4.4: Transportation and Circulation

Freeway Segments

The Traffic Study also analyzed freeway segments within five miles of the project site where the proposed Specific Plan would contribute 100 vehicle trips per day or more, in accordance with the San Bernardino County Congestion Management Program (CMP) Traffic Impact Analysis guidelines. The freeway segments which meet these criteria include the following:

I-15 Freeway segments –

- Foothill Boulevard to Baseline Road
- Baseline Road to SR-210
- SR-210 to Summit Avenue
- Summit Avenue to Duncan Canyon Road
- Sierra Avenue to Glen Helen Parkway

SR-210 Freeway segments –

- Day Creek Boulevard to I-15 Freeway
- I-15 Freeway to Citrus Avenue
- Citrus Avenue to Sierra Avenue
- Sierra Avenue to Alder Avenue
- Alder Avenue to Ayala Avenue
- Ayala Avenue to Riverside Avenue
- Riverside Avenue to Pepper Avenue

Existing Traffic Volumes and LOS

At present, there is limited traffic near the site, due to the largely vacant conditions of the site and the surrounding area. Peak period turning movement counts were conducted in September 2006 to obtain existing traffic volumes. In addition, peak hour traffic volumes on freeway segments were taken from data published by Caltrans.

Table 4.4-4, *Existing Intersection LOS*, provides the existing peak hour LOS, delay and v/c ratios at the study intersections, and Figure 4.4-3, *Existing Peak Hour Volumes*, shows the peak hour turning volumes at each intersection.

TABLE 4.4-4
EXISTING INTERSECTION LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Sierra Avenue and I-15 Southbound Ramps**	D	34.7	0.930	E	37.9	0.982
2. Sierra Avenue and I-15 Northbound Ramps**	F	33.7	1.015	F	55.9	1.084
3. Sierra Avenue and Riverside Avenue**	F	87.4	1.266	D	31.8	0.866
4. Cypress Avenue and Grapeland Street	<i>Future Intersection</i>					
5. Sierra Avenue and Grapeland Street	<i>Future Intersection</i>					
6. Lytle Creek Road (W) and Duncan Canyon Road*	A	8.5	0.0	A	8.4	0.0
7. I-15 Southbound Ramps at Duncan Canyon Road	<i>Future Intersection</i>					
8. I-15 Northbound Ramps at Duncan Canyon Road	<i>Future Intersection</i>					
9. Lytle Creek Road (E) and Duncan Canyon Road*	A	8.6	0.0	A	8.7	0.0
10. Citrus Avenue and Duncan Canyon Road*	<i>Intersection Closed</i>					

Section 4.4: Transportation and Circulation

TABLE 4.4-4
EXISTING INTERSECTION LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
11. Cypress Avenue and Duncan Canyon Road	<i>Future Intersection</i>					
12. Sierra Avenue and Duncan Canyon Road	<i>Future Intersection</i>					
13. Citrus Avenue and Casa Grande Avenue	<i>Future Intersection</i>					
14. Cypress Avenue and Casa Grande Avenue	<i>Future Intersection</i>					
15. Sierra Avenue and Casa Grande Avenue	<i>Future Intersection</i>					
16. I-15 Southbound Ramps and Beech Avenue	C	21.0	0.676	B	16.9	0.551
17. I-15 Northbound Ramps and Beech Avenue	B	20.0	0.497	C	23.7	0.663
18. Citrus Avenue and Summit Avenue	B	19.4	0.242	B	18.3	0.169
19. Cypress Avenue and Summit Avenue*	<i>Future Intersection</i>					
20. Sierra Avenue and Summit Avenue	B	18.0	0.208	B	19.8	0.191
21. Citrus Avenue and Sierra Lakes Parkway	C	24.9	0.421	C	20.5	0.388
22. Citrus Avenue and SR-210 Westbound Ramps	B	17.0	0.581	B	12.0	0.227
23. Citrus Avenue and SR-210 Eastbound Ramps	B	18.0	0.525	B	19.3	0.501
24. Citrus Avenue and Highland Avenue	C	24.9	0.456	C	21.4	0.454
25. Sierra Avenue and Sierra Lakes Parkway	C	26.8	0.492	C	26.2	0.363
26. Sierra Avenue and SR-210 Westbound Ramps	A	2.6	0.429	A	2.2	0.281
27. Sierra Avenue and SR-210 Eastbound Ramps	D	47.7	0.905	E	67.6	0.882
28. Sierra Avenue and Highland Avenue	B	19.9	0.718	B	12.3	0.486
LOS= Level of Service						
Delay= Average Vehicle Delay (Seconds)						
V/C= Volume-to-Capacity Ratio						
*Delay for stop-controlled approach. V/C not applicable.						
**All-way stop controlled intersection.						
Source: Meyer, Mohaddes Associates, 2008.						

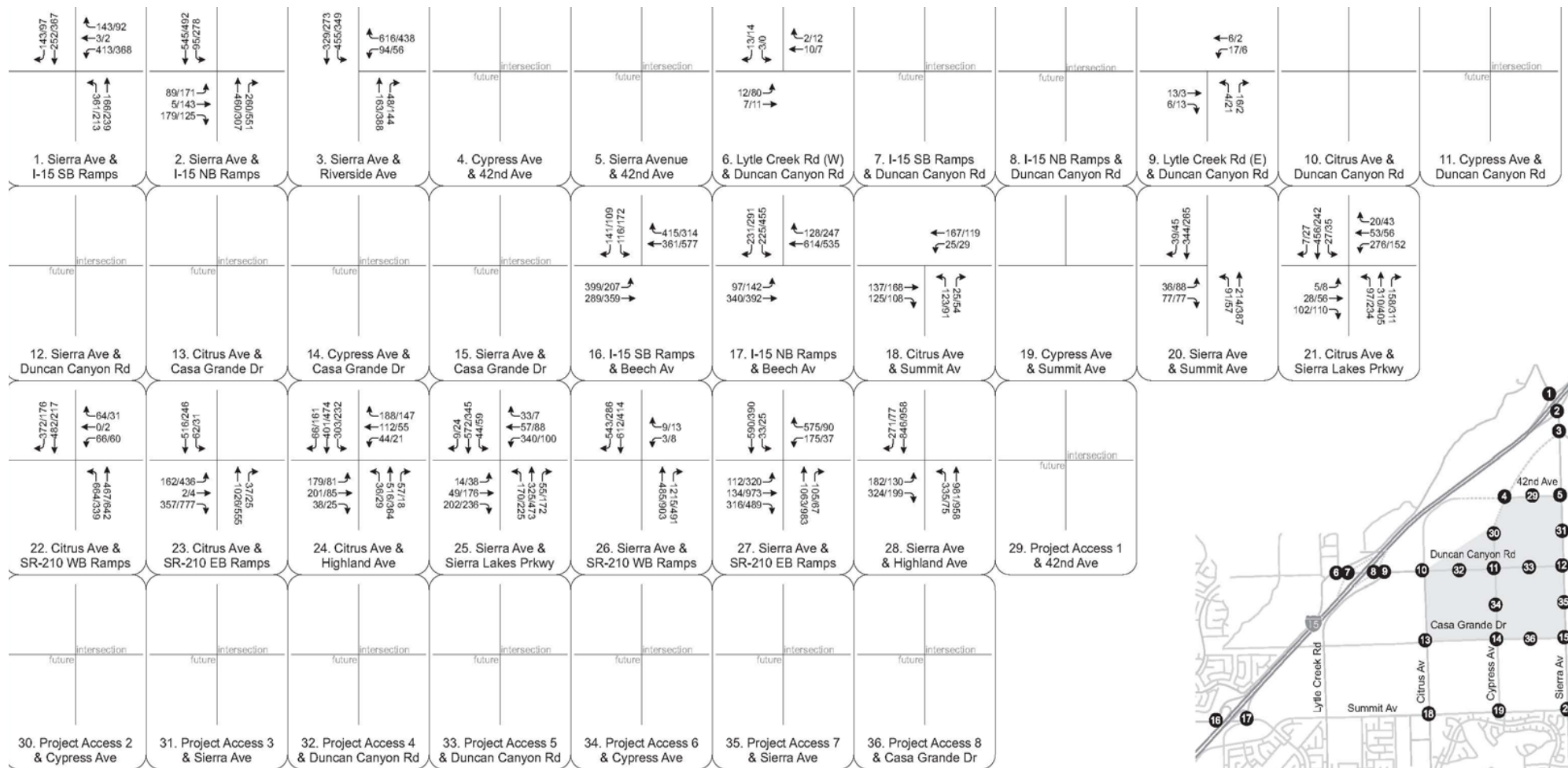
As shown above, most study intersections operate at acceptable LOS (LOS C or better) during the AM and PM peak hours. However, the following intersections operate at unacceptable levels of service (LOS E and F) under existing conditions:

- Sierra Avenue and I-15 Southbound Ramps (LOS D/E during AM and PM Peak Hours)
- Sierra Avenue and I-15 Northbound Ramps (LOS F during AM and PM Peak Hours)
- Sierra Avenue and Riverside Avenue (LOS F/D during AM and PM Peak Hours)
- Sierra Avenue and SR-210 Eastbound Ramps (LOS D/E during AM and PM peak hours)

Existing Freeway LOS

The existing freeway traffic volumes and LOS are presented in Table 4.4-5, *Existing Freeway Segment LOS*. As shown, all freeway study segments currently operate at acceptable conditions (LOS E or better) during the AM and PM peak periods.

Figure 4.4-3 Existing Peak Hour Volumes



[a.m. volume] / [p.m. volume]



**Arboretum Specific Plan
City of Fontana**

Section 4.4: Transportation and Circulation

TABLE 4.4-5
EXISTING FREEWAY SEGMENT LOS

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 Northbound									
Foothill Blvd. to Baseline	4	0	9,200	4,807	.52	A	8,012	.87	D
Baseline to SR-210	5	0	11,500	4,202	.37	A	7,003	.61	B
SR-210 to Summit Ave.	5	0	11,500	3,937	.34	A	6,561	.57	A
Summit to Duncan Canyon	4	0	9,200	3,748	.41	A	6,246	.68	B
Sierra Avenue to Glen Helen	3	0	6,900	3,748	.54	A	6,246	.91	E
I-15 Southbound									
Glen Helen to Sierra Avenue	3	0	6,900	5,621	.81	D	4,164	.60	B
Duncan Canyon to Summit	4	0	9,200	5,621	.61	B	4,164	.45	A
Summit Ave. to SR-210	5	0	11,500	5,905	.51	A	4,374	.38	A
SR-210 to Baseline Road	5	0	11,500	6,303	.55	A	4,669	.41	A
Baseline to Foothill Blvd.	4	0	9,200	7,211	.78	C	5,342	.58	A
SR-210- Eastbound									
Day Creek to I-15	3	1	8,500	4,224	.50	A	5,736	.67	B
I-15 to Citrus Avenue	3	1	8,500	2,050	.24	A	2,784	.33	A
Citrus to Sierra Avenue	3	1	8,500	1,615	.19	A	2,193	.26	A
Sierra to Alder Avenue	3	1	8,500	476	.06	A	647	.08	A
Alder to Ayala Avenue	Not Yet a Freeway								
Ayala to Riverside Avenue	Not Yet a Freeway								
Riverside to Pepper Avenue	Not Yet a Freeway								
SR-210 Westbound									
Pepper to Riverside Avenue	Not Yet a Freeway								
Riverside to Ayala Avenue	Not Yet a Freeway								
Ayala to Alder Avenue	Not Yet a Freeway								
Alder to Sierra Avenue	3	1	8,500	582	.61	B	529	.06	A
Sierra to Citrus Avenue	3	1	8,500	1,974	.63	B	1,794	.21	A
Citrus Avenue to I-15	3	1	8,500	2,505	.07	A	2,278	.27	A
I-15 to Day Creek	3	1	8,500	5,163	.07	A	4,693	.55	A
SOV= Single Occupancy Vehicle V/C= Volume-to-Capacity Ratio Source: Meyer, Mohaddes Associates, 2008.									
HOV= High Occupancy Vehicle, LOS= Level of Service									

Truck Routes

Designated truck routes in north Fontana near the site include the I-15 and SR-210 freeways, Sierra Avenue, and Riverside Avenue.

Public Transit

Omnitrans provides public bus services to the City of Fontana, as well as the east and west valleys of San Bernardino County. This agency is financed through State Transit Development Act and Urban Mass Transit Funds and serves as a joint powers agency for the County of San Bernardino and all cities within its service area. Several bus routes serve the City of Fontana, connecting

Section 4.4: Transportation and Circulation

major commercial and residential developments with various public facilities and government centers.

Omnitrans Bus Routes 10, 67, 66, 140, 15, 20, 61, 90, 28, 71, and 29 currently run through the City of Fontana. However, the project site is not served by public bus transit due to the largely undeveloped condition of the site and the surrounding area. The closest existing bus routes are Route 22 and Route 67.

Route 22 provides north-south service in the City of Rialto, and Route 67 provides east-west service between the cities of Fontana and Ontario. Route 22 runs along Riverside Avenue, Live Oak Avenue, and Terra Vista Drive within the Las Colinas neighborhood in the City of Rialto and extends south to the I-10 Freeway. Route 22 has 20-minute headways on weekdays from 4:40 AM to 10:40 PM, with Saturday service every 20 minutes between 7:40 AM and 7:10 PM, and Sunday service every 45 minutes from 6:55 AM to 7:25 PM. The Route 22 stop at Terra Vista/Live Oak in City of Rialto averages approximately 53 on and 86 off on weekdays.

Route 67 provides service every hour seven days a week on weekdays between 5:35 AM to 8:28 PM and between 6:35 AM to 7:25 PM. The Route 67 stop on Baseline/Citrus averages approximately 13 boardings on weekdays. Route 140 also runs from Chaffey College in Rancho Cucamonga to the Metrolink Station in the City of Fontana through Baseline Avenue during the peak hours.

Omnitrans' 2006-11 Short Range Transit Plan (SRTP) does not indicate any proposed fixed-route transit services to the site. The SRTP does include the provision of a community shuttle in North Fontana, which can provide connections to major destinations in the City. Omnitrans and the City of Fontana are working on a future fixed-route service for North Fontana as more development occurs in the area.

Alternative Transportation

There are no airports or airstrips near the project site. The Rialto Municipal Airport is located within the City of Rialto, approximately 2.3 miles southeast of the project site. The Ontario International Airport is the nearest commercial airport, located approximately 10.0 miles southwest of the site.

The nearest railroad tracks to the project site run parallel and south of Arrow Highway, approximately 4.5 miles south of the site. These tracks are used by the Metrolink commuter trains, with a station located in the downtown area of the City of Fontana at 16777 Orange Way, just west of Sierra Avenue. The trains make 11 round trips per weekday from downtown Los Angeles to downtown San Bernardino, eight round trips on Saturdays, and four round trips on Sundays.

Congestion Management Program

The Congestion Management Program (CMP) by the San Bernardino Association of Governments (SANBAG) addresses County-wide traffic congestion through an interrelation of transportation, land use, and air quality programs.

Section 4.4: Transportation and Circulation

The CMP sets level of service standards for the County's CMP-designated highway system and implements an enhanced transportation management program to ensure that the designated roadways and intersections meet set standards.

The CMP also outlines the requirements for Traffic Impact Analysis (TIA) needed for proposed development projects. However, cities that adopt a development impact fee (DIF) program consistent with the requirements of Measure I are exempt from the TIA requirements. The City of Fontana's DIF program is consistent with Measure I requirements, which requires the City to fund regional transportation projects through its DIF program. The analysis in the Traffic Study for the proposed Specific Plan follows the guidelines of the CMP.

4.4.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on traffic and circulation, if its implementation results in any of the following:

- Causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceeds, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Results in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Results in inadequate emergency access;
- Results in inadequate parking capacity; or,
- Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The City of Fontana has set a standard of LOS C for roadway segments and intersections in the City, with exceptions allowed at LOS D. The North Fontana Circulation Plan also sets the standard at LOS C, with LOS D allowed at freeway interchanges and select locations. The County CMP sets a standard of LOS E for intersections in the County's CMP-designated highway system and implements an enhanced transportation management program to ensure that the designated roadways meet this standard. When the CMP standards differ from the City standards, the CMP guidelines defer to the local agency standards.

4.4.3 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would generate new vehicle trips that would lead to increases in traffic volumes on local roadways and freeway arterials.

Traffic Increase and Roadway Capacity *(Would the project cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

Section 4.4: Transportation and Circulation

Trip Generation

Trip generation from future development on the site was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 7th Edition. Table 4.4-6, *Project Trip Generation*, summarizes daily, AM and PM peak hour trip generation from future developments proposed under the proposed project.

**TABLE 4.4-6
PROJECT TRIP GENERATION**

Land Use	Size	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	In	Out	Rate	Total	In	Out	Rate	Total
The Gardens											
Attached Condos	240 du	5.86	1,406	18	88	0.44	106	84	41	0.52	125
HD Detached SFR	335 du	9.57	3,206	63	188	0.75	251	213	125	1.01	338
Small Lot SFR	191 du	9.57	1,828	36	107	0.75	143	122	71	1.01	193
Large Lot SFR	140 du	9.57	1,340	26	79	0.75	105	89	52	1.01	141
Parks	9.7 ac										
Subtotal Gross Trips			7,780	143	462	-	605	507	290	-	797
The Meadows											
HD Detached SFR	266 du	9.57	2,546	50	150	0.75	200	169	99	1.01	269
Small Lot SFR	206 du	9.57	1,971	39	116	0.75	155	131	77	1.01	208
Large Lot SFR	111 du	9.57	1,062	21	62	0.75	83	71	41	1.01	112
Middle School	1,250 sts	1.62	2,025	364	298	0.53	663	98	90	0.15	188
Elementary School	700 sts	1.29	903	162	132	0.42	294	0	0	0.00	0
Subtotal Gross Trips			8,507	635	758		1,394	468	308		776
Internal Capture for MS (25%)			506	75	75	-	150	24	23	-	47
Internal Capture for ES (100%)			903	132	132	-	264	-	-	-	-
Subtotal Gross Trips			7,098	428	552	-	980	444	285	-	729
The Resort											
Attached Condo	943 du	5.86	5,526	71	344	0.44	415	329	162	0.52	490
HD Detached SFR	426 du	9.57	4,077	80	240	0.75	320	271	159	1.01	430
Small Lot SFR	94 du	9.57	900	18	53	0.75	71	60	35	1.01	95
Activity Center (retail)*	97 ksf	42.94	4,162	61	39	1.03	100	174	189	3.75	363
Elementary School	700 sts.	1.29	903	162	132	0.42	294	0	0	0.00	0
Subtotal Gross Trips			15,567	391	808	-	1,199	834	545	-	1,379
Internal Capture for ES (100%)			903	132	132	-	264	-	-	-	-
Pass-by Trips (Retail) (35%)			1,415	21	13	-	34	59	64	-	124
Subtotal Gross Trips			13,249	238	663	-	901	775	481	-	1,255
Arboretum Village											
Attached Condos	574 du	5.86	3,364	43	210	0.44	253	200	98	0.52	298
Arboretum	8 ac	2.28	18	3	1	0.52	4	2	3	0.59	5
Subtotal Gross Trips			3,382	46	211	-	257	202	102	-	303
Total Gross Trips			35,236	1,215	2,240	-	3,454	2,011	1,245	-	3,256
Total New Net Trips			31,509	855	1,888	-	2,743	1,928	1,158	-	3,086

sts – students du – dwelling unit ksf – thousand square feet ac – acres SFR – single-family residence

ES – Elementary School

MS – Middle School

Condos – condominiums

HD – high density

* as discussed in Section 3.0, the development within the Commercial Activity Center assumes a maximum Floor Area Ratio of 0.25 to account for the provision of setbacks, landscaping, parking and circulation requirements in the City's Zoning and Development Code and to be consistent with the buildout estimates in the Fontana General Plan.

For the elementary schools, it was assumed that they would not generate any student trips beyond what the residential areas generate. For the middle school, it was assumed that 75% of students would be coming from outside the site, which is conservative on the high side. For the high school, it was assumed that all trips would have to leave the site.

Source: Meyer, Mohaddes Associates, 2008.

As shown in Table 4.4-6 above, the proposed project could result in up to 35,236 new vehicle trips utilizing local roadways and freeway arterials, with as much as 3,454 AM peak hour trips and 3,256 PM peak hour trips. Internal capture due to students attending the on-site schools and passby trips at the on-site commercial uses, would reduce vehicle trips at external

Section 4.4: Transportation and Circulation

roadways to 31,509 daily trips, with 2,743 trips during the AM peak hour and 3,086 trips during the PM peak hour. These trips would add to existing traffic volumes on streets and freeways in the area and would contribute to congestion on local roadways and freeways.

Near Term Conditions (Year 2010)

It is anticipated that the proposed project would be completed by the year 2010. Thus, this analysis uses 2010 as an initial benchmark for the analysis of traffic conditions with and without the proposed project. Near term conditions also assumes that new and reconfigured roadways and intersections in North Fontana would be constructed according to the City's Circulation Master Plan. In addition, it is assumed that the Duncan Canyon interchange at the I-15 Freeway would have been completed by this time.

"Without Project" Conditions

Analysis to evaluate projected intersection operations under Year 2010 conditions without the project is shown in Table 4.4-7, *Year 2010 Intersection LOS – Without Project*.

TABLE 4.4-7
YEAR 2010 INTERSECTION LOS – WITHOUT PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Sierra Avenue and I-15 Southbound Ramps	C	20.8	0.511	C	20.4	0.475
2. Sierra Avenue and I-15 Northbound Ramps	C	16.9	0.437	C	21.1	0.496
3. Sierra Avenue and Riverside Avenue	C	33.4	0.929	C	34.0	0.918
4. Cypress Avenue and Grapeland Street**	A	3.1	0.0	A	3.3	0.0
5. Sierra Avenue and Grapeland Street	B	16.0	0.160	B	17.7	0.237
6. Lytle Creek Road (W) and Duncan Canyon Road	C	21.0	0.083	C	22.6	0.127
7. I-15 Southbound Ramps at Duncan Canyon Road	B	18.0	0.110	B	19.4	0.085
8. I-15 Northbound Ramps at Duncan Canyon Road	B	16.4	0.088	B	17.7	0.111
9. Lytle Creek Road (E) and Duncan Canyon Road	C	23.1	0.155	C	23.2	0.258
10. Citrus Avenue and Duncan Canyon Road	C	24.0	0.556	C	21.8	0.556
11. Cypress Avenue and Duncan Canyon Road	B	16.7	0.052	B	17.5	0.038
12. Sierra Avenue and Duncan Canyon Road	B	17.3	0.556	B	15.2	0.558
13. Citrus Avenue and Casa Grande Avenue	B	19.5	0.556	B	17.2	0.556
14. Cypress Avenue and Casa Grande Avenue	B	19.8	0.556	B	20.0	0.556
15. Sierra Avenue and Casa Grande Avenue	B	15.3	0.556	B	16.2	0.562
16. I-15 Southbound Ramps and Beech Avenue	C	22.2	0.719	B	17.2	0.602
17. I-15 Northbound Ramps and Beech Avenue	C	20.2	0.599	C	29.0	0.859
18. Citrus Avenue and Summit Avenue	C	23.7	0.308	C	23.0	0.246
19. Cypress Avenue and Summit Avenue	B	10.9	0.008	A	8.5	0.012
20. Sierra Avenue and Summit Avenue	B	17.5	0.417	B	19.1	0.417
21. Citrus Avenue and Sierra Lakes Parkway	C	25.9	0.627	C	22.3	0.695
22. Citrus Avenue and SR-210 Westbound Ramps	B	19.8	0.709	B	16.4	0.452
23. Citrus Avenue and SR-210 Eastbound Ramps	B	16.1	0.630	C	20.1	0.609
24. Citrus Avenue and Highland Avenue	C	25.6	0.534	C	23.0	0.382
25. Sierra Avenue and Sierra Lakes Parkway	C	28.0	0.596	C	27.5	0.492
26. Sierra Avenue and SR-210 Westbound Ramps	A	6.6	0.754	A	7.4	0.374
27. Sierra Avenue and SR-210 Eastbound Ramps	B	13.3	0.447	B	18.2	0.794
28. Sierra Avenue and Highland Avenue	D	52.0	0.884	C	33.0	0.803
LOS= Level of Service Delay= Average Vehicle Delay (Seconds) V/C= Volume-to-Capacity Ratio						
**Roundabout.						
Source: Meyer, Mohaddes Associates, 2008.						

Section 4.4: Transportation and Circulation

As shown in Table 4.4-7 above, all study intersections would operate at acceptable LOS of C or better, except for one intersection:

- Sierra Avenue and Highland Avenue (LOS D during AM peak hour)

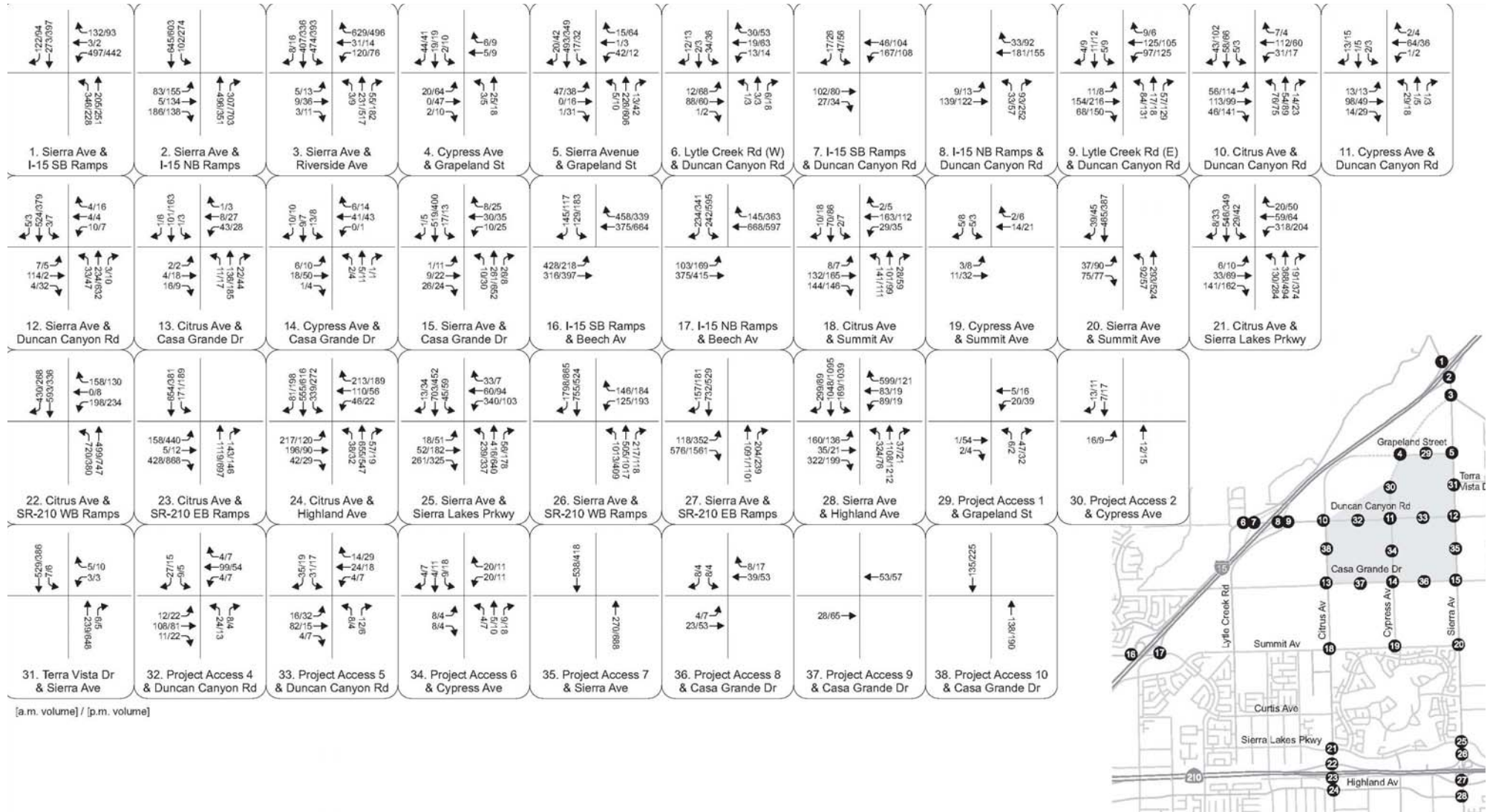
Figure 4.4-4, *2010 Without Project Peak Hour Volumes*, presents the traffic volumes at the study intersections under 2010 conditions, assuming growth and development in North Fontana but without the proposed project.

Freeway segment LOS was also analyzed under 2010 conditions without the project and the findings are presented in Table 4.4-8, *Year 2010 Freeway Segment LOS – Without Project*.

TABLE 4.4-8
YEAR 2010 FREEWAY SEGMENT LOS – WITHOUT PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 Northbound									
Foothill Blvd. to Baseline	4	0	9,200	5,321	.58	A	9,591	1.04	F
Baseline Road to SR-210	5	0	11,500	4,744	.41	A	8,777	.76	C
SR-210 to Summit Ave.	5	0	11,500	4,481	.39	A	7,897	.69	B
Summit to Duncan Canyon	4	0	9,200	4,284	.47	A	7,519	.82	D
Sierra to Glen Helen Pkwy	3	0	6,900	4,301	.62	B	7,604	1.1	F
I-15 Southbound									
Glen Helen to Sierra Ave	3	0	6,900	7,613	1.1	F	4,468	.65	B
Duncan Canyon to Summit	4	0	9,200	7,503	.82	D	4,421	.48	A
Summit Ave. to SR-210	5	0	11,500	7,812	.68	B	4,669	.41	A
SR-210 to Baseline Road	5	0	11,500	8,364	.73	C	5,260	.46	A
Baseline to Foothill Blvd.	4	0	9,200	9,101	.99	E	5,863	.64	B
SR-210- Eastbound									
Day Creek to I-15	3	1	8,500	4,835	.57	A	6,411	.75	C
I-15 to Citrus Avenue	3	1	8,500	2,669	.31	A	3,700	.44	A
Citrus to Sierra Avenue	3	1	8,500	2,334	.27	A	3,215	.38	A
Sierra to Alder Avenue	3	1	8,500	1,268	.15	A	1,971	.23	A
Alder to Ayala Avenue	3	1	8,500	1,249	.15	A	1,874	.22	A
Ayala to Riverside Avenue	3	1	8,500	1,287	.15	A	1,989	.23	A
Riverside to Pepper Avenue	3	1	8,500	2,090	.25	A	2,953	.35	A
SR-210 Westbound									
Pepper to Riverside Avenue	3	1	8,500	5,930	.70	B	2,337	.27	A
Riverside to Ayala Avenue	3	1	8,500	5,545	.65	B	1,510	.18	A
Ayala to Alder Avenue	3	1	8,500	3,375	.40	A	1,467	.17	A
Alder to Sierra Avenue	3	1	8,500	5,602	.66	B	1,537	.18	A
Sierra to Citrus Avenue	3	1	8,500	5,813	.68	B	2,657	.31	A
Citrus Avenue to I-15	3	1	8,500	2,224	.26	A	3,215	.38	A
I-15 to Day Creek	3	1	8,500	2,545	.30	A	5,083	.60	A
SOV= Single Occupancy Vehicle V/C= Volume-to-Capacity Ratio Source: Meyer, Mohaddes Associates, 2008.									
HOV= High Occupancy Vehicle LOS= Level of Service									

Figure 4.4-4
2010 Without Project Peak Hour Volumes



Arboretum Specific Plan
City of Fontana



Section 4.4: Transportation and Circulation

As shown, all freeway study segments would operate at acceptable operating conditions (LOS E or better) during the AM and PM peak periods with the exception of the following segments:

- I-15 Northbound from Foothill Boulevard to Baseline Road (LOS F during PM peak hour)
- I-15 Northbound from Sierra Avenue to Glen Helen Parkway (LOS F during PM peak hour)
- I-15 Southbound from Glen Helen Parkway to Sierra Avenue (LOS F during AM peak hour)

“With Project” Conditions

Turning movements at area intersections, with the addition of vehicle trips due to development planned under the proposed *Arboretum Specific Plan*, are presented in Figure 4.4-5, *2010 With Project Peak Hour Volumes*. Table 4.4-9, *Year 2010 Intersection LOS – With Project*, provides the LOS, average delay and V/C ratio at each intersection. As shown, all study intersections would operate at acceptable LOS, except for the following:

- Sierra Avenue and Riverside Avenue (LOS F during AM peak hour and LOS D during PM peak hour)
- Sierra Avenue and Highland Avenue (LOS D during AM peak hour)
- Project Access Driveway 4 and Duncan Canyon Road (LOS E during AM peak hour and LOS F during PM peak hour)

TABLE 4.4-9
YEAR 2010 INTERSECTION LOS – WITH PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Sierra Avenue and I-15 Southbound Ramps	C	20.9	0.536	C	20.7	0.534
2. Sierra Avenue and I-15 Northbound Ramps	B	16.4	0.442	C	20.3	0.500
3. Sierra Avenue and Riverside Avenue	F	41.6	1.004	D	38.2	0.957
4. Cypress Avenue and Grapeland Street**	A	3.3	-	A	3.5	-
5. Sierra Avenue and Grapeland Street	C	23.8	0.327	C	22.5	0.341
6. Lytle Creek Road (W) and Duncan Canyon	C	21.9	0.108	C	20.3	0.127
7. I-15 Southbound Ramps at Duncan Canyon	B	13.7	0.257	B	16.6	0.188
8. I-15 Northbound Ramps at Duncan Canyon	B	15.9	0.229	B	18.6	0.364
9. Lytle Creek Road (E) and Duncan Canyon	C	20.1	0.313	C	23.9	0.471
10. Citrus Avenue and Duncan Canyon Road	C	20.5	0.620	B	20.0	0.677
11. Cypress Avenue and Duncan Canyon Road	C	20.4	0.255	B	18.4	0.192
12. Sierra Avenue and Duncan Canyon Road	C	24.0	0.561	C	24.9	0.595
13. Citrus Avenue and Casa Grande Avenue	C	25.2	0.576	C	20.6	0.609
14. Cypress Avenue and Casa Grande Avenue	C	22.9	0.556	C	22.5	0.556
15. Sierra Avenue and Casa Grande Avenue	C	20.2	0.619	B	19.3	0.600
16. I-15 Southbound Ramps and Beech Avenue	C	23.0	0.732	B	17.5	0.614
17. I-15 Northbound Ramps and Beech Avenue	C	20.4	0.609	C	30.6	0.869
18. Citrus Avenue and Summit Avenue	C	25.1	0.451	C	22.2	0.295
19. Cypress Avenue and Summit Avenue	B	13.1	0.025	B	10.6	0.030
20. Sierra Avenue and Summit Avenue	B	13.8	0.507	B	13.5	0.506
21. Citrus Avenue and Sierra Lakes Parkway	C	24.6	0.729	C	22.3	0.695
22. Citrus Ave and SR-210 Westbound Ramps	C	21.0	0.770	B	17.2	0.522
23. Citrus Ave and SR-210 Eastbound Ramps	B	17.0	0.672	C	21.4	0.706

Section 4.4: Transportation and Circulation

TABLE 4.4-9
YEAR 2010 INTERSECTION LOS – WITH PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
24. Citrus Avenue and Highland Avenue	C	25.5	0.545	C	22.9	0.400
25. Sierra Avenue and Sierra Lakes Parkway	C	27.7	0.699	C	25.3	0.528
26. Sierra Ave and SR-210 Westbound Ramps	A	7.1	0.759	A	9.5	0.486
27. Sierra Ave and SR-210 Eastbound Ramps	B	13.5	0.464	B	18.7	0.830
28. Sierra Avenue and Highland Avenue	D	51.6	0.893	C	33.5	0.811
29. Project Access 1 and Grapeland Street*	B	10.4	-	B	10.3	-
30. Project Access 2 and Cypress Avenue*	A	9.1	-	A	9.2	-
31. Project Access 3 and Sierra Avenue*	B	10.2	0.205	A	6.0	0.194
32. Project Access 4 and Duncan Canyon Road*	E	43.1	-	F	64.7	-
33. Project Access 5 and Duncan Canyon Road*	C	19.0	-	C	24.3	-
34. Project Access 6 and Cypress Avenue*	B	11.0	-	B	12.3	-
35. Project Access 7 and Sierra Avenue*	B	11.3	-	B	10.1	-
36. Project Access 8 and Casa Grande Avenue*	A	9.9	-	B	10.9	-
37. Project Access 9 and Casa Grande Avenue*	B	10.3	-	B	10.4	-
38. Project Access 10 and Citrus Avenue*	B	10.6	-	B	11.8	-
LOS= Level of Service, Delay= Average Vehicle Delay (Seconds), V/C= Volume-to-Capacity Ratio						
*Delay for stop-controlled approach. V/C not applicable.						
**Roundabout.						
Source: Meyer, Mohaddes Associates, 2008.						

Impact 4.4.1: The proposed project would lead to unacceptable LOS at the following intersections at opening year (2010):

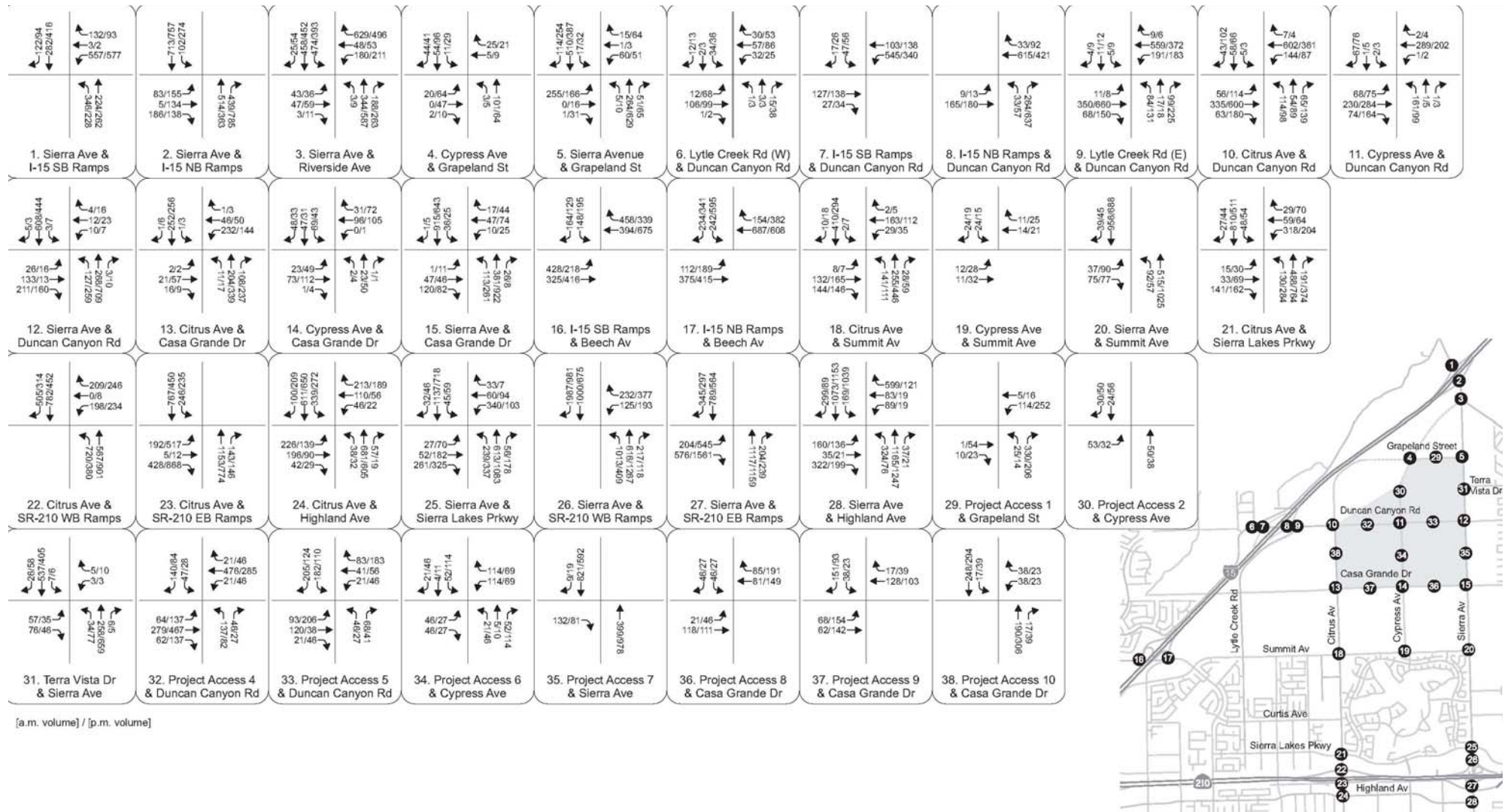
- *Sierra Avenue and Riverside Avenue*
- *Sierra Avenue and Highland Avenue*
- *Project Access Driveway 4 and Duncan Canyon Road*

The unacceptable LOS at the Sierra Avenue and Highland Avenue intersection would occur even without the project. However, the project would lead to unacceptable LOS at one proposed project driveway and at the Sierra and Riverside Avenue intersection. Roadway improvements, including traffic signal installation and additional through lanes and turn lanes at impacted intersections, would be needed to improve LOS at these intersections to acceptable levels.

With the addition of vehicle traffic from the proposed project, freeway segment LOS would also change, as presented in Table 4.4-10, *Year 2010 Freeway Segment LOS – With Project*. As shown, all freeway study segments operate at acceptable conditions (LOS E or better) during the AM and PM peak periods, except for the following:

- I-15 Southbound from Glen Helen Parkway to Sierra Avenue (LOS F during AM peak hour)
- I-15 Southbound from Baseline Road to Foothill Boulevard (LOS F during AM peak hour)
- I-15 Northbound from Foothill Boulevard to Baseline Road (LOS F during PM peak hour)
- I-15 Northbound from Sierra Avenue to Glen Helen Parkway (LOS F during PM peak hour)

Figure 4.4-5
2010 With Project Peak Hour Volumes



Section 4.4: Transportation and Circulation

TABLE 4.4-10
YEAR 2010 FREEWAY SEGMENT LOS – WITH PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 Northbound									
Foothill Blvd. to Baseline	4	0	9,200	5,510	0.60	A	9,771	1.06	F
Baseline Road to SR-210	5	0	11,500	5,001	0.43	A	9,030	0.79	C
SR-210 to Summit Ave.	5	0	11,500	4,590	0.40	A	8,167	0.71	C
Summit to Duncan Canyon	4	0	9,200	4,409	0.48	A	7,827	0.85	D
Sierra to Glen Helen Pkwy	3	0	6,900	4,433	0.64	B	7,685	1.11	F
I-15 Southbound									
Glen Helen to Sierra Ave	3	0	6,900	7,668	1.11	F	4,603	0.67	B
Duncan Canyon to Summit	4	0	9,200	7,805	0.85	D	4,606	0.50	A
Summit Ave. to SR-210	5	0	11,500	8,076	0.70	C	4,830	0.42	A
SR-210 to Baseline Road	5	0	11,500	8,694	0.76	C	5,505	0.48	A
Baseline to Foothill Blvd.	4	0	9,200	9,371	1.02	F	6,065	0.66	B
SR-210- Eastbound									
Day Creek to I-15	3	1	8,500	4,887	0.57	A	6,622	0.78	C
I-15 to Citrus Avenue	3	1	8,500	2,778	0.33	A	3,970	0.47	A
Citrus to Sierra Avenue	3	1	8,500	2,488	0.29	A	3,454	0.41	A
Sierra to Alder Avenue	3	1	8,500	1,533	0.18	A	2,133	0.25	A
Alder to Ayala Avenue	3	1	8,500	1,477	0.17	A	2,016	0.24	A
Ayala to Riverside Avenue	3	1	8,500	1,484	0.17	A	2,103	0.25	A
Riverside to Pepper Avenue	3	1	8,500	2,255	0.27	A	3,045	0.36	A
SR-210 Westbound									
Pepper to Riverside Avenue	3	1	8,500	5,986	0.70	C	2,522	0.30	A
Riverside to Ayala Avenue	3	1	8,500	5,616	0.66	B	1,729	0.20	A
Ayala to Alder Avenue	3	1	8,500	3,481	0.41	A	1,739	0.20	A
Alder to Sierra Avenue	3	1	8,500	5,727	0.67	B	1,846	0.22	A
Sierra to Citrus Avenue	3	1	8,500	6,049	0.71	C	2,966	0.35	A
Citrus Avenue to I-15	3	1	8,500	2,489	0.29	A	3,377	0.40	A
I-15 to Day Creek	3	1	8,500	2,696	0.32	A	5,169	0.61	B
SOV= Single Occupancy Vehicle HOV= High Occupancy Vehicle									
V/C= Volume-to-Capacity Ratio LOS= Level of Service									
Source: Meyer, Mohaddes Associates, 2008.									

Impact 4.4.2: The proposed project would result in unacceptable LOS at the following freeway segments at opening year (2010):

- I-15 Northbound from Foothill Boulevard to Baseline Road
- I-15 Northbound from Sierra Avenue to Glen Helen Parkway
- I-15 Southbound from Glen Helen Parkway to Sierra Avenue
- I-15 Southbound from Baseline Road to Foothill Boulevard

The first three freeway segments would operate at unacceptable LOS even without the project. However, the project would lead to unacceptable LOS on the southbound lanes of the I-15 Freeway from Baseline to Foothill Boulevard. In order to achieve satisfactory LOS at the affected freeway segments, an additional freeway travel lane on each segment is required.

Section 4.4: Transportation and Circulation

Build-Out Conditions (Year 2030)

Year 2030 traffic conditions have also been evaluated as part of the project. The model conditions assume that new and reconfigured roadway intersections within North Fontana would be constructed according to the City's Circulation Master Plan, the Duncan Canyon interchange would be built, and the SR-210 Freeway would be extended east.

"Without Project" Conditions

Baseline conditions in 2030, without the project, assume growth and development in the surrounding area in line with projections used in the SCAG Comprehensive Transportation Plan. Figure 4.4-6, *2030 Without Project Peak Hour Volumes*, shows turning movements at area intersections and Table 4.4-11, *Year 2030 Intersection LOS – Without Project*, provides the LOS, delay, and v/c ratios at each intersection. As shown, the following intersections would operate at unacceptable LOS:

- Sierra Avenue and Riverside Avenue (LOS F during AM and PM peak hours)
- Lytle Creek Road and Duncan Canyon Road (LOS F during PM peak hour)
- Citrus Avenue and Duncan Canyon Road (LOS D during AM peak hour and LOS F during PM peak hour)
- I-15 Northbound Ramp and Beech Avenue (LOS F during PM peak hour)
- Citrus Avenue and Sierra Lakes Parkway (LOS D during PM peak hour)
- Citrus Avenue and SR-210 Westbound Ramps (LOS F during AM and PM peak hours)
- Citrus Avenue and SR-210 Eastbound Ramps (LOS F during PM peak hour)
- Citrus Avenue and Highland Avenue (LOS D during AM and PM peak hours)
- Sierra Avenue and Sierra Lakes Parkway (LOS D during AM peak hour and LOS E during PM peak hour)
- Sierra Avenue and Highland Avenue (LOS E during AM peak hour and LOS F during PM peak hour)

TABLE 4.4-11
YEAR 2030 INTERSECTION LOS – WITHOUT PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Sierra Avenue and I-15 Southbound Ramps	C	20.5	0.610	C	22.6	0.648
2. Sierra Avenue and I-15 Northbound Ramps	B	14.3	0.491	B	17.6	0.501
3. Sierra Avenue and Riverside Avenue	F	50.9	1.084	F	128.3	1.514
4. Cypress Avenue and Grapeland Street**	A	4.3	0.000	A	7.9	0.000
5. Sierra Avenue and Grapeland Street	C	24.6	0.462	C	30.8	0.774
6. Lytle Creek Road (W) and Duncan Canyon Road	C	23.0	0.339	C	23.6	0.312
7. I-15 Southbound Ramps at Duncan Canyon Road	C	21.6	0.606	C	21.8	0.463
8. I-15 Northbound Ramps at Duncan Canyon Road	B	18.6	0.558	C	30.3	0.855
9. Lytle Creek Road (E) and Duncan Canyon Road	C	27.4	0.634	F	111.3	1.203
10. Citrus Avenue and Duncan Canyon Road	D	44.9	0.899	F	107.7	1.237
11. Cypress Avenue and Duncan Canyon Road	B	19.1	0.290	B	18.9	0.212
12. Sierra Avenue and Duncan Canyon Road	C	25.7	0.682	C	21.8	0.598
13. Citrus Avenue and Casa Grande Avenue	C	23.4	0.739	C	20.9	0.840
14. Cypress Avenue and Casa Grande Avenue	C	21.5	0.556	C	21.3	0.556
15. Sierra Avenue and Casa Grande Avenue	C	21.3	0.623	C	22.6	0.577
16. I-15 Southbound Ramps and Beech Avenue	C	32.8	0.896	C	20.8	0.813

Section 4.4: Transportation and Circulation

TABLE 4.4-11
YEAR 2030 INTERSECTION LOS – WITHOUT PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
17. I-15 Northbound Ramps and Beech Avenue	C	21.2	0.714	F	226.3	1.494
18. Citrus Avenue and Summit Avenue	C	23.8	0.373	C	25.5	0.459
19. Cypress Avenue and Summit Avenue	B	11.0	0.045	A	8.5	0.071
20. Sierra Avenue and Summit Avenue	B	13.4	0.506	B	12.7	0.492
21. Citrus Avenue and Sierra Lakes Parkway	C	30.9	0.830	D	39.6	0.874
22. Citrus Avenue and SR-210 Westbound Ramps	F	68.3	1.097	F	59.8	1.180
23. Citrus Avenue and SR-210 Eastbound Ramps	D	38.4	0.944	F	96.9	1.179
24. Citrus Avenue and Highland Avenue	D	42.8	0.912	D	44.0	0.928
25. Sierra Avenue and Sierra Lakes Parkway	D	47.3	0.910	E	63.0	0.990
26. Sierra Avenue and SR-210 Westbound Ramps	B	15.5	0.610	B	18.0	0.758
27. Sierra Avenue and SR-210 Eastbound Ramps	B	17.3	0.637	D	39.3	0.981
28. Sierra Avenue and Highland Avenue	E	55.5	0.999	F	95.0	1.178

LOS= Level of Service, Delay= Average Vehicle Delay (Seconds), V/C= Volume-to-Capacity Ratio
 **Roundabout
 Source: Meyer, Mohaddes Associates, 2008.

Freeway segment levels of service for Year 2030 without the project were projected in the Traffic Study and the results are provided in Table 4.4-12, *Year 2030 Freeway Segment LOS – Without Project*. By 2030, freeway segments that would be expected to operate at unacceptable LOS during the AM and PM peak periods include the following:

- I-15 Freeway – all segments (LOS F in the peak direction during the peak hour)
- SR-210 Westbound from Citrus Avenue to I-15 (LOS F during AM peak hour)
- SR-210 Westbound from I-15 to Day Creek Boulevard (LOS F during AM peak hour)
- SR-210 Eastbound from Day Creek Boulevard to I-15 (LOS F during PM peak hour)
- SR-210 Eastbound from Riverside Avenue to Pepper Avenue (LOS F during PM peak hour)

TABLE 4.4-12
YEAR 2030 FREEWAY SEGMENT LOS – WITHOUT PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 Northbound									
Foothill Blvd. to Baseline Road	4	0	9,200	7,373	0.80	D	15,904	1.73	F
Baseline Road to SR-210	5	0	11,500	6,911	0.60	B	15,873	1.38	F
SR-210 to Summit Ave.	5	0	11,500	6,656	0.58	A	13,237	1.15	F
Summit Ave. to Duncan Canyon	4	0	9,200	6,430	0.70	B	12,609	1.37	F
Sierra Avenue to Glen Helen	3	0	6,900	6,513	0.94	E	13,038	1.89	F
I-15 Southbound									
Glen Helen to Sierra Avenue	3	0	6,900	15,579	2.26	F	5,684	0.82	D
Duncan Canyon to Summit Ave	4	0	9,200	15,031	1.63	F	5,450	0.59	A
Summit Ave. to SR-210	5	0	11,500	15,437	1.34	F	5,846	0.51	A
SR-210 to Baseline Road	5	0	11,500	16,607	1.44	F	7,627	0.66	B
Baseline Road to Foothill Blvd.	4	0	9,200	16,660	1.81	F	7,947	0.86	D
SR-210- Eastbound									
Dav Creek to I-15	3	1	8,500	7,280	0.86	D	9,110	1.07	F

Section 4.4: Transportation and Circulation

TABLE 4.4-12
YEAR 2030 FREEWAY SEGMENT LOS – WITHOUT PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 to Citrus Avenue	3	1	8,500	5,147	0.61	B	7,365	0.87	D
Citrus Avenue to Sierra Avenue	3	1	8,500	5,208	0.61	B	7,304	0.86	D
Sierra Avenue to Alder Avenue	3	1	8,500	4,435	0.52	A	7,270	0.86	D
Alder Avenue to Ayala Avenue	3	1	8,500	4,342	0.51	A	6,783	0.80	C
Ayala Avenue to Riverside Ave.	3	1	8,500	4,532	0.53	A	7,359	0.87	D
Riverside Ave. to Pepper Ave.	3	1	8,500	5,940	0.70	B	8,665	1.02	F
SR-210 Westbound									
Pepper Ave. to Riverside Ave.	3	1	8,500	8,191	0.96	E	6,892	0.81	D
Riverside Ave. to Ayala Avenue	3	1	8,500	7,075	0.83	D	5,435	0.64	B
Ayala Avenue to Alder Avenue	3	1	8,500	6,853	0.81	D	5,221	0.61	B
Alder Avenue to Sierra Avenue	3	1	8,500	7,360	0.87	D	5,569	0.66	B
Sierra Avenue to Citrus Avenue	3	1	8,500	7,604	0.89	D	6,109	0.72	C
Citrus Avenue to I-15	3	1	8,500	8,793	1.03	F	6,967	0.82	D
I-15 to Day Creek	3	1	8,500	10,399	1.22	F	6,644	0.78	C

SOV= Single Occupancy Vehicle, HOV= High Occupancy Vehicle, V/C= Volume-to-Capacity Ratio, LOS= Level of Service
Source: Meyer, Mohaddes Associates, 2008.

“With Project” Conditions

Intersection LOS in the Year 2030 with the addition of project-generated traffic is projected to degrade further. Figure 4.4-7, *2030 With Project Peak Hour Volumes*, shows turning movements at each intersection and Table 4.4-13, *Year 2030 Intersection LOS – With Project*, provides the calculated LOS, delay and v/c ratios. A number of the area intersections are projected to operate at unacceptable LOS. These include the following:

- Sierra Avenue and Riverside Avenue (LOS F during AM and PM peak hours)
- Sierra Avenue and Grapeland Street (LOS D during PM peak hour)
- Lytle Creek Road and Duncan Canyon Road (LOS F during PM peak hour)
- Citrus Avenue and Duncan Canyon Road (LOS F during AM and PM peak hours)
- Citrus Avenue and Casa Grande Avenue (LOS D during PM peak hour)
- I-15 Northbound Ramps and Beech Avenue (LOS F during PM peak hour)
- Citrus Avenue and Sierra Lakes Parkway (LOS D during PM peak hour)
- Citrus Avenue and SR-210 Westbound Ramps (LOS F during AM and PM peak hours)
- Citrus Avenue and SR-210 Eastbound Ramps (LOS F during PM peak hour)
- Citrus Avenue and Highland Avenue (LOS D during AM and PM peak hours)
- Sierra Avenue and Sierra Lakes Parkway (LOS E during AM peak hour and LOS F during PM peak hour)
- Sierra Avenue and SR-210 Eastbound Ramps (LOS F during PM peak hour)
- Sierra Avenue and Highland Avenue (LOS F during AM and PM peak hours)
- Project Access Driveway 1 and Grapeland Street (LOS E during PM peak hour)
- Project Access Driveway 4 and Duncan Canyon Road (LOS F during AM and PM peak hours)
- Project Access Driveway 5 and Duncan Canyon Road (LOS F during AM and PM peak hours)
- Project Access Driveway 6 and Cypress Avenue (LOS E during PM peak hour)
- Project Access Driveway 10 and Citrus Avenue (LOS E during AM peak hour and LOS F during PM peak hour)

Figure 4.4-6
2030 Without Project Peak Hour Volumes

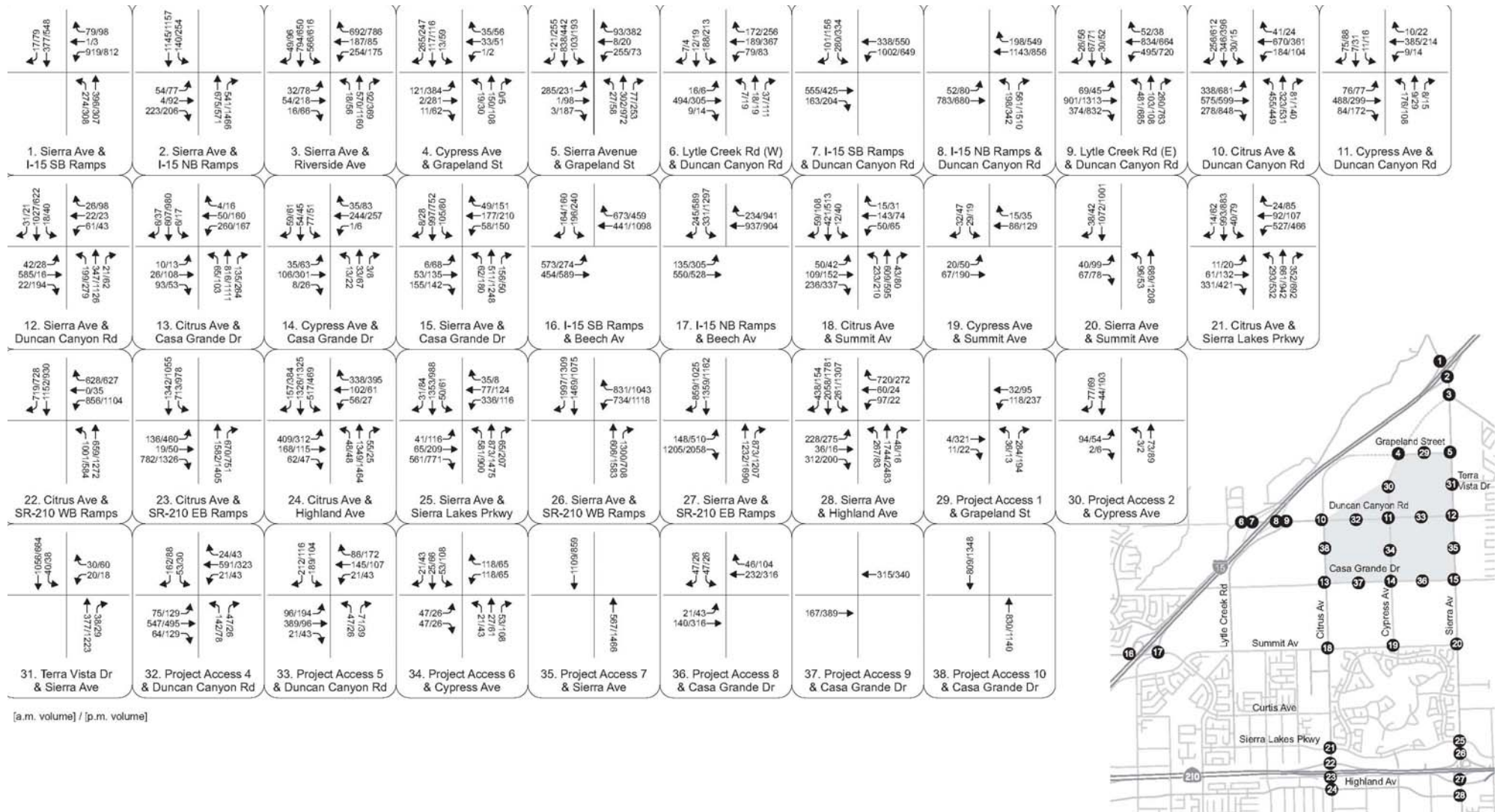
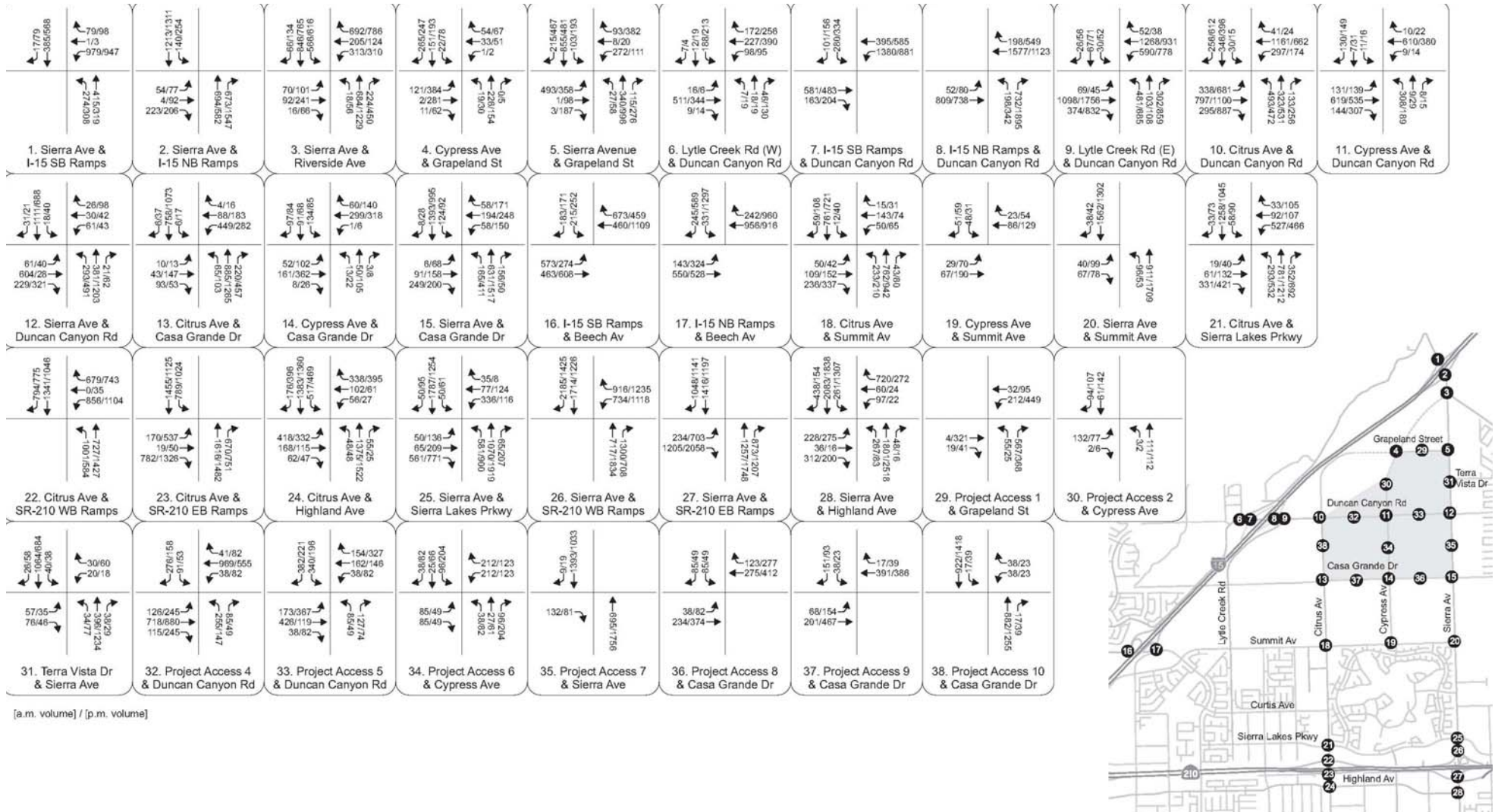


Figure 4.4-7
2030 With Project Peak Hour Volumes



Section 4.4: Transportation and Circulation

TABLE 4.4-13
YEAR 2030 INTERSECTION LOS – WITH PROJECT

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Sierra Avenue and I-15 Southbound Ramps	C	20.7	0.633	C	23.3	0.701
2. Sierra Avenue and I-15 Northbound Ramps	B	14.0	0.512	B	17.3	0.549
3. Sierra Avenue and Riverside Avenue	F	61.3	1.151	F	130.7	1.554
4. Cypress Avenue and Grapeland Street**	A	4.5	-	A	8.8	-
5. Sierra Avenue and Grapeland Street	C	28.1	0.620	D	35.6	0.805
6. Lytle Creek Road (W) and Duncan Canyon Road	C	23.4	0.357	C	24.3	0.312
7. I-15 Southbound Ramps at Duncan Canyon Road	C	22.6	0.745	C	21.6	0.560
8. I-15 Northbound Ramps at Duncan Canyon Road	C	21.9	0.744	D	48.8	0.946
9. Lytle Creek Road (E) and Duncan Canyon Road	C	30.7	0.737	F	167.5	1.306
10. Citrus Avenue and Duncan Canyon Road	F	76.7	1.056	F	162.5	1.338
11. Cypress Avenue and Duncan Canyon Road	C	22.0	0.480	C	20.5	0.356
12. Sierra Avenue and Duncan Canyon Road	C	30.2	0.820	C	28.3	0.801
13. Citrus Avenue and Casa Grande Avenue	C	31.5	0.910	D	35.2	0.991
14. Cypress Avenue and Casa Grande Avenue	C	23.0	0.556	C	22.7	0.558
15. Sierra Avenue and Casa Grande Avenue	C	23.6	0.719	C	26.6	0.755
16. I-15 Southbound Ramps and Beech Avenue	C	35.2	0.904	C	21.4	0.824
17. I-15 Northbound Ramps and Beech Avenue	C	21.4	0.723	F	234.0	1.511
18. Citrus Avenue and Summit Avenue	C	24.8	0.563	C	25.1	0.566
19. Cypress Avenue and Summit Avenue	B	13.1	0.058	A	9.9	0.079
20. Sierra Avenue and Summit Avenue	B	11.6	0.606	B	11.1	0.628
21. Citrus Avenue and Sierra Lakes Parkway	C	33.4	0.911	D	41.4	0.923
22. Citrus Avenue and SR-210 Westbound Ramps	F	79.9	1.145	F	66.6	1.244
23. Citrus Avenue and SR-210 Eastbound Ramps	D	42.6	0.979	F	108.4	1.194
24. Citrus Avenue and Highland Avenue	D	44.9	0.919	D	46.3	0.952
25. Sierra Avenue and Sierra Lakes Parkway	E	57.9	0.991	F	74.2	1.043
26. Sierra Avenue and SR-210 Westbound Ramps	B	16.3	0.686	B	19.9	0.841
27. Sierra Avenue and SR-210 Eastbound Ramps	B	17.4	0.659	F	44.1	1.014
28. Sierra Avenue and Highland Avenue	F	56.5	1.004	F	96.5	1.184
29. Project Access 1 and Grapeland Street*	C	16.3	-	E	42.2	-
30. Project Access 2 and Cypress Avenue*	B	10.5	-	B	10.7	-
31. Project Access 3 and Sierra Avenue*	A	7.2	0.302	A	4.6	0.303
32. Project Access 4 and Duncan Canyon Road*	F	OVRFL	-	F	OVRFL	-
33. Project Access 5 and Duncan Canyon Road*	F	OVRFL	-	F	OVRFL	-
34. Project Access 6 and Cypress Avenue*	C	22.2	-	E	39.6	-
35. Project Access 7 and Sierra Avenue*	B	14.3	-	B	11.6	-
36. Project Access 8 and Casa Grande Avenue*	B	14.0	-	C	19.4	-
37. Project Access 9 and Casa Grande Avenue*	B	13.0	-	B	14.1	-
38. Project Access 10 and Citrus Avenue*	E	35.3	-	F	130.9	-

LOS= Level of Service, Delay= Average Vehicle Delay (Seconds), V/C= Volume-to-Capacity Ratio
 *Delay for stop-controlled approach. V/C not applicable.
 **Roundabout.
 OVRFL - delay exceeds what the software will calculate based on Highway Capacity Manual methodologies
 Source: Meyer, Mohaddes Associates, 2008.

Impact 4.4.3: The proposed project would lead to unacceptable LOS at the following intersections at buildout (2030):

Section 4.4: Transportation and Circulation

- Sierra Avenue and Riverside Avenue
- Sierra Avenue and Grapeland Street
- Lytle Creek Road and Duncan Canyon Road
- Citrus Avenue and Duncan Canyon Road
- Citrus Avenue and Casa Grande Avenue
- I-15 Northbound Ramps and Beech Avenue
- Citrus Avenue and Sierra Lakes Parkway
- Citrus Avenue and SR-210 Westbound and Eastbound Ramps
- Citrus Avenue and Highland Avenue
- Sierra Avenue and Sierra Lakes Parkway
- Sierra Avenue and SR-210 Eastbound Ramps
- Sierra Avenue and Highland Avenue
- Project Access Driveways at Grapeland Street, Duncan Canyon Road, Cypress Avenue, and Citrus Avenue.

Roadway improvements, including traffic signal installation, lane reconfigurations, and additional travel lanes, are needed to allow these intersections to operate at the acceptable LOS within the City of Fontana. At the I-15 NB Ramps at Duncan Canyon Road, the LOS analysis shows this intersection would operate at LOS D. However, the intersection will actually be operated with an additional signal phase that allows the northbound right turn and westbound through movements to occur simultaneously, so operations will be better than shown in Table 4.4-13 above.

Freeway segment LOS in Year 2030 with the project is provided in Table 4.4-14, *Year 2010 Freeway Segment LOS – With Project*. The same freeway segments that are projected to operate at unacceptable LOS F without the project would continue to operate at LOS F with the project. These include:

- All Freeway Segments along I-15 (LOS F in the peak direction during the peak hour)
- SR-210 Westbound from Citrus Avenue to I-15 (LOS F during AM peak hour)
- SR-210 Westbound from I-15 to Day Creek Boulevard (LOS F during AM peak hour)
- SR-210 Eastbound from Day Creek Boulevard to I-15 (LOS F during PM peak hour)
- SR-210 Eastbound from Riverside Avenue to Pepper Avenue (LOS F during PM peak hour)

TABLE 4.4-14
YEAR 2030 FREEWAY SEGMENT LOS – WITH PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
I-15 Northbound									
Foothill Blvd. to Baseline Road	4	0	9,200	7,562	0.82	D	16,084	1.75	F
Baseline Road to SR-210	5	0	11,500	7,168	0.62	B	16,126	1.40	F
SR-210 to Summit Ave.	5	0	11,500	6,765	0.59	A	13,507	1.17	F
Summit Ave. to Duncan Canyon	4	0	9,200	6,555	0.71	C	12,917	1.40	F
Sierra Avenue to Glen Helen	3	0	6,900	6,645	0.96	E	13,119	1.90	F
I-15 Southbound									
Glen Helen to Sierra Avenue	3	0	6,900	15,634	2.27	F	5,819	0.84	D

Section 4.4: Transportation and Circulation

TABLE 4.4-14
YEAR 2030 FREEWAY SEGMENT LOS – WITH PROJECT

Segment	SOV Lanes	HOV Lanes	Total Capacity	AM			PM		
				Peak Hr Vol	V/C	LOS	Peak Hr Vol	V/C	LOS
Duncan Canyon to Summit Ave	4	0	9,200	15,333	1.67	F	5,635	0.61	B
Summit Ave. to SR-210	5	0	11,500	15,701	1.37	F	6,007	0.52	A
SR-210 to Baseline Road	5	0	11,500	16,938	1.47	F	7,872	0.68	B
Baseline Road to Foothill Blvd.	4	0	9,200	16,930	1.84	F	8,150	0.89	D
SR-210- Eastbound									
Day Creek to I-15	3	1	8,500	7,332	0.86	D	9,320	1.10	F
I-15 to Citrus Avenue	3	1	8,500	5,256	0.62	B	7,635	0.90	D
Citrus Avenue to Sierra Avenue	3	1	8,500	5,362	0.63	B	7,543	0.89	D
Sierra Avenue to Alder Avenue	3	1	8,500	4,700	0.55	A	7,432	0.87	D
Alder Avenue to Ayala Avenue	3	1	8,500	4,569	0.54	A	6,925	0.81	D
Ayala Avenue to Riverside Ave.	3	1	8,500	4,729	0.56	A	7,473	0.88	D
Riverside Ave. to Pepper Ave.	3	1	8,500	6,105	0.72	C	8,757	1.03	F
SR-210 Westbound									
Pepper Ave. to Riverside Ave.	3	1	8,500	8,247	0.97	E	7,077	0.83	D
Riverside Ave. to Ayala Avenue	3	1	8,500	7,146	0.84	D	5,653	0.67	B
Ayala Avenue to Alder Avenue	3	1	8,500	6,959	0.82	D	5,492	0.65	B
Alder Avenue to Sierra Avenue	3	1	8,500	7,485	0.88	D	5,878	0.69	B
Sierra Avenue to Citrus Avenue	3	1	8,500	7,840	0.92	E	6,418	0.76	C
Citrus Avenue to I-15	3	1	8,500	9,058	1.07	F	7,129	0.84	D
I-15 to Day Creek	3	1	8,500	10,550	1.24	F	6,729	0.79	C

SOV= Single Occupancy Vehicle, HOV= High Occupancy Vehicle, V/C= Volume-to-Capacity Ratio, LOS= Level of Service
Source: Meyer, Mohaddes Associates, 2008.

Impact 4.4.4: The proposed project would result in unacceptable LOS at the following freeway segments at buildout (2030):

- I-15 Freeway – all segments (in peak direction)
- SR-210 Westbound from Citrus Avenue to I-15
- SR-210 Westbound from I-15 to Day Creek Boulevard
- SR-210 Eastbound from Day Creek Boulevard to I-15
- SR-210 Eastbound from Riverside Avenue to Pepper Avenue

The City has adopted a Development Impact Fee (DIF) program that collects DIF fees for roadway, infrastructure, and public facility improvements from proposed development projects. The circulation impact fees are specifically placed into separate accounts and are used for the implementation of needed roadway improvement projects in the City. As the needed roadway improvements become fully funded, the City implements the roadway and intersection projects under its Capital Improvement Program.

The proposed Specific Plan would include the improvement of all on-site roadways and intersections, as well as the improvement of access driveways/intersections to the site. In addition, future development under the proposed Specific Plan would need to pay DIF fees for the improvement of off-site intersections.

The City of Fontana's DIF program has also accounted for the implementation of regional transportation projects and payment of fair share fees by new development would fund these projects. Since the I-15 and SR-210 Freeways, Sierra Avenue, Citrus Avenue and Duncan Canyon Road are arterials that are included in the Nexus Study, the improvement of

Section 4.4: Transportation and Circulation

intersections along these arterials is anticipated to be funded by DIF fees from the City, except for those that would be provided as part of the project.

Level of Service Standard under Congestion Management Program (CMP) *(Would the project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?)*

The San Bernardino County CMP sets a standard of LOS E for roadway intersections and freeway interchanges in the County's CMP-designated highway system. The City of Fontana has set a standard of LOS C for roadway segments and intersections in the City, with exceptions allowed at LOS D. The North Fontana Circulation Plan also sets the standard at LOS C, with LOS D allowed at freeway interchanges and select locations. Since the City's LOS standard is more stringent than the CMP standard, the traffic analysis in the EIR uses a more restrictive roadway LOS standard of C. As shown below, intersections would operate at LOS C or better with mitigation. The project would not exceed standards in the CMP.

The CMP calls for local jurisdictions to develop and implement a development mitigation program that includes payment of fair share fees for the needed roadway system improvements. The City has adopted a DIF program that complies with the CMP and would be collecting DIF fees from the proposed project. These fees are specifically set into a separate account and are used for the implementation of needed roadway improvement projects in the City.

The I-15 and SR-210 Freeways, Sierra Avenue and Citrus Avenue are CMP arterials in the vicinity of the project site. Impacts to these CMP arterials are analyzed above, with mitigation provided below to improve intersection operations to LOS C or better.

SANBAG has identified regional transportation projects in its Development Mitigation Nexus Study, along with project costs and cost allocations from new developments in the region. Local jurisdictions, including the City of Fontana, have adopted DIF programs that would account for the implementation of these projects and payment of fair share fees by new development. Since the I-15 and SR-210 Freeways, Sierra Avenue, Citrus Avenue and Duncan Canyon Road are arterials that are included in the Nexus Study, the improvement of intersections along these arterials is anticipated to be funded by DIF fees from the City, except for those that would be provided as part of the project. The Nexus Study serves as the deficiency plan that identifies the needed roadway improvements, cost and funding for these projects, and future implementation. Thus, projects that pay their fair share fees are considered consistent with the CMP. Since the proposed project would pay fair share fees under the City's DIF program, it is considered consistent with the CMP and no conflict is expected with the project.

The Comprehensive Transportation Plan (CTP) would identify any needed roadway improvements to serve future development in the region. The City's development impact fees include funding for regional transportation projects, such as those that may be included in the CTP. The project site is not located adjacent to a freeway or other regional transportation corridor and thus, is unlikely to have an impact on projects that may be included in the CTP. The project also would be required to pay development impact fees and would contribute to the implementation of the CTP. No conflict with the CTP is expected.

Air Traffic Patterns *(Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that result in substantial safety risks?)*

Section 4.4: Transportation and Circulation

There are no airports or airstrips near the project site and aircraft traffic patterns would not be directly affected by the proposed project. The residents and employees at the site may utilize the Rialto Municipal Airport and Ontario International Airport. This demand is not expected to be significant since the proposed residential and commercial uses, schools and parks are not expected to be highly dependent on air travel for the transportation of people and goods. No major change in air traffic levels or patterns would occur with the project. No conflict with existing policies regarding alternative transportation would occur.

Traffic Hazards (*Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*)

The proposed project would not create traffic hazards due to design features. No sharp curves or dangerous intersections would be created by the project. Perpendicular street intersections would be provided on major roadways at the site and on abutting roadways. Traffic signals would also be provided at major intersections at and near the site.

One roundabout is proposed at the intersection of Cypress Avenue and Grapeland Street. The roundabout shall be designed in accordance with Federal Highway Administration (FHWA) standards and is expected to serve as a traffic calming device for the driveway and roadway at this location.

Traffic volumes on internal streets are anticipated to be low, since the site is configured as independent villages or planning areas. Thus, stop sign controls on minor streets would provide adequate traffic control. Future developments would be subject to plan check review to ensure that sight distance, driveway locations, street intersection design, and signal warrants meet the City's traffic safety design criteria. Impacts are expected to be less than significant.

Parking Capacity (*Would the project result in inadequate parking capacity?*)

As stated in the proposed Specific Plan, parking standards in the City's Zoning and Development Code would continue to be applicable to future development on the site. No deviations to the parking requirements contained in the City's Zoning and Development Code are allowed. Proposed residential, commercial, park and school uses developed on the project site would have to provide off-street parking spaces as part of individual developments, based on the City's parking requirements for single-family and multi-family developments, retail commercial uses, schools, and parks.

Single-family units are required to provide a two-car garage plus one garage space for every two bedrooms over three bedrooms in a unit. Multi-family units are required to provide from 1.5 to 2.5 parking spaces per unit, depending on the number of bedrooms, with one space in an enclosed garage, plus one guest parking space per three units. In addition, the parking of recreational vehicles would be regulated by Codes, Covenants, and Restrictions (CC&Rs) that would be imposed for each village and planning area.

Commercial retail uses are required under City Code to provide parking according to the specific land use, with retail sales uses required to provide one parking space per 175 square feet of gross floor area for the initial 5,000 square feet, plus one space per 200 square feet of gross floor area for the next 5,000 square feet, plus one space per 225 square feet of additional

Section 4.4: Transportation and Circulation

gross floor area greater than 10,000 square feet. Parking requirements for other commercial uses are highly variable and depend on the proposed land use or occupancy.

Elementary and junior high schools are required to provide one space per teaching and non-teaching employee on maximum shift, plus at least five visitor spaces, plus one space per five fixed seats in an auditorium, gymnasium or similar place of public assembly.

Because the developments within the Specific Plan would be required to adhere to the City's parking requirements, no inadequacy in parking would occur from the proposed project. No adverse impact associated with parking is anticipated.

Emergency Access *(Would the project result in inadequate emergency access?)*

Regional access to the project site would be provided through the Sierra Avenue interchange at the I-15 Freeway and at the future Duncan Canyon Road interchange with I-15. Local access would be provided by planned roads near and within the project site, including Citrus Avenue, Duncan Canyon Road, Cypress Avenue, and Sierra Avenue.

Access for individual lots will be provided on the site through local streets and cul-de-sacs. At least two access points are provided for each village or planning area. Roadway improvement plans would be subject to plan check for compliance with the City's traffic safety design criteria for sight distance, driveway locations, street intersection design, and signal warrants. Thus, no access conflicts with through traffic on the abutting roadways are expected with the proposed project. Impacts are expected to be less than significant.

Alternative Transportation *(Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks?)*

Public Transit

The proposed residential, school and commercial land uses on the site could generate a demand for bus transit. However, no bus routes currently operate on or near the site. The project site is approximately 1.5 miles from the nearest bus stop of Omnitrans Route 22 and 2.5 miles from the nearest bus stop of Route 67.

Based on Omnitrans standards, new service to an area is considered when the distance from an existing route is more than ½ mile; when the business districts have more than 500 workers, when retail centers have more than 400,000 square feet of leasable space and when data shows a potential demand of 25 passengers or more per hour. The proposed project meets one of the four criteria (more than ½ mile from an existing route). Thus, new service would not likely be provided to serve the site, unless more retail commercial projects are developed in the North Fontana area and more than 25 passengers per hour could be expected.

Given the lack of existing bus routes within ½ mile of the site, it is likely that demand for bus transit would be limited, based on Omnitrans guidelines. The provision of pedestrian pathways within the project site and to the nearest future bus stops and routes would encourage walking to bus stops. Pedestrian accessibility to future bus stops can be provided through the provision of cut outs, pads, transit shelters, and paths of travel to the bus stops. These would encourage use of bus transit services in the area, if and when available.

Section 4.4: Transportation and Circulation

Public transit is funded by State funds, and availability of funding could also limit future service expansion to the project area. Omnitrans has indicated that bus service to an area may not be available, even when the new service standards are met, due to the lack of funding. Thus, it may take some time before Omnitrans can expand existing routes to serve the areas where there is a demand for transit service.

While Omnitrans may or may not initiate future bus transit services in the area, the proposed Specific Plan would not conflict or interfere with public transit now or in the future should service be initiated. The proposed project would not conflict with adopted policies, plans, or programs supporting public transportation, nor would it preclude the future use of bus transit. Impacts would not be significant.

Alternative Transportation

Future residents and employees of the project may use the Metrolink commuter trains to get to and from work and home. However, due to the distance of the nearest Metrolink Station to the site, residents and employees are still likely to utilize private vehicles to go to and from the station and the project site. No significant adverse increase in train traffic on the Metrolink tracks is anticipated to occur with the proposed project.

4.4.4 Standard Conditions and Mitigation Measures

Standard Conditions

The implementation of the following standard conditions would prevent adverse impacts on area roadways:

Standard Condition 4.4.1: The project shall pay development impact fees as set by the City to fund roadway maintenance and improvement projects in the area.

Standard Condition 4.4.2: Future developments would be subject to plan check review to ensure that the necessary access, parking, and roadway improvements are provided as part of individual developments, in accordance with the City's traffic safety design criteria.

Standard Condition 4.4.3: The proposed roundabout shall be constructed per FHWA standards and subject to review and approval by the City during plan check of the final roadway improvement plans.

Mitigation Measures

Implementation of the proposed project would introduce new roadways internally at the project site and would create significant impacts at local and area roadways and freeway segments. Implementation of the mitigation measures, as shown in Figure 4.4-8, *Proposed Traffic Mitigation*, and as listed below would prevent adverse impacts on local roadways and intersections:

Mitigation Measure 4.4.1a: In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share

Section 4.4: Transportation and Circulation

contribution to the City of Fontana for the implementation of the following improvements:

- Sierra Avenue and I-15 Southbound Ramp: Install a traffic signal.
- Sierra Avenue and I-15 Northbound Ramp: Install traffic signal.
- Sierra Avenue and Riverside Avenue: Add a northbound through lane, a southbound through lane and a southbound right turn lane. Convert the southbound shared right-through lane into a through lane

Mitigation Measure 4.4.1b: In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements:

- Project Access 4 and Duncan Canyon Road: Install a traffic signal.
- Project Access 5 and Duncan Canyon Road: Add a dedicated southbound left turn lane.

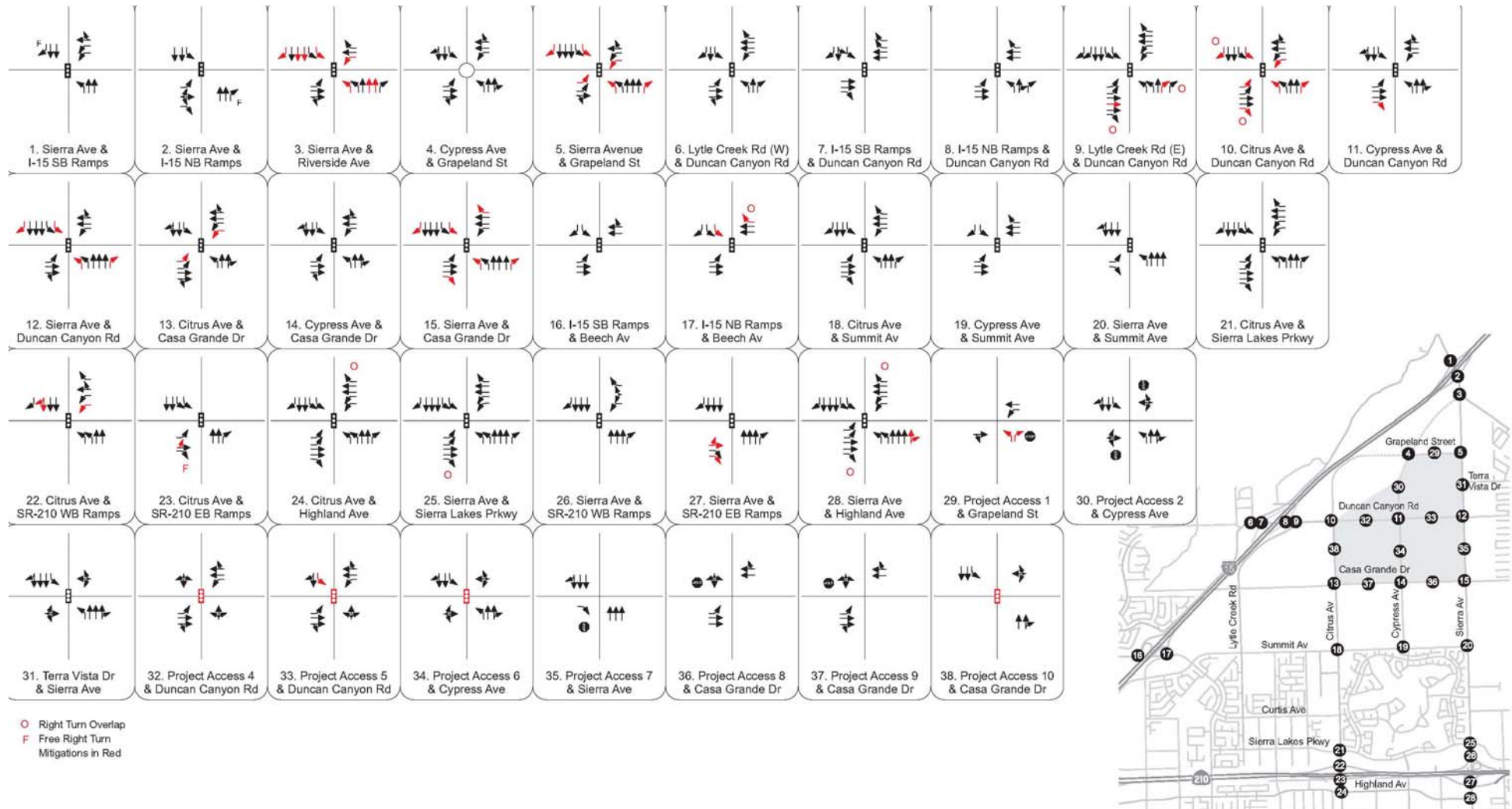
Mitigation Measure 4.4.2: The proposed project shall pay its fair share contribution for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2010. These improvements include:

- I-15 Freeway: Add a lane in for the southbound segment from Glen Helen Parkway to Sierra Avenue
- I-15 Freeway: Add a lane in for the southbound segment from Baseline Road to Foothill Boulevard
- I-15 Freeway: Add a lane in for the northbound segment from Foothill Boulevard to Baseline Road
- I-15 Freeway: Add a lane in for the northbound segment from Sierra Avenue to Glen Helen Parkway

Mitigation Measure 4.4.3a: In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share contribution to the City of Fontana for the implementation of the following improvements:

- Sierra Avenue and Riverside Avenue: Add a second northbound left-turn lane and two northbound through lanes. Add a second southbound left turn lane and a two southbound through lanes. Convert the shared southbound through-right lane into a dedicated right-turn lane. Add a westbound left turn lane and convert the existing shared left-through into a through lane.
- Sierra Avenue and Grapeland Street: Add a second northbound left turn lane and a dedicated northbound right turn lane. Add a second southbound left turn lane and a dedicated southbound right turn lane. Add a westbound left turn lane and an eastbound left turn lane.
- Lytle Creek Road (E) and Duncan Canyon Road: Convert one northbound through lane to a dedicated right turn lane. Provide overlap phasing for the eastbound right turn and the northbound right turn. Add an additional eastbound through lane.

Figure 4.4-8 Proposed Traffic Mitigation



Section 4.4: Transportation and Circulation

- Citrus Avenue and Duncan Canyon Road: Add a second left turn lane and a dedicated right turn lane on each approach. Provide overlap phasing for the eastbound and southbound right turn. Add a second westbound left turn lane.
- Citrus Avenue and Casa Grande Avenue: Add a second eastbound and westbound left turn lane.
- I-15 Southbound Ramps and Beech Avenue: Add a second eastbound left turn lane.
- I-15 Northbound Ramps and Beech Avenue: Add a second southbound left turn lane and a dedicated westbound right turn lane. Provide overlap phasing for the westbound right turn.
- Citrus Avenue and SR-210 Westbound Ramps: Add a second westbound left turn lane and a southbound shared through/right turn lane.
- Citrus Avenue and SR-210 Eastbound Ramps: Reconfigure the off-ramp to include one left turn lane, one shared through/left turn lane, and a free right turn lane.
- Citrus Avenue and Highland Avenue: Provide overlap phasing for the westbound right turn.
- Sierra Avenue and Sierra Lakes Parkway: Provide overlap phasing for the eastbound right turn.
- Sierra Avenue and SR-210 Eastbound Ramps: Convert the eastbound left turn lane into a shared left through lane. Convert the eastbound shared left-right lane into an exclusive right-turn lane.
- Sierra Avenue and Highland Avenue: Convert the existing northbound right turn lane into a shared through/right turn lane. Provide overlap phasing for the eastbound right turn and the westbound right turn.
- Sierra Avenue and Casa Grande Avenue: Add a second northbound left turn lane and a second southbound left turn lane. Convert the shared through/right turn lane at each approach to a through lane. Add a right turn lane to each approach.
- Sierra Avenue and Duncan Canyon Road: Add dual left turn lanes and a dedicated right turn lane at the northbound and southbound approaches.

Mitigation Measure 4.4.3b: In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements:

- Project Access 1 and Grapeland Street: Provide exclusive left and right turning lanes at the northbound approach and provide a westbound left-turn lane.
- Project Access 4 and Duncan Canyon Road: Install a traffic signal.
- Project Access 5 and Duncan Canyon Road: Install a traffic signal and add a dedicated southbound and northbound left turn lane.
- Project Access 6 and Cypress Avenue: Install a traffic signal.
- Project Access 10 and Citrus Avenue: Install a traffic signal.
- Cypress Avenue and Duncan Canyon Road: Convert the eastbound shared through/right turn lane into a through lane and add a right turn lane.

Mitigation Measure 4.4.4: The proposed project shall pay its fair share costs for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2030. These improvements include:

Section 4.4: Transportation and Circulation

- I-15 Freeway: Construction of additional lane to provide a total of seven travel lanes in each direction.
- SR-210 Westbound from Citrus Avenue to I-15: Construction of one additional travel lane.
- SR-210 Westbound from I-15 to Day Creek Boulevard: Construction of one additional travel lane.
- SR-210 Eastbound from Day Creek Boulevard to I-15: Construction of one additional travel lane.
- SR-210 Eastbound from Riverside Avenue to Pepper Avenue: Construction of one additional travel lane.

4.4.5 Unavoidable Significant Adverse Impacts

Future development under the proposed *Arboretum Specific Plan* would generate new vehicle trips that would utilize the surrounding street system. These vehicle trips would add to existing and future traffic volumes and would result in degraded LOS on several intersections and freeway segments. Implementation of the standard conditions and recommended mitigation measures would reduce significant adverse impacts on traffic and circulation.

Table 4.4-15, *Year 2010 Intersection Project Mitigated LOS*, provides the LOS, delay and V/C ratio at intersections projected to operate at LOS E or worse, with the implementation of the mitigation measures outlined above. As shown, the improved intersections would operate at acceptable LOS and no significant impacts are anticipated.

TABLE 4.4-15
YEAR 2010 MITIGATED INTERSECTION LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
Sierra Avenue and Riverside Avenue	C	32.4	0.904	C	22.0	0.794
Project Access 4 and Duncan Canyon Road*	B	18.9	0.322	B	15.8	0.298
LOS= Level of Service, Delay= Average Vehicle Delay (Seconds), V/C= Volume-to-Capacity Ratio *Delay for stop-controlled approach. V/C not applicable. Source: Meyer, Mohaddes Associates, 2008.						

Table 4.4-16, *Year 2030 Intersection Project Mitigated LOS*, presents the LOS and delay during AM and PM peak hour periods for impacted intersections with implementation of recommended mitigation measures.

TABLE 4.4-16
YEAR 2030 MITIGATED INTERSECTION LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
Sierra Avenue and Riverside Avenue	C	20.2	0.740	C	33.8	0.923
Sierra Avenue and Grapeland Street**	A	4.5	-	A	8.8	-
Lytle Creek Road (E) and Duncan Canyon Road	C	23.7	0.600	D	38.4	0.880
Citrus Avenue and Duncan Canyon Road	C	25.6	0.817	C	25.4	0.959
Citrus Avenue and Casa Grande Avenue	C	23.2	0.772	C	24.3	0.947
I-15 Northbound Ramps and Beech Avenue	B	18.3	0.584	D	35.1	0.910

Section 4.4: Transportation and Circulation

TABLE 4.4-16
YEAR 2030 MITIGATED INTERSECTION LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
Citrus Avenue and Sierra Lakes Parkway	C	33.4	0.911	D	41.4	0.923
Citrus Avenue and SR-210 Westbound Ramps	D	41.5	0.920	D	41.0	0.953
Citrus Avenue and SR-210 Eastbound Ramps	B	19.7	0.827	D	43.8	0.964
Citrus Avenue and Highland Avenue	C	27.9	0.776	C	26.2	0.763
Sierra Avenue and Sierra Lakes Parkway	C	27.2	0.828	C	26.3	0.772
Sierra Avenue and SR-210 Eastbound Ramps	B	17.1	0.646	D	36.0	0.956
Sierra Avenue and Highland Avenue	D	39.2	0.918	D	43.0	0.912
Project Access 1 and Grapeland Street*	B	12.6	-	C	19.5	-
Project Access 4 and Duncan Canyon Road	C	21.0	0.614	B	17.6	0.522
Project Access 5 and Duncan Canyon Road	C	20.8	0.433	C	23.1	0.560
Project Access 6 and Cypress Avenue	C	24.1	0.673	C	26.1	0.561
Project Access 10 and Citrus Avenue	A	3.6	0.324	A	3.2	0.454
LOS= Level of Service, Delay= Average Vehicle Delay (Seconds), V/C= Volume-to-Capacity Ratio						
*Delay for stop-controlled approach. V/C not applicable.						
*Roundabout						
Source: Meyer, Mohaddes Associates, 2008.						

As shown, all impacted intersections operate at acceptable LOS with implementation of the recommended mitigation measures, with the exception of the intersection of Lytle Creek Road and Duncan Canyon Road, I-15 Northbound Ramps and Beech Avenue, Citrus Avenue and Sierra Lakes Parkway, and Sierra Avenue and Highland Avenue. However, the recommended mitigation at the Lytle Creek Road (E) and Duncan Canyon Road intersection and at the SR-210 Ramps at Citrus Avenue will improve intersection operations at these locations to LOS D. This is not considered a significant project impact because the intersections are projected to operate at unsatisfactory levels in the future, even without the project. Project traffic itself will not cause a change in the levels of service at these intersections.

Also, the recommended mitigation at the I-15 Northbound Ramps at Beech Avenue will improve the intersection operations to LOS D. This is not considered a significant project impact because the intersection is projected to operate at unsatisfactory levels in the future, even without the project. Project traffic itself will not cause a change in level of service.

At the Citrus Avenue and Sierra Lakes Parkway intersection, no improvement is recommended at this intersection as no feasible mitigation was identified that would bring this intersection into satisfactory operation. This is not considered a significant project impact because the intersection is projected to operate at unsatisfactory levels in the future, even without the project. Project traffic itself will not cause a change in level of service.

At the Sierra Avenue and Highland Avenue intersection, the recommended mitigation will improve intersection operations at this location to LOS D. This is not considered a significant project impact because the intersection is projected to operate at unsatisfactory levels in the future, even without the project. Project traffic itself will not cause a change in level of service.

The project would implement on-site roadway and intersection improvements as part of future development on the site. However, the project's payment of fair share fees would not

Section 4.4: Transportation and Circulation

immediately reduce traffic congestion at off-site roadways and intersections. These intersections would operate at LOS D or worse until the improvements identified above are implemented by the City. Thus, a short-term significant adverse impact on traffic would occur with the project.

As the needed roadway improvements are required and become fully funded, the City will be implementing the roadway and intersection projects under its Development Impact Fee (DIF) program, which would include those outlined in the mitigation measures above. At that time, the intersections are expected to operate at LOS C or better. There is no specific time frame for the implementation of the needed intersection improvements in North Fontana at this time. Thus, unavoidable significant adverse impacts related to traffic are expected in the short-term, until the City constructs the needed improvements through its DIF program.

Section 4.5: Air Quality

An Air Quality Analysis, dated May 2008, has been prepared by Giroux and Associates to characterize air quality in the project area and to determine the project's potential impacts to air quality. The findings of the analysis are summarized below, and the complete Air Quality Analysis is provided in Appendix D of this EIR.

4.5.1 Environmental Setting

Climate

The climate of western San Bernardino County, as with all of Southern California, is governed largely by the strength and location of the semi-permanent high pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions in Fontana are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidities.

Fontana is located in an area where the pollutants generated in the coastal portions of the Los Angeles basin undergo photochemical reactions as they move inland across the basin during the daily sea breeze cycle. The resulting smog at times gives the eastern areas, including the western section of San Bernardino County, some of the worst air quality in all of California. Fortunately, significant air quality improvements in the last decade suggest that healthful air quality may someday be attained, despite the limited regional meteorological dispersion potential in the basin.

Winds across the project area display a very unidirectional onshore flow from the southwest-west that is strongest in summer, with a weaker offshore return flow from the northeast that is strongest on winter nights when the land is colder than the ocean. The onshore winds during the day average six to ten miles per hour (mph), while the offshore flow is often calm or drifts slowly westward at one to three mph.

During the daytime, locally generated air emissions in the City of Fontana are readily transported northeast toward the Cajon Pass without generating any localized air quality impacts. The nocturnal drainage winds which move slowly across the project area have some potential for localized stagnation; but fortunately, these winds have their origin in the adjacent mountains where background pollution levels are low and any localized contributions do not create any unhealthful impacts.

One other important local wind pattern within the project area occurs when the high pressure over the Great Basin creates funneled, gusty down-canyon flows. The air moving downslope is warmed by a process called "adiabatic compression." Because the air was already dry at the top of the mountains, it becomes very dry when it reaches the bottoms of local canyons. Such "Santa Ana" downslope winds can create dust storms, promote wildfires, blow over trucks and campers on the I-15 Freeway, and can cause adverse physiological reactions in some people. San Bernardino County identifies the area north of Highland Avenue/SR-210 to be in a potential wind hazard zone. The project site is located within this wind hazard zone.

Air Quality Regulations

Air quality regulations set standards for levels of air quality pollutants that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Table 4.5-1, *Health*

Section 4.5: Air Quality

Effects of Pollutants, identifies the sources of air pollutants and the adverse effects of exposure to these pollutants.

Table 4.5-1
Health Effects of Pollutants

Pollutants	Sources	Health Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust • Natural events, such as decomposition of organic matter	• Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO ₂)	• Motor vehicle exhaust • High temperature stationary combustion • Atmospheric chemical reactions	• Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O ₃)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardio-pulmonary function • Plant leaf injury
Lead (Pb)	• Contaminated soils	• Impairment of blood function and nerve construction • Behavioral and hearing problems in children
Respirable Particulate Matter (PM ₁₀)	• Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions	• Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardio-respiratory diseases • Increased cough and chest discomfort • Surface soiling • Reduced visibility
Ultra Fine Particulate Matter (PM _{2.5})	• Fuel combustion in motor vehicles, equipment and industrial sources • Residential and agricultural burning • Industrial processes • Formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics	• Increased respiratory disease • Lung damage • Cancer and premature death • Reduces visibility and results in surface soiling
Sulfur Dioxide (SO ₂)	• Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finished, coatings, etc.
Source: California Air Resources Board, 2002		

Section 4.5: Air Quality

Air quality standards are the levels of air quality pollutants that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The standards are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone, even at the federal clean air standard level, can create unhealthful reactions through pulmonary distress.

National Ambient Air Quality Standards (AAQS) were originally established in 1971 for six pollutants, with states retaining the option to add other pollutants; require more stringent compliance; or to include different exposure periods. Because California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between the state and national clean air standards. Those standards currently in effect in California are shown in Table 4.5-2, *Ambient Air Quality Standards*.

TABLE 4.5-2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	0.12 ppm (235 µg/m³)	Same as Primary standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (140 µg/m³)		0.08 ppm (157 µg/m³)		
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m³	Gravitation or Beta Attenuation	150 µg/m³	Same as Primary standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 µg/m³		50 µg/m³		
Ultra Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard		65 µg/m³	Same as Primary standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravitation or Beta Attenuation	15 µg/m³		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		-		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	(new standard pending)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 µg/m³)		-		
Lead	30 days average	1.5 µg/m³	Atomic Absorption	-	-	-
	Calendar Quarter	-		1.5 µg/m³	Same as Primary standard	High Volume Sampler and Atomic Absorption
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm (80 µg/m³)	-	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	-	

Section 4.5: Air Quality

TABLE 4.5-2

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Sulfur Dioxide (SO ₂)	3 Hour	-	Ultraviolet Fluorescence	-	0.5 ppm (1,300 µg/m ³)	Spectrophotometry (Pararosoaniline Method)
	1 Hour	0.25 ppm (665 µg/m ³)		-	-	
Visibility Reducing Particles	8 Hour (10 am to 6 pm, PST)	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			
ppm – parts per million µg/m ³ – micrograms per cubic meter Source: SCAOMD and CARB						

The federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of all current health data. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM_{2.5}"). New national AAQS were adopted on July 17, 1997.

Planning and enforcement of the new federal standards for PM_{2.5} and for ozone (8-hour) were challenged by trucking and manufacturing organizations. The U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court did find, however, that there was some inconsistency between existing and "new" standards in their respective attainment schedules. The attainment planning schedule inconsistencies centered mainly on the 8-hour ozone standard.

In April 2004, the EPA downgraded the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard. Because the South Coast Air Basin is far from attaining the 1-hour federal standard, the 8-hour ozone non-attainment designation would not substantially alter the attainment planning process. Because the basin is far from attainment, the compliance deadline for the 8-hour ozone standard has been extended. A new state standard for an 8-hour ozone exposure was adopted in April 2005, which mirrors the federal standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.08 ppm.

In light of the data showing adverse respiratory health effects in sensitive individuals to PM_{2.5} exposures at less than the federal standard, California environmental agencies proposed adoption of a State PM_{2.5} standard. The State PM_{2.5} standards were adopted by the California Air Resources Board in June 2002. The State standard became enforceable in 2003 when it

Section 4.5: Air Quality

was incorporated into the California Health and Safety Code. The State PM_{2.5} standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Currently, the South Coast Air basin is considered in attainment of the nitrogen dioxide, sulfur dioxide, and lead air quality standards. Also, the SCAQMD requested re-designation of the South Coast air basin as an attainment area for CO in 2005 and the U.S. EPA approved the re-designation request and CO maintenance plan for the air basin on May 11, 2007.

With the re-designation of the South Coast Air Basin as non-attainment for the 8-hour ozone standard, a new attainment plan was adopted in June 2007. The 2007 AQMP includes strategies for ultimately meeting the federal 8-hour ozone standard by 2023, the PM_{2.5} annual standard by 2014, and the PM_{2.5} 24-hour standard by 2020. Key emissions reductions strategies in the new AQMP include:

- Ultra-low emissions standards for both new and existing mobile sources (including on-and-off-road heavy-duty trucks, industrial and service equipment, locomotives, ships and other watercraft and aircraft)
- Accelerated fleet turnover to achieve benefits of cleaner engines
- Reformulation of consumer products
- Modernization and technology advancements from stationary sources (refineries, power plants, etc.)

Existing Air Quality

Standards for ozone (O₃) and particulate matter (PM-10) are exceeded at times in the South Coast Air Basin. The City of Fontana is located within the South Coast Air Basin, where existing levels of ambient air quality and historical trends are documented from measurements made at the monitoring stations in the cities of Fontana and San Bernardino. The South Coast Air Quality Management District (SCAQMD) operates air monitoring stations in the cities of Fontana and San Bernardino that monitor carbon monoxide (CO), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and nitrogen dioxide (NO₂) levels.

Table 4.5-3, *Air Quality Monitoring Data*, summarizes the published monitoring data from the SCAQMD monitoring stations near the site from 2002 to 2006.

TABLE 4.5-3
AIR QUALITY MONITORING DATA

Pollutant/Standard	Days Standards Were Exceeded and Maximum Observed Levels				
	2002	2003	2004	2005	2006
Ozone¹					
1-Hour > 0.09 ppm (S)	37	65	48	49	47
1-Hour > 0.12 ppm (F)*	8	26	7	9	12
8-Hour > 0.07 ppm (S)	42	69	70	66	67
8- Hour > 0.08 ppm (F)	22	48	28	23	29
Max 1-Hour Conc. (ppm)	0.16	0.18	0.15	0.15	0.16

Section 4.5: Air Quality

TABLE 4.5-3
AIR QUALITY MONITORING DATA

Pollutant/Standard	Days Standards Were Exceeded and Maximum Observed Levels				
	2002	2003	2004	2005	2006
Carbon Monoxide²					
1-Hour > 20. ppm (S)	0	0	0	0	0
8- Hour > 9. ppm (S,F)	0	0	0	0	0
Max 1-Hour Conc. (ppm)	4.5	5.1	4.0	4.0	3.0
Max 8-Hour Conc. (ppm)	3.2	4.6	3.3	2.4	2.0
Nitrogen Dioxide¹					
1-Hour > 0.25 ppm (S)	0	0	0	0	0
Max. 1-Hr. Conc. (ppm)	0.12	0.12	0.06	0.10	0.09
Inhalable Particulates (PM₁₀)¹					
24-Hour > 50 µg/m ³ (S)	32/60	27/50	29/61	29/60	31/60
24-Hour > 150 µg/m ³ (F)	0/59	0/50	0/61	0/60	0/60
Max. 24-Hr. Conc. (µg/m ³)	102	101	106	108	142
Ultra-Fine Particulates (PM_{2.5})¹					
24-Hour > 65 (µg/m ³) (F)	1/118	1/111	1/104	1/109	0/112
24-Hour > 35 µg/m ³ (F)**	24/118	16/118	15/104	7/109	8/112
Max. 24-Hour Conc. (µg/m ³)	67	98	71	97	53
1=Fontana Station No. 5197 2=Downtown San Bernardino Station No. 5203 (S)=State standard (F)=Federal standard * standard revoked in 2006 ** revised standard adopted in 2006 Source: SCAQMD, 2002-2006 Air Monitoring Data					

Ozone, the primary ingredient in photochemical smog, is a major pollution problem in the South Coast Air Basin and in the project area. About 3 percent of all days of the year experience a violation of the national hourly ozone standard, slightly less than 13 percent of all days exceed the California one-hour standard. The federal 8-hour standard is exceeded on slightly over eight (8) percent of all days. Although ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project area is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.

In addition to gaseous air pollution concerns, Fontana also experiences frequent violations of standards for PM₁₀. High dust levels occur during Santa Ana wind conditions, as well as from the trapped accumulation of soot, roadway dust, and byproducts of atmospheric chemical reactions during warm season days with poor visibility. Table 4.5-3 above shows that almost 51 percent of all days in the last five years in Fontana experienced a violation of the State PM₁₀ standard. However, the three-times less stringent federal standard has not been exceeded in the past five years.

A substantial fraction of PM₁₀ is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM_{2.5}). Peak annual PM levels are almost as high as PM₁₀, which includes PM_{2.5}. Both the frequency of violations of particulate standards, as well as high percentage of PM_{2.5}, are air quality concerns in the project area.

Federal standards for nitrogen dioxides and carbon monoxide are now met in the air basin. Concentrations of localized pollutants, such as carbon monoxide and nitrogen oxides, are very

Section 4.5: Air Quality

low near the project site. Background levels, even in downtown San Bernardino, never exceed allowable levels. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS.

The project site is largely undeveloped and contributes to fugitive dust and PM₁₀ levels during periods of high winds. The existing residence generates some vehicle trips and associated pollutant emissions, and utilizes power and natural gas, which generate stationary emissions.

Greenhouse Gases

Carbon dioxide, methane, nitrous oxide, ozone, and water vapor are the main gases emitted by human activity that contribute to an increase in the temperature of the earth's atmosphere by their transparency to short wavelength visible sunlight but near opacity to outgoing terrestrial long wavelength heat radiation. These gases are called greenhouse gases because they trap heat near the surface of the earth and are implicated in global climate change, or more commonly referred to as "global warming." Fossil fuel consumption (by the use on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of greenhouse gas emissions, accounting for approximately half of greenhouse gas emissions globally. Industrial and commercial sources are the second largest contributors of greenhouse gas emissions, contributing approximately one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California's reputation as a "national and international leader on energy conservation and environmental stewardship." It will have wide-ranging effects on California businesses and lifestyles, as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions, are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate "early action" control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California's GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, over the next 13 years (by 2020).
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Additionally, through the California Climate Registry (CCAR), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources,

Section 4.5: Air Quality

and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

With the project site vacant, no greenhouse gases are generated at the site.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on air quality, if its implementation results in any of the following:

- ◆ Conflicts with or obstructs implementation of the applicable air quality plan;
- ◆ Violates any air quality standard or contribute substantially to an existing or projected air quality violation;
- ◆ Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- ◆ Exposes sensitive receptors to substantial pollutant concentrations; or
- ◆ Creates objectionable odors affecting a substantial number of people.

The SCAQMD has established thresholds of significance for various pollutants. These are:

Pollutant	Construction (lbs/day)	Operations (lbs/day)
ROG	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
Lead (Pb)	3	3

Projects that exceed these thresholds are considered to have a significant adverse impact on air quality.

Indicators are also listed in the SCAQMD CEQA Air Quality Handbook that should be used as screening criteria to evaluate the need for further analysis with respect to air quality. Whenever possible, the project should be evaluated in a quantitative analysis; otherwise a qualitative analysis is appropriate. These indicators are as follows:

- ◆ Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- ◆ Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- ◆ Project could generate vehicle trips that cause a CO hot spot.
- ◆ Project could result in an accidental release of toxic, hazardous or odorous air contaminants, including air contaminants in small diameter particulate matter fraction of diesel exhaust

Section 4.5: Air Quality

The SCAQMD CEQA Handbook also identifies various secondary significance criteria related to toxic, hazardous, or odorous air contaminants. For toxic air contaminants (TACs), the SCAQMD has indicated that the individual cancer risk significance is considered less than significant if it will lead to less than 1.0 in one million cancer risk exposure. It is also considered insignificant if the risk is from 1.0 to 10 in one million and best available control technology has been used. If the risk is greater than 10 in one million, it is considered significant.

The Governor's Office of Planning and Research is in the process of developing CEQA significance thresholds for GHG emissions but thresholds have yet to be established.

4.5.2 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would generate short-term and long-term pollutant emissions, which could contribute to the degradation of local and regional air quality.

Air Quality Management Plan Consistency (*Would the project conflict with or obstruct the implementation of the applicable air quality plan? Would the project result in population increases within the regional statistical area which would be in excess of that projected in the AQMP?*)

The 2007 Air Quality Management Plan (AQMP) for the South Coast Air Basin was developed to address air pollution control in the air basin and to allow air quality in the basin to meet federal and state ambient air quality standards. The SCAQMD has developed regulations to control pollution sources in the region in accordance with the directives of the AQMP.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, the 2007 AQMP shifts most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the ozone attainment date would "slip" from 2010 to 2023. The updated attainment plan also includes strategies for ultimately meeting the federal PM_{2.5} standard.

The proposed *Arboretum Specific Plan* (and the associated residential, commercial, and educational uses built under the Specific Plan) relates to the AQMP and/or State Implementation Plan (SIP) through the land use and growth assumptions used to forecast automotive air pollution emissions. The SCAB air quality plans are based on the designated land use for the project site, as contained in the Fontana General Plan. To the extent that the proposed development is consistent with the City's General Plan, it is, by inference, also consistent with the AQMP. Such consistency implies that the project would not create any unanticipated regional air quality impacts because such impacts have already been incorporated within the framework of the regional air quality planning process. Thus, if a given project incorporates available transportation control measures that can be implemented on a project-specific basis, and if the scope and phasing of a project are consistent with adopted forecasts as shown in the Regional Comprehensive Plan (RCP), then the regional air quality impact of project growth would not be significant because of planning inconsistency.

If, however, adoption of the proposed project allows for a greater intensity of development than currently anticipated, such growth inducement could create air quality planning inconsistency.

Section 4.5: Air Quality

Future development under the proposed Specific Plan would generate pollutant emissions that would exceed SCAQMD thresholds and would represent a significant contribution to regional emissions. Also, the project would lead to development on the site that has not been anticipated in the regional air quality plan.

The development density proposed on the site is different than what is allowed under the current land use designations for the site, as set forth by Fontana General Plan. As discussed in Section 4.2, *Land Use and Planning*, the *Arboretum Specific Plan* would increase residential development on the site and decrease commercial and light industrial development over those planned under the Fontana General Plan. Thus, it is not consistent with projections used in the AQMP. However, the project would not exceed population and employment projections for the City, as discussed in Section 4.3, *Population and Housing*. The project would also meet the demand for housing in the area and would provide schools, parks, goods, services, and jobs in proximity to housing.

Future development on the site would be required to comply with applicable regulations of the SCAQMD regarding fugitive dust control, pollutant reductions, architectural coatings, toxic emissions, and other stationary equipment controls. Thus, it would comply with the regulations that have been developed to help meet air quality objectives for the region.

The SCAQMD acknowledges that the AQMP is a growth-accommodating document and does not favor designating regional impacts as less than significant just because development is consistent with regional growth projections. While the project is not consistent with buildout projections, air quality impacts would not lead to CO concentrations or diesel emissions that would exceed SCAQMD thresholds or the exceedance of Local Significance Thresholds. The localized impacts of the proposed project are analyzed below.

Air Quality Planning Consistency

The adopted AQMP contains a number of land use measures and goals that would benefit regional air quality. These include intensification of land uses near points of multiple transportation system access, mixed land uses to encourage non-vehicular mobility between homes, jobs and goods/services, and economic revitalization of depressed and blighted urban core areas. The proposed project meets these objectives through the development of residential uses, with on-site schools and parks and a commercial activity center.

The City of Fontana promotes development that provides revenue for needed infrastructure; that provides commercial uses to serve residential neighborhoods and the community as a whole; and that provides employment opportunities to City residents. The proposed project would provide both housing and employment opportunities for the City's residents.

The AQMP encourages better jobs/housing balance as a means of reducing vehicle trips (VT) and vehicle miles traveled (VMT). The creation of job opportunities at the project site and the provision of goods and services to serve the residential uses within the project and adjacent to the site would result in a reduction in vehicle trips and vehicle miles traveled. In addition, the development of the elementary school and combined elementary and middle school at the site would reduce off-site travel by students and their parents/guardians. Additionally, trails, bikeways and pedestrian walkways would be provided on-site to encourage the use of alternatives to the automobile. This is consistent with air quality planning objectives and therefore is consistent with job and housing goals for the region. Also, a secondary consistency

Section 4.5: Air Quality

criterion from SCAQMD relates to violations of localized significance thresholds (LST). As discussed below, the project would not lead to violations of LSTs for the Western San Bernardino Valley. No significant adverse impacts are expected.

Air Quality Standards *(Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? Would the project exceed SCAQMD thresholds of significance?)*

Future development under the proposed *Arboretum Specific Plan* would generate construction emissions, vehicle emissions, emissions from power and gas consumption, and on-site stationary emissions.

Construction Emissions

Dust includes small inhalable particulate matter, as well as larger diameter particles that rapidly settle out on any surface adjacent to the source. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive" emissions.

Fugitive dust (PM₁₀) emission rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation). The SCAQMD estimates daily PM₁₀ emissions during construction to be 26.4 pounds per day per acre disturbed when "standard" dust control procedures required by SCAQMD Rule 403 are used. Enhanced dust control procedures (or reasonably available control measures - RACMs) would reduce the average daily PM₁₀ emission rate to as low as around 10 pounds per day. With the use of best available control measures (BACMs) the California Air Resources Board URBEMIS2007 computer model predicts that emissions can be reduced to 1 to 2 pounds per acre per day.

Use of "standard" daily PM₁₀ emission factors allows for the simultaneous disturbance of around 5.7 acres to generate a potentially significant emission level of 150 pounds per day, which is determined to be potentially significant in the SCAQMD Handbook. If RACM dust control procedures are implemented, around 15 acres of the project site could be under simultaneous disturbance, while maintaining less-than-significant daily PM₁₀ emissions. If BACMs are implemented, as much as 75 acres may be disturbed in one day.

Assuming a worst-case scenario where grading and construction activities occur within a highly compressed schedule and on-site development is one major project, the URBEMIS2007 computer modeling software from the California Air Resources Board predicts that 180.3 acres of the 531.3-acre site could be under simultaneous disturbance during project construction. This would generate 4,760 pounds per day of PM₁₀ emissions using "standard" dust control methods and 1,803 pounds per day using highly aggressive dust control measures (RACMs). Thus, PM₁₀ emissions would exceed the SCAQMD threshold of 150 pounds per day and impacts are considered significant.

Impact 4.5.1: *Grading and soil disturbance activities associated with the proposed project would exceed SCAQMD thresholds for PM₁₀.*

Reducing PM₁₀ emissions to less than significant levels during grading activities would require a combination of a reduced daily grading area, plus use of BACMs. However, restricting mass grading activities could extend the project construction period and would result in more

Section 4.5: Air Quality

construction equipment operating near occupied homes. PM₁₀ grading emissions during mass grading will, thus, be significant and cannot be mitigated to less-than-significant levels unless the disturbance area is reduced to 75 acres or less per day and BACMs are implemented.

However, completion of final grading within each village would confine ground disturbance to smaller areas, with most of the individual planning areas in the villages being less than 15 acres in size. Enhanced dust control measures would reduce PM₁₀ emissions to less than significant levels during final grading.

The most adverse effect comes from exposure to ultra-small diameter particulate matter comprised of chemically reactive pollutants such as sulfates, nitrates, or organic material. However, limited PM_{2.5} is generated by construction activity. Soil dust is also more chemically benign than typical urban atmospheric PM_{2.5}. PM_{2.5} emissions are estimated by the SCAQMD to comprise 20.8 percent of PM₁₀. Other studies have shown that the fugitive dust fraction of PM_{2.5} is closer to 10 percent.

Soil dust is also more chemically benign than typical urban atmospheric PM_{2.5}. Although worst-case, project-related construction activity PM₁₀ is predicted to temporarily exceed 150 pounds per day (SCAQMD threshold), the absence of much PM_{2.5} within this dust generation level suggests a minimal potential health impact despite substantial amounts of PM₁₀. Application of the 20.8 percent PM_{2.5} factor to the worst-case PM₁₀ emission rate of 168 pounds per day predicts a daily PM_{2.5} emission of 35 pounds per day, which is less than the SCAQMD significance threshold of 55 pounds per day. With a more realistic construction schedule, the margin of safety between PM_{2.5} emissions from fugitive dust and the SCAQMD CEQA threshold will be even larger. Thus, limited amounts of PM_{2.5} are expected from construction activities, and less than significant impacts are expected.

In addition to fine particles that remain suspended in the atmosphere semi-indefinitely, construction activities generate larger particles with shorter atmospheric residence times. This dust is comprised mainly of large diameter inert silicates that are chemically non-reactive and can be readily filtered out by human breathing passages. These fugitive dust particles settle very close to the source (typically 100 feet) and create a potential soiling nuisance as they settle out on parked cars, outdoor furniture, or landscape foliage, rather than create an adverse health hazard.

The existing home at the northwestern corner of the project site recently burned down. Two homes are located northeast of the site on Sierra Avenue and west of the site on Duncan Canyon Road. Other nearby homes are found in residential tracts south, east, and southwest of the site. These homes would be exposed to fugitive dust during construction at the site when ground disturbance occurs within approximately 100 feet of the existing homes. In addition, as residential villages, schools, and parks are constructed on the project site, occupied homes, schools and parks on-site would be exposed to fugitive dust from construction of adjacent villages and developments within 100 feet of the homes, schools, and parks.

In addition, the project site is located within a wind hazard area. Frequent strong winds during Santa Ana conditions can make dust control difficult. Dust clouds from freshly graded surfaces can seriously reduce driving visibility on I-15 Freeway. High winds can also carry sand crystals for long distances. Blowing sand can scratch painted surfaces, create hazy windows, and shred young vegetation.

Section 4.5: Air Quality

Impact 4.5.2: Grading and soil disturbance activities associated with the proposed project would generate nuisance dust that may affect nearby residences, schools, and parks.

From both a safety and nuisance perspective, enhanced dust control must be used during construction activities at the site on possible source areas. Extra water, chemical stabilizers, and sand fences are elements of a high-wind dust control program that must be incorporated into project construction planning.

Exhaust emissions would result from on- and off-site heavy equipment during construction activities at the site. Emissions would also be generated during finish construction, especially during the application of paints or other coatings. The types and numbers of equipment would vary among contractors such that such emissions cannot be quantified with certainty.

In the absence of specific phasing information and types of equipment to be used, the default equipment fleet from the URBEMIS2007 model was used. The specified fleet is likely much too small to simultaneously grade the 180+ acres considered a worst-case grading scenario. However, it is a reasonable fleet for the grading and construction of smaller individual parcels likely to occur under project phased development.

Thus, the following equipment fleet has been assumed to be in use during each phase of project construction and is used as a basis for estimating maximum daily equipment exhaust emissions:

Mass Grading	Paving	Construction
2 Graders	1 Paver	1 Crane
2 Tractors/Loaders/Backhoes	1 Paving Equipment	3 Forklifts
1 Compactor	2 Rollers	1 Generator Set
6 Scrapers		1 Welder
2 Water Trucks		3 Tractors/Loaders/Backhoes

The California Air Resources Board's (CARB) URBEMIS2007 computer model was used to estimate daily emissions during grading and finish construction. The estimated maximum daily emissions are provided in Table 4.5-4, *Construction Activity Emissions*.

TABLE 4.5-4
CONSTRUCTION ACTIVITY EMISSIONS (lbs/day)

Activity	ROG	NOx	CO	SO₂	PM₁₀	PM_{2.5}	CO₂
<i>Grading</i>							
No Mitigation	19.2	176.7	88.0	0.0	1810.9	383.6	15,046.2
With Mitigation	19.2	150.2	88.0	0.0	168.3	36.0	15,046.2
<i>Construction and Paving</i>							
No Mitigation	351.1	209.4	599.1	0.8	14.0	10.9	78,417.3
With Mitigation	320.2	202.7	599.1	0.8	11.0	8.1	78,417.3
SCAQMD Threshold	75	100	550	150	150	55	
* = (0.208 x fugitive dust) + 100% exhaust							
Source: Giroux and Associates, 2008							

As shown, ROG, NOx, CO, PM₁₀ and PM_{2.5} emissions would exceed SCAQMD thresholds during various phases of construction at the site. This is regarded as a significant impact.

Section 4.5: Air Quality

Impact 4.5.3: Construction activities associated with the proposed project would exceed SCAQMD thresholds for ROG, NOx, CO, PM₁₀ and PM_{2.5}.

ROG emissions would not exceed the SCAQMD threshold during grading but would exceed threshold by as much as 468 percent during paving and construction. This assumes the application of paintings and coatings with low-VOC content. The use of pre-coated building materials and high pressure-low volume (HPLV) paint applicators would reduce ROG emissions but not below the SCAQMD threshold.

However, not all 3,526 homes, two schools, and a community shopping center would be painted in six months in order to finish construction by 2010 (to match the assumptions in the traffic study). With a more realistic structural painting assumption spread out over ten years rather than six months, daily ROG emissions would be well below the SCAQMD CEQA threshold. Employing an extended painting schedule (using less than 100 gallons per day of low-VOC paint) would be required to reduce ROG evaporative emissions to less than significant levels. With no set schedule and absent a limit on daily paint consumption, temporary ozone impacts from ROG emissions from paints and coatings would remain significant.

During grading activities, NOx emissions would exceed the SCAQMD significance threshold by 1.8 times, and construction activities would exceed threshold by over 2 times. Mitigation in the form of regular equipment tune-ups and limits in equipment idling can reduce NOx emissions by about 10 percent, but cannot reduce NOx emissions to below threshold standards. Enhanced emissions controls using oxidation catalysts or selective catalytic reduction can reduce NOx emissions by 5 to 8 percent, but not to levels below SCAQMD thresholds. Construction and grading activity NOx diesel emissions would create a significant, but temporary, impact unless the size of the equipment fleet is reduced. A substantial equipment fleet reduction would reduce ROG, NOx, CO, and PM₁₀ emissions, but would require a longer time to complete the project. Reduction in nuisance impacts from the dirt spillage, erosion, or blowing dust during windy conditions could offset any NOx emission reduction benefit from extending the grading duration.

ROG and NOx are regional concerns because ROG and NOx are ozone precursors, which have been shown to cause adverse health effects on sensitive receptors and for emergent plant tissue. These effects include the following:

- Aggravation of respiratory illness
- Reduced visibility
- Reduced plant growth
- Formation of acid rain
- Aggravation of respiratory and cardiovascular diseases
- Irritation of the eyes
- Impairment of cardiopulmonary function
- Plant leaf injury

CO emissions would also exceed threshold during paving and construction, but not during grading activities. Carbon monoxide (CO) levels have dropped dramatically throughout the region over the last several decades. Baseline levels can accommodate substantial local emission increases without the creation of any CO “hotspots”. It has been demonstrated in the regional CO attainment/maintenance plan that even the most congested intersection with the

Section 4.5: Air Quality

highest traffic volumes anywhere in the basin no longer poses any risk of a CO “hot spot”. Construction equipment CO exhaust from the project would be spread over a much larger area than those from thousands of vehicles at major congestion nodes. Thus, while levels of CO emissions would exceed SCAQMD thresholds during grading, they would not create any adverse health risks.

As noted above, PM₁₀ and PM_{2.5} emissions from fugitive dust released during site grading, plus the diesel exhaust particulates, would exceed the SCAQMD threshold. During prevailing daytime airflow from the southwest to the northeast, there are few residential receptors downwind of the site. Depending on the sequence of construction, new homes may be located northeast of construction areas and these occupied homes would be exposed to PM₁₀ and PM_{2.5} emissions and fugitive dust. Enhanced dust control measures would mitigate PM₁₀ and PM_{2.5} emissions.

Construction activity air quality impacts occur mainly in close proximity to the surface disturbance area. There may, however, be some “spillover” into the surrounding community. This spillover would include vehicles dropping or carrying out dirt or silt that gets washed into public streets. Passing non-project vehicles then pulverize the dirt to create off-site dust impacts. Spillover may also occur via congestion effects. Construction activities may entail roadway encroachment, detours, lane closures and competition between construction vehicles (trucks and contractor employee commuting) and ambient traffic for available roadway capacity. Emission controls require good housekeeping practices and a construction traffic management plan that would reduce congestion and other spillover effects to less than significant levels.

Local Significance Thresholds

As part of the SCAQMD’s Environmental Justice Initiative, SCAQMD developed air quality thresholds to insure that no economically or socially disadvantaged community is exposed to a disproportionate share of additional air pollution. The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Local Significance Thresholds (LSTs). LSTs were developed in response to Governing Board’s Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD’s Mobile Source Committee in February 2005.

The LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The SCAQMD has recommended that LSTs be applied to CEQA analyses for both construction and project operations in the South Coast Air Basin. Use of an LST analysis for a project is optional because they were derived for economically or socially disadvantaged communities. LSTs have been established for NO_x, CO, PM₁₀ and PM_{2.5}.

The residence at the northwest corner of the project site recently burned down. The nearest residences are located southwest of the project site, across Casa Grande Avenue. Two other residences are present near the site: one on Sierra Avenue to the northeast and another east of the site on Sierra Avenue. With winds prevailing from the southwest to northeast, the residences

Section 4.5: Air Quality

to the southwest would not be downwind of the site, except for the residence on Sierra Avenue to the northeast. Thus, no LST analysis is necessary.

Vehicle Emissions

Future development under the proposed *Arboretum Specific Plan* would lead to new vehicle trips that would generate pollutant emissions. Mobile source emissions associated with the project and area growth were calculated using the California Air Resources Board URBEMIS2007 computer model, assuming a year 2010 buildout. Because of staged development, actual build-out of the site is not expected until 2015 when cars are expected to be utilizing cleaner-burning fuels. Thus, estimated emissions may be slightly higher than actual emissions by 2015.

Results of this analysis are shown in Table 4.5-5, *Project-Related Operational Emissions*.

TABLE 4.5-5
PROJECT-RELATED OPERATIONAL EMISSIONS (LB/DAY)

Year 2010	ROG	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
Area Source Emissions	211.3	49.5	111.9	0.0	0.3	0.3	62,077.8
Mobile Source Emissions	292.7	363.1	3,316.7	3.3	543.8	106.0	325,839.8
TOTAL	504.0	412.7	3,428.6	3.3	544.1	106.4	387,917.6
SCAQMD Significance Thresholds	75	100	550	150	150	55	-
Exceeds Threshold (?)	668	413	623	2	363	193	NA
% of Threshold	Yes	Yes	Yes	No	Yes	Yes	NA
Source: Giroux and Associates, 2008							

As shown, the mobile source emissions from the project would create potentially significant air quality impacts. Project-related emission levels for the two ozone precursor pollutants (ROG and NOx) would exceed the threshold and would represent 668 and 413 percent of ROG and NOx thresholds, respectively. Carbon monoxide (CO) emissions would exceed the significance threshold and would represent 623 percent of the threshold. PM₁₀ would exceed the threshold and would represent 363 percent of SCAQMD thresholds. No reasonable level of mitigation could reduce such “excessive” levels to less than significant levels, outside of a major scale-back of the project size. This is regarded as a significant impact.

Impact 4.5.4: Vehicle emissions associated with the proposed project would exceed SCAQMD thresholds for air pollutants.

The project would need to implement transportation control measures (TCMs) (such as bicycle lanes and storage facilities, sidewalks and pedestrian walkways, telecommunication systems, and Wi-Fi “hot spots”) that would reduce the use of the automobile and encourage the use of alternative transportation. Other TCMs, such as traffic flow improvements and transit programs, cannot be performed by any single project, by one developer, or by one political jurisdiction. However, the developer shall incorporate the TCMs to facilitate the option to select a non-single occupancy vehicle (SOV) transportation option.

In a regional sense, the project would benefit air quality by providing retail, recreational and educational facilities close to on-site residential users, as well as reducing the length of home-to-work trips. The convenience of the two parcels with on-site elementary school and combined

Section 4.5: Air Quality

elementary-middle school is expected to reduce traffic substantially through internal trips between school and residences. However, the mobile source emissions would have a regionally significant air quality impact.

Stationary Emissions

Energy demand by future development under the Arboretum Specific Plan would be met by the burning fossil fuels in regional power plants, which would add a small NO_x increment from project operations and add very minute amounts of other pollutants. Residential uses also generate small quantities of organic compounds from cleaning products, personal care products, landscape maintenance, cooking, etc. The individual residential contribution of each such source is small, but becomes significant with the proposed development of as many as 3,426 dwelling units, two schools, parks, and commercial retail center at the site.

Thus, the project would cause additional, generally smaller amounts of air pollution that would be generated from on-site energy consumption (natural gas combustion) and from other area source emissions. The area source emissions from the project by 2010 are estimated in Table 4.5-5 above. As shown, ROG emissions from area sources alone would exceed the SCAQMD threshold by 400 percent. NO_x, CO, PM₁₀, and SO_x emissions from area sources would not exceed the thresholds by themselves.

Impact 4.5.5: Area source emissions associated with the proposed project would exceed SCAQMD thresholds for ROG.

The area source emissions calculations do not take into account ongoing SCAQMD programs to reduce area source emissions from the reformulation of cleaning products, hairspray, deodorants, insecticides, herbicides, charcoal starters, spray paint, and other substances that have occurred in the last decade and would continue into the future. Thus, the actual area source emissions from the project would be substantially lower than shown in Table 4.5-5 because the URBEMIS2007 computer model has not been updated to keep pace with these developments in area source reductions. Although area source emissions would be less than the estimates shown in Table 4.5-5 because of computer model deficiencies, combined mobile and area source emissions would still exceed SCAQMD thresholds.

Micro-Scale CO Impact Analysis (*Would the project generate vehicle trips that cause a CO "hot spot"?*)

Micro-scale air quality impacts have traditionally been analyzed for projects located in air basins that were non-attainment for carbon monoxide (CO). However, the SCAQMD has demonstrated in its CO attainment redesignation request to EPA that there are no "hot spots" anywhere in the South Coast Air Basin, even at intersections with much higher volumes, much worst congestion, and much higher background CO levels than anywhere in North Fontana and in the City. If the worst-case intersections in the South Coast Air Basin have no "hot spot" potential, then local CO levels near the project site are expected to be well below thresholds with an even larger margin of safety.

To verify this conclusion, a CO screening analysis was performed at intersections near the project site. One-hour CO concentrations were calculated on the sidewalks adjacent to these intersections. AM and PM peak one-hour levels (ppm above background) are summarized in

Section 4.5: Air Quality

Table 4.5-6, *One-Hour CO Concentrations During AM Peak Hour*, and Table 4.5-7, *One-Hour CO Concentrations During PM Peak Hour*.

TABLE 4.5-6
ONE-HOUR CO CONCENTRATIONS (PPM) DURING AM PEAK HOUR

Intersection						
Roadway	Cross Street	Existing	2010	2010 w/Project	2030	2030 w/Project
Sierra Avenue	I-15 SB Ramp	0.6	0.5	0.6	0.3	0.3
Sierra Avenue	I-15 NB Ramp	1.0	0.8	0.9	0.3	0.4
Sierra Avenue	Riverside Avenue	1.2	1.0	1.3	0.8	0.8
Cypress Avenue	Grapeland Street	NA	0.1	0.1	0.1	0.1
Sierra Avenue	Grapeland Street	NA	0.4	0.6	0.3	0.4
Lytle Creek Road	Duncan Canyon Road	<0.1	0.1	0.1	0.1	0.2
I-15 SB Ramps	Duncan Canyon Road	NA	0.2	0.4	0.4	0.5
I-15 NB Ramps	Duncan Canyon Road	NA	0.2	0.5	0.4	0.6
Lytle Creek Road	Duncan Canyon Road	<0.1	0.3	0.7	0.5	0.6
Citrus Avenue	Duncan Canyon Road	NA	0.3	0.6	0.5	0.8
Cypress Avenue	Duncan Canyon Road	NA	0.1	0.4	0.2	0.3
Sierra Avenue	Duncan Canyon Road	NA	0.4	0.5	0.3	0.3
Citrus Avenue	Casa Grande Avenue	NA	0.2	0.4	0.3	0.4
Cypress Avenue	Casa Grande Avenue	NA	<0.1	0.2	0.1	0.1
Sierra Avenue	Casa Grande Avenue	NA	0.4	0.7	0.3	0.4
I-15 SB Ramps	Beech Avenue	0.9	0.8	0.8	0.4	0.4
I-15 NB Ramps	Beech Avenue	0.8	0.8	0.8	0.4	0.4
Citrus Avenue	Summit Avenue	0.4	0.4	0.6	0.3	0.4
Cypress Avenue	Summit Avenue	NA	<0.1	<0.1	<0.1	<0.1
Sierra Avenue	Summit Avenue	0.4	0.4	0.7	0.3	0.4
Citrus Avenue	Sierra Lakes Parkway	0.9	0.9	0.8	0.5	0.6
Citrus Avenue	SR-210 WB Ramps	0.9	1.0	1.1	1.0	1.1
Citrus Avenue	SR-210 BE Ramps	1.1	1.2	1.2	0.9	0.9
Citrus Avenue	Highland Avenue	1.0	1.1	1.1	0.8	0.8
Sierra Avenue	Sierra Lakes Parkway	0.7	0.7	1.0	0.7	0.8
Sierra Avenue	SR-210 WB Ramps	1.5	1.5	1.8	0.9	1.0
Sierra Avenue	SR-210 EB Ramos	1.4	1.3	1.4	0.6	0.7
Sierra Avenue	Highland Avenue	1.6	1.8	1.8	1.2	1.5
Project Access 1	Grapeland Street	NA	NA	0.3	NA	0.2
Project Access 2	Cypress Avenue	NA	NA	0.1	NA	0.1
Terra Vista Drive	Sierra Avenue	NA	NA	0.4	NA	0.2
Project Access 4	Duncan Canyon Road	NA	NA	0.5	NA	0.5
Project Access 5	Duncan Canyon Road	NA	NA	0.4	NA	0.4
Project Access 6	Cypress Avenue	NA	NA	0.1	NA	0.1
Project Access 7	Sierra Avenue	NA	NA	0.6	NA	0.3
Project Access 8	Casa Grande Avenue	NA	NA	0.2	NA	0.1
Project Access 9	Casa Grande Avenue	NA	NA	0.2	NA	0.1
Project Access 10	Casa Grande Avenue	NA	NA	0.2	NA	0.4

Source: Giroux and Associates, 2008

TABLE 4.5-7
ONE-HOUR CO CONCENTRATIONS (PPM) DURING PM PEAK HOUR

Intersection						
Roadway	Cross Street	Existing	2010	2010 w/Project	2030	2030 w/Project
Sierra Avenue	I-15 SB Ramp	0.6	0.4	0.5	0.2	0.3
Sierra Avenue	I-15 NB Ramp	1.1	0.9	0.8	0.5	0.6

Section 4.5: Air Quality

TABLE 4.5-7
ONE-HOUR CO CONCENTRATIONS (PPM) DURING PM PEAK HOUR

Intersection						
Roadway	Cross Street	Existing	2010	2010 w/Project	2030	2030 w/Project
Sierra Avenue	Riverside Avenue	1.0	1.0	1.2	0.8	0.9
Cypress Avenue	Grapeland Street	NA	0.1	0.2	0.2	0.2
Sierra Avenue	Grapeland Street	NA	0.5	0.6	0.4	0.5
Lytle Creek Road	Duncan Canyon Road	0.1	0.1	0.2	0.2	0.3
I-15 SB Ramps	Duncan Canyon Road	NA	0.2	0.3	0.4	0.4
I-15 NB Ramps	Duncan Canyon Road	NA	0.2	0.5	0.5	0.7
Lytle Creek Road	Duncan Canyon Road	<0.1	0.4	0.7	1.2	1.4
Citrus Avenue	Duncan Canyon Road	NA	0.3	0.8	1.1	1.4
Cypress Avenue	Duncan Canyon Road	NA	0.1	0.5	0.2	0.3
Sierra Avenue	Duncan Canyon Road	NA	0.5	0.8	0.4	0.5
Citrus Avenue	Casa Grande Avenue	NA	0.2	0.6	0.5	0.7
Cypress Avenue	Casa Grande Avenue	NA	0.1	0.2	0.1	0.2
Sierra Avenue	Casa Grande Avenue	NA	0.5	0.9	0.5	0.6
I-15 SB Ramps	Beech Avenue	0.9	0.9	0.9	0.5	0.5
I-15 NB Ramps	Beech Avenue	1.1	1.2	1.2	1.0	1.1
Citrus Avenue	Summit Avenue	0.3	0.4	0.6	0.3	0.4
Cypress Avenue	Summit Avenue	NA	<0.1	0.1	0.1	0.1
Sierra Avenue	Summit Avenue	0.5	0.5	0.9	0.4	0.5
Citrus Avenue	Sierra Lakes Parkway	0.9	1.0	1.2	0.8	0.9
Citrus Avenue	SR-210 WB Ramps	0.7	0.8	1.0	1.1	1.1
Citrus Avenue	SR-210 BE Ramps	1.0	1.0	1.1	1.2	1.3
Citrus Avenue	Highland Avenue	0.9	1.0	1.1	0.8	0.9
Sierra Avenue	Sierra Lakes Parkway	1.0	1.1	1.5	1.1	1.5
Sierra Avenue	SR-210 WB Ramps	1.0	1.1	1.3	0.8	1.0
Sierra Avenue	SR-210 EB Ramos	1.6	1.5	1.7	1.3	1.7
Sierra Avenue	Highland Avenue	1.2	1.8	1.4	1.7	1.7
Project Access 1	Grapeland Street	NA	NA	0.3	NA	0.3
Project Access 2	Cypress Avenue	NA	NA	0.1	NA	0.1
Terra Vista Drive	Sierra Avenue	NA	NA	0.6	NA	0.3
Project Access 4	Duncan Canyon Road	NA	NA	0.7	NA	0.7
Project Access 5	Duncan Canyon Road	NA	NA	0.3	NA	0.3
Project Access 6	Cypress Avenue	NA	NA	0.2	NA	0.2
Project Access 7	Sierra Avenue	NA	NA	0.8	NA	0.4
Project Access 8	Casa Grande Avenue	NA	NA	0.3	NA	0.2
Project Access 9	Casa Grande Avenue	NA	NA	0.3	NA	0.2
Project Access 10	Casa Grande Avenue	NA	NA	0.3	NA	0.7

Source: Giroux and Associates, 2008

Existing peak one-hour CO background levels in 2006 in the project area were monitored by the SCAQMD to be approximately 3.0 ppm. Combining the background CO levels (3.0 ppm) with the highest estimated local CO level (1.8 ppm) equals to a one-hour CO level of 4.8 ppm, which is below the State's one-hour standard of 20 ppm. Thus, micro-scale impacts are not expected to be significant.

Hazardous Materials and Toxic Emissions (*Would the project generate toxic, hazardous, or odorous air contaminants that may present health risks to the local population? Diesel emissions risk is considered significant if the risk is greater than 10 in one million.*)

Section 4.5: Air Quality

Hazardous Materials Use

Hazardous materials use at the site would be limited to household quantities used by individual households on the site, along with cleaning solvents and maintenance chemicals (fertilizers and pesticides) use by the proposed Commercial Activity Center, recreational facilities, parks, and schools. No large quantities of hazardous materials would be stored, handled or generated by any one future development on-site. No industrial uses are proposed, which may generate toxic emissions or air contaminants. Section 4.13, *Human Health and Hazards*, discusses this issue in greater detail.

Diesel Exhaust and Freeway Proximity

At the shortest distance, this project site is more than 1,200 feet from the I-15 Freeway to the north and northwest. The California Air Resources Board (ARB) has developed land use guidelines to limit the exposure of residential development to pollutant emissions along freeways. The ARB recommends that residential development be discouraged within 500 feet of any heavily traveled freeways, unless enhanced mitigation (air purification) is incorporated into the project. The proposed project is well outside this 500-foot impact zone.

Diesel pollution studies near freeways which carry a large volume of diesel trucks found the following drop-off rate of particulate matter (particulate level compared to “background” levels) as a function of distance from the freeway edge:

Distance from travel lanes (feet)	25'	50'	100'	200'	300'	500'	1,000'
Particulate Ratio	3.85	3.00	1.98	1.38	1.12	1.06	1.00

Beyond 1,000 feet from the freeway, the pollution “signature” becomes indistinguishable from background conditions. At the closest point of the project site, air pollution effects from the I-15 Freeway would not be detectable because overall diesel particulate levels are elevated throughout western San Bernardino County. At project site locations even farther from the freeway, pollution levels from freeway traffic would be even less.

The effects of freeway diesel particulate matter (DPM) exposure on future development on the project site were further evaluated by using a screening level health risk model to evaluate the individual excess cancer risk for a variety of exposure assumptions. The EPA SCREEN3 computer model was applied to the section of the I-15 Freeway closest to the project site to determine the range of DPM exposures over the project lifetime at the closest point on the property. The information was combined with data about wind direction frequency and typical human exposure activities to establish the most probable residential exposure to freeway emissions.

The SCREEN3 computer model was used to calculate daytime DPM exposures on the project site for a “default” emission level of 0.000001 gram per meter squared per second on a 1 kilometer segment of the I-15 Freeway directly west of the project site. The default emission value was then adjusted for the 70-year average emission level for 11,270 diesel trucks per day using that freeway segment. The significance threshold for DPM exposure articulated in the SCAQMD CEQA Air Quality Handbook is an individual cancer risk not to exceed a probability of 10 in a million. The desirable risk level is less than one in a million.

The results of the modeling process are as follows:

Section 4.5: Air Quality

0.000001 $\mu\text{g}/\text{m}^2/\text{second}$ of DPM creates an hourly exposure of 6 $\mu\text{g}/\text{m}^3$ (SCREEN3)

6 $\mu\text{g}/\text{m}^3 \times 300$ per million lifetime probability per $\mu\text{g}/\text{m}^3 = 1800$ per million

The actual emission rate for 11,270 trucks per day for the next 70 years is 0.000000109 $\mu\text{g}/\text{m}^2/\text{second}$

The adjusted one-hour risk level is $1800 \times 0.109 = 196$ per million

The adjustment factor for annual exposure compared to the peak hour is 0.1 times hourly. This factor incorporates the fact that winds only blow from the freeway toward a specific project location a limited portion of the time:

70-year risk = $196 \text{ per million} \times 0.1$ (hourly to annual adj.) = 19.6 per million

The screening level analysis shows that if project residents remained outside their home for 24 hours per day for 365 days per year for 70 years, their diesel exposure health risk would be significant (>10 in a million).

However, nobody lives chained to their front porch for 70 years for every moment of their lives. The average person spends less than one hour outside per day, and also spends an average of 8 hours per day somewhere else besides at home, and people change residences an average of around 10 times during their lifetime. The EPA Superfund risk assessment guidelines specify an adjustment factor of 0.25 between outdoor and indoor exposure. If the 70-year screening level risk is adjusted for time spent outdoors and away from home, the risk is further reduced as follows:

Time spend outdoors at one's residence	= < 1 hour/day
Time spend indoors at one's residence	= 15 hour/day $\times$ 0.25 risk
Time spend away from home	= 8 hour/day $\times$ 0.0 risk

The adjusted risk for average exposure is 0.2 times the 70-year risk, or 3.9 per million. If one further assumes that the average residential occupancy will be 7 years, the risk is further reduced to 0.40 per million. Freeway proximity of 1,200 feet to the closest point of possible project occupancy poses no significant health risk. Thus, no significant health risk is posed on future residential uses on the site from freeway emissions.

Regional Air Quality Violations *(Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors? Would the project interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation?)*

The South Coast Air basin is considered a non-attainment area for ozone and particulate matter. Thus, project-generated emissions of reactive organic gases and nitrogen oxides that lead to ozone formation and emissions of particulate matter ($\text{PM}_{2.5}$) would contribute to existing violations of air quality standards. As discussed above, the project would generate these pollutants during construction activities, from vehicles coming to and from the site, and from

Section 4.5: Air Quality

stationary and area sources. Thus, the project would lead to significant adverse impacts related to the generation of air pollutants and would cause continued violation of air quality standards in the South Coast Air Basin.

Impact 4.5-6: Construction, vehicle and stationary emissions from the project would contribute to existing violations of ozone and particulate matter standards in the region.

Mitigation has been provided below to reduce the short-term and long-term air quality impacts of future development on the site.

The SCAQMD recently updated the AQMP, which identified strategies for the region to meet the ozone and particulate matter standards by set deadlines. As discussed earlier, these strategies include the adoption of ultra-low emissions standards for both new and existing mobile sources (including on-and-off-road heavy trucks, industrial and service equipment, locomotives, ships and aircraft); an accelerated fleet turnover to achieve benefits of cleaner engines; reformulation of consumer products; and modernization and technology advancements from stationary sources (refineries, power plants, etc.).

The project would comply with the City's Transportation Demand Management and Trip Reduction Ordinance (Article XIV of the City's Zoning and Development Code) and Rule 2202 of the SCAQMD, as well as other applicable SCAQMD rules and regulations that implement the AQMP. While the project would contribute to regional air pollution levels, it would not interfere with programs and strategies outlined in the AQMP that would allow the region to meet clean air standards by set deadlines.

Sensitive Receptors (*Would the project expose sensitive receptors to substantial pollutant concentrations?*)

Residential areas are considered to be sensitive to air pollution exposure because they are occupied for extended periods, and residents may be outdoors when exposure is highest. Schools and parks are similarly considered to be sensitive receptors. Commercial uses are considered less sensitive to air pollution exposure because they are populated by mainly healthy adults for limited periods in an indoor environment.

There are no existing concentrations of sensitive receptors within the primary dust deposition impact zone on the site and near the site. The existing home at the northwestern corner of the project site recently burned down but was anticipated to be demolished as part of the project. The nearest residential tract is located southwest of the project site, within the Shady Trails neighborhood across Casa Grande Avenue. Two other off-site homes exist; one to the northeast and one to the east on Sierra Avenue.

Future residences and schools that would be built on the site would also be sensitive receptors for adjacent short-term construction emissions, long-term stationary sources and vehicle emissions from future developments on the site.

Emissions from short-term construction activity at the site may affect on-site and nearby sensitive receptors and this impact is addressed above. Mitigation has been provided to reduce impacts on sensitive receptors.

Section 4.5: Air Quality

Vehicle emissions from the project would not be concentrated in any one place but would occur on roadways in the City and the County that vehicles would utilize to come to and from the site. Thus, no concentration of vehicle emissions would affect sensitive receptors on or near the site. CO levels at local intersections are estimated in the analysis above and are not expected to exceed thresholds.

Emissions from on-site activities may be generated by equipment utilized at the proposed commercial uses and schools. While specific land uses and equipment at this non-residential development are not yet known, it is unlikely that large industrial equipment and stationary sources would be used at the future commercial and retail uses at the corner of Sierra Avenue and Duncan Canyon Road, due to the size of this development (8 acres). Thus, the proposed commercial retail uses are not expected to generate significant stationary emissions that may impact nearby residences, schools, and parks. While ROG emissions from area sources would exceed thresholds, mechanical and HVAC equipment at the individual homes, schools, park and commercial retail center are not expected to lead to high concentrations of pollutants at any one location and that may adversely impact the on-site residents, users of the schools and parks, and employees and patrons of the commercial retail center. Thus, no significant adverse impact is expected.

Objectionable Odors *(Would the project create objectionable odors affecting a substantial number of people?)*

The residential and commercial developments, schools, and parks proposed on the site would not involve the handling of large quantities of solid waste materials, chemicals, food products, or other materials that have the potential to create objectionable odors. Vehicle use of the internal or adjacent roads is not expected to involve or generate odorous emissions, although vehicle idling may generate carbon monoxide and NO_x fumes at local intersections. The impact is similar to vehicle exhaust generation along any other major roadway in the City or in the region and is not considered significant. Vehicle exhaust emissions at the loading docks of commercial uses and schools are also expected to be limited to 5 minutes and odor impacts would be less than significant.

Restaurants and other uses that may generate odors during operation within the commercial areas would be required to implement odor control vents and other measures, in accordance with applicable SCAQMD regulations. Trash bins would be covered and maintained regularly in accordance with City standards. No objectionable odors are expected.

During construction, there may be localized instances when the characteristic diesel exhaust odor is noticeable from construction equipment and asphalt paving, but such transitory exposure is a brief nuisance and would not threaten regional air quality standards. Thus, adverse impact in terms of objectionable odors during construction would be less than significant.

Greenhouse Gases and Climate Change

Future development under the proposed *Arboretum Specific Plan* is not expected to directly change the climate in the project area or the region. The structures that would be built on the site would comply with the Specific Plan standards and guidelines and the Fontana General Plan's maximum intensity/density and building height standards. While new buildings and

Section 4.5: Air Quality

parking areas would change the immediate on-site temperature due to convection heat, this change would not be high enough to affect local temperatures. However, the project would lead to new vehicle trips, which lead to increase levels of carbon dioxide and ozone, which are greenhouse gases that contribute to global warming. Greenhouse gases are implicated in the acceleration of global warming experienced in the last several decades. The climatic impacts of greenhouse gases are global in scale, therefore they are discussed in greater detail in Section 6.2.16, *Global Climate Change*, of this EIR. Any project-specific contribution to the global warming potential expected to be minimal.

Development under the proposed Specific Plan would also result in indirect increases in greenhouse gas emissions, as a result of electricity generation to meet project-related increases in energy demand. Electricity generation in California comes mainly from natural gas-fired power plants. However, California imports approximately 20 to 25 percent of its total electricity supply from the northwestern and southwestern states. Thus, greenhouse gas emissions associated with electricity generation could also occur outside of California.

Construction GHG - Short-term GHG emissions will be generated by construction activities at the site. During project construction, the URBEMIS2007 computer model predicts that a peak activity day will generate the following CO₂ emissions:

Grading	-	15,046 pounds/day
Construction	-	78,417 pounds/day

For purposes of analysis, it was assumed that non-CO₂ GHG emissions are negligible, and that the total project construction GHG burden can be characterized by 20 peak grading days and 100 peak construction days. The estimated annual GHG impact if grading and construction occur all in the same year is as follows:

$$\begin{aligned} &= (15,046 \times 20 + 78,417 \times 100) / 2,000 \text{ lb / ton} \\ &= 4,071 \text{ tons} \end{aligned}$$

In 2004, the statewide annual GHG inventory in CO₂-equivalent levels (including all non-CO₂ gases weighted by their thermal absorption potential) was 492,000,000 metric tons (541,000,000 short tons). The project construction impact represents slightly more than 0.0007% percent of the statewide burden.

Operational GHG - New daily operational CO₂ emissions from project-related traffic and area source emissions are predicted to be 387,917 pounds per day. Annually, this translates into 70,794 tons per year. This represents approximately 0.013 percent of the most recent statewide inventory.

The project's incremental increases in greenhouse gas emissions associated with construction, new vehicle trips, space/water heating, and new commercial operations, as well as increases in energy demand would contribute to regional increases in greenhouse gas emissions and associated climate change effects.

Project-related vehicular emissions of greenhouse gases will be slightly off-set by the absorption of greenhouse gases by project landscaping. A healthy tree takes in approximately 13 pounds of carbon per year. Each vehicle trip generates approximately one pound of exhaust carbon at

Section 4.5: Air Quality

arrival, and one pound of carbon upon departure. However, a single home contributes more carbon in a single day than what a single mature tree can lock up in a year. The proposed project will be able to mitigate only a small fraction of its project-related GHG emissions by on-site landscaping. Unless there is a greater shift to clean energy (such as solar, hydroelectric, wind, and nuclear sources), no substantial reduction in GHG is likely attainable by conventional methods except through trip reduction and energy conservation.

The proposed on-site commercial activity center and proposed pedestrian paths and hiking/biking trails would provide options to vehicle use and reduce vehicle trips. Construction for the project will also be required to meet California Energy Efficiency Standards for Nonresidential Buildings, helping to reduce future energy demand, as well as reduce the project's contribution to regional greenhouse gas emissions.

At this time, the SCAQMD and the CARB have no proposed or adopted significance criteria or methodologies for estimating a project's contribution of greenhouse gases or evaluating its significance. Thus, no significance determination can be made at this time. However, the project's compliance with strategies outlined in the Climate Action Team Report is nonetheless presented in Table 4.5-8, *Greenhouse Gas Reduction Strategies*, below.

**TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES**

Strategy	Description of Strategy	Project Compliance
California Air Resources Board (CARB)		
Vehicle Climate Change Standards	AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the CARB in September 2004.	Vehicles that would come to and from the site are expected to comply with CARB's current vehicle emission standards.
Other Light Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year	Future vehicles that would come to and from the site are expected to comply with CARB's vehicle emission standards.
Diesel Anti-Idling	In 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	The project shall reduce vehicle idling times to less than 5 minutes, as provided under Mitigation Measure 4.5.3a.
Hydrofluorocarbon Reduction	1) Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak-tightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.	Consumer products that would be sold at the Commercial Activity Center would comply with CARB regulations, as they are adopted.
Transportation Refrigeration Units (TRUs), Off-Road	Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of	The project shall comply with regulations regarding TRUs and loading docks with off-road electrification systems for use by

Section 4.5: Air Quality

**TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES**

Strategy	Description of Strategy	Project Compliance
Electrification, Port Electrification	shore-side/port electrification.	TRUs.
Manure Management	Reduce volatile organic compounds from confined animal facilities through implementation of control options.	Future development under the proposed Specific Plan would not include manure management or animal facilities.
Alternative Fuels: Biodiesel Blends	CARB will develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	Future vehicles that would come to and from the site are expected to use fuels that comply with CARB standards.
Alternative Fuels: Ethanol	Increased use of ethanol fuel.	Future vehicles that would come to and from the site are expected to use fuels that comply with CARB standards.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	The vehicles that would come to and from the site are expected to comply with CARB's current vehicle emission standards.
Hydrogen Highway	The California Hydrogen Highway Network (CA H2 Net) is a State initiative to promote the use of hydrogen as a means of diversifying the sources of transportation energy.	The project is not involved in the development of sources of transportation energy.
Achieve 50% Statewide Recycling Goal	Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production, as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	The project would comply with City requirements for construction waste recycling and solid waste recycling, as discussed in Section 4.12.4, <i>Solid Waste Disposal</i> .
Landfill Methane Capture	Install direct gas use or electricity projects at landfills to capture and use emitted methane.	The project does not propose a landfill operation.
Zero Waste - High Recycling	Additional recycling beyond the State's 50% recycling goal.	The project would implement recycling programs as required by the City. This is discussed in Section 4.12.4, <i>Solid Waste Disposal</i> .
Department of Forestry		
Urban Forestry	A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	The project shall include a regional arboretum, as well as provide various neighborhood and community parks throughout the site.

Section 4.5: Air Quality

**TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES**

Strategy	Description of Strategy	Project Compliance
Afforestation/Reforestation Projects	Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	The project would be planting more trees on the site than existing.
Department of Water Resources		
Water Use Efficiency	Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use will reduce greenhouse gas emissions.	The project shall implement water conservation measures in accordance with the Uniform Plumbing Code and the Water Conservation Plan of the WVWD.
California Energy Commission (CEC)		
Building Energy Efficiency Standards in Place and in Progress	Public Resources Code Section 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	The proposed structures on-site shall be built in accordance with the State's building energy efficiency standards.
Appliance Energy Efficiency Standards in Place and in Progress	Public Resources Code Section 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	Appliance and equipment used at the project will be consistent with the State's appliance energy efficiency standards. Additional energy conservation measures are outlined in Mitigation Measures 4.4.5 and 4.5.6.
Cement Manufacturing	Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	The project is not involved in cement manufacturing.
Municipal Utility Strategies	Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	The project is not a utility agency.
Alternative Fuels: non-Petroleum Fuels	Increasing the use of non-petroleum fuels in California's transportation sector, as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	The project is not involved in fuel generation.
Business Transportation and Housing		
Measures to Improve Transportation Energy	Builds on current efforts to provide a framework for expanded and	The project is not involved in the development of cleaner transportation.

Section 4.5: Air Quality

**TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES**

Strategy	Description of Strategy	Project Compliance
Efficiency	new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	
Smart Land Use and Intelligent Transportation Systems (ITS)	Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	The proposed project would provide schools, parks and a commercial retail area on-site to serve the proposed residential areas, which would allow area residents to travel shorter distances for these goods and services. Pedestrian walkways, trails, and bikeways would be provided on-site to promote walking, biking and the use of alternative transportation (public bus transit).
Department of Food and Agriculture		
Enteric Fermentation	Cattle emit methane from digestion processes. Changes in diet could	The project would not be involved in cattle raising activities at the site.

Section 4.5: Air Quality

TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES

Strategy	Description of Strategy	Project Compliance
	result in a reduction in emissions.	
State and Consumer Services Agency		
Green Buildings Initiative	Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.	The project would implement energy conservation measures required under the California Building Code, as discussed in Section 4.12.5, <i>Electrical Power Service</i> . Energy efficiency measures beyond Code requirements shall be implemented by the project, as outlined in Mitigation Measures 4.5.5 and 4.5.6 below.
Public Utilities Commission (PUC)		
Accelerated Renewable Portfolio Standard (33 percent by 2020)	The Governor has set a goal of achieving 33 percent renewables in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33 percent goal.	The project is not involved in energy generation.
California Solar Initiative	The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, use of advanced metering in solar applications, and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	Mitigation Measure 4.5.6 promotes the use of solar-generated systems at the site.
Investor-Owned Utility	This strategy includes energy efficiency programs, combined heat and power initiative, and electricity sector carbon policy for investor owned utility.	The project is not an investor-owned utility agency.
South Coast Air Quality Management District (SCAQMD)		
Low Sulfur Diesel Fuels	SCAQMD Rules 431.1 and 431.2 require the use of low sulfur fuel for stationary construction equipment to reduce CO and NO _x emissions.	The project shall comply with Mitigation Measure 4.5.3a regarding the use of low sulfur fuel in stationary equipment.
Mobile Source Emission Reduction	SCAQMD Rule 2202 applies to employers with 250 or more	The project shall comply with Mitigation Measure 4.5.4 regarding the

Section 4.5: Air Quality

TABLE 4.5-8
GREENHOUSE GAS REDUCTION STRATEGIES

Strategy	Description of Strategy	Project Compliance
	employees and provides a menu of options to reduce mobile source emissions generated from employee commutes.	implementation of TCMs to reduce emissions generated by vehicle use.

The analysis in Table 4.5-8 above demonstrates that, in the absence of prescribed greenhouse gas reduction threshold values, future development under the proposed Specific Plan would comply with the majority of existing strategies, policies, and regulations to reduce potential GHG emissions.

In the absence of any definitive thresholds of significance, the greenhouse gas contributions of individual projects can be minimized through the incorporation of project design features that reduce energy consumption and reduce vehicular travel as much as is reasonably feasible. These include pedestrian walkways, bikeways, and hiking trails that would promote the use of alternatives to the automobile, as well as water and energy conservation measures that would reduce the emissions from water use and power generation. These issues are addressed in Section 4.4, *Transportation and Circulation*, Section 4.12.1, *Water Service*, Section 4.12.5, *Electrical Power Service*, and Section 4.12.6, *Natural Gas Service*.

While the impacts of the project related to global warming are considered less than significant, mitigation measures have been recommended below, to allow future developments under the proposed Specific Plan to reduce their incremental contribution to the global warming potential of greenhouse gas emissions. These include trip reduction measures in Mitigation Measure 4.5.4, energy conservation measures outlined in Mitigation Measures 4.5.5 and 4.5.6, below.

The mitigation measures outlined below that would align the project with existing GHG reduction strategies and reduce its contribution to total GHG in the City, County, State, and nation.

4.5.4 Standard Conditions and Mitigation Measures

Standard Conditions

The proposed project would generate pollutant emissions associated with construction activities, vehicle trip generation, power and gas consumption, and stationary activities.

The SCAQMD has adopted a number of rules and regulations for the reduction of air pollution generation and the promotion of activities and products that result in reduced air pollutant generation. Future commercial and residential development on the site would need to comply with relevant SCAQMD regulations regarding fugitive dust control, toxic emissions, architectural coatings, and emissions from equipment use and processing.

Standard Condition 4.5.1: Future development under the proposed Arboretum Specific Plan shall comply with pertinent SCAQMD regulations in order to contribute to the incremental reduction in air pollution levels in the region.

Section 4.5: Air Quality

Compliance with these regulations is expected to result in continued improvements to regional air quality and potential attainment of clean air standards.

Mitigation Measures

Implementation of the proposed *Arboretum Specific Plan* and future development under the Specific Plan would generate pollutant emissions that would add to local and regional air pollution levels. The implementation of the following mitigation measures would reduce project-generated air pollutant emissions and greenhouse gases:

Mitigation Measure 4.5.1: Dust control during grading activities on the site shall implement best available control measures (BACMs) exceeding the minimum dust control requirements of SCAQMD Rule 403. Recommended construction activity mitigation includes:

- ◆ *Disturb, grade or clear no more than 75 acres per day.*
- ◆ *Apply soil stabilizers to inactive areas.*
- ◆ *Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 miles per hour.*
- ◆ *Limit the simultaneous disturbance area to as small an area as practical when winds exceed 25 mph.*
- ◆ *Stabilize previously disturbed areas if subsequent construction is delayed.*
- ◆ *Water exposed surfaces and haul roads 3 times per day.*
- ◆ *Cover all stock piles with tarps.*
- ◆ *Replace ground cover in disturbed areas quickly.*
- ◆ *Reduce speeds on unpaved roads to less than 15 miles per hour.*

Mitigation Measure 4.5.2: Grading, excavation, and ground disturbance activities within 100 feet of an existing residence, school or park shall implement enhanced dust control procedures such as continual soil wetting, use of supplemental binders or chemical stabilizers, early paving of roadways, driveways and other paved surfaces, early landscaping of exposed areas, and use of sand fences.

Mitigation Measure 4.5.3a: The following measures shall be implemented to reduce exhaust emissions during construction:

- ◆ *Construction and paving shall be segregated into at least 5 non-overlapping phases.*
- ◆ *Require 90-day low-NOx tune-ups for off-road equipment. Such controls are expected to reduce daily NOx emissions from all off- and on-road equipment, but not to less-than-significant levels.*
- ◆ *Limit allowable idling to 5 minutes for trucks and heavy equipment before shutting the equipment down.*
- ◆ *Require use of Tier 3-rated engines for all equipment exceeding 100 horsepower, during site grading.*
- ◆ *Use aqueous diesel fuel for construction equipment.*
- ◆ *Utilize diesel particulate filter for construction equipment.*

Section 4.5: Air Quality

- ◆ Give preference to contractors using equipment with oxidation catalysts, soot traps or other modern emissions control technology.
- ◆ Use low emission mobile construction equipment. The property owner/developer shall comply with CARB requirements for heavy construction equipment.
- ◆ Maintain construction equipment engines by keeping them tuned.
- ◆ Avoid unnecessary idling by shutting of engines that are expected to idle for more than five minutes
- ◆ Use low sulfur fuel for all diesel powered construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- ◆ Utilize existing power sources (i.e., power poles) when available.
- ◆ Configure construction parking to minimize traffic interference
- ◆ Minimize obstruction of through-traffic lanes. Construction shall be planned so that lane closures on existing streets are kept to a minimum.
- ◆ Schedule construction operations affecting traffic for off-peak hours to the best extent, when possible.
- ◆ Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service).

Mitigation Measure 4.5.3b: The following measures shall be implemented to reduce ROG pollutant emissions during construction:

- ◆ Minimize the amount of paint used by using pre-coated, pre-colored and naturally colored building materials.
- ◆ Use high transfer efficiency painting methods such as High Volume Low Pressure (HVLP) sprayers and brushes/rollers where possible.
- ◆ Use SCAQMD-required low-VOC coatings where practical.

Mitigation Measure 4.5.3c: The following measures shall be implemented to reduce off-site emissions during construction:

- ◆ Encourage car pooling for construction workers.
- ◆ Limit lane closures to off-peak travel periods.
- ◆ Park construction vehicles off traveled roadways.
- ◆ Wet down or cover dirt hauled off-site.
- ◆ Wash or sweep access points daily.
- ◆ Encourage receipt of construction materials during non-peak traffic hours.
- ◆ Sandbag construction sites for erosion control.
- ◆ Erect dust control fencing around individual construction area perimeters.

Mitigation Measure 4.5.4: The proposed project shall implement transportation control measures (TCMs) to reduce vehicle emissions generated by the project, which may include the following:

Section 4.5: Air Quality

Non-Motorized Strategies

1. *Bicycle Lanes and Storage Facilities* – Bicycle paths and bike racks shall be provided at scattered locations on-site, including bicycle lanes on project arterial roads and bike racks at schools and commercial uses.
2. *Pedestrian Improvements* – Sidewalks and pedestrian walkways shall be provided throughout the site for land use interconnections.

Telecommunications

1. *Adequate and modern system connections in all homes* – Telecommunication systems shall be provided in residential villages.
2. *Wi-Fi “hot spots” within the community* - High-speed wireless local area network shall be provided at select locations on-site.

Mitigation Measure 4.5.5: Prior to issuance of building permits, the property owner/developer shall demonstrate compliance with the following measures to reduce criteria pollutant emissions from stationary sources directly related to the project:

- ◆ *Install low-emission water heaters.*
- ◆ *Use built-in, energy-efficient appliances.*
- ◆ *Incorporate bus turnouts into roadway design and construction.*
- ◆ *Ensure that sidewalks and pedestrian paths are installed throughout the project area.*

Mitigation Measure 4.5.6: The following measures shall be implemented to reduce greenhouse gas emissions from project construction and operation:

- ◆ *Utilize high efficiency HVAC equipment.*
- ◆ *Install Energy Star labeled roof materials.*
- ◆ *Wire homes to facilitate installation of roof-top solar panels.*
- ◆ *Exceed Title 24 energy conservation design by 20%.*
- ◆ *Incorporate solar orientation into site planning.*
- ◆ *Hardwire buildings to incorporate current telecommunication technologies.*
- ◆ *Install 220-volt electric vehicle charging system in garages.*
- ◆ *Utilize light-colored hardscape in common areas.*
- ◆ *Use highly reflective “cool roofs” in commercial uses.*
- ◆ *Utilize recycled building materials, where feasible.*
- ◆ *Install energy-reducing day lighting (skylights).*
- ◆ *Use low-water use appliances.*

4.5.5 Unavoidable Significant Adverse Impacts

Increases in pollutant emissions associated with the future development under the proposed Specific Plan are expected to result in significant adverse impacts on air quality. PM₁₀ emissions during mass grading activities would exceed the SCAQMD threshold. Implementation of dust control measures would reduce these emissions and limits on the area under disturbance in any one day would reduce impacts to less than significant levels.

Section 4.5: Air Quality

Mitigation for equipment emissions during construction would also reduce daily emissions to below thresholds.

Carbon monoxide (CO) emissions from project-related traffic would exceed significance thresholds by over 623 percent, but would not cause any micro-scale “hot spot” impacts. CO leads to reduced tolerance for exercise, impairment of mental function, impairment of fetal development, death at high concentrations, and aggravation of some heart diseases (angina).

ROG and NO_x significance thresholds would be similarly exceeded by large margins. These pollutants are precursors to regional smog formation. NO_x emissions have the potential for aggravation of respiratory illness, reduced visibility, reduced plant growth, and acid rain formation. As precursors to regional smog formation, ROG and NO_x would transform to ozone, which in turn causes aggravation of respiratory and cardiovascular diseases, irritation of the eyes, impairment of cardio-pulmonary function, and plant leaf injury.

PM₁₀ emissions from vehicle use would also exceed SCAQMD thresholds. PM₁₀ could lead to reduced lung function, aggravation of the effects of gaseous pollutants, aggravation of respiratory and cardio-respiratory diseases, increased cough and chest discomfort, surface soiling and reduced visibility.

In the absence of viable transportation alternatives to the automobile, the pollutant emissions from the project cannot be mitigated to less than significant levels.

Implementation of the standard condition and recommended mitigation measures would reduce air quality impacts from future development under the proposed Specific Plan. The extent to which air quality impacts would be reduced by the standard condition and mitigation measures outlined above would not be adequate to bring projected emissions below SCAQMD thresholds. The exceedance would largely result from the size of project site and the amount of development that is proposed. If the proposed project is developed incrementally as several small-scale projects (individual villages or planning areas), SCAQMD thresholds may be reduced below thresholds. However, if the entire site is developed at one time, as evaluated above under a worst case scenario, impacts would be significant and would remain significant, even after mitigation. Thus, air quality impacts are expected to remain significant and unavoidable even after mitigation.

Section 4.6: Noise

A Noise Impact Analysis, dated May 2008, has been prepared by Giroux and Associates to characterize the noise environment in the project area and to determine the project's potential noise impacts. The findings of the analysis are summarized below. The Noise Analysis is provided in Appendix E of this EIR.

4.6.1 Environmental Setting

Acoustical Definitions

The unit of sound pressure compared to the faintest sound detectable by a keen human ear is called a decibel (dB). Because sound or noise can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire noise spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions through a process called "A-weighting" of decibels and written as dBA.

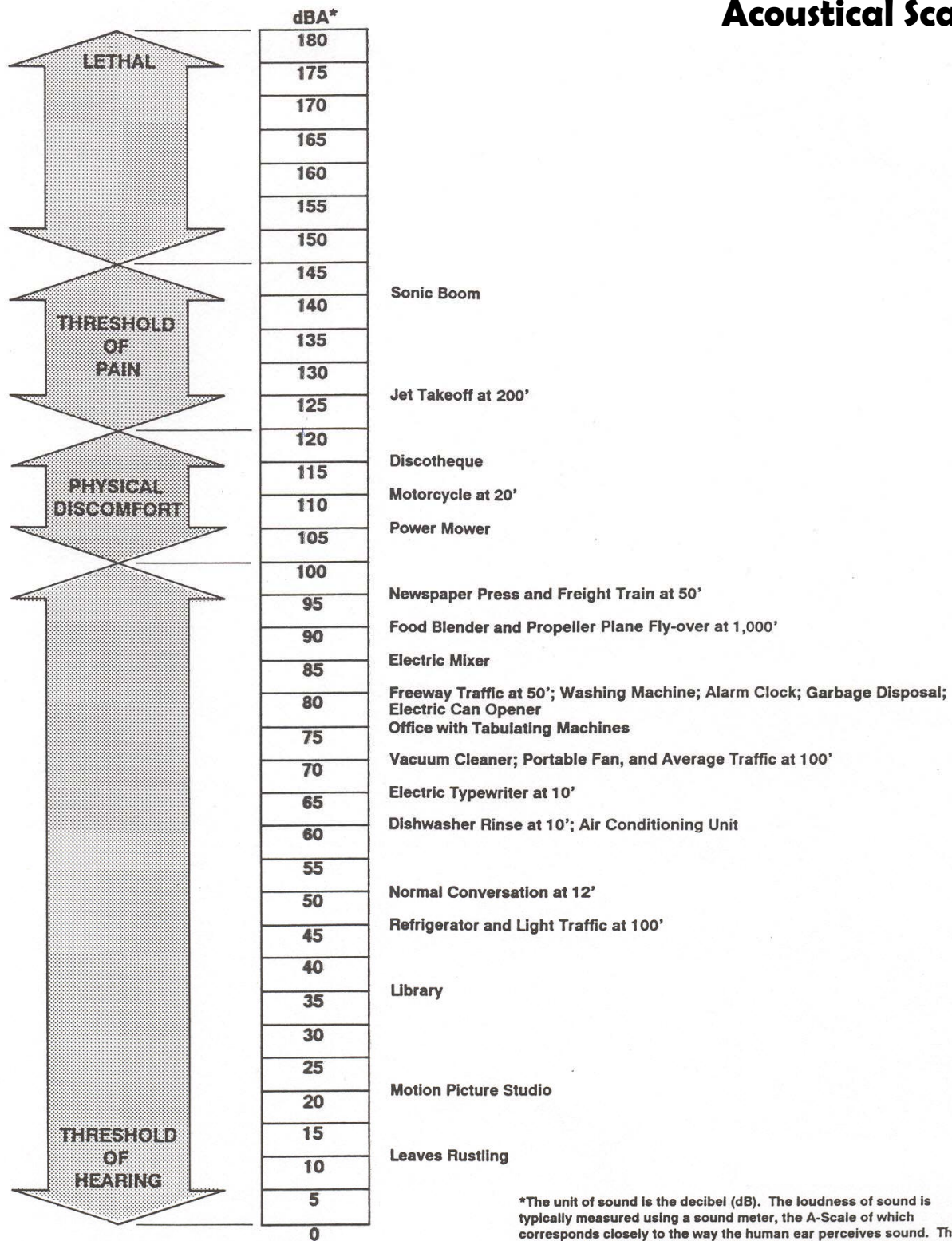
Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time period (called Leq), or, alternately, as a statistical description of the sound pressure level that is exceeded over a fraction of a given observation period. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise measurement to derive the Community Noise Equivalent Level (CNEL). Representative noise sources and sound levels are shown in Figure 4.6-1, *Acoustical Scale*.

Noise Criteria

An interior CNEL of 45 dB is mandated by State law for multiple family dwellings, and is considered a desirable interior noise exposure for single-family dwelling units as well. Since typical noise attenuation within residential structures may range from 10 to 25 dB, depending on door and window positions, an exterior noise exposure of 55 to 70 dB CNEL or Ldn is typically used as the design exterior noise exposure for new residential dwellings in California in order to meet a 45-dB interior noise goal. Because commercial uses are not occupied on a 24-hour basis, a less stringent noise/land use compatibility criterion is generally specified for these less noise-sensitive land uses.

The State of California Office of Noise Control has established noise standards for land use categories based on the land use compatibility. Table 4.6-1, *Land Use Compatibility Standards*, shows the community noise exposure recommended as acceptable, conditionally acceptable and unacceptable for various classes of land use sensitivity. The State Office of Noise Control generally recommends an exterior noise exposure of less than 60 dBA CNEL for residential uses, an exterior noise exposure of 70 dBA CNEL for office buildings, business commercial and professional, and an exterior noise exposure of 75 dBA CNEL for industrial and manufacturing uses.

**Figure 4.6-1
Acoustical Scale**



*The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-Scale of which corresponds closely to the way the human ear perceives sound. Thus the sound level for noise evaluations is frequently expressed in dBA.

Arboretum Specific Plan City of Fontana

Section 4.6: Noise

The Fontana General Plan Noise Element establishes an exterior noise standard of 65 dBA CNEL for residential uses, hospitals, rest homes, long term care facilities and mental care facilities and a standard of 65 Leq (12) for schools, libraries, places of worship, and passive recreation areas. The General Plan also establishes an interior noise standard of 55 dBA CNEL for commercial retail uses and 50 dBA CNEL for professional offices.

**TABLE 4.6-1
LAND USE COMPATIBILITY STANDARDS**

LAND USE CATEGORY	Community Noise Equivalent Level (CNEL)						
	55	60	65	70	75	80	
RESIDENTIAL / LODGING Single Family / Duplex							
Residential - Multi-family							
Mobile Homes							
Motels / Hotels							
PUBLIC INSTITUTIONAL Schools, Hospitals, Churches, Libraries,							
Auditoriums, Concert Halls							
COMMERCIAL Offices							
Retail							
INDUSTRIAL Manufacturing							
Warehousing							
RECREATIONAL / OPEN SPACE Parks, Playgrounds, Golf Courses, Riding Stables							
Outdoor Spectator Sports							

Section 4.6: Noise

TABLE 4.6-1
LAND USE COMPATIBILITY STANDARDS

LAND USE CATEGORY	Community Noise Equivalent Level (CNEL)					
	55	60	65	70	75	80
Outdoor Music Shells, Amphitheatres						
Livestock/ Wildlife Preserves						
Crop Agriculture						
Interpretation:						
Clearly Acceptable No special noise insulation required, assuming buildings of normal conventional construction			Normally Unacceptable New construction should be discouraged. Noise/aviation easements required for all new construction. If new construction does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.			
Normally Acceptable Acoustical reports will be required for major new residential construction. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice. Source: Office of Noise Control			Clearly Unacceptable No new construction should be permitted.			

The Noise Ordinance in the Fontana Municipal Code governs activities from which noise control is not preempted by State or federal agencies (such as vehicle source noise control). The City's Noise Ordinance governs "stationary" sources such as amplified sound, mechanical equipment, barking dogs, etc. Construction activities are restricted by Section 18-63(9) of the City Code to the hours of 7 AM to 6 PM on weekdays. Nighttime construction is allowed on roadway projects in an emergency, or in the interest of public health and safety (to preclude road/lane closure during rush hours). If nighttime roadway construction is proposed, a permit from the City's building inspector is required to verify that it is in the public interest and that the public will not be unduly harmed.

Existing Noise Levels

Existing noise levels throughout much of the project area come almost exclusively from vehicular sources on the adjacent I-15 Freeway and arterial roads. The I-15 Freeway noise is a steady low-level hum with little change in pitch or intensity throughout the day. Dominant single-event noise comes mainly from semi-trucks on the I-15 Freeway.

The project site is vacant, with the recent burning of the single-family residence at the northwestern corner of the site. The surrounding area is also largely vacant. Thus, limited stationary noise sources occur. However, existing noise levels will undergo marked changes in response to the buildout of the project area. Construction noise is generated by ongoing construction activities south and southwest of the site and noise levels will slowly increase as new residents move into the area and more vehicles travel on nearby roadways.

The project site is located approximately 3.0 miles northwest of the Rialto Municipal Airport, and 10.0 miles northeast of the Ontario International Airport. Thus, the project site is considered to be

Section 4.6: Noise

outside the noise impact zones for these airports. Also, aircraft operations at the Rialto Municipal Airport and the Ontario International Airport do not create a significant noise impact on the project site. The aircraft flight patterns are also too far from the site to measurably affect the local noise environment.

4.6.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on noise, if its implementation results in any of the following:

- ◆ Causes 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;
- ◆ Causes exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels;
- ◆ Causes a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- ◆ For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or,
- ◆ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

There are no established guidelines on what constitutes a "substantial increase". Generally, people cannot clearly perceive noise level changes of 3 dB or less, particularly if they occur over an extended time period. For traffic noise, a 3-dB increase requires a doubling of traffic volumes while maintaining the same speed. Few projects can individually double traffic volumes on already noisy, heavily-traveled streets. A 10-dB temporary increase would be perceived as a doubling of loudness. Limited periods of a 10 dB increase would generally be tolerated if it is understood that such noise would be of short duration. Also, in quiet existing acoustic environments, noise increases may be substantial even if land use or ordinance standards are not exceeded. Perceived loudness doubles with each increase of approximately 10 dB. Increases of 10 dB may therefore be considered substantial even if City of Fontana Noise Ordinance thresholds or General Plan Noise Element guidelines are not exceeded. The recommended significance criteria for noise impacts consider the following:

- Violations of the City's noise standards
- Excessive ground borne vibration or noise
- Chronic noise level increases of +3 dB
- Temporary noise level increases of +10 dB

4.6.3 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would increase noise levels in the project area. Increases would be caused by short-term construction and long-term vehicle and stationary noise impacts that would change ambient noise levels on-site and in the surrounding area.

Section 4.6: Noise

Violation of Noise Standards *(Would the project cause 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?)*

Construction Noise

Construction activities, especially the use of heavy equipment, will create short-term noise increases near the project site. Temporary construction noise impacts vary markedly because the noise strength of construction equipment ranges widely as a function of the type of equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated initially by earth-moving sources, then by foundation and parking area construction, and finally by finish construction.

Figure 4.6-2, *Noise from Construction Equipment*, shows the typical range of construction activity noise generation as a function of equipment used in various building phases. The earth-moving sources are typically the noisiest, with equipment noise ranging from 75 to 90 dBA at 50 feet from the source.

Point sources of noise are attenuated by a factor of 6 dB per doubling of distance through geometrical (spherical) spreading of sound waves. The quieter noise sources will, thus, drop to a 65 dBA exterior/45 dBA interior noise level at approximately 200 feet from the source, while the loudest noise source may require over 1,000 feet of separation from the source to reduce the 90+ dBA source strength to a generally acceptable 65 dBA exterior exposure level. This estimate assumes a clear line-of-sight from the source to the receiver. Any change in terrain or an intervening structure will act as a noise barrier that will interrupt equipment noise propagation. Construction noise impacts would, therefore, be somewhat less than that predicted under idealized input conditions.

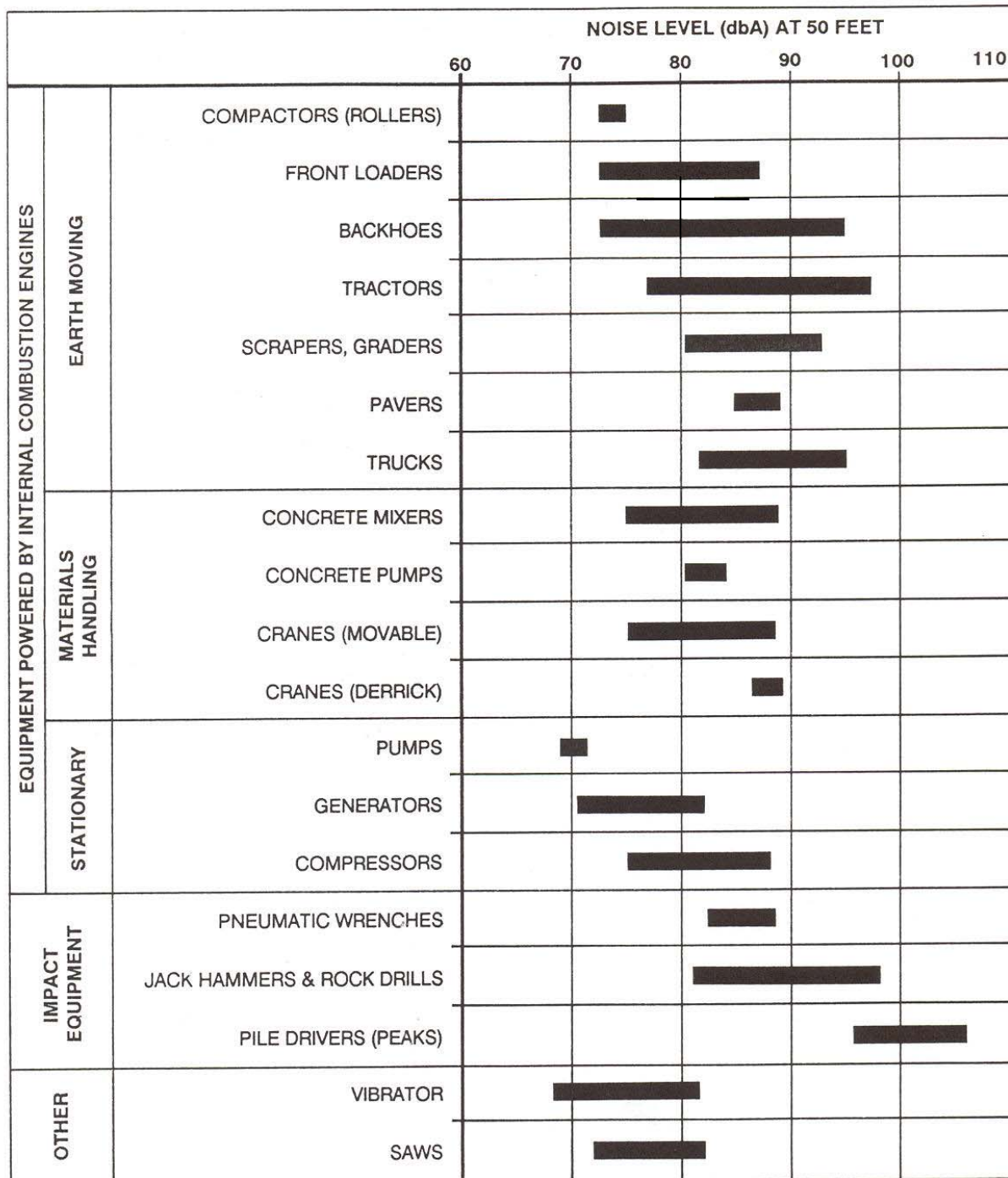
The nearest residences are located approximately 100 feet to the southwest (across Casa Grande Avenue) and 200 feet to the northeast of the site (on Sierra Avenue). The off-site residences are separated from the site by vacant land or roadways.

Construction noise impacts on the nearby residences to the southwest and northeast would be significant when construction occurs within 1,000 feet of these homes. Construction activities within the Meadows Village could occur near the existing residences to the southwest of the site. Similarly, construction at the northeastern section of the Resort Village would occur near the existing off-site residence on Sierra Avenue. Heavy equipment temporarily operating near the residences would lead to construction noise levels of 64 to 74 dB that would adversely affect the residents of these existing homes.

In addition, as residential villages and individual planning areas are built on the site, occupied residences will be exposed to construction noise impacts as nearby planning areas are under construction. Similarly, when completed and in use, schools would be exposed to construction noise when adjacent areas are under construction.

Impact 4.6.1: Construction noise impacts may affect existing and future residences and schools on and near the site.

**Figure 4.6-2
Noise From Construction Equipment**



SOURCE: Environmental Protection Agency, NTID 300-1

Arboretum Specific Plan City of Fontana

Section 4.6: Noise

The General Plan Noise Element also considers the noise impact “envelope” from construction to extend 500 feet from the activity. Construction activities within 500 feet of occupied dwellings are considered to have a potentially significant temporary noise impact that requires submittal and implementation of a noise mitigation plan.

Construction noise sources are not strictly related to a noise standard because they occur only during selected times and the source strength varies sharply with time, while the noise standard is a 24-hour measurement. The penalty associated with noise disturbance during quiet hours and the nuisance factor accompanying such disturbance usually leads to time limits on grading activities imposed as conditions on grading permits.

Construction time limits are set during the hours of 7 AM to 6 PM on weekdays, as stated in Chapter 18 (Nuisance) of the Fontana Municipal Code. These hours are included as conditions on grading permits. Limiting construction activities to these hours will minimize the severity of temporary construction noise impacts on nearby residences.

In addition, construction equipment should have properly functioning mufflers and should minimize engine idling. Scheduling of noisiest activities may be required to minimize construction noise intrusion. Noise can also be mitigated by locating staging areas and all stationary noise generating construction equipment as far as practical from existing residences. If impulsive noise generation, such as pile driving or jack hammers, is necessary near noise-sensitive users, activity scheduling to minimize off-site impacts, or erection of temporary barriers, may be necessary.

Traffic Noise

Future development under the proposed *Arboretum Specific Plan* will cause an incremental increase in area-wide noise levels near the project site and in the surrounding area. Traffic noise impacts are generally analyzed to determine if the project will adversely impact the ambient noise levels in the project area and if the project will be exposed to unacceptable noise levels resulting from the ambient noise environment in the project area.

For purposes of analysis, a 45-mph average travel speed is assumed. This is because even along arterial roadways with higher posted speed limits, traffic speed reduction in areas of peak hour congestion or at points of traffic control would occur. If roadway segments can reasonably be able to support sustained 24-hour average speeds above 45 mph, a slight upward adjustment of the predicted traffic noise would be necessary. For the comparison of the “with project” versus “no project” alternative, the difference between the two scenarios would be identical regardless of traffic speeds, such that a noise impact that is significant (+3 dB CNEL or more) at 55 mph is significant at 45 mph, and vice versa.

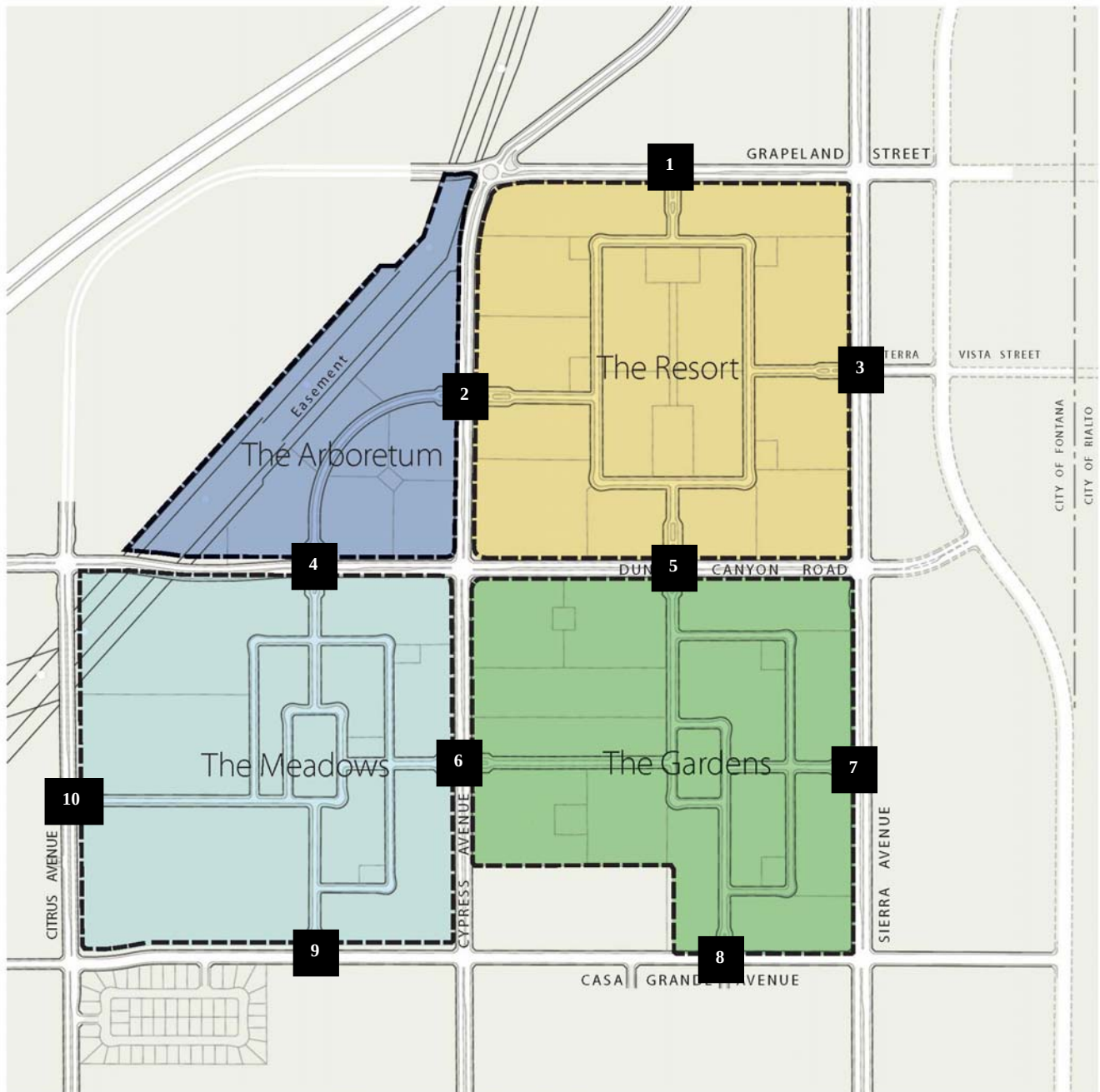
Table 4.6-2, *Projected Noise Levels*, provides the calculated CNEL at 50 feet of the roadway centerline for existing and planned roadways in the project area for the existing, 2010 and 2030 no project, and 2010 and 2030 with project scenarios. Project access points are shown in Figure 4.6-3, *Project Access*.

Section 4.6: Noise

TABLE 4.6-2
PROJECTED NOISE LEVELS

Segment	Existing	2010 No Project	2010 With Project	2030 No Project	2030 With Project
Citrus Avenue					
N of Duncan Canyon Road.	NA	62.3	62.3	70.0	70.0
Duncan Canyon to Project Access 10	NA	64.0	65.7	71.5	72.2
Project Access 10 to Casa Grande	NA	63.7	65.9	71.5	72.0
Casa Grande to Summit	NA	63.1	67.3	70.9	71.9
South of Summit	62.3	65.1	68.2	70.4	71.6
Cypress Avenue					
Sierra to Grapeland	NA	59.0	62.1	66.8	67.0
Grapeland to Project Access 2	NA	54.7	60.3	62.5	64.3
Project Access 2 to Duncan Canyon	NA	54.7	59.0	62.5	62.9
Duncan Canyon to Project Access 6	NA	55.7	62.3	63.5	65.5
Project Access 6 to Casa Grande	NA	55.7	62.3	63.5	65.5
Casa Grande to Summit	NA	52.2	57.3	60.0	61.4
Sierra Avenue					
I-15 to Riverside	69.4	70.4	70.9	73.1	73.4
Riverside to Grapeland	67.2	68.4	69.7	71.8	72.4
Grapeland to Terra Vista	57.2	68.0	68.5	70.8	71.1
Terra Vista to Duncan Canyon	67.0	68.0	68.6	70.8	71.0
Duncan Canyon to Project Access 7	67.0	68.3	69.9	71.5	72.3
Project Access 7 to Casa Grande	66.8	68.3	70.0	71.5	72.4
Casa Grande to Summit	66.6	68.2	70.6	71.7	72.9
South of Summit	67.0	68.0	70.5	71.5	72.8
Grapeland Street					
East of Cypress	NA	58.2	58.2	64.7	64.7
West of Sierra	NA	58.2	58.2	64.7	68.7
Duncan Canyon Road					
I-15 to Citrus	49.0	65.6	69.5	73.3	74.3
Citrus to Project Access 4	NA	61.0	68.6	68.8	71.3
Project Access 4 to Cypress	NA	59.9	67.4	67.7	70.1
Cypress to Project Access 5	NA	57.7	64.8	65.5	69.9
Project Access 5 to Sierra	NA	57.5	64.6	65.3	67.6
East of Sierra	NA	54.5	56.6	62.3	62.8
Casa Grande Avenue					
West of Citrus	NA	56.8	59.3	64.6	65.1
Citrus to Project Access 9	NA	59.8	64.8	66.5	68.3
Project Access 9 to Cypress	NA	61.0	62.7	66.5	67.5
Cypress to Project Access 8	NA	58.5	63.1	66.3	67.5
Project Access 8 to Sierra	NA	58.7	64.6	66.7	68.3
East of Sierra	NA	58.9	61.3	66.7	67.2
Summit Avenue					
West of Citrus	64.7	65.3	65.6	67.5	67.5
East of Citrus	63.5	63.7	63.7	64.2	64.3
West of Sierra	62.1	62.1	62.1	62.9	63.1
NA – Not applicable (not existing or volumes too low)					
Source: Noise Analysis, 2008					

**Figure 4.6-3
Project Access**



**Arboretum Specific Plan
City of Fontana**

Section 4.6: Noise

As shown, of the 36 roadway segments near the site, only 13 roadways currently exist. Many of the roadways on or surrounding the project site do not connect to the planned roadway network or are yet to be built. In addition, current traffic volumes on other streets are very low. Therefore, it is difficult to compare the future “with project” conditions to existing conditions.

Table 4.6-3, *Project-Related 2010 Noise Impacts*, provides the calculated increase in noise levels with the project by 2010. As shown, project-related noise level increases would range from 0.0 to 7.6 dB. Thus, noise impacts from project-related traffic would be discernible to adjacent developments.

However, future development under the proposed Specific Plan would be incremental over time as each planning area within each village is developed. Thus, increase in traffic noise levels would also be incremental over time, as vehicle trips are generated by each newly-occupied residence or land use.

Since the site is currently vacant, future land uses along Duncan Canyon Road and Cypress Avenue at the site would need to account for future noise levels as these roads are constructed; the area is built out; and traffic volumes increase on these roadways. This is discussed further below. On Citrus Avenue and Casa Grande Avenue, existing residences face away from the street and 6-foot block walls serve as noise barriers to existing and future traffic noise.

TABLE 4.6-3
PROJECT-RELATED 2010 NOISE IMPACTS

Segment	2010 No Project	2010 With Project	Increase due to Project
Citrus Avenue			
North of Duncan Canyon Road.	62.3	62.3	0.0
Duncan Canyon to Project Access 10	64.0	65.7	1.7
Project Access 10 to Casa Grande	63.7	65.9	2.2
Casa Grande to Summit	63.1	67.3	4.2
South of Summit	65.1	68.2	3.1
Cypress Avenue			
Sierra to Grapeland	59.0	62.1	3.1
Grapeland to Project Access 2	54.7	60.3	5.6
Project Access 2 to Duncan Canyon	54.7	59.0	4.3
Duncan Canyon to Project Access 6	55.7	62.3	6.6
Project Access 6 to Casa Grande	55.7	62.3	6.6
Casa Grande to Summit	52.2	57.3	5.1
Sierra Avenue			
I-15 to Riverside	70.4	70.9	0.5
Riverside to Grapeland	68.4	69.7	1.3
Grapeland to Terra Vista	68.0	68.5	0.5
Terra Vista to Duncan Canyon	68.0	68.6	0.6
Duncan Canyon to Project Access 7	68.3	69.9	1.6
Project Access 7 to Casa Grande	68.3	70.0	1.7
Casa Grande to Summit	68.2	70.6	2.4
South of Summit	68.0	70.5	2.5
Grapeland Street			
East of Cypress	58.2	58.2	0.0
West of Sierra	58.2	58.2	0.0

Section 4.6: Noise

TABLE 4.6-3
PROJECT-RELATED 2010 NOISE IMPACTS

Segment	2010 No Project	2010 With Project	Increase due to Project
Duncan Canyon Road			
I-15 to Citrus	65.6	69.5	3.9
Citrus to Project Access 4	61.0	68.6	7.6
Project Access 4 to Cypress	59.9	67.4	7.5
Cypress to Project Access 5	57.7	64.8	7.1
Project Access 5 to Sierra	57.5	64.6	7.1
East of Sierra	54.5	56.6	2.1
Casa Grande Avenue			
West of Citrus	56.8	59.3	2.5
Citrus to Project Access 9	59.8	64.8	5.0
Project Access 9 to Cypress	61.0	62.7	1.7
Cypress to Project Access 8	58.5	63.1	4.6
Project Access 8 to Sierra	58.7	64.6	5.9
East of Sierra	58.9	61.3	2.4
Summit Avenue			
West of Citrus	65.3	65.6	0.3
East of Citrus	63.7	63.7	0.0
West of Sierra	62.1	62.1	0.0
Source: Noise Analysis, 2008			

Since some roadway segments would experience noise levels over 65 dB CNEL by 2010, noise sensitive land uses (such as residences and schools) that would be constructed along these roadways should consider roadway noise levels in planning, to ensure the 65 dB CNEL threshold is met.

At buildout of the project area in 2030, most of the roadways on and near the site would experience increases in noise levels, with some roadways having noise levels over 65 dBA CNEL at 50 feet from the centerline. A significant increase in noise levels is expected over existing and 2010 noise levels.

Table 4.6-4, *Project-Related 2030 Noise Impacts*, summarizes the calculated increase in noise levels with the project by 2030. As shown, some roadway segments will experience noise levels greater than 65 dB CNEL and could affect adjacent residential land uses and noise-sensitive uses. However, project-related traffic alone would contribute an insignificant increase to the projected noise levels (less than 3 dB), except for the segment of Duncan Canyon Road between Cypress Avenue and Project Access 5. The noise on this roadway would affect residences proposed on-site and proposed residences would need to account for future noise levels, as discussed below.

TABLE 4.6-4
PROJECT-RELATED 2030 NOISE IMPACTS

Segment	2030 No Project	2030 With Project	Increase due to Project
Citrus Avenue			
N of Duncan Canyon Road.	70.0	70.0	0.0
Duncan Canyon to Project Access 10	71.5	72.2	0.7

Section 4.6: Noise

**TABLE 4.6-4
PROJECT-RELATED 2030 NOISE IMPACTS**

Segment	2030 No Project	2030 With Project	Increase due to Project
Project Access 10 to Casa Grande	71.5	72.0	0.5
Casa Grande to Summit	70.9	71.9	1.0
South of Summit	70.4	71.6	1.2
Cypress Avenue			
Sierra to Grapeland	66.8	67.0	0.2
Grapeland to Project Access 2	62.5	64.3	1.8
Project Access 2 to Duncan Canyon	62.5	62.9	0.4
Duncan Canyon to Project Access 6	63.5	65.5	2.0
Project Access 6 to Casa Grande	63.5	65.5	2.0
Casa Grande to Summit	60.0	61.4	1.4
Sierra Avenue			
I-15 to Riverside	73.1	73.4	0.3
Riverside to Grapeland	71.8	72.4	0.6
Grapeland to Terra Vista	70.8	71.1	0.3
Terra Vista to Duncan Canyon	70.8	71.0	0.2
Duncan Canyon to Project Access 7	71.5	72.3	0.8
Project Access 7 to Casa Grande	71.5	72.4	0.9
Casa Grande to Summit	71.7	72.9	1.2
South of Summit	71.5	72.8	1.3
Grapeland Street			
East of Cypress	64.7	64.7	0.0
West of Sierra	64.7	68.7	4.0
Duncan Canyon Road			
I-15 to Citrus	73.3	74.3	1.0
Citrus to Project Access 4	68.8	71.3	2.5
Project Access 4 to Cypress	67.7	70.1	2.4
Cypress to Project Access 5	65.5	69.9	4.4
Project Access 5 to Sierra	65.3	67.6	2.3
East of Sierra	62.3	62.8	0.5
Casa Grande Avenue			
West of Citrus	64.6	65.1	0.5
Citrus to Project Access 9	66.5	68.3	1.8
Project Access 9 to Cypress	66.5	67.5	1.0
Cypress to Project Access 8	66.3	67.5	1.2
Project Access 8 to Sierra	66.7	68.3	1.6
East of Sierra	66.7	67.2	0.5
Summit Avenue			
West of Citrus	67.5	67.5	0.0
East of Citrus	64.2	64.3	0.1
West of Sierra	62.9	63.1	0.2
Source: Noise Analysis, 2008			

Implementation of the proposed project will thus, create incremental noise increases that could substantially alter the noise environment in the Fontana area. Developments that are built along these roadways would have to consider noise protection measures to meet the City's interior and exterior noise standards.

Section 4.6: Noise

Groundbourne Noise and Vibration (*Would the project cause exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels?*)

Vibration is an oscillation induced in a structure by an outside force. Physical objects vibrate in a linear combination of natural frequencies of the object. The object will continue to vibrate, and the vibration will propagate through any intervening medium, unless acted upon by additional forces. In all physical systems, the effects of friction dampen the vibration, or else every object in the world would be in a continuous state of vibration.

Vibration can be expressed in terms of displacement, the mean velocity of the motion, or the instantaneous acceleration. The root-mean-square (rms) velocity is a common descriptor. A level of 0.5 inches/second is a common threshold level for construction activities because such a level has negligible potential for any structural damage, and is not considered excessively unpleasant in human perception (MTA Metrorail Construction Fact Sheet, 1998). The threshold of visible damage to mortar or drywall, however, depends more upon the peak particle velocity (ppv) rather than the rms velocity. Peak levels are generally four to five times the rms level. An rms velocity of 0.1 inch/second is therefore an appropriate indicator of any damage potential due to construction activity vibration because it equates to a 0.5 inch/second ppv.

Vibration levels (rms) observed around construction sites as a function of distance are generally as follows (FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, 1995):

Truck at 50 feet from paved road	-	0.02 in/sec
Auto at 50 feet from highway	-	0.001 in/sec
Auto at 50 feet from rough road	-	0.005 in/sec
Jackhammer at 50 feet	-	0.01 in/sec
Dozer at 50 feet	-	0.05 in/sec

The suggested significance threshold of 0.1 in/sec rms is met well within 50 feet of on-site construction, and within 50 feet of any public haul road, with a wide margin of safety. Heavy equipment operations associated with project construction will generally have more than 50 feet of setback from the nearest homes or other structures due to the surrounding streets. Thus, project-related construction activities will have no perceptible vibration impact at any adjacent sensitive residential uses.

Project construction will not cause vibration levels to exceed the vibration nuisance threshold. Construction activity vibration impacts will be less than significant.

On-site activities, including short-term construction and long-term operations, have the potential to generate groundbourne vibration and noise impacts on nearby residences. As indicated earlier, construction noise impacts would be short-term and would be confined to the daytime hours, per the City's Noise Ordinance. While most residents are likely to be away or engaged in activities that are not considered noise-sensitive during these hours, there is a potential for affecting residents who are sleeping, relaxing, reading, studying, or doing other activities require quiet environments during the daytime hours. As discussed above, construction noise impacts may affect existing and future residences and schools on and near the site. Mitigation has been provided below to reduce these impacts to less than significant levels.

Section 4.6: Noise

Vehicle noise levels would also increase over time along area roadways due to the project but would not be perceptible to local residents. However, vehicle noise along major roadways would lead to the exposure of future residents of the site to high noise levels. Noise control measures are required, as discussed below. On-site activities and stationary equipment use are also expected to have significant adverse impacts on nearby residents and school users. Mitigation has been provided to reduce these impacts to less than significant levels.

Increase in Ambient Noise Levels (*Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*)

Exterior Noise Levels

The noise impacts associated with the proposed project relate more to the noise impacts of the cumulative growth in the project area and the future noise environment on future developments on the site.

The residential uses that would be located along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, and Sierra Avenue may be exposed to noise levels that exceed the City's residential noise standards of 65 dB CNEL. As shown in Table 4.6-5, 2030 Noise Levels at 50 Feet of Roadways, projected 2030 noise levels along various segments of these roads would be greater than 65 dB CNEL.

TABLE 4.6-5
2030 NOISE LEVELS AT 50 FEET OF ROADWAYS

Roadway Segment	Traffic Volume (ADT)	2030 Noise Level at 50 feet (dB CNEL)		
		45mph	50 mph	55 mph
Citrus Avenue				
Duncan Canyon to Project Access 10	27,260	72.2	73.4	74.5
Project Access 10 to Casa Grande	25,780	72.0	73.2	74.3
Cypress Avenue				
Grapeland to Project Access 2	4,420	64.3	65.5	66.6
Terra Vista to Duncan Canyon	3,240	62.9	64.1	63.0
Duncan Canyon to Project Access 6	5,850	65.5	66.7	67.8
Project Access 6 to Casa Grande	5,850	65.5	66.7	67.8
Sierra Avenue				
Grapeland to Terra Vista	21090	71.1	72.3	73.4
Terra Vista to Duncan Canyon	20,890	71.0	72.2	73.3
Duncan Canyon to Project Access 7	28,080	72.3	73.5	74.6
Project Access 7 to Casa Grande	28710	72.4	73.5	74.7
Grapeland Street				
East of Cypress	4,830	64.7	65.9	67.0
West of Sierra	12,110	68.7	69.9	71.0
Duncan Canyon Road				
Citrus to Project Access 4	22,310	71.3	72.5	73.6
Project Access 4 to Cypress	17,000	70.1	71.3	72.4
Cypress to Project Access 5	16,080	69.9	71.1	72.2
Project Access 5 to Sierra	9,540	67.6	68.8	69.9
Casa Grande Avenue				
Citrus to Project Access 9	11,010	68.3	69.5	70.6
Project Access 9 to Cypress	9,150	67.5	68.7	69.8
Cypress to Project Access 8	9,180	67.5	68.7	69.8

Section 4.6: Noise

TABLE 4.6-5
2030 NOISE LEVELS AT 50 FEET OF ROADWAYS

Roadway Segment	Traffic Volume (ADT)	2030 Noise Level at 50 feet (dB CNEL)		
		45mph	50 mph	55 mph
Project Access 8 to Sierra	11,130	68.3	69.5	70.6
ADT – Average Daily Trips dB CNEL – Community Noise Equivalent decibel Source: Noise Analysis, 2008				

Thus, residences that would be built along some of these road segments would be exposed to high noise levels.

Impact 4.6.2: Residences along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue may be exposed to exterior noise levels exceeding City standards of 65 dBA CNEL.

Perimeter block walls would be provided around the villages and would be used for privacy. These walls would also reduce noise exposure and protect receivers in rear yard recreational areas. The perimeter walls would reduce the need for greater setbacks to achieve acceptable outdoor noise environments for usable outdoor space, especially in homes adjacent to arterial roadways.

The noise wall analysis was conducted to calculate the wall heights necessary to meet 65 dB CNEL for a noise wall located 50 feet from the roadway centerline and the receiver located 60 feet from the roadway centerline. The receiver is assumed to be standing at a 5-foot height within the usable outdoor recreational space. Noise barrier locations and heights to meet the 65-dBA CNEL exterior noise standard are provided in Table 4.6-6, *Noise Wall Heights*. Again, three different average speed assumptions were used, but the 45 mph is anticipated to better reflect future conditions due to traffic control at intersections and traffic slow downs during peak hours.

TABLE 4.6-6
NOISE WALL HEIGHTS

Roadway Segment	Noise Wall Height (in feet) for 45 mph	Noise Wall Height (in feet) for 50 mph	Noise Wall Height (in feet) for 55 mph
Citrus Avenue	6.0	6.5	7.0
Cypress Avenue	Not Needed*	5.0	5.0
Sierra Avenue	6.0	6.5	7.0
Grapeland Street	5.0	5.0	6.0
Duncan Canyon Road	6.0	6.0	6.5
Casa Grande Avenue	5.0	5.0	5.5
* Noise level below 65 dB CNEL Source: Noise Analysis, 2008			

Although a noise wall is not required along Cypress Avenue, wall heights of 5 to 7 feet are required along most roadways, unless a greater distance setback from roadway centerline (more than 60 feet) is provided. Either the noise walls or increased setbacks will ensure that recreational users adjacent to any project roadway will experience traffic noise less than 65 dB

Section 4.6: Noise

CNEL. Increased setbacks from the roadway centerline would permit noise wall heights of less than 7 feet along Sierra Avenue and Citrus Avenue.

Stationary Noise

While schools along these roadways would also be exposed to high noise levels, outdoor field areas at the proposed schools are not expected to be adversely impacted by the projected roadway noise levels since the activities at these fields are not considered noise sensitive and setbacks and open areas are generally provided at school fields.

The proposed commercial area along Duncan Canyon Road and Sierra Avenue would be exposed to noise levels of up to 71.0 dB CNEL by 2030. The City has established noise standards for commercial land uses at 70 dBA CNEL for exterior areas and 55 dBA CNEL for interior areas. Thus, future commercial uses may be exposed to noise levels in excess of City standards.

Impact 4.6.3: Outdoor areas at the proposed commercial retail center may be exposed to noise levels exceeding City standards of 70 dBA CNEL for exterior areas and 55 dBA CNEL for interior areas.

Planning and design of commercial uses would need to consider roadway noise level exposure. Indoor commercial areas would need to mitigate noise levels by 16 dB to meet interior standard and outdoor use areas (such as patio dining areas) would need to mitigate noise levels by 1.0 dB to meet exterior standards.

Interior Noise Levels

The City of Fontana interior noise requirement for residential uses is 45 dB CNEL. With high exterior noise levels, the interior noise levels for residences near roadways with high traffic volumes are likely to be greater than 45 dB CNEL. The exterior noise levels in and near the site are projected to be as high as 72.4 dB CNEL along Sierra Avenue and 72.2 dB CNEL along Citrus Avenue. Thus, residences along arterial roads would require noise attenuation to reduce noise levels at the second story interior areas of abutting homes, while the perimeter walls would provide attenuation for first story living areas.

Impact 4.6.4: Residences along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue may be exposed to interior noise levels exceeding City standards of 45 dBA CNEL.

Because the first row of homes would block other homes located farther from the arterial roads, the combined effects of the distance spreading losses and blocking effects will primarily restrict noise mitigation requirements to lots with a rear lot line along the perimeter roadways. Depending on the distance from the roadway, structural attenuation of up to -29 dB will be required for possible second-story residences adjacent to Sierra Avenue and Citrus Avenue. Residences along Grapeland Street, Duncan Canyon or Casa Grande Avenue will require mitigation of approximately 23 to 26 dB.

Typical noise attenuation provided by single-pane windows in modern frame and stucco construction is typically around -20 dB. Closed dual-paned windows with supplemental ventilation would provide -30 dB of attenuation.

Section 4.6: Noise

Enhanced structural features capable of achieving an additional 6 dB of noise reduction may be needed for second-story dwelling units backing up to Citrus Avenue and Sierra Avenue. As indicated, an additional -10 dB of attenuation can likely be achieved through upgraded dual-paned windows with supplemental ventilation. Possible noise attenuation controls are provided in Table 4.6-7, *Acoustical Upgrades*, and would be needed for residences along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue.

TABLE 4.6-7
ACOUSTICAL UPGRADES

Exterior to Interior Reduction Desired	Measure(s) Needed
0-10 dBA	None
10-20 dBA	Close windows facing roadway. Provide supplemental ventilation.
20-25 dBA	Close standard dual-paned windows. Provide supplemental ventilation.
25-30 dBA	Close upgraded dual-paned windows. Provide supplemental ventilation. Baffle vents and line ducts with absorbers.
>30 dBA	Custom upgrades (dual layer drywall, triple-paned windows, steel doors, etc.)

The use of upgraded dual-paned windows, with supplemental ventilation, baffles in vents, and absorbers in ducts would provide 25 to 30 dB of interior noise mitigation, allowing interior noise standards to be met along major roadways on and near the site. The provision of dual layer drywall, triple-paned windows, steel doors and other custom upgrades would provide additional noise mitigation.

A supplemental acoustical analysis should be submitted in conjunction with the issuance of building permits to verify that adequate structural noise protection will be provided in residences adjoining arterial roadways to meet the 45 dBA CNEL interior standard.

The interior noise exposure for schools along arterial roadways may also expose these uses to noise levels exceeding City standards.

Impact 4.6.5: Schools along Citrus Avenue, Duncan Canyon Road, Cypress Avenue, and Casa Grande Avenue may be exposed to interior noise levels exceeding City standards of 45 dB CNEL.

Schools generally provide wide setbacks from major roadways and are not built using wood-frame and stucco construction. Thus, noise exposure would be less. However, without specific information on the site plan and construction data for the schools, measures should be taken during the planning stages for the schools to ensure that both exterior and interior noise standards are met.

Section 4.6: Noise

Stationary Noise

Another common area of noise conflict is found at the interface between residential and commercial developments, where residential uses back up to loading and delivery docks and truck travel alleys behind stores. This could occur at the boundaries of the proposed commercial retail center that would be located adjacent to residential areas in the Resort Village.

Where commercial and residential uses would share a common property line, there is a possibility of commercial activity noise that could lead to conflict. Early morning deliveries, back-up alarms, rumbling and idling diesel trucks, drive-though speakers, trash pick-up, or parking lot sweeping are sources that can engender noise conflicts in a mixed use environment. When these activities occur during the late evening and early morning hours when background noise levels are lowest, noise impacts would be greater.

Noise measurements at the rear of neighborhood markets containing a grocery store and small shops such as those anticipated for the Resort Village were 48 dB CNEL at 50 feet from the loading dock of an Albertson's grocery store (Harbor Center, Costa Mesa, 1998). The allowable property line standard is 65 dB CNEL under the City's Zoning and Development Code. Single event nuisance mitigation in terms of limits on single event noise is, therefore, typically a use permit condition along any commercial/residential interface.

Impact 4.6.6: The proposed commercial area may generate stationary noise impacts on the adjacent residential developments.

Residential uses would require distance separation from commercial buildings to prevent HVAC equipment from being a nuisance. If this is not possible, the HVAC equipment will need to be shielded. Loading docks and trash compactors for commercial/retail uses should be located away from residences and require time restrictions on deliveries. If fast food restaurants or drive thru-facilities are planned adjacent to residential uses, the sound boards where ordering takes place can be a nuisance, especially at night. Many fast food restaurants keep late hours or are open 24-hours. If the sound boards cannot be oriented away from nearby residences, then sound walls may have to be erected around the order boards. Additionally, time restrictions may be necessary. These details must be dealt with during the design stage for the commercial development, with restrictions made as conditions of approval during the plan check/building permit stage.

On commercial sites, maintenance activities such as refuse collection or parking lot sweeping, or stacking or retrieval of temporary outdoor storage could be a noise source. Possible mitigation would include time restrictions on these activities or sound walls. These details also must be dealt with during the design stage.

The proposed schools would have outdoor recreational areas and HVAC equipment, which may generate noise impacts on adjacent residences. In addition, loading docks and trash compactors at these schools may also be located near residences and late night or early morning use of the docks and compactors could result in adverse noise impacts on nearby residences. Truck deliveries, trash pick-ups, and parking lot sweeping occurring during the late evening and early morning hours would likewise adversely impact the residences.

Section 4.6: Noise

Impact 4.6.7: The proposed schools may generate stationary noise impacts on the adjacent residences.

Sound walls, setbacks, and the location of outdoor fields, HVAC equipment, loading docks, and trash compactors should consider noise impacts to adjacent residences. Additionally, time restrictions may be necessary for truck deliveries, trash pick-ups, and parking lot sweeping. These should be considered during the design stage for the schools.

Temporary or Periodic Noise *(Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?)*

During construction of the proposed developments on the site, planning areas that have been completed and occupied would be exposed to temporary noise impacts from construction activities and stationary sources at adjacent planning areas.

With the recent burning of the residence at the northwestern corner of the site, no on-site residents could be exposed to construction noise from the proposed residential development within the Resort Village. There are residences to the southwest of the site across Casa Grande Avenue. Two other residences on Sierra Avenue are near the site. Also, residences that would be built earlier than other nearby residential, school, and commercial developments and would be exposed to construction noise from these adjacent developments.

Within each village, residences that are first built and occupied would be exposed to noise impacts during the construction of nearby residences. Impacts would be mitigation by compliance with the City's construction time limits and the mitigation measures outlined below.

Impacts on residences and sensitive receptors from stationary noise sources at future commercial retail and schools proposed on the site are addressed above, with mitigation measures for potentially significant adverse impacts outlined below.

Aircraft Operations *(For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?)*

The project site is located approximately 3.0 miles northwest of the Rialto Municipal Airport. This airport is limited to small private aircraft with very limited personal aircraft operations. This airport is in the process of being closed, and will be redeveloped with other non-airport uses.

The project site is not located within an area covered by an airport land use plan or within two miles of a public or public use airport. The nearest airport to the project site is the Rialto Airport, which is in the process of being closed and redeveloped. The Noise Element of the Fontana General Plan shows the airport noise contours for this airport (Chapter 12, Figure 12-5). As show, the site is located outside the 65 CNEL for the airport. Thus, future developments on the site would not be exposed to excessive airport noise levels.

Airport operations and aircraft at the Rialto Municipal Airport are not expected to adversely impact residences, schools, parks, and commercial uses at the project site, due to the distance

Section 4.6: Noise

of this airport to the site being over 2 miles. No significant adverse impacts relating to noise from aircraft operations are expected.

4.6.4 Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed Specific Plan would generate noise associated with construction activities. The implementation of the following standard condition would reduce project-generated construction noise impacts:

Standard Condition 4.6.1: Construction activities on the project site shall comply with City regulations on time limits for construction activity. Construction activities would have to comply with the construction time limits (7 AM to 6 PM on weekdays, unless otherwise approved by the City and the Engineer or in case of an emergency); loading/unloading of boxes; transport of metal rails, pillars and columns; and the use of pile drivers, steam shovels, pneumatic hammers and other noisy construction equipment shall be conducted within allowable times (7 AM to 10 PM) as set by the Fontana Noise Ordinance.

Mitigation Measures

The on-site residential uses would be exposed to vehicular and stationary noise levels that could exceed standards. The implementation of the following mitigation measures would reduce significant adverse noise impacts on the project:

Mitigation Measure 4.6.1a: During construction, the following measures shall be implemented to reduce noise on sensitive receptors:

- ◆ *All off-road construction equipment shall have properly operating and maintained mufflers.*
- ◆ *Stockpiling and equipment/vehicle staging shall be conducted as far as practicable from occupied dwelling units or other nearby noise-sensitive land uses.*
- ◆ *Idling of construction equipment shall be limited to 5 minutes, as required by law. Equipment shall be turned off when not in use.*
- ◆ *Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, during the late morning and early afternoon hours near residences, or temporary barriers shall be erected, if necessary.*
- ◆ *Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, near schools when schools are not in session or temporary barriers shall be erected, if necessary.*
- ◆ *Inform abutting residents and schools of the construction schedule for areas under construction.*

Mitigation Measure 4.6.1b: A noise impact mitigation plan shall be submitted and implemented for major construction within 500 feet of any occupied residence that incorporates temporary barriers, maximum set-backs and upgraded equipment as necessary.

Mitigation Measure 4.6.2a: Perimeter walls shall be provided along residential areas to meet the City's exterior noise standard of 65 dBA CNEL, as follows:

Section 4.6: Noise

Roadway Segment	Noise Wall Height (in feet)
Citrus Avenue	6
Sierra Avenue	6
Grapeland Street	5
Duncan Canyon Road	6
Casa Grande Avenue	5

Mitigation Measure 4.6.2b: Increased setbacks from the roadway centerline shall be provided if noise wall heights are less than those listed above, which are capable of achieving an exterior noise level of 65 dBA CNEL or less. Setback requirements are as follows:

Roadway Segment	Distance to 65-dB Noise Contour (in feet)
Citrus Avenue	260
Cypress Avenue	50
Sierra Avenue	275
Grapeland Street	115
Duncan Canyon Road	200
Casa Grande Avenue	110

Mitigation Measure 4.6.3: The proposed commercial retail center shall be required to provide supplemental noise analysis to show that indoor commercial areas would meet the interior standard of 55 dBA CNEL and outdoor use areas (such as patio dining areas) would meet the exterior standard of 70 dBA CNEL.

Mitigation Measure 4.6.4: A supplemental acoustical analysis shall be submitted in conjunction with the issuance of building permits to verify that adequate structural noise protection will be provided in residences adjoining arterial roadways to meet the 45 dBA CNEL interior standard. This includes the provision of closed dual-paned windows with supplemental ventilation for residences along Duncan Canyon Road, Cypress Avenue, and Casa Grande Avenue. The use of upgraded dual-paned windows, with supplemental ventilation, baffles in vents, and absorbers in ducts shall be provided for residences along Citrus Avenue. Dual layer drywall, triple-paned windows, steel doors and other custom upgrades shall be provided for residences along Sierra Avenue.

Mitigation Measure 4.6.5: Design and planning of the schools shall implement structural noise protection as necessary to meet the 45 dBA CNEL interior standard.

Mitigation Measure 4.6.6: Conditional use permits for proposed commercial uses shall contain measures that control noise generation from goods deliveries, facility maintenance, and mechanical equipment to meet the City's interior and exterior noise standards at adjacent land uses. These may include:

- ◆ *Location of commercial HVAC equipment away from residences or shielding of HVAC equipment*
- ◆ *Location of loading docks and trash compactors away from residences*

Section 4.6: Noise

- ◆ *Time restrictions on deliveries to commercial uses*
- ◆ *Orientation of fast-food restaurant sound boards away from nearby residences; sound walls around the order boards; or time restrictions on sound board use*
- ◆ *Time restrictions on refuse collection or parking lot sweeping, or stacking or retrieval of temporary outdoor storage*

Mitigation Measure 4.6.7: Design and planning of the schools shall install or implement the following provisions, as necessary, to keep noise levels within the City's interior and exterior noise standards at adjacent land uses: sound walls, setbacks between abutting residences and the schools' outdoor fields; location of HVAC equipment away from residences or provision of shielding around HVAC equipment; location of loading docks and trash compactors away from residences; and time restrictions on truck deliveries, trash pick-ups, and parking lot sweeping.

4.6.5 Unavoidable Significant Adverse Impacts

Construction activities, vehicle trips and stationary activities associated with future development under the *Arboretum Specific Plan* may create significant adverse noise impacts on adjacent land uses. Implementation of the standard condition and recommended mitigation measures would reduce noise impacts on existing and proposed residential uses, schools, and commercial uses to less than significant levels. Impacts are expected to be less than significant after mitigation. No unavoidable significant adverse impacts are expected.

Section 4.7: Geology and Soils

A Geotechnical Investigation was prepared by the RMA Group on October 2006, which identified existing geologic and soil characteristics at the project site and potential geologic and seismic constraints to future development. The findings of the report are summarized below, and the report is provided in Appendix F of this EIR.

4.7.1 Environmental Setting

Topography

The City of Fontana is located at the eastern section of the Chino Valley basin, which is defined by the San Gabriel Mountains to the north, the San Bernardino Mountains to the northeast, the Puente Hills to the southwest, and the Jurupa Hills to the southeast. The project site is located on an alluvial fan surface at the northern end of the City of Fontana, south of Lytle Creek Canyon and the base of the San Gabriel Mountains. The project site is vacant, with the recent burning of the residence at the northwestern corner of the site.

The site slopes to the south and southwest, with on-site elevations ranging from approximately 1,905 feet above mean sea level at the northeastern corner to 1,710 feet above mean sea level at the southwestern corner, with an approximately 3.2 percent slope to the south and southwest. Figure 4.7-1, *Existing Topography*, shows on-site elevations.

Geologic Setting

The project area is at the boundary of the Coastal Plain and the Transverse Range geomorphic provinces. Geologically, the North Fontana area is located on a broad, coalescing alluvial fan that starts at the San Gabriel Mountains and Lytle Creek to the north. The sediments fill the western portion of the upper Santa Ana River valley with alluvial deposits approximately 300 to 800 feet thick under the site, with crystalline basement bedrock beneath the alluvium.

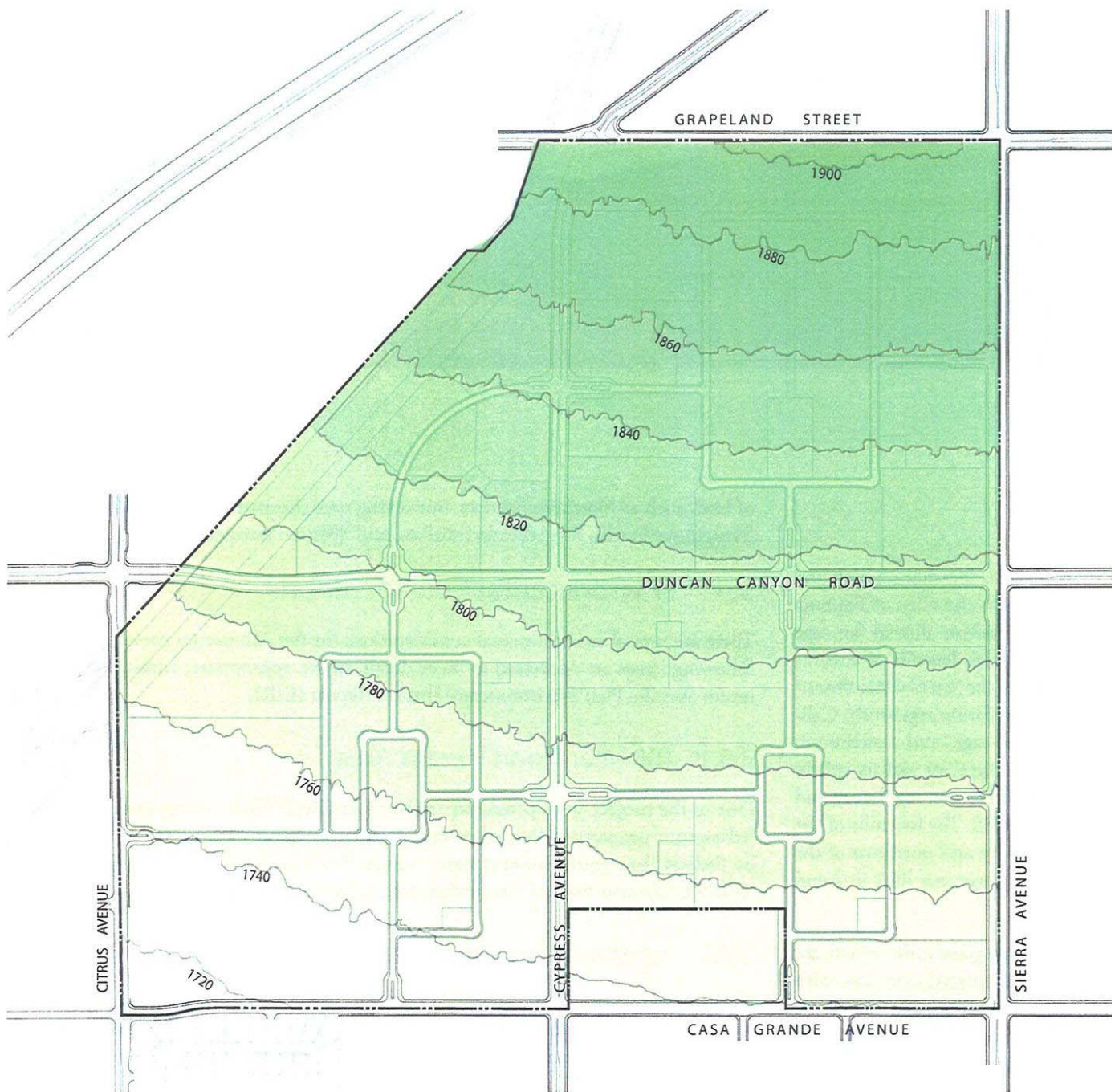
The upper Santa Ana River valley is bounded by the San Gabriel Mountains and the Cucamonga Fault to the north; the Puente Hills and the Chino Fault to the west; the Jurupa Hills and other resistant granitic and metamorphic hills to the south; and the San Bernardino Mountains and the San Andreas Fault to the east. The San Jacinto Fault crosses the valley in a northwest-to-southeast direction, approximately 0.5 mile northeast of the site. Figure 4.7-2, *Geologic Map*, shows the geologic setting of the site within the project area.

Soils

Coarse-grained alluvial fan deposits found at the site consist of gravelly, silty sands with cobbles and boulders. These soils have very low expansion and corrosion potential.

The Soil Survey for the Southwestern Part of San Bernardino County identifies on-site soils as Tujunga gravelly loamy sand (TvC) near the southwestern section, Soboba gravelly loamy sand (SoC) on the southeastern and southwestern sections and Soboba stony loamy sand (SpC) over the rest of the site.

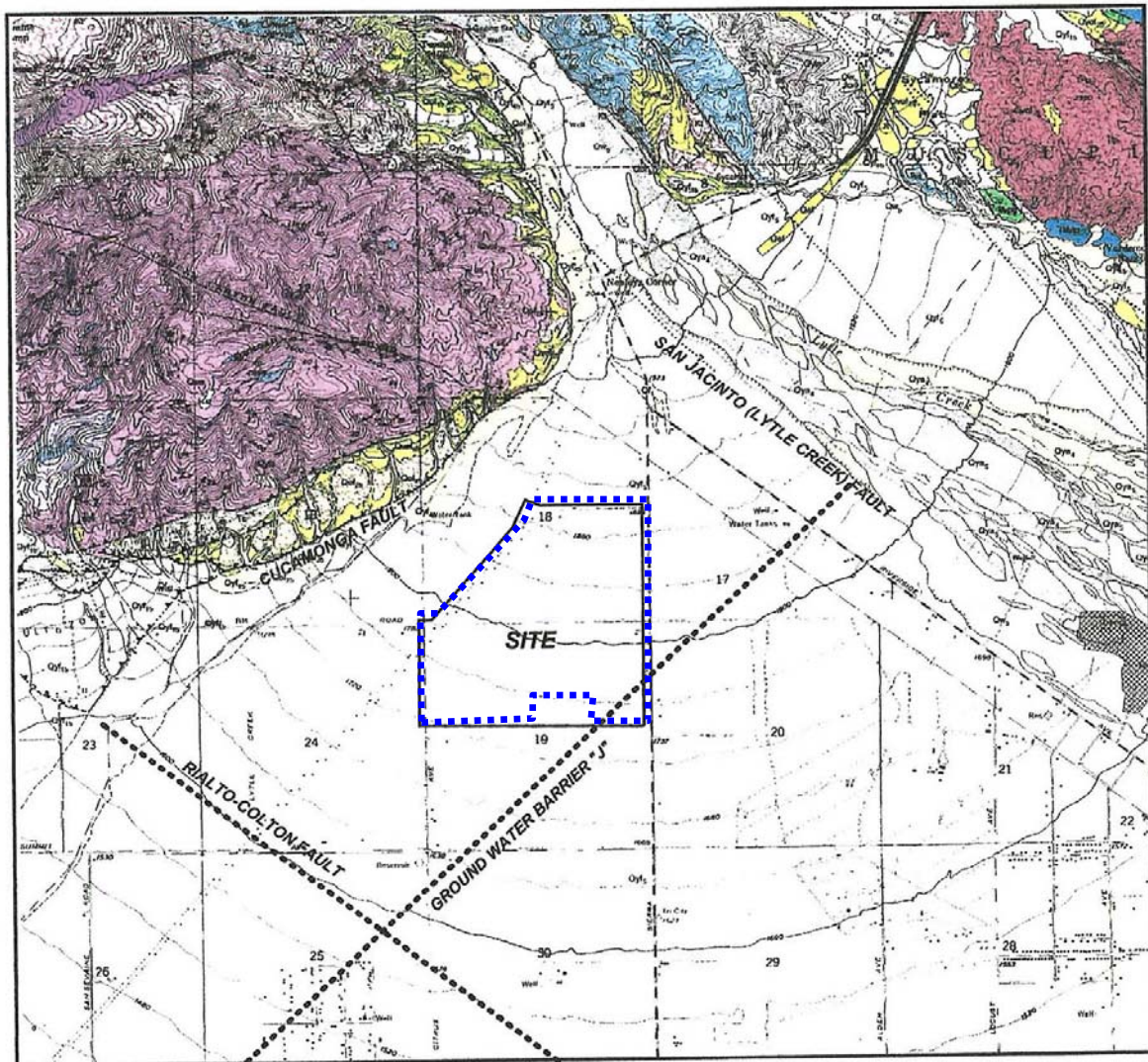
**Figure 4.7-1
Existing Topography**



**Arboretum Specific Plan
City of Fontana**



**Figure 4.7-2
Geologic Map**



REGIONAL GEOLOGIC MAP

Scale: 1" = 4,000'

PARTIAL LEGEND



- Modern wash deposits	- Old alluvial fan deposits
- Modern alluvial fan deposits	- Very old alluvial fan deposits
- Young alluvial fan deposits	- Granulitic gneiss, mylonite and cataclasites

Source: Morton, D.M. and Matti, J.C., 2001, Geologic Map of the Devore 7.5' Quadrangle, San Bernardino County, California, USGS OFR 01-173.

**Arboretum Specific Plan
City of Fontana**



Section 4.7: Geology and Soils

Tujunga soils consists of brown loamy sand and pale brown coarse sand that are 60 inches deep or more. Fine gravel makes up 15 to 30 percent of the total volume of the soils. These soils are formed on alluvial fans on granitic alluvium. They have very slow to slow runoff potential and slight erosion hazards. They are slightly acid throughout and rapidly permeable. Tujunga soils have low shrink-swell potential.

Soboba soils have grayish-brown stony loamy sand on the surface, approximately 10 inches thick. These are underlain by brown, very stony loamy sand and very pale brown very stony sand that is 60 inches thick or more. These soils have a very gravelly loamy sand surface in the upper 36 inches, representing 40 to 60 percent of volume. Runoff is very slow to slow and erosion hazard is slight. Soils are very rapidly permeable and have low shrink-swell potential.

Figure 4.7-3, *Soil Associations*, shows soils in the project area.

Coarse grained alluvial fan deposits underlie the site, as found throughout North Fontana. These deposits consist of gravelly, silty sands, with cobbles and boulders. Larger and more boulders are found near the foothills resulting from erosion of the mountains. The project site is located near the Cajon Pass, where strong Santa Ana winds can cause surficial erosion in areas without vegetation, concrete, or asphalt cover. Sand and silts due to wind erosion are also present at or near the ground surface. These soils generally have very low expansion and corrosion potential.

Soil borings at the southwestern section of the site identified the on-site soils as dry, loose, disturbed and compressible fine sand with rock fragments, underlain by medium to dense, dry to damp, fine to medium coarse gravelly sand with numerous pebbles and rocks. These soils had moderate shear strengths, low potential for compressibility, and very low soil expansion potential. Due to their gravelly nature, soils are considered highly susceptible to caving.

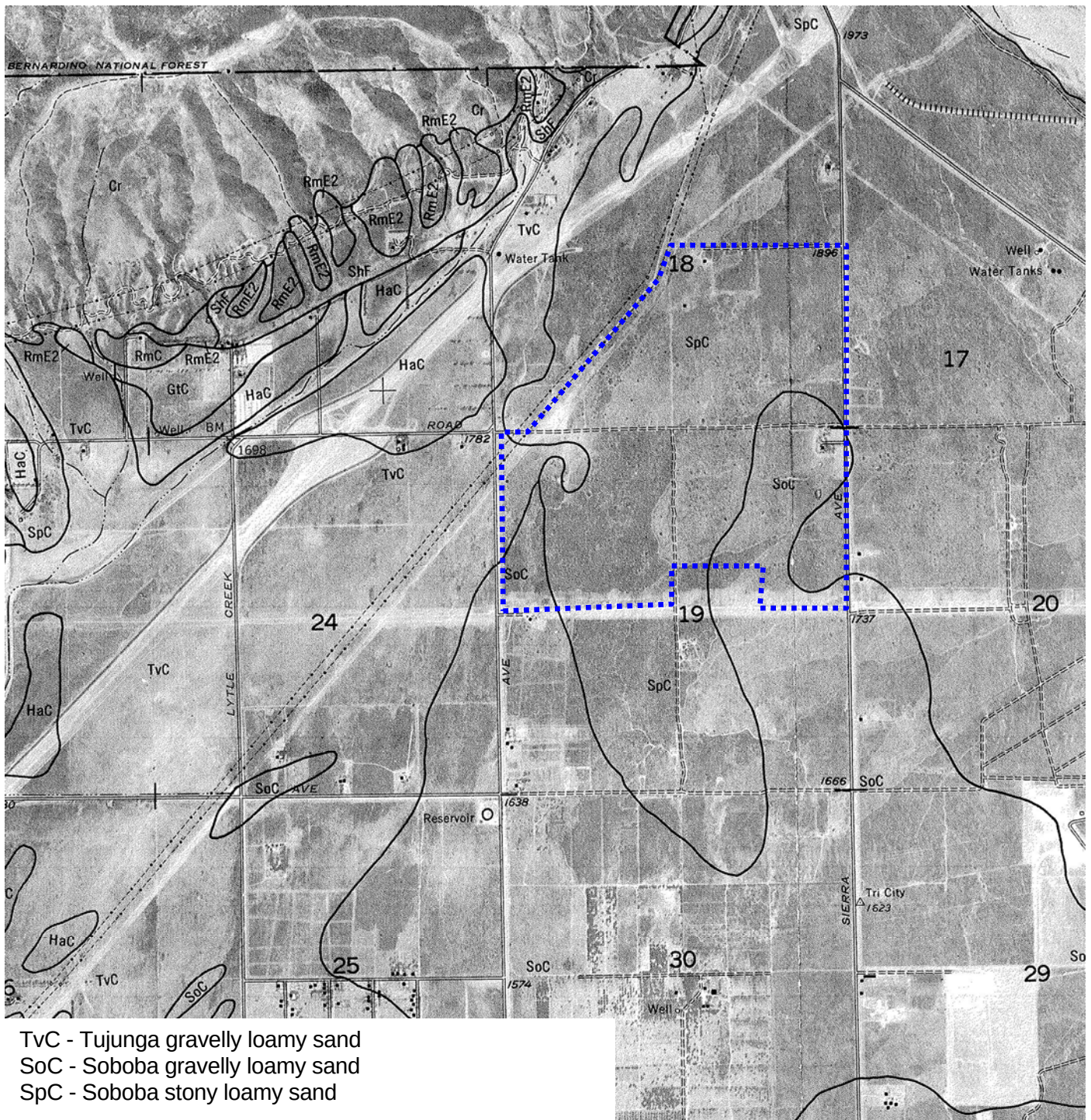
Seismicity

Southern California is a seismically active region, with seismic hazards depending on the proximity and earthquake potential of nearby active faults, and the local geologic and topographic conditions, which can either amplify or attenuate seismic waves. The site is located at the junction of two major faults: the Cucamonga Fault zone and the San Jacinto fault zone.

Cucamonga Fault. The Cucamonga Fault is located approximately 0.75 mile northwest of the site at the southern front of the eastern San Gabriel Mountains. This north dipping thrust fault runs east to northeast and separates the crystalline bedrock of the San Gabriel Mountains and the valley alluvium. This fault is capable of generating earthquakes with Magnitude 7.0, with intervals between ground rupturing events of 150 to 700 years. Typical ground rupture along the Cucamonga Fault has been estimated at around 2 meters.

San Jacinto Fault. The San Jacinto Fault includes several northwest-southeast trending fault segments that extend approximately 130 miles (210 kilometers) from its intersection with the San Andreas Fault near in the Lytle Creek area at the San Gabriel Mountains), southward to El Centro in Imperial County near the Mexican border and beyond. This right lateral, strike slip fault has been active in historic time, with earthquakes of Magnitude 6.0 to 7.1 occurring since the 1800's. The branch of the San Jacinto fault nearest to the site is the Lytle Creek Fault, which forms the western side of Lytle Creek Canyon, just 0.5 mile northeast of the site. This fault is capable of generating earthquake with Magnitude 7.5 at intervals of 100 to 300 years.

**Figure 4.7-3
Soil Associations**



**Arboretum Specific Plan
City of Fontana**



Section 4.7: Geology and Soils

Rialto-Colton Fault. The Rialto-Colton Fault is located approximately one mile southwest of the site and serves as the southern boundary of the Rialto-Colton groundwater basin. This fault has a strike-slip displacement approximately two miles west of the site, in a low hill within the Hunter's Ridge development. There is no surface expression and fault is not included within State, County, or City designated fault rupture hazard zones.

Groundwater Barrier J. Groundwater Barrier J is located at the southeastern corner of the site, running in a southwest-to-northeast direction. This fault displaces the base of fresh groundwater upward by 100 feet and is caused by uplift of the San Gabriel Mountains. It has no surface expression and is concealed by thick alluvial deposits. This fault is not included within State, County, or City designated fault rupture hazard zones or a designated Alquist-Priolo Earthquake Fault Zone. Based on the Geotechnical Investigation, surface rupture hazards from this fault are not expected on the site.

Concealed or inferred faults are faults that have no surface expression and have not been active during the Quaternary time (the past 1,600,000 years). Concealed faults, like Groundwater Barrier J, are present in the surrounding area, along with other regional faults such as the San Andreas, Cleghorn, North Frontal faults, which are located approximately 7 to 30 miles from the site. Table 4.7-1, *Earthquake Faults*, identifies nearby earthquakes. Figure 4.7-4, *Earthquake Faults*, shows the location of earthquake faults near the site.

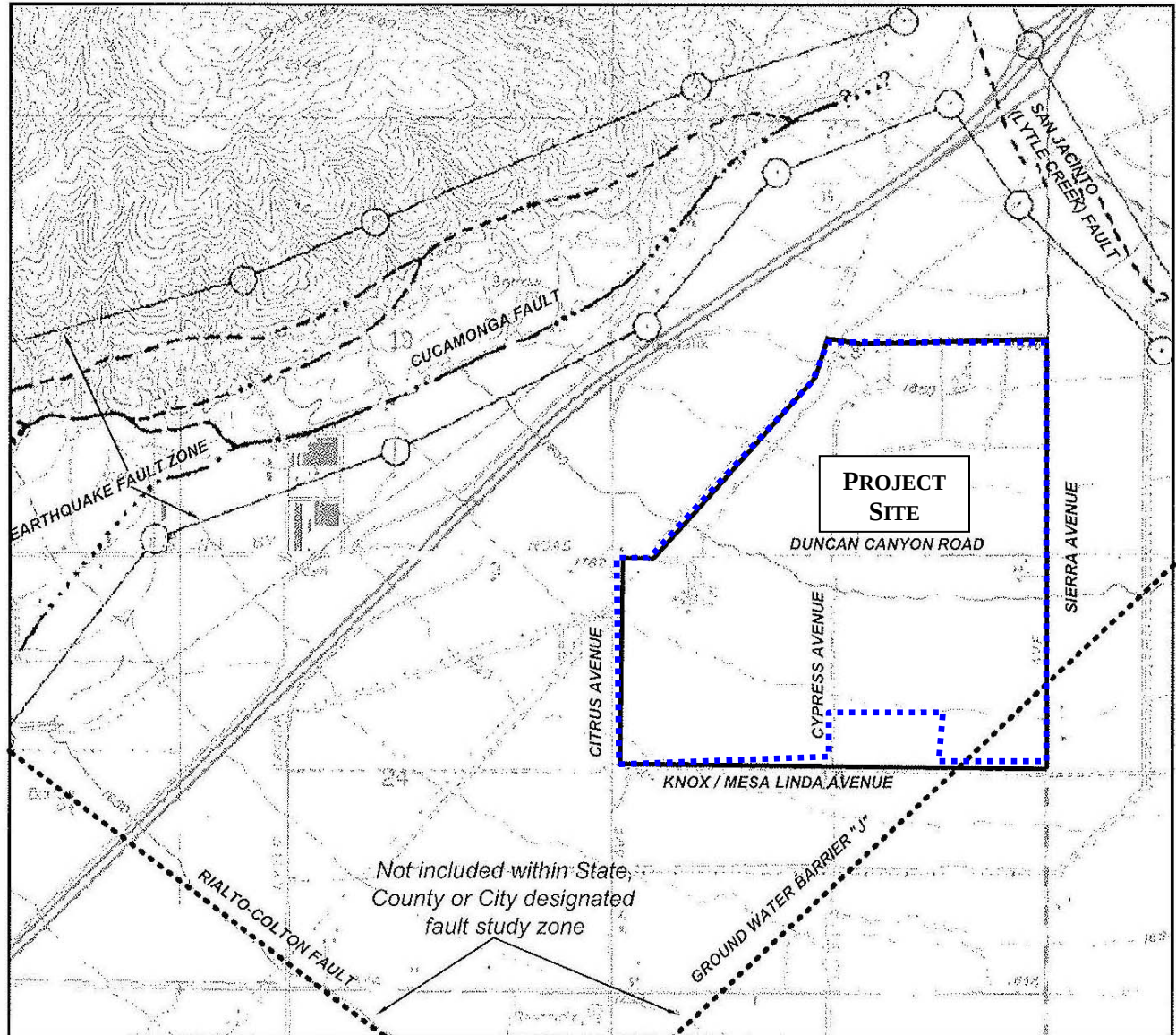
**TABLE 4.7-1
EARTHQUAKE FAULTS**

Fault Name	Closest Distance to the site (mi)	Seismic Source Type	Moment Magnitude (Mw)	Slip Rate (mm/yr)
Cucamonga	0.75	A	7.0	5.00
San Jacinto-San Bernardino	0.5	B	6.7	12.00
Rialto-Colton	1.5	--	--	--
Groundwater Barrier J	0.0	--	--	--
San Andreas- Southern segment	7	A	7.4	24.0
Cleghorn	9	B	6.5	3.0
San Andreas- 1857 Rupture	30	A	7.8	34.0
North Frontal Fault Zone (west)	14	B	7.0	1.0
San Jose	14	B	6.5	0.5
Sierra Madre (central)	17	B	7.0	3.0
mi – mile mm/yr – millimeters per year				
Source: Soils and Foundation Evaluation, 2003 and Geotechnical Investigation, 2006 and 2003.				

Five historic earthquakes have occurred within 15 miles of the site since 1857. The most recent of which was the Magnitude 5.5 earthquake in Upland in 1990. Table 4.7-2, *Historic Earthquakes*, lists recent earthquakes (within the last 50 years) in the region and the estimated peak horizontal ground acceleration at the site from these events.

Under a deterministic evaluation, it is estimated that the most intense groundshaking at the site would occur from a large magnitude earthquake on the Cucamonga and San Jacinto faults. It is expected that large magnitude earthquakes along these faults could generate peak horizontal ground accelerations on excess of 1.0 gravity, depending on the location and magnitude of the earthquakes.

**Figure 4.7-4
Earthquake Faults**



Section 4.7: Geology and Soils

TABLE 4.7-2
HISTORIC EARTHQUAKES

Date	Event Location	Intensity Magnitude	Distance from Site (mi)	Estimated Peak Acceleration (g)
October 10, 1999	Hector Mine	7.1	76	0.12-0.20
January 17, 1994	Northridge	6.7	64	0.11-0.19
June 28, 1992	Big Bear	6.6	34	0.17-0.29
June 28, 1992	Landers	7.5	60	0.18-0.30
April 22, 1992	Joshua Tree	6.3	68	0.09-0.15
June 28, 1991	Sierra Madre	5.8	33	0.12-0.19
February 28, 1990	Upland	5.5	15	0.17-0.28
October 1, 1987	Whittier Narrows	6.1	38	0.12-0.20
July 8, 1986	North Palm Springs	5.9	51	0.09-0.15
February 9, 1971	San Fernando	6.6	59	0.11-0.19
mi – mile g – gravity				
Source: Geotechnical Investigation, 2003.				

Since the project site is located in a highly seismic area, it would be subject to moderate to strong groundshaking due to earthquake events on nearby faults.

Seismic Hazards

Secondary seismic hazards that may occur at the site during earthquake events in the region are discussed below.

Liquefaction is a phenomenon where earthquake induced ground vibrations increase pore pressure in saturated, granular soils, result in the soil losing its shear strength and entering a liquefied state. Liquefaction occurs when underlying loose, coarse-grained soils, groundwater within 50 feet of the surface and a nearby large magnitude earthquake are present at a site. The Fontana General Plan shows that the site is located in an area with low liquefaction potential. Groundwater is also estimated at more than 150 feet below the surface and the very coarse cobble and boulder alluvium will likely relieve pore pressure naturally and prevent liquefaction. Thus, no liquefaction hazard is expected on the site.

Tsunamis are sea waves generated by earthquakes, causing coastal flooding. Seiches are the oscillation of large bodies of standing water in response to groundshaking. Due to the inland location of the project site and the lack of bodies of standing water near the site, tsunamis and seiches are not expected the site.

Flooding due to failure of a dam, reservoir, or other water retaining structure is considered negligible due to the absence of dams near the site.

Seismically induced settlement occurs in areas underlain by loose, granular sediments. Differential settlement in areas with large variations in sediment thickness could lead to slope instability and ground failure. The site is overlain by coarse-grained, medium dense to dense alluvium approximately 300 to 800 feet thick, with 200-foot thick alluvium at the southwestern part of the site. Thus, the site is not susceptible to seismically induced settlement, assuming loose surficial sediments are compacted during grading.

Section 4.7: Geology and Soils

Lurching is defined by cracking and fissuring during an earthquake, separate from fault rupture. It occurs in areas with loose, granular soils and high groundwater, near earthquake faults. With groundwater estimated at more than 150 feet below the surface at the site, the potential for lurching is considered low. Since Barrier J is covered with thick alluvium and has no surface expression, the potential for lurching associated with this fault is also considered unlikely.

The site has a slight slope, with no major landforms near the site and elevations ranging from approximately 1,905 feet above mean sea level at the northeastern corner to 1,710 feet above mean sea level at the southwestern corner. The project site is not shown to be located in an area of slope instability, according to the City of Fontana General Plan. Thus, no landslide hazard is expected.

Fissuring and ground subsidence has been reported in Riverside County and the Chino area. However, no ground fissures or subsidence resulting in fissures has been reported on or near the site.

4.7.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact in terms of geology and soils, if its implementation results in any of the following:

- ◆ Exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) rupture of a known earthquake fault, as delineated on the most recent Earthquake Hazard Fault Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, 2) strong seismic ground shaking, 3) seismic-related ground failure, including liquefaction, or 4) landslides;
- ◆ Results in substantial soil erosion or the loss of topsoil;
- ◆ Is 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;
- ◆ Is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or,
- ◆ If it has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

4.7.3 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would be exposed to geologic and seismic conditions present on the site.

Surface Rupture, Groundshaking, and Seismic Hazards (*Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) 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, 2) strong seismic ground shaking, 3) seismic-related ground failure, including liquefaction, or 4) landslides?*)

Surface Rupture

Groundwater Barrier J runs through the southeastern corner of the site. However, this fault is

Section 4.7: Geology and Soils

covered by thick alluvial deposits and has no surface expression. Thus, the potential for surface rupture hazards is considered to be unlikely. Other nearby earthquake faults would not cause surface rupture hazards on-site.

Groundshaking

Earthquake events at nearby faults would generate strong groundshaking at the site. The residential, commercial, and school buildings and infrastructure systems that would be constructed as part of the project would be subject to groundshaking hazards, which could lead to the damage of structures, roads, utility lines, resulting fires, falling objects, and other structural hazards that could cause property damage and personal injuries. Employees, construction workers, residents, and visitors on the site would be exposed to groundshaking hazards during an earthquake event.

Compliance with applicable standards in the California Building Code, including seismic design parameters, would minimize the effects of seismic activity and would reduce groundshaking hazards to acceptable levels. With a Magnitude 7.0 earthquake and soil type of Sd, the California Building Code identifies the horizontal ground acceleration at 1.5 to 2.0 g. If the structural designs of proposed buildings and infrastructure account for ground acceleration at the site, impacts associated with groundshaking would be less than significant.

Seismic Hazards

The site is not located within an area with shallow groundwater. Groundwater levels in the project area are expected to be present more than 150 feet below the ground surface. Soboba and Tujunga soils do not have a high clay content that may promote liquefaction. In addition, the very coarse cobble and boulder alluvium found on the site will likely relieve pore pressure naturally and prevent liquefaction. Therefore, future development on the project site would not be subject to liquefaction hazards associated with shallow groundwater. No liquefaction hazards are expected.

Landslides

The proposed developments on the site would also not be subject to landslides since the site features slopes of 2 percent or less. With future development, berms and slope changes between parcels and planning areas would account for elevation gradations, with the majority of the site having a relatively flat terrain. The grading plan for the site shows that future ground elevations would range from 1,710 feet above msl at the southwestern corner to 1,900 feet above msl along the northern boundary of the site, with elevation changes confined to berms, and slopes leading to elevation grades of 0 to 5 feet at each location. No adverse impacts related to landslides are expected.

The potential for earthquake-induced flooding is low due to the absence of dams or large water bodies in the area. Tsunamis (or tidal waves) would not affect the site due to its inland location. Seiches are also not expected to affect future developments on the site due to the absence of large enclosed bodies of water in the project area. The potential for differential settlement is considered low at the site and future structures would be designed and constructed to include safety factors to account for settlement, as recommended by the Geotechnical Investigation.

Erosion Hazards *(Would the project result in substantial soil erosion or the loss of topsoil?)*

Section 4.7: Geology and Soils

Soils and Ground Disturbance

Construction of future developments on the project site would lead to ground disturbance and changes in the local topography. Since the site has a slight slope, future development would feature berms and slope changes between parcels and planning areas to account for elevation gradations. However, the majority of the site would have a relatively flat terrain, and no major changes in the topographic or geologic features of the site would occur. Changes in elevation between planning areas and within residential blocks would be accommodated by landscaped berms, retaining walls, and perimeter slopes. Figure 4.7-5, *Proposed Grading*, presents the grading plan for the site and shows that future ground elevations would range from 1,710 feet above msl at the southwestern corner to 1,900 feet above msl along the northern boundary of the site. This translates to elevation changes of 0 to 5 feet throughout the site, with balanced cut and fill of approximately 1.4 million cubic yards of soils. This impact is not considered significant.

Erosion

The Soboba and Tujunga soils found on-site have slight erosion hazard. However, grading and excavation activities may lead to localized erosion, as wind and water carry loose soils off-site. Excavation and grading activities could lead to the erosion of soils into nearby areas. With general southerly and southwesterly slopes on site, soil movement would likely be towards Casa Grande Avenue and Citrus Avenue.

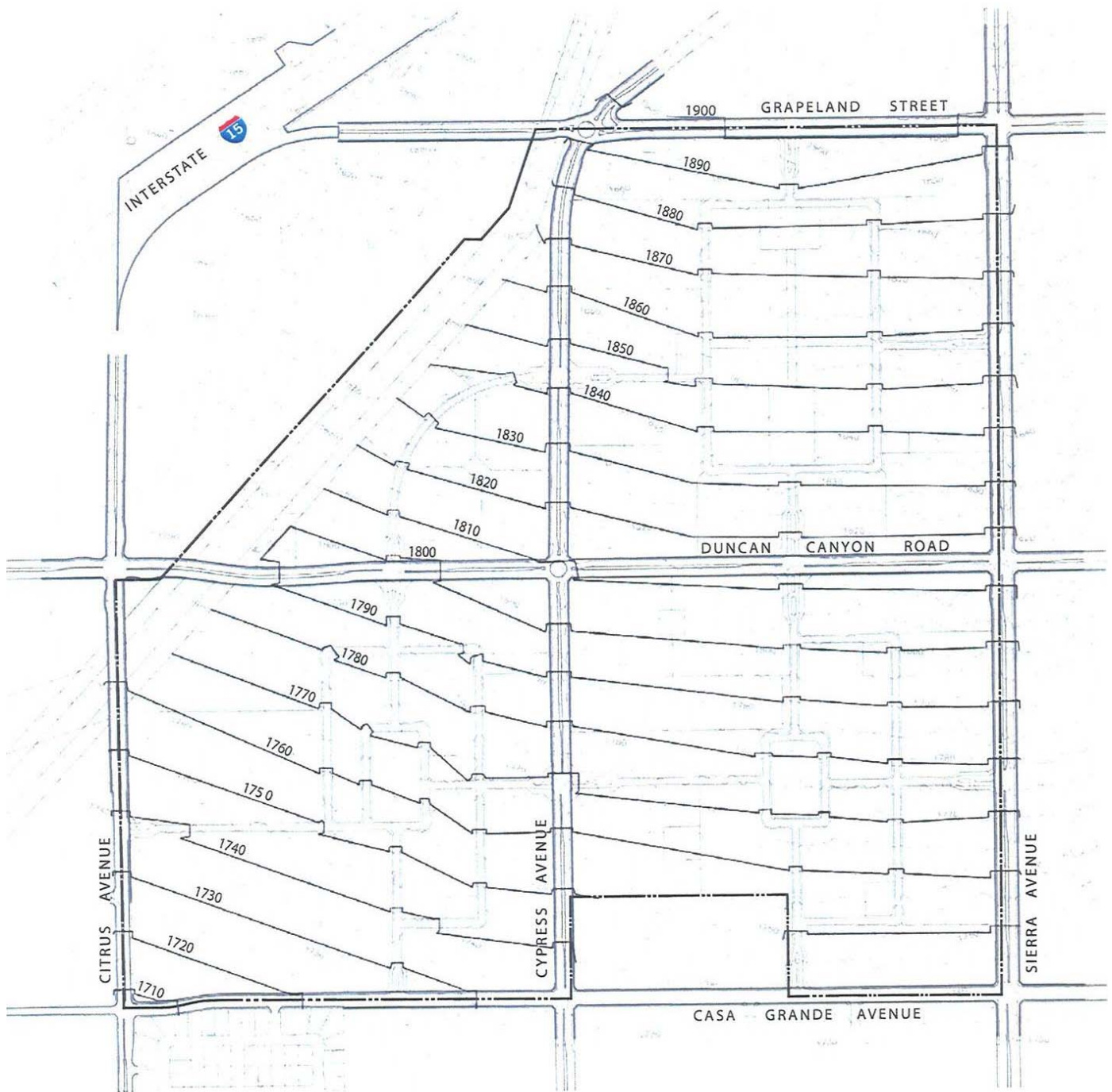
Due to the presence of minor slopes across the site, water erosion is also not expected to be a concern at the site. However, during ground disturbance activities, coupled with strong Santa Ana winds, it is likely that wind erosion and fugitive dust nuisance would be generated by grading and excavation activities and would impact adjacent properties to the south. These include soiling of exterior furniture and vehicles, nuisance to persons in outdoor areas, loose soils on roadways and driveways, reduction in visibility for drivers, and loss of topsoil.

Dust control measures outlined in Mitigation Measure 4.5.1 in Section 4.5, *Air Quality*, would reduce impacts associated with soil blowing and wind erosion. These include daily watering, stopping work during high winds, use of soil binders, perimeter silt fences and sand bags, and prompt revegetation. In addition, the project would implement erosion control BMPs outlined in the Stormwater Pollution Prevention Plan (SWPPP) that would be developed and implemented as part of the construction phases of the project.

The project would be required to implement erosion control measures per standard engineering practices and City requirements. Implementation of erosion control measures would prevent eroded soils from entering adjacent properties and minimize sediments and loose soils from entering the City's roadways and storm drain system, as well as adjacent areas. Upon completion of construction, the site would largely be built on, paved or landscaped. Berms and slope changes between parcels and planning areas would be landscaped or provided with retaining walls. Thus, limited erosion is expected during in the long-term. The project would not result in significant adverse impacts associated with substantial soil erosion or loss of topsoil. Impacts relating to erosion would be temporary and less than significant.

Geologic Hazards (*Is the project 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?*)

**Figure 4.7-5
Proposed Grading**



**Arboretum Specific Plan
City of Fontana**



Section 4.7: Geology and Soils

As discussed above, no landslide or liquefaction hazards are expected on the site. Based on the findings of the Geotechnical Investigation, excavation and utility trenching may encounter trench-wall instability, because on-site soils are gravelly and highly susceptible to caving. Temporary excavation up to 5 feet may be made without rigorous lateral supports. However, deeper excavations would require shoring.

Impact 4.7.1: On-site excavations may be subject to caving.

It is recommended that excavated surfaces be watered to minimize potential surface soil raveling. Shoring would be necessary for excavations deeper than five feet and no surcharge loading (from vehicles, materials, or workmen on the surface adjacent to the trench excavation) should be allowed within a 1:1 line drawn upward from the toe of temporary excavations. This would prevent geologic hazards associated with soil caving during trenching and excavation.

Soil Expansion (Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?)

Based on the characteristics of the on-site soils, the expansion, compaction, moisture content, and other geologic properties of the local soils would need to be considered in the design of structures and infrastructure to ensure that the structural integrity of on-site buildings and infrastructure is not compromised. The geotechnical investigation provides structural design and construction recommendations for earthwork (subgrade preparation, rock removal, backfill, overexcavation, shrinkage and subsidence, site drainage, utility trench backfill,) foundation design (foundations, lateral earth pressures, settlement, slabs on grade, pavement design, retaining walls, pipe bedding), and other necessary geologic and seismic considerations that would need to be considered in the engineering design and implemented for building construction. Implementation of the recommendations of the report would ensure the structural integrity of proposed structures and infrastructure.

Septic Tank Limitations (*Does the site have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*)

Future residential and commercial uses, parks, and schools that would be constructed on the site would be connected to the public sewer system, through sewer lines that would be provided to serve individual lots. No septic tank limitations would be posed by on-site soils.

4.7.4 Standard Conditions and Mitigation Measures

Standard Conditions

The proposed project would be exposed to geologic or seismic conditions on the project site. The implementation of the following standard conditions would reduce groundshaking hazards and other site-specific geologic concerns:

Standard Condition 4.7.1: The project shall comply with seismic design criteria in the California Building Code, the City's building standards, and other pertinent building regulations.

Section 4.7: Geology and Soils

Standard Condition 4.7.2: Recommendations of the geotechnical investigation for the project site, as they pertain to structural design and construction recommendations for earthwork, grading, slopes, foundations, pavements, and other necessary geologic and seismic considerations would need to be implemented for building construction.

Mitigation Measures

Implementation of the mitigation measure below would reduce project impacts related to the on-site geologic characteristics and soils.

Mitigation Measure 4.7.1: Excavations shall be constructed in accordance with the recommendations of the geotechnical investigation for the site, including the following:

- ◆ *Temporary excavations may be constructed to a vertical depth of five feet without rigorous lateral supports.*
- ◆ *Excavated surfaces shall be wetted during construction in order to minimize potential surface soil raveling.*
- ◆ *No surcharge loading (from, vehicles, materials, or workmen on the surface adjacent to the trench excavation) shall be allowed within an imaginary 1:1 line drawn upward from the toe of temporary excavations.*
- ◆ *Should excavations exceed five feet, those shall be made using cantilevered or braced shoring to support side walls.*
- ◆ *Temporary excavations in excess of five feet shall be made at a slope of 2 :1 (H:V) or flatter, and as per the construction guidelines provided by the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act and current amendments, and the Construction Safety Act.*

4.7.5 Unavoidable Significant Adverse Impacts

Geologic and seismic hazards on the site can be prevented or reduced to less than significant levels by the implementation of the standard conditions and the recommended mitigation measure. No unavoidable significant adverse impacts are expected after mitigation.

Section 4.8: Hydrology, Water Quality and Flooding

A Drainage Study, dated May 2007, was prepared by Encompass Associates, Inc. to determine the existing and future hydrologic conditions at the project site and the needed storm drain infrastructure to serve the project. A Water Quality Management Plan was prepared by Madole and Associates on February 2008 to identify best management practices to protect stormwater quality with future development. The Drainage Study and Water Quality Management Plan are summarized below, and the studies are provided in Appendix G of this EIR.

4.8.1 Environmental Setting

The project site is located within the Santa Ana River watershed, with surface drainage flows generally to the south and southwest. Lytle Creek is located just north of the City of Fontana and the project site, and this creek flows from the San Gabriel Mountains in a northwest-to-southeast direction, into the northern section of the City of Rialto and into the City of San Bernardino. Some flows within the Lytle Creek Canyon pass under the I-15 Freeway and flow southerly and southwesterly toward the site. At the site and the North Fontana area, stormwater sheet flows south and southwesterly towards Sierra Lakes and the storm drains along Summit Avenue and the SR-210 Freeway. The San Sevaine Creek runs along the western edge of the City of Fontana and drains all lands west of Sierra Avenue, including the North Fontana area and the site. The San Sevaine Creek connects to the Santa Ana River farther south of the City.

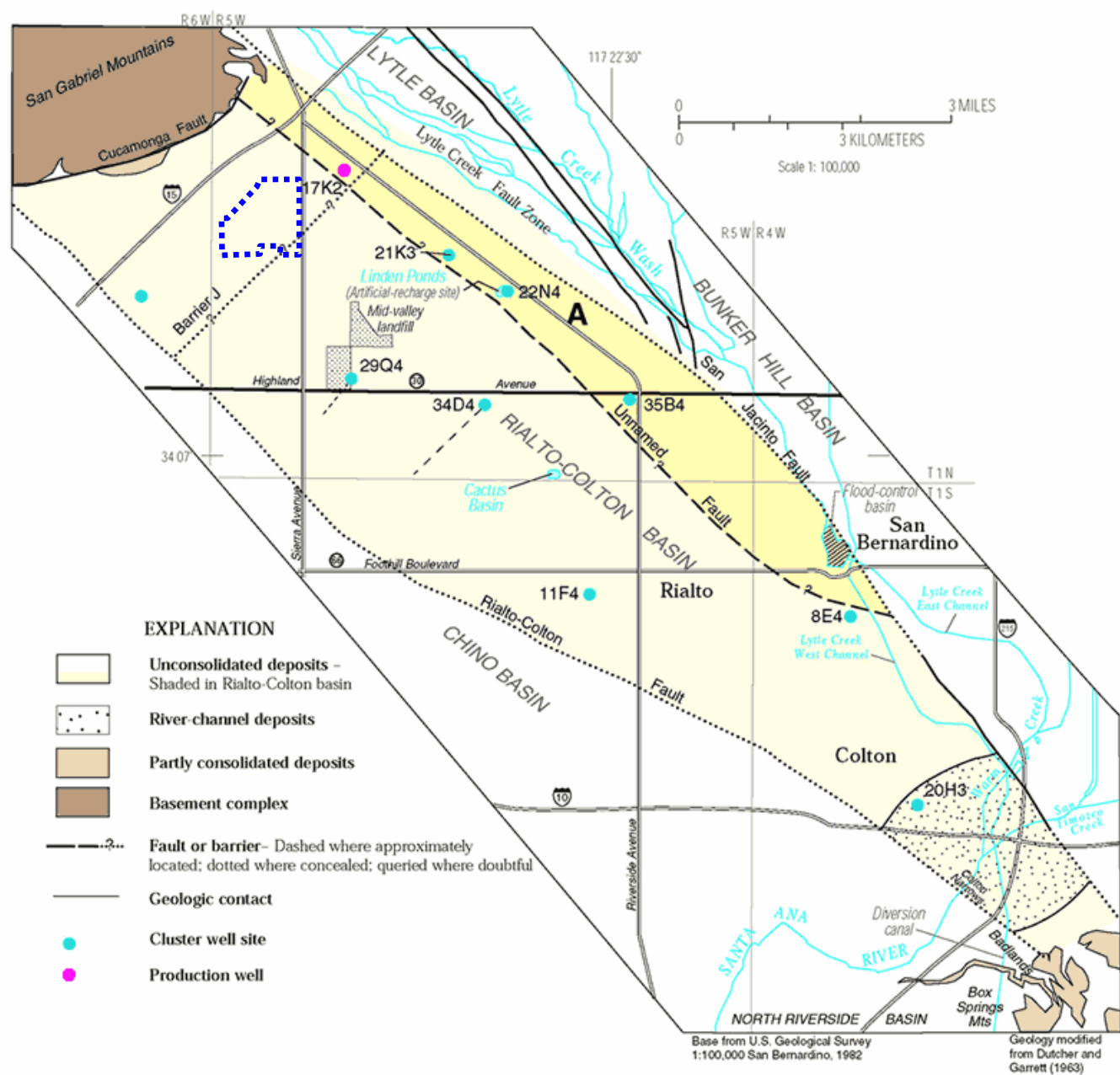
Groundwater Resources

The majority of the City of Fontana is underlain by the Chino Groundwater Basin. However, the project site is located at the northern end of the City and is just outside the boundaries of the Chino Groundwater Basin. The site is underlain by the Rialto-Colton Groundwater Basin, which is located northeast of the Rialto-Colton Fault trace, which in turn, cuts through the northern section of Fontana.

The Rialto-Colton Groundwater Basin is located within the upper Santa Ana Valley in southeastern San Bernardino County and northwestern Riverside County. Lytle Creek drains this part of the valley southeasterly toward the Santa Ana River at the southern part of this basin. The Rialto-Colton basin is a relatively small and narrow (approximately 15 miles long and 3 miles wide) groundwater basin, trending northwest to southeast. The basin is located southeast of the Cucamonga Fault, northeast of the Rialto-Colton Fault, and south of the San Jacinto Fault. The basin's northwest boundary is at the foot of the San Gabriel Mountains and its southeastern boundary is at Box Springs Mountains, southeast of the Santa Ana River. Figure 4.8-1, *Groundwater Basin*, shows the location of the Rialto-Colton Groundwater Basin and the project site.

Water-bearing alluvium in the basin consists of gravel, sand, silt, and clay beneath Lytle and Cajon Creeks and the Santa Ana River. The total storage capacity of the basin was initially estimated at 210,000 acre-feet, with 120,000 acre-feet in the Rialto portion (northwestern section) and 93,000 acre-feet in the Colton portion (southeastern section). However, more recent estimates indicate a higher storage capacity of 2.5 million acre-feet, with groundwater resources of up to 1.5 million acre-feet in the basin. Inferred groundwater flow in the basin is toward the southeast, based on surface topography. The Rialto-Colton Fault is a barrier to groundwater flow along the southern boundary of the basin, with as much as 400 feet of difference in the groundwater elevations between the adjacent Chino Basin and the Rialto-Colton Basin.

**Figure 4.8-1
Groundwater Basin**



**Arboretum Specific Plan
City of Fontana**

Section 4.8: Hydrology, Water Quality and Flooding

The principal recharge areas of the Rialto-Colton basin are Lytle Creek, Reche Canyon, and the Santa Ana River. Lesser amounts of recharge are provided by rainfall on open lands. Changes in groundwater levels of about 50 feet occur during years with heavy rainfall, but groundwater levels are relatively stable and fluctuate between 5 and 10 feet of elevation.

Groundwater pumping in the Rialto-Colton basin is managed by the Rialto Basin Management Association and made up of the West Valley Water District, City of Rialto, City of Colton, and the San Gabriel Valley Water Company. Under normal conditions, unlimited extraction rights are available. During drought conditions, extraction rights are regulated based on the 1961 Adjudication Decree No. 81,264 by the Superior Court of San Bernardino County.

The former residence at the northwestern corner of the site was served by the West Valley Water District through an existing water line on Sierra Avenue and a dirt road (proposed as Grapeland Street). There is no groundwater well at the project site.

Historic groundwater levels at the site have been approximately 150 to 250 feet below the ground surface. During soil borings at the site, no groundwater was encountered to a depth of 18 feet. The closest monitored groundwater well to the site is located one mile west of the site, where the groundwater level was 490 feet below the ground surface in 2005 and as high as 236 feet below the ground surface in 1996. Groundwater depth variations are expected to be due to seasonal precipitation and groundwater pumping activity in the area. Based on these data, groundwater at the site is not expected to be within 150 feet of the surface.

The Rialto-Colton basin is a source of drinking water for thousands of San Bernardino County residents. Groundwater contamination of the basin with perchlorate and trichloroethylene (TCE) was discovered in 1997 and has forced the closure of numerous public drinking water supply wells, in turn, causing hardships for Rialto, Colton and neighboring areas that are dependent on the basin for their drinking water.

The Santa Ana Regional Water Quality Control Board is currently trying to identify and investigate the sources of contamination. The EPA and the State are working together and will continue to coordinate efforts in the area until the sources can be determined and plans made to clean up the basin. Investigations have indicated that the Mid-Valley Landfill is not the main source of the contamination and a number of potential responsible parties have been identified, which include public agencies and private companies/landowners in the area, such as the U. S. Department of Defense. The cities of Rialto and Colton are working with the Department of Defense to establish an agreement for the study of groundwater contamination in the basin and its eventual clean-up.

Surface Water

The project area has a slight slope to the south and southwest and the San Bernardino and San Gabriel Mountains are found less than a mile north of the site. Lytle Creek runs southeasterly through the mountains and just north of the I-15 Freeway, northeast of the site. No permanent surface water is present on-site. The project area is part of the alluvial fan that drains from the foothills of the San Gabriel Mountains through Lytle Creek Canyon. However, the historic water flow patterns have been modified by the construction of the I-15 Freeway and the levees constructed by the San Bernardino County Flood Control District along Lytle Creek. Thus, the site is no longer subject to surface water flows associated with Lytle Creek.

Section 4.8: Hydrology, Water Quality and Flooding

There is no storm drain system on the site or near the site. On-site drainage is by sheet flow, with localized concentrated flows in small drainage courses. Several culverts under the I-15 Freeway allow stormwater to flow south into the vacant areas north of the site and on the site. Stormwater primarily percolates into vacant lands, with runoff from heavy rains continuing south and southwesterly toward Sierra Lakes and the open channels along Summit Avenue and the SR-210 Freeway.

The San Bernardino County Flood Control District has indicated that they have no storm drain facilities at or near the site. The project area is served by the Etiwanda-San Sevaine system located west of the I-15 Freeway (west of the site) and the Lytle-Cajon system located northeast of Riverside Drive (northeast of the site). The District's 10-year construction plan does not include new facilities in the project area at this time.

The Fontana Master Plan of Drainage shows the proposed storm drain system for the northern section of Fontana that would be needed to serve future developments in this area. A 66- to 78-inch line is proposed along Sierra Avenue; a 54- to 66-inch line is proposed on Cypress Avenue; and a 36-inch line is proposed on Grapeland Street. These lines would connect to a 108- to 120-inch reinforced concrete pipe proposed on Duncan Canyon Road from Sierra Avenue to Citrus Avenue and a 9-foot by 8-foot reinforced concrete box from Citrus Avenue to the I-15 Freeway, and connecting to a 10-foot by 8-foot box channel proposed from the I-15 Freeway to the Hawker-Crawford Channel.

Design for the proposed storm drain line on Duncan Canyon Road is currently ongoing while construction of the box culvert to the Hawker-Crawford Channel is proposed as part of the I-15/Duncan Canyon Interchange project. Connection to the Hawker-Crawford Channel is being completed as part of the Coyote Canyon community. Future development under the *Arboretum Specific Plan* would be responsible for constructing the segment of the Duncan Canyon Road storm drain line, as it runs through the site, from Citrus Avenue to Sierra Avenue.

The City's Master Plan also shows an off-site trapezoidal channel is proposed alongside of the I-15 Freeway, starting from just south of Sierra Avenue, running southwesterly and ending at Duncan Canyon Road. The City is currently evaluating the realignment of this storm drain line to Citrus Avenue, such that the proposed channel would turn south at Citrus Avenue and connect to the proposed 102-inch line on Duncan Canyon Road, rather than directly to the box channel planned just east of the freeway.

A segment of the Summit Avenue box culvert has been constructed and would eventually convey runoff westerly across the I-15 Freeway to the San Sevaine Basin 5. The segment of the box culvert from San Sevaine Road (near the I-15 Freeway) to Cypress Avenue has been completed, with the segment east of Cypress Avenue still to be constructed. The westerly connection from San Sevaine Road to Cherry Avenue and to the San Sevaine Basin is expected to be completed prior to construction of residential villages under the proposed Specific Plan.

Runoff in the project area is eventually discharged into the Santa Ana River, which flows southwesterly from San Bernardino County to Riverside County and into Orange County. The Water Quality Control Plan for the Santa Ana River Basin, as developed by the Regional Water Quality Control Board for the Santa Ana River region, discusses the existing water quality in the river, beneficial uses of the ground and surface waters and local water quality conditions and problems on the river. The Basin Plan sets water quality goals and is used as a basis for the basin's regulatory programs. Reach 3, which is the segment of the Santa Ana River where the site

Section 4.8: Hydrology, Water Quality and Flooding

drains into, is listed as Clean Water Act Section 303(d) impaired water bodies due to bacteria and pathogens. Contamination within the 26-mile stretch of Reach 3 of the Santa Ana River is attributed to the presence of dairies in the area. Other downstream segments of the river are not listed as impaired water bodies.

Flood Hazards

Flooding in the project area has been historically associated with overflows of Lytle Creek and associated drainages during heavy rainfalls. However, the Federal Emergency Management Agency recently issued a Letter of Map Revision (LOMR) which revised the floodplain limits in North Fontana (see Appendix G). The Flood Insurance Rate Maps for the project area no longer show the 100-year floodplain designation on the site and the surrounding area. This map revision acknowledges the past construction of the levees along Lytle Creek, which eliminated the flood hazard potential at the site and other areas south of the levees.

There are no dams, reservoirs, or large bodies of open water near the site. Thus, there are no dam inundation or seiche hazards on the site. The site is also not subject to hazards associated with a tsunami (tidal waves) due to its inland location.

4.8.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on hydrology and water quality, if its implementation results in any of the following:

- ◆ Violates any water quality standards or waste discharge requirements;
- ◆ Substantially depletes groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- ◆ Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- ◆ Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or
- ◆ Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; creates or contributes runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- ◆ Otherwise substantially degrades water quality;
- ◆ Places housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- ◆ Places within a 100-year flood hazard area structures which would impede or redirect flood flows;
- ◆ Exposes people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or, inundation by seiche, tsunami, or mudflow.

Section 4.8: Hydrology, Water Quality and Flooding

4.8.3 Environmental Impacts

Future developments under the proposed *Arboretum Specific Plan* would result in the construction of structures and impervious areas (roads, driveways, parking areas, walking paths) that would lead to changes in drainage patterns; increases in runoff volumes and rates from the site; and the potential for urban pollutants to enter the stormwater.

Water Quality Standards or Waste Discharge Requirements (*Would the project violate any water quality standards or waste discharge requirements?*)

Groundwater Quality

While the former residence at the northwestern corner of the site utilized a septic tank system, no septic tank system is planned for use by future residential and commercial developments, schools, and parks under the proposed Specific Plan. The existing septic tank on the residential parcel would have to be removed as part of construction activities. If not properly removed or abandoned, construction activities could lead to destruction of the septic tank, disposal of contaminants into the soils, and potential degradation of local groundwater resources.

Impact 4.8.1: Removal of the existing septic tank may pose hazards to the groundwater if not properly abandoned or removed.

The existing septic tank would need to be abandoned by a licensed contractor in accordance with the San Bernardino County Environmental Health Department's permits, procedures, and guidelines, to ensure that no adverse impacts on the soil and groundwater occur.

Stormwater Quality

Future developments under the proposed *Arboretum Specific Plan* would generate wastewater, which may contain pollutants that could impact the groundwater or surface water resources in the area.

Construction activities associated with future developments would lead to pollutants entering the storm drainage system. These may include construction debris, construction equipment fuels, oil and grease, construction materials and solvents, loose soils, organic waste materials, etc. Conveyance of these materials into the storm drain system would lead to pollutants which could degrade stormwater quality and downstream surface water sources.

The project will need to comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activity. This regulation requires the developer to file a Notice of Intent with the State Water Resources Control Board (SWRCB) and to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities on sites of one acre or more. The SWPPP would identify erosion, sedimentation and pollution control measures that would be implemented during construction activities, to minimize the discharge of pollutants into the stormwater and existing drainage channels to the maximum extent practicable.

Stormwater and wastewater from occupancy and operation of future residential and commercial uses, schools and parks could also generate pollutants that may enter the storm drain system. These pollutant sources include runoff over parking areas, landscaped irrigation overflows, waste and debris in the runoff path, vehicle wash downs, and other pollutant sources and

Section 4.8: Hydrology, Water Quality and Flooding

activities that could potentially result in wastewater and pollutants affecting stormwater quality in the Hawker-Crawford Channel, San Sevaine Channel, and the Santa Ana River. Residential uses are expected to generate organic wastes, nutrients, pesticides, oil and grease, sediments, and trash. Commercial uses may generate nutrients, pesticides, trash, sediments, oil and grease, heavy metals and organic compounds. Parking areas are expected to generate bacteria, nutrients, pesticides, sediments and oxygen-demanding substances.

Development projects that would generate urban runoff pollutants are required under the NPDES to prepare and implement a Water Quality Management Plan (WQMP), which identifies the site design, source control and treatment control best management practices (BMPs) that would effectively prohibit non-stormwater discharges from entering into the storm drain system and reduce the discharge of pollutants from stormwater conveyance systems to the maximum extent possible. Wastewater that violates discharge requirements would not be allowed in the storm drain system and would need to be treated on-site and/or conveyed to the sewer system, prior to disposal.

A Water Quality Management Plan (WQMP) has been prepared for the Specific Plan, which identifies a host of post-construction source control, site design, and treatment control BMPs that would be implemented as part of future developments under the *Arboretum Specific Plan*. The WQMP calls for the provision of vegetated swales, bio-retention basins, and vegetated buffer strips to treat the estimated first flush runoff volume from the northern section and a portion of the southern section of the site, prior to off-site discharge. The swales, basins, and strips would be located within the parks, landscaped areas and street parkway areas, and will be maintained by the property owners association that would be formed for the project. In addition, approximately 31-acre feet of runoff from the southern section of the site would be conveyed to Sierra Lakes for treatment and infiltration. These structural BMPs would reduce pollutants in the stormwater, prior to conveyance into the storm drain system.

No specific locations, calculations, and sizes for the BMPs have been provided in the WQMP and these details would have to be developed as part of the site design for individual planning areas, and through preparation of a more specific WQMP for each village or planning area, as required under the NPDES and subject to approval by the City Engineer. Implementation of individual BMPs by planning area would reduce stormwater pollution potential and prevent adverse impacts to stormwater quality.

The WQMP and Drainage Study state that stormwater runoff from the southern portion of the site would not be treated on-site but would be directed into Sierra Lakes for percolation and settlement of pollutants, prior to discharge into the SR-210 Freeway storm drain channel. Since this will result in stormwater pollutants conveyed into off-site storm drains, potentially significant adverse impacts may occur.

Impact 4.8.2: Conveyance of untreated stormwater from the southern section of the site to Sierra Lakes may result in adverse impacts to water quality at the lake and create hydrologic conditions of concern.

Future development that would drain into Sierra Lakes would need to prepare a more detailed WQMP that shows there is capacity at Sierra Lakes to handle additional stormwater volume and stormwater pollutants from the site and other tributary areas of the lake and that no adverse impacts on downstream water bodies and other hydrologic conditions of concern would occur, subject to approval by the Sierra Lakes Golf Course Management Company and the City of

Section 4.8: Hydrology, Water Quality and Flooding

Fontana. Additionally, improvements may be needed to the risers, storm drain lines, and Sierra Lakes to accommodate trash and debris in the runoff, as well as to prevent runoff from flowing into the Summit Avenue RCP that would run westerly across the I-15 Freeway.

As part of the City's stormwater pollution prevention program, the City has established a public education program to increase awareness on stormwater issues. This program shall be extended to future developments on the site. The City requires catch basin stenciling to discourage waste disposal into the storm drain system. Street sweeping of public streets is also provided by the City to remove and prevent debris from entering the storm drain system. Continued implementation of these city-wide programs would further reduce potential stormwater pollution from new developments. Implementation of existing programs and compliance with NPDES mandates would prevent significant adverse impacts relating to stormwater runoff quality from occurring with the proposed project.

Since stormwater pollution control measures would be implemented by the project, coupled with city-wide programs for public awareness and runoff pollution prevention, pollutants that could impact the downstream Santa Ana River would be minimized. Runoff volumes from the site would also represent an insignificant amount of the runoff when compared to the water volume that is handled by the Santa Ana River, due to the size of the site compared to the size of the river's watershed. Thus, no significant adverse impacts are expected on water quality within the Santa Ana River with compliance with standard conditions. With the reduction of potential pollutants that may enter the river, no conflict with the Water Quality Control Plan for the Santa Ana River would occur with the proposed project.

Groundwater Supplies *(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)?)*

Groundwater elevation at the nearest monitored well was documented at approximately 236 to 490 feet below the ground surface. Historic groundwater levels at the site have been approximately 150 to 250 feet below the ground surface. Thus, groundwater is not expected within 150 of the ground surface at the site. Excavation and grading activities for development of the project would not be deep enough to affect the underlying groundwater resources. No groundwater wells are proposed on-site as part of the Specific Plan; thus, the project would create no direct impacts to the groundwater.

The West Valley Water District (WVWD) would provide water services to the site. WVWD obtains its water supply from five separate groundwater basins (Lytle Creek, Rialto, Bunker Hill, Chino and North Riverside groundwater basins) and two surface water sources (Lytle Creek and the State Water Project). The proposed project would lead to a long-term demand for water and would likely create an increase in groundwater pumping from local wells operated by the WVWD. The Water Supply Assessment for the project, as prepared by the WVWD and provided in Appendix K, indicates that there are adequate water resources to serve future developments under the proposed *Arboretum Specific Plan* for more than the next 20 years.

Water pumping of the underlying Rialto-Colton Basin is not regulated during normal conditions. However, during drought conditions, extraction rights are regulated to ensure overdraft conditions at the basin do not occur. Thus, groundwater pumping to serve the project during

Section 4.8: Hydrology, Water Quality and Flooding

normal conditions would not adversely impact the Rialto-Colton Basin. Adjudication of groundwater pumping during drought conditions would also ensure that no adverse impacts to the groundwater basin would occur.

The Water Supply Assessment indicated the WVWD has available water supplies from its various sources to serve the proposed development under the Specific Plan under normal year, single-dry year, or multiple-dry year conditions to the year 2025. This assumes that limited pumping of the underlying groundwater basin would occur during a drought extending over multiple-dry years. Thus, no significant adverse impact on groundwater resources is expected with the project. Water service and demand are further discussed in Section 4.12.1, *Water Services*.

Change in Drainage Patterns *(Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?)*

The site is vacant and future development would lead to an increase in impervious and paved areas. Thus, the proposed project would change existing hydrology through the reduction of water infiltration into the ground and the increase in runoff volumes and rates. Storm drainage facilities would be constructed on-site to handle stormwater, with off-site extension of storm drain lines to connect to regional facilities. This is discussed further in Section 4.12.3, *Storm Drainage*. However, the change in drainage patterns would largely be internal to the site and impacts to regional hydrology or drainage flows in the surrounding area would be minimized by the construction of temporary detention basins on-site to prevent increase in runoff flows and rates over existing conditions under the downstream storm drainage system is fully developed. Runoff from the site would enter drainage pipes/boxes and lined channels (San Sevaire Channel) and would not lead to downstream erosion or siltation. Runoff into Sierra Lakes would increase over existing conditions but compliance with the WQMP mandates and Mitigation Measures 4.8.2a and 4.8.2b for preventing any hydrologic conditions of concern (HCOC) on downstream facilities would prevent erosion or siltation at Sierra Lakes. No significant adverse impacts to drainage patterns on the site or changes in the course of downstream channels are expected.

Increase in Surface Runoff *(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 of surface runoff in a manner which would result in flooding on- or off-site? 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?)*

Runoff Volumes

The proposed project would change the existing hydrology of the site through the addition of impervious surface (buildings, roads, driveways, parking areas, pathways, etc.), resulting in increases in runoff volumes and the reduction in ground percolation. The increase in runoff volumes would result in greater amounts of runoff that would be conveyed on local streets in this section of the City of Fontana, which does not have a developed storm drain system.

In accordance with City regulations, the project would have to provide for conveyance of on-site runoff to the existing storm drainage facilities in the project area, as well as the construction of

Section 4.8: Hydrology, Water Quality and Flooding

the needed improvements to the infrastructure system to ensure adequate runoff conveyance and prevention of flood hazards.

Runoff from the residential lots and building pads on the site would need to be directed into inlets, catch basins, and curbs and gutters at individual planning areas and conveyed into the storm drain system that would be constructed to serve the project site.

Area-wide facilities that are planned for the area include a 9-foot by 9-foot box culvert on Duncan Canyon Road, from Sierra Avenue to the I-15 Freeway and connecting to the Hawker Crawford Channel farther west. The project would include the construction of the 108- to 120-inch RCP on Duncan Canyon Road, running through the site from Sierra Avenue to Citrus Avenue. Local storm drains would be constructed along Citrus, Cypress, and Sierra Avenues, connecting to the Duncan Canyon RCP to serve the storm drainage needs of the northern portion of the site.

The northern planning areas (north of Duncan Canyon Road) would drain into a proposed 54- to 66-inch line on Cypress Avenue, and a 66- to 78-inch line in Sierra Avenue toward the 108- to 114-inch storm drain line on Duncan Canyon Road, as it runs from Sierra Avenue westerly toward a 9-foot by 9-foot reinforced concrete box culvert on Duncan Canyon Road at the western boundary of the site. Stormwater would flow westerly in the box culvert toward the I-15 Freeway, where it would connect to the storm drain line proposed as part of the Duncan Canyon interchange project and connecting to the Hawker-Crawford Channel to the west.

The Duncan Canyon box channel is anticipated to handle stormwater flows of approximately 3,100 cubic feet per second. The projected flows from the site and the surrounding area are estimated at 2,800 cubic feet per second and thus, the proposed box channel would be adequate to serve the area.

A 66- to 78-inch RCP storm drain has been built on Summit Avenue, from San Sevaine Road to Cypress Avenue. This line would be extended farther west to connect to the San Sevaine Basin 5. There are temporary risers in the ditch on Summit Avenue, which conveys stormwater south toward Sierra Lakes.

Runoff from southern planning areas (south of Duncan Canyon Road) would drain into a proposed 30- to 48-inch line on Sierra Avenue (connecting to a future storm drain line on Sierra Avenue south of Casa Grande Avenue); a 36- to 54-inch line on Cypress Avenue (connecting to a future 60-inch storm drain line on Cypress Avenue south of Casa Grande Avenue); and a 36-inch line running west on Casa Grande Avenue toward an existing 42-inch line on Citrus Avenue. At this point, an existing storm drain line runs southerly from the SCE easement toward a 66- to 72-inch line on Summit Avenue. The storm drain line on Cypress Avenue would connect to the 60-inch line that would run southerly toward Sierra Lakes.

The 36- to 54-inch line proposed on Cypress Avenue from a point south of Duncan Canyon Road to Casa Grande Avenue would be built as part of the project. This line will connect to a 60-inch reinforced concrete pipe proposed by others and running toward Summit Avenue. This line will connect to an existing 60-inch pipe that conveys stormwater to Sierra Lakes, farther south, for detention and infiltration, prior to conveyance to the SR-210 storm drain channel.

The 30- to 48-inch line would be constructed by the project on Sierra Avenue, starting at a point south of Duncan Canyon Road to Casa Grande Avenue, which will connect to a proposed line

Section 4.8: Hydrology, Water Quality and Flooding

that will run farther south to Summit Avenue, and connect to the proposed box culvert on Summit Avenue. The segment from Duncan Canyon Road to Casa Grande Avenue would be built by the project and the segment from Casa Grande Avenue to Summit Avenue would be constructed as part of the Summit at Rosena Specific Plan development. However, if the proposed Arboretum development precedes the Summit at Rosena development, this segment would be constructed by the project.

Since the storm drainage needs of the project rely on storm drain infrastructure lines that are not yet constructed on Duncan Canyon Road, Sierra Avenue, Cypress Avenue, and Summit Avenue, temporary detention basins are proposed on-site if the Specific Plan development occurs prior to these off-site storm drain facilities. If the Meadows Village develops prior to the construction of downstream storm drain lines on Cypress and Summit Avenues, a detention basin would be provided at the northwest corner of Cypress Avenue and Casa Grande Avenue and at the northwest corner of Duncan Canyon Road and Cypress Avenue to retain stormwater on-site. If the Gardens Village develops prior to the construction of storm drain lines on Sierra and Summit Avenues, a detention basin would be provided at the northwest corner of Sierra Avenue and Casa Grande Avenue to retain stormwater on-site. If the Resort Village develops prior to the construction of storm drain line on Duncan Canyon Road, a detention basin would be provided at the northeast corner of Cypress Avenue and Duncan Canyon Road. If the Arboretum Village develops prior to the construction of the storm drain line on Duncan Canyon Road, a detention basin would be provided within the Arboretum Park to retain stormwater on-site. As required by the City, runoff flows from the developed site shall not exceed 90 percent of the volume of existing flows and at the same rate as existing.

The change in drainage patterns that would occur with the project would be internal to the site and would not adversely impact the regional hydrology or the drainage flows in the surrounding area. Runoff from the site would flow into vegetated swales, infiltration basins, and dry wells, with overflows into the proposed lines on Duncan Canyon Road, Cypress Avenue, and Sierra Avenue, toward existing and planned storm drainage facilities south of the site and west of the I-15 Freeway. Other runoff flows would be conveyed into Sierra Lakes for infiltration and percolation. Thus, existing flows to off-site regional facilities are not expected to increase over existing rates and volumes. On-site storm drainage facilities would be constructed in accordance with the City's Master Drainage Plan and as approved by the City Engineer. This will ensure that adequate capacity is provided to serve the site and the upstream areas, as well as prevent the creation of flood hazards.

Minor changes to flows within downstream rivers, streams, or channels are expected, due to the size of the drainage area on the site and the total size of the tributary area to each drainage watershed. Runoff from the site would also not be large enough to affect the course of a stream or river. No significant adverse impacts are expected.

Sources of Polluted Runoff

As discussed above, construction activities associated with future developments would lead to pollutants entering the storm drainage system. The project will need to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities on sites of one acre or more. The SWPPP would identify erosion, sedimentation and pollution control measures that would be implemented during construction activities, to minimize the discharge of pollutants into the stormwater and existing drainage channels to the maximum extent practicable.

Section 4.8: Hydrology, Water Quality and Flooding

Stormwater and wastewater from occupancy and operation of future residential and commercial uses, schools and parks could also generate pollutants that may enter the storm drain system. Development projects that would generate urban runoff pollutants are required under the NPDES to prepare and implement a Water Quality Management Plan (WQMP), which identifies the site design, source control and treatment control best management practices (BMPs) that would effectively prohibit non-stormwater discharges from entering into the storm drain system and reduce the discharge of pollutants from stormwater conveyance systems to the maximum extent possible.

A Water Quality Management Plan (WQMP) has been prepared for the Specific Plan, which identifies a host of post-construction source control, site design, and treatment control BMPs that would be implemented as part of future developments under the *Arboretum Specific Plan*. The WQMP calls for the provision of vegetated swales, bio-retention basins, and vegetated buffer strips to treat the estimated first flush runoff volume from the northern section and a portion of the southern section of the site, prior to off-site discharge. The swales, basins, and strips would be located within the parks, landscaped areas and street parkway areas, and will be maintained by the property owners association that would be formed for the project. In addition, approximately 31-acre feet of runoff from the southern section of the site would be conveyed to Sierra Lakes for treatment and infiltration. These structural BMPs would reduce pollutants in the stormwater, prior to conveyance into the regional storm drain system.

Compliance with the NPDES through the SWPPPs and WQMPs as a standard condition, as well as the mitigation for runoff conveyed to Sierra Lakes would reduce impacts associated with increases in runoff and pollutant sources. Impacts would be less than significant.

Change in Water Quality (*Would the project otherwise substantially degrade water quality?*)

As discussed above, groundwater quality would be protected by the proper abandonment of the existing septic tank on the site. In addition, implementation of BMPs under the SWPPPs and WQMPs that would be prepared for future developments would reduce stormwater pollutants during construction and long-term operation of future developments on the project site. No substantial degradation of water quality is expected.

Flood Hazards (*Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?*)

The project site is no longer located within the 100-year floodplain, as shown in recently revised FEMA Flood Insurance Rate Maps. Thus, future development under the proposed Specific Plan would not be subject to flood hazards from Lytle Creek. In addition, the project would construct the necessary storm drain infrastructure to convey stormwater from the site into the storm drain system that would be constructed to serve the site and the North Fontana area. This would eliminate the potential for flooding downstream areas of the site.

Future development on the project site would include the grading of building pads to direct stormwater runoff into the proposed on-site drainage system of curbs and gutters, storm drain lines, and stormwater treatment control facilities (vegetated swales, infiltration basins, and dry wells). It will also include the construction of area-wide storm drain infrastructure on Duncan Canyon Road, Cypress Avenue and Sierra Avenue, along with the provision of storm drain lines

Section 4.8: Hydrology, Water Quality and Flooding

on the site to adequately handle the stormwater volume generated by future developments within individual planning areas of the *Arboretum Specific Plan*.

No significant adverse impacts related to flooding are expected.

Inundation Hazards (*Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or, inundation by seiche, tsunami, or mudflow?*)

The project is located in an inland area and is not located near a large open body of water. Also, the site does not feature steep slopes that may lead to mudflow hazards. Therefore, the project site is not subject to potential inundation by a seiche, tsunami, or mudflow. Future development on the site would not be exposed to seiche, tsunami, or mudflow. No impacts are expected.

4.8.4 Standard Conditions and Mitigation Measures

Standard Conditions

The proposed project would generate wastewater and runoff pollutants that could affect stormwater quality and would also increase runoff volumes from the site. The implementation of the following standard conditions would prevent adverse impacts on stormwater quality:

Standard Condition 4.8.1: The project shall comply with the NPDES General Permit for Construction Activity, which requires projects on one acre or more to notify the RWQCB and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. SWPPPs shall be prepared for each construction phase or construction area.

Standard Condition 4.8.2: The project shall comply with the NPDES regarding the implementation of source and treatment control measures and other best management practices for long-term stormwater pollutant mitigation, as contained in the project's Water Quality Management Plan (WQMP) and as approved by the City. WQMPs shall be prepared for each village or planning area, which provide specific locations, sizes, and calculations for BMPs to be implemented on-site.

Standard Condition 4.8.3: The project shall construct the necessary on-site and off-site storm drain infrastructure to connect to the City of Fontana's storm drainage system, in order to prevent the creation of flood hazards on-site and in downstream areas, as approved by the Fontana City Engineer.

Standard Condition 4.8.4: The project shall provide temporary detention basins on site to maintain runoff flows at 90 percent of existing volume and at existing rates, if downstream storm drain lines are not in place at the time of development, subject to approval of the City Engineer.

Mitigation Measures

Implementation of the mitigation measures below would prevent potential adverse impacts on groundwater resources and stormwater quality:

Section 4.8: Hydrology, Water Quality and Flooding

Mitigation Measure 4.8.1: The existing septic tank shall be abandoned and removed prior to redevelopment of the parcel occupied by the former residence, in accordance with San Bernardino County Environmental Health Department permits and procedures.

Mitigation Measure 4.8.2a: Future developments on the southern section of the site would need to prepare and implement a WQMP that provides hydrologic and hydraulic calculations showing there is capacity at Sierra Lakes to handle additional stormwater volume and stormwater pollutants from the site and other tributary areas of the lake and that no adverse impacts on downstream water bodies and other hydrologic conditions of concern would occur, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana.

Mitigation Measure 4.8.2b: Improvements needed to allow the existing risers, drainage pipes, and Sierra Lakes to serve the stormwater treatment needs of future developments on the southern section of the site would need to be provided prior to the connection of on-site storm drain lines to the Sierra Lakes system and as part of the development, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana.

4.8.5 Unavoidable Significant Adverse Impacts

Future developments under the proposed *Arboretum Specific Plan* would increase off-site runoff volumes and would have the potential to generate stormwater pollutants. Groundwater resources may be affected by improper removal of the existing septic tank. However, no significant adverse impacts on hydrology, water quality and flooding are anticipated from the project, with implementation of the standard conditions and mitigation measures above. Thus, no unavoidable significant adverse impacts are expected.

Section 4.9: Biological Resources

A Biological Assessment was prepared by Michael Brandman Associates in April 2008, which identifies existing plant and animal life on the site, as well as analyzes the project's potential impacts on sensitive biological resources. A Jurisdictional Wetland Delineation Summary Report was prepared by Michael Brandman Associates in May 2004. In addition, a San Bernardino Kangaroo Rat Presence/Absence Trapping Study and a California Gnatcatcher Focused Survey were completed in June 2007 by Michael Brandman Associates. These studies are provided in Appendix H of this EIR and their findings are summarized below.

4.9.1 Environmental Setting

The project site is part of the large alluvial fan at the base of the San Gabriel Mountains, within a small watershed between Lytle Creek and Duncan Canyon. It features a gently sloping terrain, with ill-defined and moderately-incised drainages. Surface soils consist mainly of sandy loam, with pockets of sand, gravel, and cobbles.

The site is largely vacant and undeveloped, except for a residence and associated accessory structures located at the northwestern corner of the site. A wildfire in 2006 burned the vegetation on approximately 230 acres at the western section of the site. Another fire burned the northern and eastern portion of the site in the Fall 2007, including the existing residence.

Existing Vegetation

Plant communities present on the site include chamise-dominated Riversidean alluvial fan sage scrub (RAFSS), California buckwheat-dominated Riversidean sage scrub (RSS), deerweed-dominated RSS, non-native grassland (NNG), and a burn area. Figure 4.9-1, *Existing Vegetation*, shows the location of these plant communities and Table 4.9-1, *Plant Communities*, provides the area occupied by each plant community.

TABLE 4.9-1
PLANT COMMUNITIES

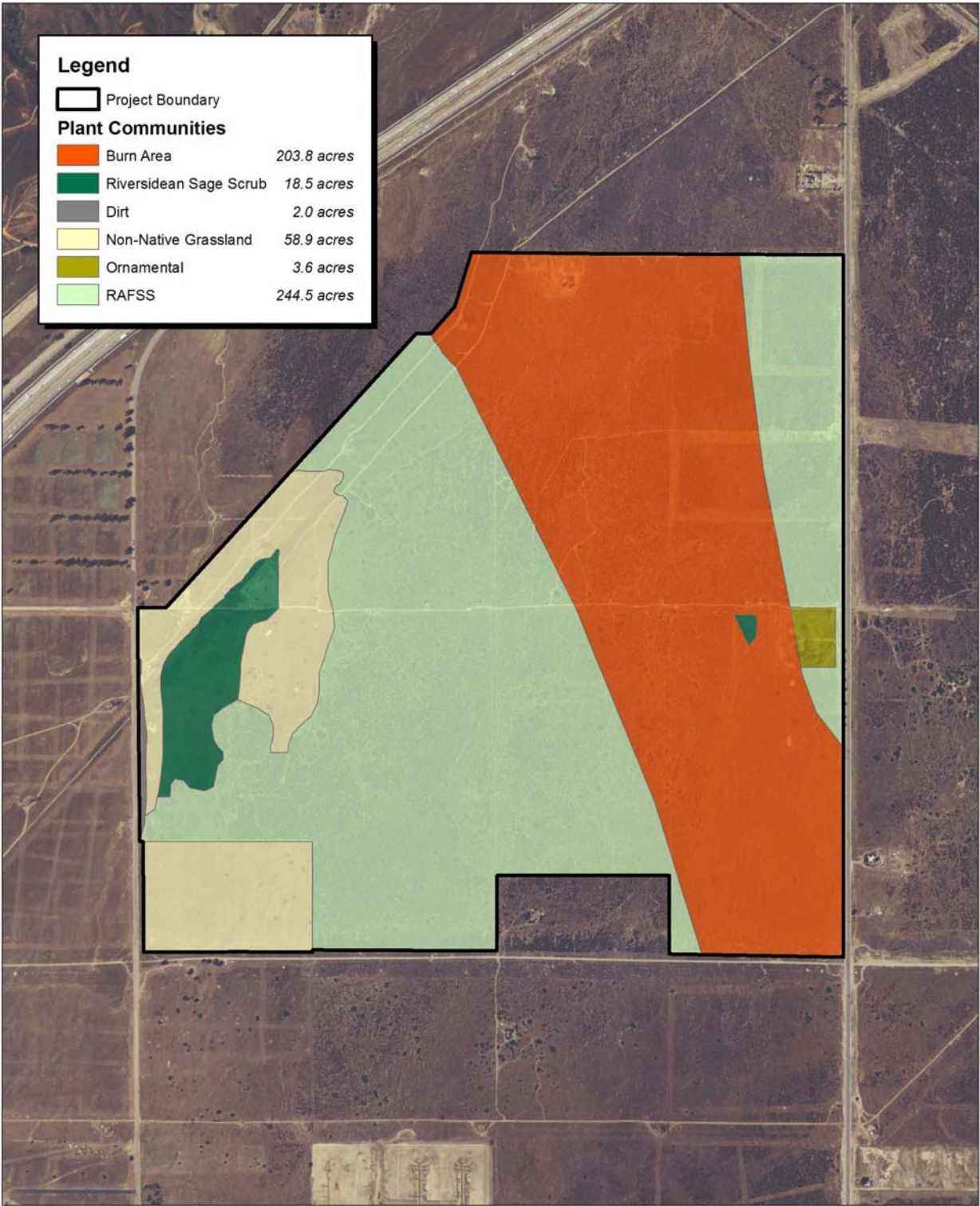
Plant Community	Area Covered	Percent of Area
Riversidean Alluvial Fan Sage Scrub	244.5	46.0%
Riversidean Sage Scrub	18.5	3.4 %
Non-native Grassland	58.9	11.1 %
Burn Area	203.8	38.4 %
Ornamental	3.6	0.7 %
Dirt	2.0	0.4 %
Total	531.3	100.0 %

Source: Biological Assessment, 2008

Riversidean Alluvial Fan Sage Scrub (RAFSS)

The RAFSS plant community is found on the majority of the site (244.5 acres or 46.0% of the site) and is covered by chamise-dominated RAFSS. RAFSS is an open plant community adapted to flooding. It is found on sandy and rocky alluvium deposited by streams that experience infrequent flooding. Alluvial sage scrub is composed of drought-deciduous sub-shrubs and large, evergreen, woody shrubs that are adapted to the periodic and intense episodes of flooding and erosion that occurs along the alluvial fans.

Figure 4.9-1
Existing Vegetation



Source: National Agriculture Imagery Program for San Bernardino County (2005).



Section 4.9: Biological Resources

Most of the RAFSS on the site is recovering from a 2006 fire that burned through the western portion of the site and is in an early succession stage. The density of vegetation and vegetation canopy varies based on whether the portion burned in the 2006 or 2007 fire, or both. The dominant plant in this plant community is chamise (*Adenostoma fasciculatum*). Occasional plant species include holly-leaved cherry (*Prunus ilicifolia*), white sage (*Salvia apiana*), California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*) and NNG.

Areas that did not burn in the 2006 and 2007 fires contain dense, tall stands of chamise with intermittent holly-leaved cherry, California buckwheat, white sage and deerweed. Areas that burned during the 2006 fire have low-growing chamise that is re-growing from sprouts and non-native grasses, which include slender wild oats (*Avena barbata*), red brome (*Bromus madritensis*), and rip gut brome (*Bromus diandrus*). Swaths have been cut throughout the community in a checkerboard pattern, where vegetation is recovering from the impacts of clearing.

Riversidean Sage Scrub (RSS)

Approximately 18.5 acres at the southwestern and eastern sections of the project site or 3.4 percent of the site contain Riversidean sage scrub (RSS). Portions of this community burned in the 2006 fire and are in the process of recovering. RSS is dominated by California buckwheat and deerweed, with NNG in between. The RSS plant community is very open and is adjacent to the RAFSS community to the south and has NNG on all three other sides. A small area of RSS in the eastern portion is surrounded by the recent burn area. This eastern RSS community is dominated by deerweed, with some NNG.

Non-Native Grassland (NNG)

Non-native grassland (NNG) occurs in two small areas in the western portion of the site. These areas exhibit heavy disturbance. The dominant plants in the NNG areas include slender wild oat, red brome and rip gut brome. Occasional plants include California buckwheat, deerweed, chamise, and holly leaved cherry in very low densities.

Ornamental

Approximately 3.6 acres at the southwestern corner of Sierra Avenue and the alignment of Duncan Canyon Road was once developed and supports several pine trees and eucalyptus trees. The understory is dominated by NNG.

Burn Area

Approximately 203.8 acres or 38.4 percent of the project site burned in October 2007. This is in addition to the 2006 fire that burned a large portion of the site. The 2007 burn area was once densely covered by chamise-dominated RAFSS, with scattered holly-leaved cherry and California buckwheat. Some portions were dominated by white sage. The RAFSS vegetation is a fire adapted plant community. Many plants in the RAFSS plant community will re-sprout after a fire, and once again return to a pre-fire state. Currently, however, the area is open and generally void of vegetation.

Plants

Twelve plant species were observed on the site during the biological assessment surveys, as listed in Table 4.9-2, *Plant Species*.

Section 4.9: Biological Resources

TABLE 4.9-2
PLANT SPECIES

Scientific Name	Common Name
DICOTYLEDONS	DICOT FLOWERING PLANTS
Brassicaceae - <i>Brassica nigra</i>	Mustard family - Black mustard
Fabaceae - <i>Lotus scoparius</i>	Pea family - Deerweed
Lamiaceae <i>Salvia apiana</i> <i>Salvia columbariae</i> <i>Trichostema lanceolatum</i>	Mint family White sage Chia Vinegar weed
Polygonaceae - <i>Eriogonum fasciculatum</i>	Buckwheat family - California buckwheat
Roseaceae <i>Adenostoma fasciculatum</i> <i>Prunus ilicifolia</i>	Rose family Chamise holly-leaved cherry
MONOCOTYLEDONS	MONOCOT FLOWERING PLANTS
Poaceae <i>Avena barbata</i> <i>Avena fatua</i> <i>Bromus diandrus</i> <i>Bromus madritensis</i>	Grass family Slender wild oat Wild oat Ripgut brome Red brome
Source: Biological Assessment, 2008	

The trees on the project site provide suitable nesting habitat for raptor species. In addition, the shrubs on the project site provide nesting opportunities for the loggerhead shrike. The grassland community also provides suitable nesting habitat for avian species, such as the western meadowlark.

Wildlife

As indicated, the on-site plant communities provide habitat for a number of local wildlife species. Species observed on the site include the coyote (*Canus latrans*), California ground squirrel (*Spermophilus beecheyi*), and several bird species, including BUOW, red-tailed hawk (*Buteo jamaicensis*), loggerhead shrike (*Lanus ludovicianus*), and white-crowned sparrow (*Zonotrichia leucophrys*). Table 4.9-3, Animal Species, lists wildlife species observed within the site during the field survey.

TABLE 4.9-3
ANIMAL SPECIES

Scientific Name	Common Name
BIRDS	
Accipitradae <i>Accipiter cooperii</i> <i>Circus cyaneus</i>	Hawk-like birds Cooper's Hawk Northern Harrier
Cuculidae - <i>Geococcyx californianus</i>	Cuckoos, Roadrunners, Anis - greater roadrunner

Section 4.9: Biological Resources

TABLE 4.9-3
ANIMAL SPECIES

Scientific Name	Common Name
Emberizidae <i>Amphispiza belli belli</i> <i>Pipilo crissalis</i> <i>Aimophila ruficeps canescens</i> <i>Zonotrichia leucophrys</i>	Wood Warblers, Tanagers, Buntings, Blackbirds Bell's Sage Sparrow California towhee Rufous-crowned Sparrow white-crowned sparrow
Laniidae - <i>Lanius ludovicianus</i>	Shrikes - loggerhead shrike
Strigidae - <i>Athene cunicularia</i>	True Owls - burrowing owl
Tyrannidae <i>Sayornis nigricans</i> <i>Sayornis saya</i>	Tyrant Flycatchers black phoebe Say's phoebe
MAMMALS	
Canidae – <i>Canis latrans</i>	Wolves and Foxes - coyote
Leporidae - <i>Lepus californicus</i>	Hares and Rabbits - San Diego black-tailed jackrabbit
Sciuridae - <i>Spermophilus beecheyi</i>	Squirrels - California ground squirrel
Source: Biological Assessment, 2008	

Sensitive Plant Species

The project site contains marginally suitable habitat for three sensitive plant species, including the Plummer's mariposa lily (*Calochortus plummerae*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), and mesa horkelia (*Horkelia cuneata* var. *puberula*). Each of these species has a low probability to occur on the project site due to the presence of low quality habitat and other limiting factors.

Plummer's Mariposa Lily - Plummer's mariposa lily is a perennial herb that is endemic to California. The species is a California Native Plant Society (CNPS) listed 1B (fairly endangered in California) species and is generally found in rocky and sandy soils in sage scrub, chaparral, cismontane woodland, and valley and foothill grasslands. All of the recorded occurrences of Plummer's mariposa lily in the project area are within the foothills and along Lytle Creek. The nearest recorded site is approximately 2 miles north of the project site.

The project site contains small areas of RSS and NNG. However, the RSS and NNG on-site are generally disturbed and of low quality for this species and the Plummer's mariposa lily is considered to have a low potential to occur on the site.

Parry's Spineflower - Parry's spineflower is an annual herb and a CNPS listed 3.2 (need more information) species. The species occurs on alluvial fans and foothills in chaparral and scrub communities of the San Gabriel, San Bernardino and San Jacinto Mountains. The project site is situated on an alluvial fan of the San Gabriel Mountains and includes RAFSS and RSS plant communities. The nearest record of the species is approximately two miles to the northeast of the site. Climatic conditions appear to relate to spineflower abundance, with access to water an

Section 4.9: Biological Resources

important factor in germination and survival of the spineflower. Due to the lack of hydrologic flow across the site, Parry's spineflower is considered to have a low potential to occur.

Mesa Horkelia - Mesa horkelia is a perennial herb and a CNPS listed 1B (seriously endangered in California) species. Mesa horkelia generally occurs in sandy/gravelly sage scrub and chaparral plant communities. The project site includes low-quality sage scrub communities and RAFSS. The nearest record of the species is approximately 4 miles west of the project site. Due to the isolation of the project site from the persistent hydrologic flow and the high level of disturbance at the site, Mesa horkelia is considered to have a low potential to occur.

Sensitive Animal Species

The project site is located within the designated critical habitat for the San Bernardino Kangaroo Rat (SBKR) and the Coastal California gnatcatcher (CAGN). Also, the site contains suitable habitat for these two federally threatened or endangered wildlife species: SBKR (federally endangered) and CAGN (federally threatened). Two California Species of Concern (CSC) were observed on the project site during the habitat assessment: loggerhead shrike and burrowing owl. Four additional CSC species were observed on the project site during the focused CAGN survey: Cooper's hawk, northern harrier, rufous-crowned sparrow, and Bell's sage sparrow. These species are discussed below.

San Bernardino Kangaroo Rat - The San Bernardino Kangaroo Rat (SBKR) is federally listed as an Endangered species and a State Species of Special Concern. The SBKR has long, strong hind legs and short, relatively small front legs. It feeds on the seeds of both annual and shrub species and on green vegetation and insects, where available. Being a desert species, the SBKR obtains nearly all of its water from the food it eats and can subsist indefinitely on water from dry seeds. It forages in open ground and underneath shrubs, with burrows dug in loose soils, usually near or beneath shrubs.

The SBKR is a subspecies of the Merriam's kangaroo rat and is found in primary and secondary alluvial fan sage scrub habitats with sandy soils deposited by fluvial (water), rather than aeolian (wind), processes. They are also found in mature alluvial fan scrub and alluvial chaparral in areas adjacent to occupied alluvial fan scrub. The SBKR is confined to inland valley scrub communities found along rivers, streams and drainages. Most rivers, streams and drainages in the project area have been historically altered for flood control and the increased use of river resources for mining, off-road vehicle use, and urban developments. This has resulted in a reduction in both the amount and quality of habitat available for SBKR. Specifically, the RAFSS habitat that occurs on-site has been effectively cut-off from the historic fluvial flow patterns and scouring regimes of Lytle Creek due to the construction of the I-15 Freeway, Sierra Avenue, and levees along Lytle Creek. These have reduced the suitability of the project site for SBKR habitat as the plant communities change due to the lack of hydrologic flows.

Due to past habitat losses and potential future losses, the SBKR has been listed as an Endangered species in 1998 and its critical habitat has been designated. The project site is located within the designated Critical Habitat Unit 2 for the SBKR, which generally includes areas north of Summit Avenue in North Fontana. Suitable habitat for the SBKR occurs on the site and the SBKR was found in two isolated locations on the site in 2002. However, it has not been found during subsequent surveys since that time.

Section 4.9: Biological Resources

A trapping study was conducted in 2007 to determine the presence of SBKR on the site. The trapping session was conducted for five consecutive nights for three trapping sessions from March to April 2007. Traps were located in six grids and four transects on sandy soils and suitable vegetation areas throughout the site. No SBKR were captured during the 2,160 total trap nights, although 117 *Dulzura kangaroo rats* and 36 deer mouse were captured.

Coastal California Gnatcatcher - The Coastal California Gnatcatcher (CAGN) is federally listed as a Threatened species and is a State Species of Special Concern. CAGN is a subspecies of the California gnatcatcher that generally occurs in or near sage scrub. It is an obligate resident of coastal sage scrub habitats that are dominated by California sagebrush. The project site contains marginally suitable habitat for CAGN due to the high percentage of chamise. However, areas of RSS contain suitable habitat for the CAGN. While the burn area is not currently suitable for CAGN, as the vegetation regrows, it may add more suitable habitat, although it is likely that it will come back dominated by chamise.

The project site is located within the USFWS designated critical habitat for the CAGN, which includes lands at the base of the San Gabriel and San Bernardino Mountains (west of the I-15 Freeway and between the I-15 and I-215 freeways) and along Lytle Creek.

Six surveys performed at least one week apart were conducted in March and April 2007. However, the CAGN was not observed during the site surveys. Brown-headed cowbirds, which are considered a nest parasite for CAGN, and other open cup nesting avian species were observed on-site. The dominance of dense chamise in the RAFSS may also be deterring the presence of CAGN.

Loggerhead Shrike - The Loggerhead Shrike is a gray, black and white bird, with a slim tail, large head, hooked black beak and distinctive black mask. The loggerhead shrike is a resident of open foothills and lowlands in California and is known to forage over open ground within areas with short vegetation, in pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beaches with scattered shrubs. They like to perch on posts utility lines and often use the edges of denser habitats.

The loggerhead shrike is a federal and state Species of Concern. This status applies to animals not listed under the federal Endangered Species Act or the California Endangered Species Act, but are considered to be declining at a rate that could result in future listing or have historically been found in limited numbers and there are present threats to their existence.

The project site provides high-quality nesting and foraging habitat for the loggerhead shrike with the presence of open grassland and many hunting perches for foraging. The dense shrubs throughout the site provide suitable nesting habitat for loggerhead shrike. Loggerhead shrike was observed during the site visit. Therefore, the species is present on-site.

Bell's Sage Sparrow - Bell's sage sparrow is found in chaparral and RSS habitats, and has an affinity for habitats dominated by chamise. The species has been known to occupy short shrubs recovering from recent fires. The project site contains suitable habitat, and the areas that are recovering from the 2006 fire are particularly suitable for the species. The Bell's Sage Sparrow is also a federal and state Species of Concern. This bird was observed on the site during surveys and is considered present on-site.

Section 4.9: Biological Resources

Cooper's Hawk - Cooper's hawks nest in interrupted and otherwise open woodlands. Foraging occurs in shrubs and grassland habitats. The project site contains suitable foraging habitat and low quality nesting habitat. The trees that make up suitable nesting habitat occurs adjacent to existing residential development on-site, where disturbance may be too high for the species to nest. The Cooper's hawk is a California Species of Concern and was observed on the site during surveys. This species is considered to be present on the project site.

Northern Harrier - Northern harriers are generally found in open fields where they can fly near to the ground in search of prey (mostly small mammals). Northern harriers nest on the ground, typically in tall dense vegetation, with a preference for wet areas to avoid nest predation. The project site does not contain suitable nesting habitat for the Northern Harrier but the grasses and open areas with sparse vegetation are suitable for foraging. The Northern Harrier is a California Species of Concern and was observed on the site during surveys.

Rufous-Crowned Sparrow - Rufous-crowned sparrows are generally found in grass-covered hills, sage scrub, and chaparral, especially along the edges of dense scrub habitats. Additionally, the species is known to colonize grasslands that grow as an early successional stage following brush fires. The project site contains grasslands, RSS, and RAFSS of varying densities. Additionally, as grasses begin to grow in the burn areas, this area will be suitable for rufous-crowned sparrows. The Southern California rufous-crowned sparrow is a California Species of Concern and was observed on the site during surveys. The species is considered present on the project site.

Burrowing Owl - The burrowing owl is found in natural and manmade burrows within grasslands, deserts, arid shrub lands, range lands, and agricultural fields with low-lying vegetation. It is a year-round resident of annual and perennial grasslands and breeds from March to August in pre-existing burrows created by small fossorial mammals as nests, most notably ground squirrel burrows. They also use man-made objects, such as abandoned pipes as burrows. The burrowing owl is a federal Species of Special Concern.

The project site contains numerous California ground squirrel burrows and areas of open grassland community. In addition, the areas that burned in 2006 now contain areas of low, sparse vegetation and the areas that burned in 2007 are now open. Thus, the site contains suitable foraging and nesting habitat for the burrowing owl. Two burrowing owls were observed at two separate territories during the site visit. Burrowing owl sign (i.e., whitewash, pellets, and feathers) was observed at the burrows for each of these territories. Additionally, several broken pipes throughout the site have burrowing owl sign. Therefore, burrowing owls are present on the project site.

California Horned Lark - The California horned lark occurs in areas with low grasses, bald hills, mountain meadows, and fallow grain fields. The project site contains low sparse grasses, and therefore contains suitable habitat for this species. The California horned lark is a California Species of Concern. The species was not observed during the site visit, however, there is a moderate potential for this species to occur on-site.

Northwestern San Diego Pocket Mouse - The northwestern San Diego pocket mouse inhabits open sandy areas within sage scrub, sage scrub/grasslands, disturbed grasslands, and chaparral communities. The species has an affinity for moderately gravelly and rocky

Section 4.9: Biological Resources

substrates. The project site contains ideal habitat for the species and a recorded site is located approximately ½ mile south of the project site. No northwestern San Diego pocket mice were captured during the SBKR presence/absence trapping effort in April 2007. However, there is a moderate potential for the species to occur on-site.

San Diego Desert Woodrat - The San Diego desert woodrat inhabits a variety of desert and scrub habitats and is found in areas with dense undergrowth. They build elaborate dens with twigs and other debris and the project site contains suitable scrub habitat for the species. No woodrats were trapped during the April 2007 SBKR trapping, however, there is a moderate potential for the species to occur on-site.

Los Angeles Pocket Mouse - The Los Angeles pocket mouse inhabits open ground with fine sands among low elevation grasslands and sage scrub, as found on the project site. This species was not trapped during the April 2007 SBKR trapping effort. The Los Angeles pocket mouse and SBKR have very similar habitat needs and the species would have been expected during the SBKR trapping period. Since the Los Angeles pocket mouse was not trapped, this species is not expected to be present on the project site.

Coast (San Diego) Horned Lizard - Coast horned lizards generally inhabit sage scrub and chaparral habitats. This species prefers friable, rocky, or shallow sandy soils where they can easily burrow. Except for the grassland areas, the project site contains suitable habitat for this species. No coast horned lizards were observed during the site visits; however, there is a moderate potential for the species to occur on-site.

San Diego Black-tailed Jackrabbit - The San Diego black-tailed jackrabbit occurs in arid areas with low grasses and open scrub habitats. They rely on open sparse vegetation to escape predators with long sprints. Several San Diego black-tailed jackrabbits were observed on the project site during the site visit. This species is considered present on the project site.

Wetland Areas

The Jurisdictional Wetland Delineation for the site and the surrounding area identified the presence of hydrophytic vegetation, hydric soils, and wetland hydrology as indicators for wetlands. The presence of non-tidal waters (rivers, lakes, and intermittent streams), water courses, streambeds, and other waterways were also identified.

The survey shows that the site and the surrounding areas receive localized sheet flow from areas north of the site, from a series of box and pipe culverts under the I-15 Freeway. The channelized flows from the culverts contain high velocities and subsequently result in artificially created bed and bank appearance. As water slows due to natural contours and percolation, the velocity decreases and no longer maintains the bed and bank features.

Runoff from a 5-foot by 10-foot box culvert just south of the I-15 Freeway northbound off-ramp at Sierra Avenue flows southeasterly and ends near Sierra Avenue and does not enter the site. A 36-inch pipe culvert south of the 5 x 10 foot box culvert does not show any evidence of flows within or near the pipe. An agricultural ditch (Canaigre Ditch) runs from the freeway southeasterly toward the eastern City limits. This ditch was used for agricultural purposes in the past and is now abandoned and partially buried. It contains no evidence of flows. A second 36-inch pipe culvert is

Section 4.9: Biological Resources

present southwest of the Canaigre Ditch and also shows no evidence of flows within or near the pipe.

An 8 x 8 foot box culvert under the freeway near the northern end of the alignment for Cypress Avenue contains no evidence of flows within the culvert. However, the outflow runs southerly and contains a concrete riprap device for energy dissipation. The spill area is approximately 20 feet by 30 feet and becomes a two-foot wide swale running southwest for approximately 4,400 feet before the feature is no longer detectible near the alignment of Duncan Canyon Road. No connectivity to any downstream drainage was found.

A 48-inch pipe culvert under the freeway contains no evidence of flows within the pipe. However, there is a 20-foot side scour area around the base of the pipe and a three-foot wide channel runs southerly from the pipe for approximately 2,200 feet on the east side of Citrus Avenue. It becomes an upland swale until it reaches a dirt road and ends but does not enter the project site.

The Jurisdictional Wetland Delineation prepared for the project site found that the two upland swales (36-inch pipe culverts) and the agricultural ditch previously described are not considered water courses or wetlands and do not meet the minimum criteria to be considered jurisdictional by either the U.S. Army Corps of Engineers (ACOE) or California Department of Fish and Game (CDFG). The basis for this determination rests on the fact that all three features lack a defined bed, bank, or OHWM, there is no evidence of a soil or vegetation change, and there is no direct or indirect connectivity to waters of the U.S. or waters of the State.

The two box culverts and 48-inch pipe culvert do contain intermittent evidence of bed and bank features, as well as indicative high water marks. However, they do not display any evidence of connectivity to downstream waters. Only the swale for the 8 x 8 foot box culvert enters the project site. Since the channels were formed by high velocities from the culverts that artificially created bed and bank appearance, with water slowing down farther from the culvert until the bed and bank features disappear, these water courses are not considered to be under the jurisdiction of the ACOE or CDFG. No wetlands are present in these channels.

Mature Trees

Section 28-60 of the City's Municipal Code calls for the preservation of Heritage, Significant and Specimen trees. Heritage trees are any tree or windrow (row of four trees or more) associated with the City's past or protected under state or federal regulations. Significant trees include the Southern California black walnut, coast live oak, deodara cedar, California sycamore, and London plane trees. Specimen trees include mature trees considered an excellent example of the species.

The survey of the project sites shows that trees on the site are limited to ornamental trees (pine and eucalyptus trees) at the eastern central edge, where a former residence was present. Heritage, Significant and Specimen trees may be subject to the City's Tree Preservation Ordinance.

Wildlife Corridors

Wildlife movement in the City of Fontana is confined to the northern foothills, which provide east-west movement through vacant and undeveloped lands. North-south movement through the City

Section 4.9: Biological Resources

is largely restricted due to urban developments on the valley floor and the distance of nearby open space areas. The North Fontana area, including the project site, is located near the foothills of the San Gabriel Mountains and consists largely of vacant lands. Thus, the site and the adjacent vacant areas to the northeast, east and south provide a corridor for wildlife movement from adjacent vacant areas, with the I-15 Freeway forming a barrier to terrestrial animal movement.

The project site has development on three sides (the east, south and west), with the Interstate 15 barrier occurring north of the project site. As such, the project site does not represent an area that would link two or more significant wildlife areas and wildlife are not likely to utilize the project site as a corridor. Therefore, although a few animals may cross the site in a north-south direction, the site does not serve as a major corridor for animal movement on a regional basis.

Habitat Conservation Plan

The City of Fontana has developed a Multiple Species Habitat Conservation Plan (MSHCP) for North Fontana to address the critical habitats for the San Bernardino Kangaroo Rat (SBKR), California Gnatcatcher (CAGN), and other sensitive species in this area. The MSHCP area includes vacant lands north of Summit Avenue, including lands designated as open space in the City's Sphere of Influence. The proposed MSHCP calls for the payment of fees by new development in the North Fontana area. The fees would be used for the acquisition and preservation of off-site and on-site habitat areas to replace the sage scrub plant communities lost as a result of urban development. This plan is expected to be approved by the USFWS in the near future.

In the meantime, the City of Fontana has adopted an interim program in abeyance to the finalization of the proposed North Fontana MSHCP. The interim program finds that, if protocol surveys for the SBKR and CAGN yield negative results, the developer shall pay a prescribed fee to the City for the future acquisition of preserved habitat in compliance with the finalized MSHCP. However, if CAGN or SBKR are found on the site, the identified habitat area shall be preserved and no development allowed on the occupied area until the MSHCP is approved by USFWS and adopted by the City or a Section 7 or Section 10 consultation is completed by the applicant and an individual take permit is issued by the USFWS.

The project site is located within the proposed limits of the North Fontana MSHCP and is located in areas identified as suitable habitat for the SBKR and CAGN in the MSHCP.

The Critical Habitat for the San Bernardino Kangaroo Rat includes approximately 33,295 acres in San Bernardino and Riverside counties, including the area north of Summit Avenue in the City of Fontana, which encompasses the project site. The project site is located within USFWS designated Critical Habitat Unit 2 for the SBKR.

The Critical Habitat for the California Gnatcatcher includes 495,795 acres of land in Los Angeles, Orange, Ventura, Riverside, San Bernardino, and San Diego counties. Unit 11 includes 14,990 acres along the foothills of the San Gabriel Mountains, including the North Fontana area and the project site. The critical habitat designation means that if a federal nexus (project approval from the federal agency or use of federal funds) applies the site, consultation with the USFWS would be required.

Section 4.9: Biological Resources

In compliance with the requirements of the City's interim program, protocol surveys were conducted for both species and as indicated earlier, no SBKR were found during the trapping surveys and the CAGN is not found or expected to be present on-site.

4.9.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on biological resources, if its implementation results in any of the following:

- ◆ Has 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;
- ◆ Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- ◆ Has 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;
- ◆ Interferes 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; or
- ◆ Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or, conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.9.3 Environmental Impacts

Future development associated with implementation of the proposed *Arboretum Specific Plan* would lead to the disturbance of existing plant communities and habitats on the site, as well as the introduction of ornamental plant species that would accompany urban development.

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

Vegetation Removal

Future development under the proposed *Arboretum Specific Plan* would lead to the removal of existing RAFSS and RSS vegetation on the project site, as well as non-native grassland and ornamental landscaping. These vegetation communities would be replaced with buildings, roadways, pavements, and landscaped areas containing introduced plant materials. The loss of on-site vegetation would render the existing site unavailable for wildlife species that may be using this habitat. The removal of RAFSS is an adverse impact, as RAFSS provides suitable habitat for various sensitive plant and animal species (including the SBKR and CAGN) and is considered a sensitive plant community by both USFWS and CDFG.

Section 4.9: Biological Resources

The North Fontana Interim MSHCP Program is currently under review by the USFWS. During this review and approval stage, the City adopted an Interim MSHCP Program, which requires a project developer to pay a fee to the City for the future acquisition of preserved habitat if protocol surveys performed within the proposed MSHCP boundaries for the SBKR and CAGN yield negative results.

Future development on the site would have to comply with the interim MSHCP program and shall pay fees to the City to mitigate for the loss of sensitive habitats. A tiered development mitigation fee has been adopted by the City, based on the quality of habitat and the site's potential to support SBKR, CAGN, and other sensitive species. The fees will be used by the City of Fontana to purchase, preserve, and manage nearby conservation lands.

The fees are based on the quality of habitat and the site's potential to support SBKR, CAGN, and other sensitive species. The plan area was mapped based on quality and suitability criteria into the following categories: Occupied Habitat (0.0 acres), Suitable Habitat (335.9 acres), Restorable RAFSS Habitat (97.4 acres), Restorable Non-Native Grassland Habitat (42.7 acres), and Unsuitable Habitat (55.3 acres). Payment of the fees would reduce potential impacts to less than significant levels.

The project site also serves as foraging habitat for several animal species, including raptors. While raptors are not uncommon in southern California, urban development has eliminated the majority of open foraging habitats in the region. Future development under the *Arboretum Specific Plan* would add to the incremental loss of foraging habitat in the long term.

The Interim Program for the North Fontana MSHCP also addresses the cumulative impacts to sensitive species in the area, including the incremental loss of foraging habitat. Thus, payment of fees would compensate for the loss of foraging habitat and impacts are expected to be less than significant.

During project construction, it is anticipated that animals presently using the project site would passively re-locate to nearby vacant areas to the north, south, west and east. Additionally, noise, dust and stormwater pollution controls implemented by the project during the construction phases would reduce secondary impacts to surrounding vacant areas and off-site habitat resources, as discussed in Sections 4.5, 4.6 and 4.8 of this EIR.

Once developed, landscaped areas, open space, trees and other on-site vegetation would serve as alternative habitat for some animals in the area. With payment of fees under the interim program for the North Fontana MSHCP to offset potential project-related impacts, significant adverse impacts are not expected.

Sensitive Species

Sensitive plant species are not expected at the site due to the presence of low quality habitat. Thus, no significant adverse impacts on sensitive plant species are expected with future development under the proposed Specific Plan.

No CAGN was observed on the site during focused surveys. Trapping for the SBKR also did not indicate the presence of SBKR. Thus, the proposed project would not result in the disturbance or destruction of SBKR and CAGN. No direct adverse impact on the SBKR and CAGN is expected with the project. As discussed in the previous section, the project would

Section 4.9: Biological Resources

result in the loss of critical habitat for these species and would be mitigated under the City's interim program for the North Fontana MSHCP.

Several other sensitive species were found on the site or have moderate potential to occur on the site. They include the loggerhead shrike, burrowing owl, Cooper's hawk, northern harrier, rufous-crowned sparrow, California horned lark, and Bell's sage sparrow. Five other (non-avian) sensitive species have a moderate potential to occur on the project site (northwestern San Diego pocket mouse, San Diego desert woodrat, Los Angeles pocket mouse, San Diego black-tailed jackrabbit, and Coast (San Diego) horned lizard).

Vegetation clearing activities to accommodate future development would lead to the loss of habitat for these species, as well as potential direct impacts to these species. Each species is relatively common in the region. During project construction, it is anticipated that animals presently using the project site would passively re-locate to nearby vacant areas to the north, south, west and east. Impacts to these species would be adverse, but is not considered substantial due to the prevalence of these species in the region.

Adherence to the City's interim program for the North Fontana MSHCP would lead to the preservation and management of nearby conservation lands, providing compensatory habitat for these sensitive animal species in the area. Impacts would be less than significant.

Burrowing Owls

Additionally, there is a potential to directly impact burrowing owls occupying the project site. Disturbance or harassment within 50 meters (approximately 160 feet) of occupied burrows; destruction of burrows and burrow entrances (burrows include structures such as culverts, concrete slabs and debris piles that provide shelter to the burrowing owl; and degradation of foraging habitat within 100 meters (approximately 325 feet) of occupied burrows are considered adverse impacts on burrowing owls. Thus, potentially significant adverse impacts on burrowing owls are expected with the project.

Impact 4.9.1: Ground disturbance that would accompany future development may lead to the disturbance or destruction of burrowing owls.

Focused surveys should be conducted to determine the number and location of burrowing owls and occupied burrows are present on the site. These surveys must be conducted during the nesting season (March through August), in accordance with CDGF survey protocols. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by CDGF verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation, or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In the event that burrowing owls are determined to occur on the project site, appropriate mitigation for habitat loss shall be considered as set forth in the prevailing guidance document for the species. The 1995 Staff Report on Burrowing Owl Mitigation (CDGF) identifies a tiered protocol for mitigation response for the burrowing owl, namely;

Where on-site mitigation is practical:

Section 4.9: Biological Resources

- No disturbance should occur within 50 meters (164 feet) of occupied burrows during the non-breeding season or 75 meters (246 feet) during the breeding season, and a minimum of 6.5 acres of contiguous foraging habitat should be permanently preserved for each pair of breeding birds or single unpaired resident bird.

Where disturbance will occur and on-site mitigation is not practical:

- Off-site mitigation and, if appropriate, relocation should be implemented. To offset the loss of foraging and burrow habitat on the project site a minimum of 6.5 acres of foraging habitat (based on providing a 100-yard foraging radius around the burrow) per pair or unpaired resident bird, shall be acquired or permanently protected. The protected lands should be within the vicinity of the project site in suitable habitat and at a location approved by the CDFG.
- Any occupied burrows within the project site that will be destroyed by implementation of the project shall be mitigated through enhancement of existing unsuitable burrows or creation of artificial burrows at a ratio of 2:1 on the protected land (mitigation) site.
- If owls are to be moved from the disturbance area, passive relocation techniques should be used. A minimum of one week should be allowed to accomplish the relocation and allow the owls to acclimate to the alternate burrows.

Additionally, mitigation for loss of burrowing owl habitat would include the payment of the adopted mitigation fee for the loss of habitat from this area. Mitigation fees will be used to acquire replacement habitat.

Nesting Birds

The site may be serving as nesting habitat for a variety of bird species, although no active nests were observed on-site during the surveys. The open field nature of the site provides foraging areas for raptors, such as American kestrels and red-tailed hawks. While raptors prefer remote or secluded locations for nesting, some birds have been found to nest in urban locations. Several bird species, including migratory birds and the loggerhead shrike, were observed on the site and may nest there.

The federal Migratory Bird Treaty Act of 1918 states that migratory birds cannot be taken, pursued, hunted, captured, molested, or killed or their nesting sites destroyed without a permit from the USFWS. Nesting birds are also protected under the California Fish and Game Code. Thus, while birds would likely fly out during grading and construction activities at the site, nesting birds may abandon their nesting sites due to noise and their young may be disturbed and destroyed during the removal of on-site vegetation and trees. The disturbance of breeding birds is considered a significant adverse impact.

Impact 4.9.2: Disturbance of breeding birds or removal of occupied nests would adversely impact migratory birds.

Occupied nests would have to be avoided during the breeding season (February 1 to August 31), through the flagging of active nests of migratory birds and protection of the area within a 300-foot radius or a 500-foot radius around active nests for raptors, until the birds have fledged. Construction activities within 250 feet of the nest must cease until it is determined by a qualified biologist that the nest is no longer active. Grading and construction activities may resume in these areas after the birds have fledged. The provision of trees as part of the site

Section 4.9: Biological Resources

landscaping for future development on the project site may provide future nesting opportunities for bird species.

Riparian Habitats and Wetlands *(Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?)*

Wetlands

The Jurisdictional Wetland Delineation prepared for the project site found that there are no jurisdictional waters, wetland areas, or riparian habitats on the site that may be affected by future development. Thus, no impact on those resources would occur with implementation of the proposed Specific Plan.

Sensitive Natural Communities

The loss of sensitive natural communities, including RAFSS critical habitat, is discussed previously in this section and appropriate mitigation identified in the form of fee payment in accordance with the City's interim program for the North Fontana MSHCP.

Wildlife Corridors *(Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?)*

The vacant site is probably used by wildlife to move from one vacant location to another in the North Fontana area. However, the site does not serve as a major wildlife corridor for the region due to the presence of urban development to the east and south of the site and with the I-15 Freeway cutting off the site from the nearby mountains. With future development on the site, wildlife movement is expected to be confined to the nearby open areas, including the 200- to 250-foot wide SCE right-of-way that is located along the northwestern edge of the site that connects with other SCE utility corridors in North Fontana, as well as vacant lands to the north, east and west of the site. No significant adverse impact on wildlife corridors is expected with the proposed project.

Habitat Conservation Plans or Local Preservation Plans *(Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or, conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?)*

Tree Preservation

Future development of the site would lead to the removal of existing trees. Tree removal is subject to the City's Tree Preservation Ordinance (Section 28-60 of the Fontana Municipal Code), which states that Heritage, Significant or Specimen trees should be preserved in place if feasible. If not, the tree shall be relocated subject to a written report by a certified arborist on the feasibility of transplanting the tree. If tree removal is necessary, any heritage, significant or specimen tree shall be replaced in accordance with the ordinance requirements. Any removal

Section 4.9: Biological Resources

of these trees on the site would require a permit from the City, along with implementation of conditions for replacement, relocation, or preservation.

The determination if on-site trees are considered Heritage, Significant or Specimen trees shall be made prior to the removal of any tree on the project site. Compliance with the City's Tree Preservation Ordinance would require relocation, preservation and/or replacement. Thus, removal of trees as part of future development under the proposed Specific Plan would not conflict with the City's Tree Preservation Ordinance.

The landscaping standards in the Specific Plan call for the planting of trees and native and drought-tolerant shrubs within the parks, trails, and pedestrian walkways, as well as along street medians, parkways and entryways. In addition, planning areas would also need to provide setbacks and open areas that would require landscaping and/or paving. The trees that would be planted on the site are expected to be in excess of the number of trees that would be removed. Impacts on trees would be less than significant.

MSHCP Consistency

The proposed Multi-Species Habitat Conservation Plan for North Fontana will provide the City with a regulated opportunity to off-set potential impacts from development occurring in this area of the City, while maintaining and protecting adequate areas of quality habitat for special-status and sensitive species. The proposed Specific Plan is within the limits of the North Fontana MSHCP area, and as such, will be required to pay fees for direct and indirect impacts to species covered under the MSHCP. The North Fontana MSHCP is currently under review by federal and State resource agencies and is expected to be approved by the USFWS in the near future.

In the interim, the proposed Arboretum Specific Plan would comply with the interim program that the City is implementing, which reflects the proposed MSHCP and requires extensive biological survey for sensitive vegetation communities, floral, and faunal resources and protocol surveys for California Gnatcatcher (CAGN) and San Bernardino Kangaroo Rat (SBKR). The interim program also requires the payment of fees in accordance with the adopted fee schedule to provide mitigation for the project's incremental impacts on the loss of habitat areas for sensitive plants and animals through the conservation of off-site habitat. Since no CAGN and SBKR have been found on the site, occupied habitat for these are not going to be impacted by future development under the proposed Specific Plan. The project would comply with the City's Interim Program through the payment of fees that would be used by the City to conserve off-site habitat. No conflict with the North Fontana MSHCP is expected with the project.

4.9.4 Standard Conditions and Mitigation Measures

Standard Conditions

The implementation of the following standard condition would prevent impacts related to the removal of existing vegetation:

Standard Condition 4.9.1: In accordance with the City's interim program for the North Fontana MSHCP, the developer shall pay a fee for the future acquisition of preserved habitat for sensitive species.

Section 4.9: Biological Resources

Standard Condition 4.9.2: The removal of trees on-site shall be subject to the City's Preservation of Heritage, Significant and Specimen Trees (Municipal Code Section 28-60) for the replacement of any Heritage, Significant and Specimen Trees that may be affected by the project.

Mitigation Measures

The following mitigation measures would reduce impacts to nesting birds and burrowing owls:

Mitigation Measure 4.9.1a: Focused surveys for the burrowing owl shall be conducted during the nesting season (March to August) and no more than 30 days prior to the onset of construction to ensure avoidance of this species. If no occupied burrows are found, a report shall be submitted to the City and construction may begin without further actions. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation, or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Mitigation Measure 4.9.1b: Mitigation for loss of burrowing owl habitat shall include passive relocation of resident animals on the project site to the approved replacement habitat location. The Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC, 1993) shall be utilized for current methods for passive relocation of any owls found during the survey. A qualified biologist shall conduct the relocation activities and provide construction monitoring during construction activities near the burrows.

Mitigation Measure 4.9.1c: If burrowing owls are found on-site, off-site relocation shall be provided in conformance with the 1995 (CDFG) Staff Report on Burrowing Owl Mitigation, which requires the acquisition and permanent protection of a minimum of 6.5 acres of off-site foraging habitat (based on providing a 100-yard foraging radius around the burrow) per pair or unpaired resident bird. The protected lands should be within the vicinity of the project site in suitable habitat and at a location approved by the CDFG. Any occupied burrows within the project site that will be destroyed by implementation of the project shall be mitigated through enhancement of existing unsuitable burrows or creation of artificial burrows at a ratio of 2:1 on the protected site.

Mitigation Measure 4.9.1d: The developer shall pay the adopted mitigation fee for the loss of burrowing owl habitat from the project area. Fees shall be as set forth in the interim program for the North Fontana MSHCP.

Mitigation Measure 4.9.2: Removal of vegetation or other potential nesting bird habitat shall be conducted outside of the avian nesting season (February through August). If removal of vegetation must occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted within 7 days prior to any ground disturbing activities. If at any time, birds are found to be nesting inside or within 250 feet (500 feet for raptors) of the proposed construction disturbance area, construction activities within 250 feet (500 feet for raptors) of the nest must

Section 4.9: Biological Resources

cease and the area flagged and protected from any ground disturbing activities until it is determined by a qualified biologist that the nest is no longer active.

4.9.5 Unavoidable Significant Adverse Impacts

Future development under the proposed *Arboretum Specific Plan* would lead to loss of existing vegetation and animal habitats on the site and may impact migratory birds and burrowing owls. The implementation of standard conditions would reduce impacts associated with the loss of existing plant communities, trees and animal habitats. Implementation of the mitigation measures above would prevent adverse impacts on migratory birds, raptors and burrowing owls to below a level of significance. No unavoidable significant adverse impacts are expected after mitigation.

Section 4.10: Cultural Resources

A Cultural Resource Study and Historic Evaluation, dated August 2006, was prepared by ASM Affiliates to identify cultural resources which may be present on-site and to determine the project's potential impacts on these cultural resources. The findings of the study are summarized below, and the complete study is provided in Appendix I of this EIR.

4.10.1 Environmental Setting

Historical Overview

Human occupation in Southern California, including the San Bernardino region, is generally characterized by the types of artifacts found in the area. The San Dieguito Complex (predating 6,000 BC) was defined by the presence of large projectile points and scrapers, suggesting the reliance on hunting, rather than gathering during this period. The Milling Stone Horizon (6,000 to 1,000 BC) was characterized by milling stones, hand stones, and tools used for seed gathering and processing. This represented a shift in the procurement of food during this period. The Sayles Complex (1,000 BC to AD 1,000) utilized milling stones, hand stones, percussion-flaked core and flake tools, plano-convex scrapers, choppers, and hammer stones, as well as cogstones, quartz crystals, and projectile points. The late Prehistoric Horizon (AD 1,000 to European Contact) was characterized by the presence of small projectile points, the bow and arrow, steatite bowls and trade items, asphaltum, cremation urns and grave goods, mortars, pestles, and bedrock mortars.

The project area is located within the historic territory of the Gabrieleno and Serrano Indians. The Gabrielenos were associated with the Mission San Gabriel and occupied the San Gabriel Valley, San Bernardino Mountains, and the Los Angeles basin. The Gabrielenos spoke a language from the Cupan group of the Takic subfamily of the Uto-Aztecan language family. They were largely semi-sedentary hunter-gatherers, headed by a chief. Around 1,770 AD, there were approximately 5,000 persons within 100 small villages of 50 to 200 people each in the region. They settled in the fertile bottomlands between the Pacific Coast, from Malibu to San Pedro Bay and south to Alto Creek and into Temescal Canyon and the San Bernardino area until the headwaters of the San Gabriel River.

In the 1840's, Spanish grants in the San Bernardino area included the El Muscupiabe Rancho, San Bernardino Rancho, the Bandini and Rubidoux ranchos, the Chino Rancho, and the Cucamonga Rancho. The mesa where Fontana is now located was not part of a Spanish land grant, since it was too dry for settlement. In 1851, the Mormons bought the San Bernardino Rancho and established a town, with a group of settlers under Captain Andrew Lytle camping at the mouth of Lytle Creek Canyon. A road was cut through the brush between San Bernardino and Rancho Cucamonga, which is now Foothill Boulevard.

Gold was discovered in Lytle Creek in the 1860's and settlers came to the area after the Homestead Act in 1862. These settlers claimed 40-acre parcels of government-owned land, provided they live on the parcel and made improvements within five years. The area between the old Muscupiabe Grant and the Etiwanda Colony, known as Grapeland, attracted homesteaders, and three Perdew brothers raised peaches, grapes and other fruits in the area. Michael San Sevaine, Thomas Hawker, and Victor de Lor were other early settlers.

When the Southern Pacific Railroad reached Colton in 1883 and the Santa Fe Railroad line from Los Angeles to San Bernardino was completed in 1885, more settlers came to the Grapeland area, with 19 families recorded by 1886. The town had two schools, a post office, and small ranches

Section 4.10: Cultural Resources

along Lytle Creek Road and Summit Avenue. The Perdew School was founded in 1885 west of the project site, and opened with 43 students. The Grapeland School District was formed in 1892 and had a school at the corner of Summit and San Sevaine Avenues. A post office was also built in the area and was used from 1889 to 1905.

The Grapeland Irrigation District was formed in 1890 to construct a water conveyance system for the town. A reservoir, Sierra Vista Reservoir, was built in 1892 to contain water diverted from Lytle Creek. Homesteaders soon planted citrus orchards, vineyards and olive orchards in anticipation of a steady supply of water. A tunnel and concrete ditches were also built for the water system. However, a suit filed by the Lytle Creek Water and Improvement Company against the Grapeland Irrigation District led to a court decision that the Grapeland Irrigation District had no water rights to Lytle Creek water, except for surplus water. Subsequently, the district ceased to operate. The Perdew School closed in 1899 and combined with the Grapeland School District. Two years later, the Grapeland School District combined with the Etiwanda School District. The post office closed in 1905. The farms and ranches were subsequently abandoned due to the lack of water. However, some residents remained and cultivated dryland grapes. In 1926, Crawford Canyon Mutual Water Company was formed and provided water to the area but not in quantities to allow the irrigation of crops. Vineyards and crops were still grown through dry irrigation. Between 1960 and 1965, speculators started buying the vineyards but did not continue their cultivation.

Archaeological Resources

The project site is not located in an area identified in the Fontana General Plan as having high sensitivity for prehistoric archaeological resources or a relative concentration of historic-era buildings. Several archaeological surveys have been completed in the area and cultural resources that were found included irrigation ditches and water lines, residences, homestead site, fence, structural remains, roads, and power transmission lines. Three irrigation ditches are located on or near the site. These include the Grapeland Irrigation District main canal, the Perdew Ditch, and the Canaigre Ditch.

The main canal of the Grapeland Irrigation District was intended to bring water from Lytle Creek to the Grapeland community. In 1990, this was observed as the location of a water line that was broken and buried at some segments and laterals. In 2006, an earthen and cobble berm was found along this location, with poured concrete in some locations. A still functional water pipe is believed to have been laid in the abandoned main canal. In order to prevent damage to the water line, the pipe was buried and covered with an earthen and cobble berm within the last 15 to 20 years. The original canal has been filled in and buried.

The Perdew Ditch ran across the site but no sign of this ditch was found during the site survey. The Canaigre Ditch ran along Sierra Avenue and the areas east of Sierra Avenue and was used from 1897 to 1930. This ditch was not found along the site boundaries during the survey. Portions of this ditch are still present east of Sierra Avenue.

The archeological survey of the project site also identified several other resources. These include a concrete slab on cobble and concrete foundation at the northern section of the site, with two low-standing cobble and concrete walls near this foundation. These structures were not found in historic aerial photographs and are expected to have been built between 1933 and 1955. However, no structures are depicted at the same location in the 1966 USGS map. Thus, the structures may have been in use for only a short time. While these remains may be over 50 years

Section 4.10: Cultural Resources

old, they are currently in poor condition and do not retain sufficient integrity to be eligible for listing on the State Register.

An open cistern filled with various trash and debris was found at the northern edge of the site, which is expected to have been associated with the foundation and walls to the south. Due to the lack of temporally diagnostic artifacts or clear association, its cultural significance and research value are extremely limited.

A (1901) USGS map of the project area identified a number of structures in the project vicinity. Archaeological investigations at these locations found the presence of two foundations, a circular ground depression, and wall remains in the vicinity of the SCE easement along the northwestern boundary of the project site. These building remains are believed to have been those depicted in 1901 USGS maps and may be associated with the historical location of the Perdew Ditch. Though not possessing good integrity, these resources may represent the remains of the early structures associated with the Grapeland Irrigation District.

Paleontological Resources

No paleontological resources have been identified in the City of Fontana or the site, based on the Fontana General Plan. The site is relatively flat and does not possess unique geologic features. Native soils that underlie the near-surface soils may have a potential for containing paleontological resources.

Historic Resources

Several surveys have been completed on the site and the surrounding area, identifying the presence of historic sites and resources. A 1933 aerial photograph shows a residence at the eastern central edge of the site, featuring a driveway, accessory buildings, stone walls, and a landscaped area. A 1942 aerial shows two structures and a 1955 aerial shows mature trees along the driveway, around the house and other locations. Later aerials show four buildings on the site, which were all demolished in the last 10 years.

A 1955 aerial photograph shows a dirt road extending east-west from Sierra Avenue toward Cypress Avenue and turning south. Possible buildings are present west of this road. The 1966 USGS map shows one building in this location at that time and a second building south of it. An additional four buildings were constructed, as shown in the 1988 USGS map. A small cluster of buildings located south of Duncan Canyon Road is shown on the 1988 USGS map. These were constructed some time after 1966 and have since been demolished.

There was a 1,292-square-foot house constructed in 1958 at the northwest corner of the site. In addition, a number of outbuildings including a stable, garage, shed and poultry coup were present at this location and were built after 1966 on the residential property. Since the residence and accessory structures are less than 50 years old, they do not meet the age criterion for listing on the State Register, nor for any local register of historical resources. These structures were subsequently burned in a brush fire that occurred on portions of the project site in 2007.

The remains of a cobblestone house were found at the end of a dirt road (proposed as Grapeland Street). The structure appears to have suffered significant damage as a result of fire

Section 4.10: Cultural Resources

and is in a ruinous condition, with only exterior walls remaining. The steel-frame windows suggest a construction date in the late 1940s or early 1950s indicating that the building post-dates the formative historical developments during the period of the Grapeland Irrigation District. Its ruined condition and lack of integrity makes it ineligible for listing on the State Register.

Native American Sacred Sites

The Native American Heritage Commission indicated that there are no traditional cultural properties on the project site. Pursuant the Senate Bill (SB) 18, the City of Fontana sent letters to Native American tribes to request formal consultation on the presence of any Traditional Cultural Properties, Sacred Sites, and resource collecting areas in or near the project site, or any concern regarding the project. In response to the City's SB 18 consultation request, responses were received from three tribal stakeholders. The responses requested ongoing consultation in relation to the development of the Specific Plan and the project site. The inclusion of standard conditions for the protection of unidentified human remains and archaeological resources was also requested.

4.10.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on cultural resources, if its implementation results in any of the following:

- ◆ Causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- ◆ Causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- ◆ Directly or indirectly destroys a unique paleontological resource or site or unique geologic feature; or,
- ◆ Disturbs any human remains, including those interred outside of formal cemeteries.

Based on the CEQA Guidelines Section 15064.5 Subsection (a) 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 may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the National Register of Historic Places and California Register of Historic Resources. The criteria for listing in the National Register of Historic Places include resources:

- ◆ That are associated with events that made a significant contribution to the broad patterns of our history; or
- ◆ That are associated with the lives of persons significant in our past; or
- ◆ That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction; or
- ◆ That has yielded or may be likely to yield information important in prehistory or history.

Section 4.10: Cultural Resources

The California Register of Historic Resources utilizes criteria that mirrors the National criteria and includes any resource that:

- ◆ Is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage;
- ◆ Is associated with the lives of persons important in our past;
- ◆ Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- ◆ Has yielded or may be likely to yield, information important in prehistory or history.

These thresholds were used to determine if there are important cultural resources on the site and if future development allowed under the *Arboretum Specific Plan* would adversely impact important cultural resources.

4.10.3 Environmental Impacts

Future development allowed under the proposed *Arboretum Specific Plan* would lead to residential and commercial uses, schools and parks on the site, which would require clearing and grading activities, including the removal of existing structures, improvements and vegetation on the project site.

Archaeological Resources (*Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*)

Several archaeological resources were recorded in the area, with three found on the site and three others observed during the survey. A portion of the main canal of the Grapeland Irrigation District found on the project site is now filled in and buried, with a water line in the canal covered with a cobble berm and concrete. There is no example of the original ditch evident within the project site boundaries. Removal of the water line and underlying remnants of the canal is not expected to have adverse impacts on the archaeological significance of this resource due to the relative age of the water line (less than 20 years old) and the lack of integrity of the underlying canal. Although indicated on early (1901) USGS mapping of the area, archaeological surveys did not find any clear evidence of the Perdew Ditch and Canaigre Ditch on the site and technical staff did not find sufficient evidence to warrant further investigation or assessment of these resources. Therefore, no adverse impacts on these resources are expected with future development under the proposed Specific Plan.

The foundations, walls and cistern identified at the northern section of the site appear to date from a period after the demise of the Grapeland Irrigation District, when farming was very restrictive due to water availability. The inferred structures associated with these building remains were not found in historic aerial photographs and are estimated to have been built between 1933 and 1955, with no structures depicted at the same location in the 1966 USGS map. This suggests that the structures were in use for only a short, and the lack of other habitation indicators, infers that the habitation period may have been even less, or ephemeral. Technical staff did not find sufficient evidence to warrant further investigation or assessment of these resources. The remains are currently in poor condition and do not retain sufficient integrity to be eligible for listing on the State Register. Thus, removal of these foundations, walls, and cistern would not result in adverse impacts on archaeological resources.

Section 4.10: Cultural Resources

The foundation remains found within the SCE easement may be associated with the historic Grapeland community of Fontana. Improvements proposed on this easement include the planned crossing of Duncan Canyon Road from Citrus Avenue to Cypress Avenue. These improvements are not proposed where the foundation remains were found within the SCE easement. No impacts to the foundation remains are expected to occur from the proposed road crossing.

However, the Specific Plan also proposes the use of the SCE and SCG easements as passive recreational areas. While no specific structures or improvements are proposed on these easements, ground disturbance activities for proposed trails, gardens, or other land clearing may disturb unknown archaeological resources associated with the foundation remains. Thus, potentially significant adverse impacts are expected.

Impact 4.10.1: Grading and excavation along the SCE/SCG easements have the potential to impact unknown archeological resources on or near the foundation remains.

Prior to the improvement of land within these easements or the disturbance of the foundation remains, as approved by SCE and SCG, additional testing of the foundations and surrounding areas would be needed to determine if buried resources are present and the archaeological significance of these uncovered resources. This would ensure that important cultural resources are preserved or protected, or that a mitigation plan be developed and implemented for the proper photograph, recordation, collection, and archival of collected materials.

Historical Resources *(Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?)*

A single-family residence and accessory structures on the northwestern corner of the site, identified as 4510 Sierra Avenue, recently burned down in 2007. The residence was built in 1958 and the accessory structures were built after 1966. These structures are not considered significant historical resources due to their relatively recent age. Removal of the burnt remains of the structures would not result in significant adverse impacts on the City's historical resources.

A cobblestone house was built in the late 1940s or early 1950s at the northwestern corner of the site, of which only the cobblestone exterior walls remain. Since this structure was built after the period of the Grapeland Irrigation District and is extensively damaged due to a fire, technical staff found that the property lacks sufficient integrity to warrant further assessment and that the remains are not considered a significant historical resource. Removal of these remains is not expected to have a significant adverse impact on historical resources in the City.

Paleontological Resources *(Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?)*

Earth-moving activities at the site, as needed for construction of the proposed structures and infrastructure under the proposed Specific Plan, are not expected to result in adverse impacts to paleontological resources. However, grading and excavation activities for structures that extend 10 feet or more below the ground surface may disturb native soils (Pleistocene alluvium). These native soils have the potential to yield paleontological resources. Thus, potentially significant

Section 4.10: Cultural Resources

adverse impacts to paleontological resources could occur if excavation activities occur below the depth of the Pleistocene horizon.

Impact 4.10.2: Grading and excavation to a depth of more than 10 feet of undisturbed subsurface Pleistocene sediments have the potential to impact paleontological resources on the site.

Monitoring of excavation activities that involve the disturbance of native soils will be necessary to ensure that important paleontological resources are not destroyed and that appropriate measures are taken for the proper recovery and curation of these resources, if found.

Human Remains *(Would the project disturb any human remains, including those interred outside of formal cemeteries?)*

There are no known cemeteries on or near the project site. Thus, a low potential for the discovery of human remains is expected on the site.

Native American Sacred Sites

While no Native American sacred sites are known to be present in the area, past human occupation was present within the Grapeland community, which included the site and nearby areas. Thus, the potential for finding human remains cannot be precluded. The California Health and Safety Code dictates that if human remains are unearthed, no further disturbance shall occur until the County Coroner is called and has made the necessary findings as to its origin and disposition. Should the remains be associated with Native Americans, significant adverse impacts to Native American burials could occur.

The County Coroner will need to investigate any discovered human remains and develop appropriate disposition measures. Should human remains be determined to be Native American in origin, the Native American Heritage Commission and local tribes will be contacted for appropriate actions. Compliance with existing regulations regarding the disposition of human remains would prevent significant adverse impacts on potential Native American sacred sites and burial grounds. Implementation of these State regulations as a standard condition would prevent adverse impacts associated with human remains.

4.10.4 Standard Conditions and Mitigation Measures

Standard Conditions

The following standard condition would ensure that any uncovered human remains are handled and protected in accordance with State regulations:

Standard Condition 4.10.1: If human remains are encountered during excavation activities at the site, all work shall halt and the County Coroner shall be notified (Section 5097.98 of the Public Resources Code). The Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved archaeologist, determines that the remains are prehistoric, he/she will contact the Native American Heritage Commission (NAHC). The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the

Section 4.10: Cultural Resources

California Health and Safety Code. The MLD will make his/her recommendation within 24 hours of their notification by the NAHC. The recommendation of the MLD shall be followed and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (Section 70580.5 of the Health and Safety Code).

Mitigation Measures

The implementation of the following mitigation measures would avoid or prevent significant adverse impacts on known and unknown sensitive cultural resources that are present at the project site:

Mitigation Measure 4.10.1: Prior to removal of the foundation remains at the SCE/SCG easements, a formal evaluation of the area shall be completed, to determine eligibility to the California Register of Historic Places.

Initial evaluation of significance for this site will focus on archival research, including a title search to identify former property owners, historical research at the Fontana Historical Society and the San Bernardino Historical Society to identify historical maps, aerial photographs and photographs of the building. Oral interviews with local residents and Historical Society members shall also be conducted. This initial evaluation will seek to determine when the building was constructed, its function and history of use, and whether it was associated at any time with important people or events in the past. This initial evaluation will not include subsurface testing. However, if the evaluation determines that the site has archaeological or historical research potential, subsurface testing may be recommended to identify subsurface features and deposits, and to evaluate such deposits under criterion D of the CEQA Guidelines Section 15064.5.a3.

If the foundation is determined to be significant, then a mitigation plan shall be developed, in accordance with Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines, to ensure mitigation below a level of significance. Mitigation shall include photograph, recordation, collection, and archival of collected materials. In the event that significant cultural resources cannot be mitigated, avoidance shall be required.

Mitigation Measure 4.10.2: Monitoring shall be conducted for excavation activities extending to estimated depths of 10 feet or more below the existing ground surface. If required, the paleontologic monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially-fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. Also, the following measures shall be made during the monitoring of excavation activities on undisturbed subsurface Pleistocene sediments.

Section 4.10: Cultural Resources

- ◆ *During monitoring, preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates shall occur.*
- ◆ *During monitoring, identification and curation of specimens into a museum repository with permanent retrievable storage shall occur. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities.*
- ◆ *During monitoring, preparation of a report of findings with an itemized inventory of specimens shall occur. The report and inventory, when submitted to the City of Fontana (as the Lead Agency), will signify completion of the program to mitigate impacts to paleontologic resources.*

4.10.5 Unavoidable Significant Adverse Impacts

Future developments allowed under the proposed *Arboretum Specific Plan* may result in adverse impacts to archaeological and paleontological resources. Potentially significant adverse impacts to cultural resources can be prevented or reduced to less than significant levels by the implementation of the standard condition and recommended mitigation measures outlined above. No unavoidable significant adverse impacts are expected after mitigation.

Section 4.11: Public Services and Recreation

Public facilities and services are functions which serve residents on a community-wide basis, and include fire and police protection, school facilities, public parks and recreational facilities, and libraries. Public service facilities in the City of Fontana are shown in Figure 4.11-1, *Public Service and Recreation Facilities*. Future development under the proposed *Arboretum Specific Plan* would require these services and/or use these facilities. Discussion of impacts related to recreation has been included under Section 4.11.4, *Parks and Recreation*, in this section.

As part of the environmental review process, service providers were contacted to determine the level of impact the proposed project would have on existing facilities and services. Appendix J includes copies of written response letters received as a result of these inquiries.

4.11.1 Police Protection and Law Enforcement Services

Environmental Setting

Police protection and law enforcement services in the City of Fontana are provided by the Fontana Police Department. The main station of the Fontana Police Department is located at 17005 Upland Avenue, just east of the Fontana City Hall and at the northwest corner of Seville and Emerald Avenues. The Fontana Police Department also operates the contact station in North Fontana, at Summit and Beech Avenues, near the I-15 Freeway, within the Kohl's Center commercial development. This contact station is not staffed by police officers but is used for filing police reports and is closed on weekends.

The Fontana Police Department currently has 280 full-time employees (192 are sworn officers and 88 are non-sworn personnel). The present officer strength of the Police Department translates to approximately 1.06 sworn officers per thousand residents. The City's General Plan suggests a ratio of 1.4 sworn and 0.6 non-sworn personnel per thousand residents and the western United States average for sworn personnel is 1.8 officers per thousand residents.

The Police Department's fleet includes 116 black and white and unmarked vehicles, pickup trucks, trailers, and motorcycles. The Department contracts for helicopter coverage with California Aviation Services. The Department also has three police-trained K-9 dogs.

According to the Fontana Police Department, response times vary according to priority. The average response time in 2007 is approximately 8 minutes 31 seconds for Priority 1 calls and 14 minutes 7 seconds for Priority 2 calls.

Mutual aid agreements between the Fontana Police Department and the police departments of adjacent jurisdictions, as well as with the County of San Bernardino Sheriff's Department, allow for combined or supplemental police services, when necessary. The county-wide mutual aid agreement between the police agencies in the County allows the different police departments to help each other out if and when necessary. In instances where a situation occurs in the City of Fontana, which the Fontana Police Department cannot handle or does not have the resources alone to contain the situation, available police officers from nearby agencies would provide services under the agreement. For regional events, such as a large earthquake, no mutual aid is provided since each police department would be providing services within their service areas.

**Figure 4.11-1
Public Service and Recreation Facilities**

1. San Seavine Park
5440 Cherry Ave.
 - 1a. Hunters Ridge Park
5220 Cherry Ave.
 - 2a. Rosena Park West
15057 Greys Peak
 - 2b. Rosena Park East
15299 Curtis Ave.
 3. Ralph M Lewis Sports
Complex
6398 Citrus Ave.
 4. Future site of Jessie Turner
Health & Fitness Center
at Fontana Park
5220 Cherry Ave.
 5. Cambria Park/Walnut
Village
15352 Walnut Ave.
 6. Almeria Park
7520 Almeria Ave.
 8. North Heritage Park Circle
1736 N. Heritage Circle
 9. McDermott Park West
McDermott Sports Complex
7846 S. Heritage Loop
 10. Heritage Pool Complex
7320 W. Liberty Pkwy.
 11. Heritage Park Circle
Caryn Circle
 12. Tot Lot A
West Heritage
 13. Tot Lot B
East Heritage
 14. Northgate Park
7800 Celeste Ave.
 15. Bill Martin Park
7881 Juniper Ave.
 16. North Tamarind Park
8025 Tamarind Ave.
 17. City Hall & Police Dept.
8353 Sierra Ave./17005 Upland
Ave.
 18. Seville Park &
Amphitheater
16601 Seville Ave.
 19. Cypress Center
8380 Cypress Ave.
Art Depot
16822 Spring St.
 20. Miller Fitness Center &
Park
17004 Arrow Blvd.
 21. Santa Fe Park & Metrolink
Station
16807 Orange Way
 22. Public Works Department
16489 Orange Way
 23. Veterans Park West
9055 Mango Ave.
 24. Veterans Park
17255 Merrill Ave.
 25. Fontana Skate Park, Sports
Pavilion, Jack Bulik Teen
Center & Park
16581 Filbert Ave.
 26. Community Services
Department
9460 Sierra Ave.
 27. Chaparral Park
11415 Rancheria
 28. Shadow Park
14250 Shadow Ave.
 29. Oak Park
14180 Live Oak Ave.
 30. Don Day Center/Southridge
Park
14501 Live Oak Ave.
 31. Village Park
15601 Village Dr.
 32. Catawba Park
11411 Catawba Ave.
 33. Martin Tudor Jurupa Hills
Park & Swim Lagoon
11660 Sierra Ave.
 34. Mary Vagle Museum
& Nature Center
11501 Cypress Ave.
 35. Fiesta Park
17127 La Vesu Rd.
 36. Sycamore Hills Park
11075 Mayberry Dr.
-  Fire Station
 Police Station
 Library
 School
 Hospital



Source: City of Fontana, Community services website



Section 4.11: Public Services and Recreation

Crime incidence in the project area is consistent with crime activity patterns throughout other reporting districts within the City. Additionally, crime activity patterns in the City of Fontana are consistent with patterns in similarly-sized cities throughout the State. Table 4.11-1, *Crime Incidence*, provides historic crime rates in the City.

TABLE 4.11-1
CRIME INCIDENCE

Category	2000	2001	2002	2003	2004	2005	2006
Homicide	13	10	7	18	9	9	5
Rape	56	42	43	51	52	49	40
Robbery	266	235	276	264	242	232	253
Assault	586	626	587	565	497	440	562
Burglary	877	749	847	746	733	780	779
Larceny	1,284	1,297	1,338	1,405	1,391	1,495	1,375
Grand Theft Auto	1,011	1,012	1,217	1,400	1,417	1,402	1,155
Arson	33	39	38	38	23	20	12
Total	4,126	4,010	4,355	4,487	4,364	4,427	4,181

Source: Fontana Police Department 2006 Annual Report and website, 5/3/2007.

The 458.5-acre site is vacant, with the recent burning of the single-family residence at the northwestern corner. Thus, existing demand for police protection services is minimal.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on public services, if its implementation results in any of the following:

- ◆ Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or
- ◆ Creates a 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 such as police protection.

Environmental Impacts

Police Facilities *(Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities. Would the project create a 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 any of the public services such as police protection?)*

Future development under the proposed *Arboretum Specific Plan* would increase the on-site population, introduce new structures, and add vehicle trips in the area. Thus, the project would generate a demand for law enforcement and police protection services. New vehicle trips generated by the project (approximately 31,509 new vehicle trips daily) on area roadways would result in a greater potential for vehicular accidents and the resulting demand for police services. The residents of the proposed 3,526 residential units, future school students and park users, and the commercial development would also create a demand for police services, associated

Section 4.11: Public Services and Recreation

with the potential incidence of property crimes and personal crimes. This would increase demand for police protection and law enforcement services from the Fontana Police Department.

The increase in demand for police services would affect current service levels of the Fontana Police Department. Crimes and accidents that would occur on the site and due to development of the site would require police services that would be met by the same personnel and facilities that serve the rest of the City. Since the project site is located at the northern end of the City, the project's demand for police protection services would result in longer travel times between the developed areas of Fontana and the site. This could result in longer response times and decreased levels of service.

In addition, the Fontana Police Department has indicated that multi-family residences generate more demand than single-family residences and condominium developments generate a greater demand for police services than apartments. Thus, additional police officers would be needed to serve the proposed condominium development at the site and maintain existing levels of service in the City.

The City's General Plan suggests a goal of 1.4 police officers and 0.6 non-sworn personnel per thousand population. The Department currently maintains a ratio of 1.06 officers per thousand residents. The project would increase the resident population of the site by 14,015 persons, translating to a need for 28 police personnel (20 sworn police officers and 8 non-sworn staff) to meet the City's General Plan policy goal for police services. In order to maintain the Department's current ratio, the project would require a total of 15 police officers and 7 non-sworn staff.

The Fontana Police Department requires implementation of Building Security Specifications to reduce the potential for crime incidence in residential developments and commercial properties. These include the application of the principles of Crime Prevention through Environmental Design for multi-family developments. The City's Building Security Specifications provide standards for keying, frames/jambs/ strikes/hinges, windows/sliding glass doors, garage type doors, other entryways, street numbers, lighting, panic hardware, roof openings, and anti-graffiti measures to deter criminal elements. The principles of Crime Prevention through Environmental Design for multi-family developments include the creation neighborhoods with 75 to 125 units in each, with a specific identity based on architectural features, amenities and management. This would allow residents and managers to recognize each other and easily identify non-residents.

The proposed residential village concept under the *Arboretum Specific Plan* implements the neighborhood principle, with each village and planning area designed as a contained neighborhood, a different product type in each village, different amenities, and separate management. Thus, the project would comply with the principles of Crime Prevention through Environmental Design for multi-family developments. Review and approval of plans by the Police Department prior to issuance of building permits would further ensure that pertinent building security specifications and other crime-deterrent design features are incorporated into the project to reduce the demand for police protection and law enforcement services.

In addition, the additional police personnel and facilities that would be needed to serve the proposed developments would be funded by development impact fees based on building floor

Section 4.11: Public Services and Recreation

area. The City of Fontana Development Fee Impact Study and resolution, adopted in 2006, used a plan-based method to calculate appropriate fees by allocating the cost of a specified set of facilities to a specified increment of development as anticipated in the City's General Plan. The police facilities considered in the study were to be allocated entirely to future development. The current schedule requires \$526.52 per single-family detached unit, \$710.80 per multi-family dwelling unit, \$0.526 per square foot of commercial development, and \$0.131 per square foot of industrial development to pay for police services and facilities (fees are subject to change). Thus, the development of the proposed project would require the payment of development impact fees for police services. The Development Fee Impact Study foresaw the need for an additional 136 sworn and 42 non-sworn officers, 2.5-acres of land, 42,000 square feet of building, 39 police vehicles, and other equipment between 2005 and the General Plan buildout year. The development impact fees paid by the project would be used for the expansion of facilities and services provided by the Fontana Police Department and consequently, reduce potentially adverse impacts from the project to less than significant levels.

Advice from the City of Fontana police department indicates that, at present, a new police station is not considered necessary at the site, with the contact station in the Kohl's development continuing to provide a North Fontana location for police services. The Development Fee Impact Study is proposed for revision every five years, therefore it is assumed that the need for additional police facilities in the project area would be continually reviewed in the future. No significant adverse impacts on police facilities are expected.

Standard Conditions and Mitigation Measures

Standard Conditions

The implementation of the proposed *Arboretum Specific Plan* and future development under the proposed Specific Plan would lead to the introduction of residents and visitors to the project site, along with structures and property, which would require police protection and law enforcement services. The implementation of the following standard conditions would reduce the project's potential adverse impacts on police services:

Standard Condition 4.11.1: Future developments shall implement Building Security Specifications and shall be consistent with the principles of Crime Prevention through Environmental Design, as required by the Fontana Police Department. To ensure compliance, all developments shall be subject to building and site plan review and approval by the Fontana Police Department.

Standard Condition 4.11.2: Future developments would be required to pay development impact fees for police services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site.

Mitigation Measures

Implementation of the standard conditions would prevent significant adverse impacts on police protection services. No mitigation measures are recommended.

Section 4.11: Public Services and Recreation

Unavoidable Significant Adverse Impacts

The implementation of the *Arboretum Specific Plan* would generate a demand for police protection and law enforcement services at the site. Review of building plans by the Fontana Police Department would ensure that the project does not attract criminal elements and deters crime. Payment of development impact fees would also assist in funding the needed public facility expansion and service improvements needed to serve the project. Implementation of the standard conditions would reduce potential adverse impacts on police services to insignificant levels. No unavoidable significant adverse impacts are expected.

Section 4.11: Public Services and Recreation

4.11.2 Fire Protection Services

Environmental Setting

Fire protection services in the City of Fontana are provided by the San Bernardino County Fire Protection District, which serves the southwestern section of San Bernardino County. The District operates seven stations in or near the City of Fontana, which are staffed by a total of 75 firefighters, of which 25 are on duty at any one time.

The nearest station to the site is Fire Station #79, which is located on Duncan Canyon Road, west of the I-15 Freeway. This fire station began operations in September 2007 and is staffed by four firefighters/paramedic personnel at all times and equipped with one medic engine and one brush engine. Fire Station #79 would have primary responsibility for fire emergencies at the project site. The existing fire protection service demand associated with the site is limited to brush fires due to its vacant condition. The average response time from Station #79 to the project site is estimated to be approximately 3 to 6 minutes.

Fire Station #78, located at 7110 Citrus Avenue, is the second nearest station and is located approximately 3.0 miles south of the project site. This station is manned by four firefighters at all times and is equipped with one fire truck, one heavy technical rescue truck, and one brush engine. Response to the site from this station is estimated at approximately five minutes.

Another fire station is planned (Fire Station #81) and will be located within the proposed Lytle Creek North area, northeast of the Sierra Avenue/I-15 Freeway interchange. Station #81 will be provided as part of the Lytle Creek North development, and the County Fire Department indicated this station is currently in the planning stages, with construction contingent upon completion of the proposed Lytle Creek North development and the City's evaluation of providing its own fire protection services.

The San Bernardino County Fire District has a mutual aid agreement with the different fire agencies, which includes a Master Mutual Aid Program that allows the County Fire District to request assistance from other fire agencies when it does not have enough resources to contain a situation and for other fire agencies to request service from the County Fire District in similar instances. In addition, the County Fire District has an Automatic Aid Agreement with adjacent jurisdictions, which allows a non-jurisdictional fire department to respond to calls for service outside its service area, if it can respond to a fire emergency earlier than the jurisdictional fire department. The United States Forest Service, San Bernardino County Fire Department, Bureau of Land Management, California Department of Fire and Forestry, and other fire agencies also have a Five-Party Agreement that allows each agency to request assistance when help is needed during a major fire.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on public services, if its implementation results in any of the following:

- ◆ Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or

Section 4.11: Public Services and Recreation

- ◆ Creates a 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 such as fire protection.

Environmental Impacts

Fire Facilities *(Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities. Would the project create a 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 any of the public services such as fire protection?)*

Future development under the proposed *Arboretum Specific Plan* would create a direct demand for fire protection services. While development of the site with residential and commercial uses and schools would remove brush fire hazards, the increase in the on-site population and the introduction of structures to the site would be accompanied by an increase in demand for fire protection services, as associated with urban fires.

Calls of fire protection and emergency services from future development on the site will be provided by the San Bernardino County Fire District, under contract with the City of Fontana. The new Fire Station #79 on Duncan Canyon Road, west of the I-15 Freeway would provide fire protection services to the site. This new station would ensure that fire protection services to the site and the rest of the North Fontana area are adequate to serve existing and future developments. With the automatic aid agreement in place, nearby fire departments may also respond and provide service if, in an emergency, they can get to the site faster than Fire Station #79 personnel.

To prevent the creation of fire hazards, future development on the site would be subject to site and building plan review by the County Fire District for compliance with fire safety, emergency access and fire prevention measures, as required under the Uniform Fire Code. Compliance with pertinent building standards would reduce the demand for fire protection services from the project. These include the provision of fire walls, fire exits, adequate access for emergency vehicles, fire sprinkler systems, fire hydrants with adequate fire flows, etc. Plan check by the Fire District would ensure that appropriate fire safety and prevention measures are implemented to minimize the potential incidence of fire and the resulting demands for fire protection services. Thus, no significant fire hazards are expected to be created on the site.

Increased demand for fire protection services in the City may require increases in manpower and equipment provided by the San Bernardino County Fire District. Based on the current ratio of 0.14 firefighter per thousand population, the project's 14,019 new residents would proportionately require 2 new firefighters to maintain the existing level of services.

No new facilities are needed at the site, with Fire Station #79 providing adequate fire protection facilities for the North Fontana area. No adverse impacts on fire protection facilities are expected.

New stations and service expansions are funded by development impact fees that all new developments are required to pay as part of project approval and building permits. The City

Section 4.11: Public Services and Recreation

currently charges \$164 per dwelling unit, \$0.25 per commercial square footage and \$0.10 per industrial square footage of new development to fund expansions of fire services. Impact fees for fire facilities and services are based upon the previous 1994 Impact Fee Study for the City. They have not been updated in the 2006 study because of uncertainty as to the future organizational structure of the City's fire service. In the interim, payment of development impact fees by the project would continue to allow for the expansion of fire protection services from the San Bernardino County Fire District to adequately serve the project. This would reduce adverse impacts to less than significant levels.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed *Arboretum Specific Plan* would lead to the introduction of residents, employees, visitors, and structures on the site, which would require fire protection services. The implementation of the following standard conditions would reduce the project's potential adverse impacts on fire protection services:

Standard Condition 4.11.3: Future developments shall be subject to building and site plan review by the San Bernardino County Fire District, for compliance with pertinent fire safety and emergency access standards and to identify additional development features which could reduce demand for fire services, prevent the creation of fire hazards, and facilitate emergency response to the project site.

Standard Condition 4.11.4: Future developments would be required to pay development impact fees for fire services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site.

Mitigation Measures

Implementation of the standard conditions would prevent adverse impacts on fire protection services. No mitigation measures are recommended.

Unavoidable Significant Adverse Impacts

Implementation of the proposed Specific Plan would generate a demand for fire protection services. Review of building plans by the San Bernardino County Fire District would ensure that future developments under the *Arboretum Specific Plan* do not create fire hazards and provides adequate emergency access. Payment of development impact fees would assist in funding public facility expansion and service improvements needed to serve the fire protection needs of the site and the City. Implementation of these standard conditions would reduce potential adverse impacts on fire protection services to insignificant levels. No unavoidable significant adverse impacts are expected.

Section 4.11: Public Services and Recreation

4.11.3 School Services

Environmental Setting

The project site is located within the service boundaries of the Fontana Unified School District. The Fontana Unified School District (FUSD) serves the majority of the City, and has a total of 45 schools, including 29 elementary schools, eight middle schools, four high schools, and four alternative schools (for alternative adult and specialized programs). Schools that would serve the project site are listed in Table 4.11-2, *School Enrollment*, along with their existing enrollments and design capacity.

TABLE 4.11-2
SCHOOL ENROLLMENT

School/Location	March 2008 Enrollment	Design Capacity
K-5 th Grades Sierra Lakes Elementary School 5740 Avenal Place Fontana	701	637
6 th -8 th Grades Wayne Ruble Middle School 6762 Juniper Avenue Fontana	1,387	1,200
9 th -11 th Grades** Summit High School 15551 Summit Avenue Fontana	1,800	2,800
11 th -12 th Grades Miller High School 6821 Oleander Avenue Fontana	3,200	2,800
** Summit High School will serve Grades 9-11 in Fall 2007 and Grades 9-12 in Fall 2008 Source: Fontana Unified School District, 2008.		

As shown, Sierra Lakes Elementary School and Wayne Ruble Middle School are currently operating beyond capacity. During the 2008-2009 school year, Summit High School is expected to have a higher enrollment with the addition of 12th grade students. Also, Miller High School would have fewer enrollments with the opening of 12th grade at Summit High School.

College education in the area is provided by the Chaffey Community College and the San Bernardino Community College Districts. There are approximately 19,534 students enrolled at Chaffey Community College during the Spring of 2008 and 12,500 students at the San Bernardino Valley College in March 2008. Maximum student capacity for these colleges is difficult to assess, given the varying nature of course programs provided by each, and the staggered nature of course delivery times (i.e., daytime and night time classes). According to the San Bernardino Community College District, approximately 0.60 percent of all residents sharing the same zip code as the proposed project (92336) attend San Bernardino Community College and 0.1 percent of all residents attend Chaffey Community College. Other nearby educational facilities include California State Polytechnic University in Pomona, California State University – San Bernardino (CSUSB), Chaffey Community College, Claremont Colleges, Crafton Hills College, University of Redlands, University of California – Riverside, San Bernardino Valley College, and University of La Verne, and California Baptist College.

Section 4.11: Public Services and Recreation

The vacant project site does not generate a demand for school services at this time.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on public services, if its implementation results in any of the following:

- ◆ Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or
- ◆ Creates a 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 such as schools.

Environmental Impacts

School Facilities *(Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities. Would the project create a 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 any of the public services such as schools?)*

The 3,526 residential units that would be built under the proposed Specific Plan would lead to the introduction of new households on the site, which would include school-age children. These children would generate a direct demand for school services. Estimates of the future student population on the site are based on the student generation rates of the Fontana Unified School District, as provided in Table 4.11-3, *Student Generation*.

TABLE 4.11-3
STUDENT GENERATION

Land Use	Grade Level	Generation Rate*	Projected Student Population
1,578 detached units	K-6	0.44 student/unit	694 students
	7-8	0.19 student/unit	300 students
	9-12	0.21 student/unit	331 students
	Total	0.84 student/unit	
1,948 attached units	K-6	0.65 student/unit	1,266 students
	7-8	0.20 student/unit	390 students
	9-12	0.25 student/unit	487 students
	Total	1.1 student/unit	
		Total	3,468 students
*Source: Fontana Unified School District, 2006.			

As shown, the proposed project would generate approximately 1,960 elementary school students, 690 middle school students, and 818 high school students, for a total of 3,468 students. These students would require school services and facilities at existing and planned schools in the area. The Fontana Unified School District has indicated that existing facilities are operating above their design capacities and the rapid development in North Fontana is expected to further strain school facilities. The students generated by the proposed *Arboretum Specific Plan* are expected add to existing overcrowded conditions at area schools.

Section 4.11: Public Services and Recreation

The Specific Plan includes the dedication of two school sites: an elementary school and a combined elementary and middle school. These schools would serve residents of the project and relieve overcrowding at other schools in the area. As proposed, the elementary school would accommodate 700 students, while the combined elementary and middle school would accommodate 700 K-6 students and 1,250 7-8 students. Thus, a total of 1,400 K-6 students and 1,250 7-8 students would be served by the on-site schools. These schools would accommodate approximately 71 percent of the project's elementary school-aged residents and the remaining 29 percent (560 students) would need to attend other nearby elementary schools. All of the middle school-aged residents of the site, with 560 additional middle school students from the surrounding areas, would be attending the on-site middle school. Also, the project's 818 high school students would attend Summit High School.

The Fontana Unified School District assesses a school impact fee, based on the floor area of new dwelling units and non-residential developments. These fees are used to fund school services and facilities needed to provide the necessary school services. Residential developments on the project site would need to pay school impact fees prior to issuance of building permits. Dedication of school sites and payment of these fees by the developer is expected to mitigate impacts associated with the 3,468 new students who would reside in future dwelling units on the site and would require school services from the Fontana Unified School District.

Future commercial development on the site is not expected to lead directly to a demand for school services. While employees at the proposed commercial uses on the site may request intra-district transfers based on employment location, this is only allowed based on the availability of space and is expected to be minimal. Thus, school service demand from commercial uses would not adversely impact local schools and would not be significant. The Fontana Unified School District also imposes a school impact fee from new commercial development. School impacts fees paid by future commercial developments on the project site would assist in the provision of school services to residents of the site.

Payment of school impact fees is expected to help reduce of project's impacts on school services in the area. However, according to the Fontana School District, due to recent developments in the North Fontana area, future growth in student population is expected to strain the District's resources and facilities and thus, have a significant adverse impact upon the Fontana School District's services over the long-term. The project area is already experiencing overcrowded schools due to recent residential developments, and the continued increase in new housing in and around the project site will continue to strain the District's resources and facilities in the future.

As provided under Education Code Section 17620 and Government Code Section 65970, the payment of statutory school fees is presumed to fully mitigate a project's impacts on schools. Government Code Section 65995(h) states that payment of fees is "full and complete mitigation of the impacts". The Education Code and Government Code do not require the dedication of land or payment of fees in excess of statutorily established school fees. Thus, impacts on school services are expected to be less than significant.

The proposed project would also add students that may attend Chaffey Community College and San Bernardino Community College. The project's 14,019 residents would generate

Section 4.11: Public Services and Recreation

approximately 84 students (0.60 percent of all residents) at the San Bernardino Community College and 14 students (0.1 percent of all residents) at the Chaffey Community College. These students would represent 0.4 and 0.1 percent of the colleges' current enrollments, respectively. Thus, based on historic student generation rates, the project would have minimal impacts on the services and facilities of the San Bernardino and Chaffey Community Colleges. This impact is not expected to be significant due to the relatively small number of students, when compared to the total enrollment at these colleges. These students can also be served by existing facilities and services of the colleges, without the need for new services or facilities. Impacts would be less than significant.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the *Arboretum Specific Plan* would lead to 3,526 households on the site, which would include approximately 3,468 school-age children requiring school services and 98 college students. The implementation of the following standard condition would reduce the project's potential adverse impacts on school services:

Standard Condition 4.11.5: Future developments would be required to pay school impact fees to the Fontana Unified School District, which would help fund the needed school facility expansion and service improvements to serve the proposed project.

Mitigation Measures

Implementation of the standard condition would prevent adverse impacts on school services. No mitigation measures are recommended.

Unavoidable Significant Adverse Impacts

Future development under the proposed Specific Plan would generate a demand for school services, which may require expanded services and new facilities from the Fontana Unified School District. The project would provide school sites for one elementary school and a combined elementary and middle school. In addition, payment of school impact fees would help fund the needed school expansions and service improvements needed to serve future residential uses on the site. Implementation of this standard condition would reduce potential adverse impacts on school services to insignificant levels. No unavoidable significant adverse impacts are expected.

Section 4.11: Public Services and Recreation

4.11.4 Parks and Recreation

Environmental Setting

The Fontana General Plan identifies 33 recreational park facilities on over 1,063 acres in the City, which provide game fields, picnic and barbecue areas, sports centers, aquatic facilities, fitness facilities, playgrounds, community centers, a teen center, a nature center, and a regional park. These facilities are maintained by the City of Fontana Community Services and Recreation Department.

There are several recreational facilities north of the SR-210 Freeway and within 2.0 miles of the project site. The Sierra Lakes Golf Course is an 18-hole golf course on 16600 Clubhouse Drive, at the center of the Sierra Lakes neighborhood, approximately 1.0 mile south of the site. The Rosena Park West is a 3.4-acre neighborhood park on 15057 Greys Peak, within the Summit Heights neighborhood, approximately 1.5 miles southwest of the site. This park is developed with a tot lot, picnic shelters, and trails. The Rosena Park East is a 10-acre neighborhood park on 15299 Curtis Avenue, also within the Summit Heights neighborhood and 1.5 miles southwest of the site. This park is developed with a tot lot, picnic shelters, basketball courts, and walking trails. The Ralph Lewis Sports Complex is a 20-acre community park on 6122 Citrus Avenue, north of the SR-210 Freeway. This park is developed with basketball courts, football/soccer fields, baseball field, picnic shelters, and a snack bar. It is approximately 1.5 miles south of the site. The Coyote Canyon Sports Park is a 15.5-acre community park with baseball/softball fields and tot lot areas located on Duncan Canyon Road, west of the I-15 Freeway. It is located approximately 0.75 mile west of the site. The Marrujo Park is a neighborhood park located 0.5 mile south of the site and provides a picnic shelter, tables, barbecue pit, children's playground, a basketball court, and restrooms.

The Fontana Park is an approximately 40-acre community park that is under construction at the northeast corner of Summit Avenue and Citrus Avenue, 0.5 mile southwest of the site. It is scheduled for completion in April 2008. The park will be the site of the new Jesse Turner Community Center and will include a 14-lane competition swimming pool, water slides, a lesson pool, a skate park, a dog park, passive play areas, and open space.

The project site is not currently used for recreational activities. The Fontana General Plan proposes a trail along the SCE right-of-way that runs along the northwestern edge of the site. The existing Frontline Trail runs along the base of the San Gabriel Mountains between San Antonio Creek Trail and Lytle Creek Trail, north of the site and the I-15 Freeway. A trail crossing under the I-15 Freeway would be provided to link to the Frontline Trail and the proposed SCE right-of-way trail. A proposed trail is also planned to extend east from the SCE right-of-way, just north of the I-15 Freeway.

There are no existing bikeways on or near the site. A Class I bikeway is proposed along the SCE right-of-way located northwest of the site, with Class II bike lanes along Duncan Canyon Road, Sierra Avenue, and Citrus Avenue (south of Duncan Canyon Road).

The vacant project site does not generate a demand for parks and recreational services at this time.

Section 4.11: Public Services and Recreation

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on recreation, if its implementation would result in any of the following:

- ◆ Would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or,
- ◆ Includes recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Environmental Impacts

The proposed residential developments within the *Arboretum Specific Plan* would create a direct demand on parks and recreational facilities in the area. The proposed 3,526 dwelling units will bring an equal number of households to the site, which would generate a demand for parks and recreational facilities. The Fontana General Plan sets a parkland standard of 2 acres per thousand residents of community parkland and 3 acres per thousand residents of neighborhood parkland. Thus, the 14,019 residents of the proposed dwelling units on-site would require 70.10 acres of community and neighborhood parks.

Park Use (*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?*)

In accordance with the City's Municipal Code, the developer has the option to dedicate parkland on-site, pay a fee, or a combination of both to satisfy the park and recreation demand that would be generated by the project. The proposed Specific Plan includes the provision of neighborhood and community parks on the site. These include a 10.7-acre Arboretum Park and 1.2 acres of pockets parks in the Arboretum village, 6.0 acres of scattered parks in the Gardens village, a total of 5.5 acres of parks in the Meadows village, and 8.5 acres of parkland in the Resort Village. These parks provide a total of 31.9 acres.

Thus, the developer would have to pay park fees to the City for the development of an additional 38.2 acres of parkland in nearby areas, as required under the City's Municipal Code (Chapter 21, Article IV). Payment of Quimby fees for the development of neighborhood and community parks in North Fontana would allow the City to construct additional park facilities in the project area for use by residents of the site and the surrounding areas.

Section 30-160 (j) of the Development Standards for Residential Districts in the City's Zoning and Development Code requires new multi-family developments to provide on-site recreational facilities, including an open lawn area, tot lot, spa and pool, barbecue facility, community multi-purpose room, game court facilities, and/or jogging/walking trails according to the number of dwelling units to be developed. In addition the City has adopted the Optional Density Standard Policy to allow development with densities higher than 12.2 units per acre, if they provide additional amenities/features to those required in Section 30-160 (j). These additional amenities/features include barbecue and picnic areas, indoor game courts, playground, fitness center, theater, game rooms, water feature, and other on-site recreational facilities.

Section 4.11: Public Services and Recreation

Consistent with this requirement, future development on the site that would have densities higher than 12 units per acre would have to provide on-site recreational facilities within the proposed residential villages on the site, in accordance with the City's Optional Density Standard Policy.

The parks and recreational facilities that are developed within the residential villages are expected to serve some of the recreational needs of the residents on the site. However, future residents of the project may also use City parks located near the site, including the Sierra Lakes Golf Course, Rosena Park West, Rosena Park East, Ralph Lewis Sports Complex, Coyote Canyon Park, Marrujo Park, and the proposed Fontana Park. As indicated earlier, the project would also pay Quimby fees to the City to facilitate the development of future parks in North Fontana to serve on-site residents. Impacts would be less than significant.

Future commercial developments would not result in an increase in the resident population, and would have no potential for generating a direct demand for parks and recreational services. Available figures indicate the City has a substantial available labor supply and the approximately 386 jobs that could be created by the future schools and commercial activity center on the project site would likely be filled by the local workforce and residents of surrounding communities. Employees and visitors of the site will have opportunities to use the parks and open space areas at the site. This impact is not considered significant.

The site is currently not used for recreational purposes. Thus, its development with residential and commercial uses and schools would not displace any recreational facilities on the site.

The project would implement the proposed bike and hiking trails along the SCE right-of-way located northwest of the site. The Class II bike lanes planned on Duncan Canyon Road, Sierra Avenue, and Citrus Avenue would also be provided as part of the roadway improvements implemented with the project. No significant adverse impacts on bike and hiking trails would occur with the project.

New Recreational Facilities *(Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?)*

The vacant project site does not generate a demand for parks and recreational services at this time. The proposed Specific Plan includes the provision of neighborhood and community parks on the site, including a 10.7-acre Arboretum Park and 1.2 acres of pocket parks in the Arboretum village, 6.0 acres of scattered parks in the Gardens village, a total of 5.5 acres of parks in the Meadows village, and 8.5 acres of parkland in the Resort Village. These parks provide a total of 31.9 acres.

The developer would pay park fees for the development of an additional 38.2 acres of parkland in nearby areas. Also, payment of Quimby fees for the development of neighborhood and community parks in North Fontana would allow the City to construct additional park facilities in the project area for use by residents of the site and the surrounding areas. The provision of on-site recreational facilities would be in accordance with the proposed specific plan, and as so, any adverse environmental impacts are addressed in other sections of this EIR. Development of recreational facilities outside of the proposed specific plan area would be in accordance with

Section 4.11: Public Services and Recreation

existing or future plans of the City of Fontana. No other adverse physical effects on the environment are expected.

Standard Conditions and Mitigation Measures

Standard Conditions

The proposed project would generate a demand for parks and recreational facilities. The implementation of the following standard conditions would reduce adverse impacts on parks:

Standard Condition 4.11.6: As required under the City's Municipal Code (Chapter 21, Article IV), the proposed development shall pay Quimby fees for the development of parks and recreational facilities in North Fontana. The collected fees will be used for the development of neighborhood and community parks in the area, to serve the proposed project.

Standard Condition 4.11.7: Recreational facilities would be provided on-site as part of the proposed residential developments, in compliance with the City's Optional Density Standard Policy.

Mitigation Measures

Impacts on parks and recreation would not be significant with compliance with the standard conditions and the provision of on-site recreational facilities and private open space. No mitigation measures are recommended.

Unavoidable Significant Adverse Impacts

Future residential developments under the proposed *Arboretum Specific Plan* would create a demand for parks and recreational facilities. Approximately 31.9 acres of parks would be provided on-site. In addition, Quimby fees would be paid for the development of parks in North Fontana, to meet the demand for parks and recreational facilities by on-site residents and avoid significant adverse impacts relating to parks and recreation. Impacts on recreational facilities will be less than significant, with compliance with the standard conditions.

Section 4.11: Public Services and Recreation

4.11.5 Library Services

Environmental Setting

The San Bernardino County Library System provides library services to the City of Fontana through the Fontana Branch Library at 16860 Valencia Avenue (downtown area) and the Kaiser Branch Library at 11155 Almond Avenue (within Kaiser High School). Additionally, a 5,000-square-foot library at Summit High School opened in the Fall of 2006. The County Library System serves 18 cities and nine unincorporated areas in the County and is funded by a dedicated share of property taxes.

There is approximately 29,500 square feet of existing library space within three libraries in the City of Fontana that is available for use by residents. The 5,500 square-foot Kaiser Branch Library is open to the public 28 hours per week (3 PM to 8 PM Mondays to Thursdays and 9 AM to 5 PM on Saturdays) and has over 20,000 materials (i.e., books, cassettes, CD's and periodicals) in collection. There are two full-time and two part-time staff at this library. The 19,000 square-foot Fontana Branch Library is open 56 hours per week and has a collection of 75,000 materials. There are six full-time and 17 part-time equivalent staff at this library. An on-line public access catalog provides access to materials in the different branches, as well as throughout the County Library System.

The Kaiser and Summit High School Libraries are used by the high schools during school hours but open to the public after school hours on Mondays to Thursdays and all day on Saturdays.

The performance standard for library service within the City is 0.6 to 1.0 square feet of library space per resident and 1.62 books per capita. This is the average throughout the State of California and these standards are listed as goals to be achieved by the year 2021 in the 2001 San Bernardino County Facilities Master Plan.

A new library is under construction at 8473 Sierra Avenue in downtown Fontana and is scheduled to open in April 2008. The new library would have approximately 86,000 square feet of floor area and would absorb the collection materials in the existing Fontana Branch Library. The existing Fontana Branch Library facility would then close when the new Lewis Library and Technology Center opens.

The vacant project site does not generate a demand for library services at this time.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on public services, if its implementation results in any of the following:

- ◆ Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or
- ◆ Creates a 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 or other public facilities.

Section 4.11: Public Services and Recreation

Environmental Impacts

Library Facilities *(Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities? Would the project create a 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 any of the public services such as libraries?)*

Future residents of the residential villages under the proposed Specific Plan would create a direct demand for library services. The employees and patrons of the commercial development proposed on the site are not expected to generate a direct demand for library services. However, the estimated 14,019 residents of the 3,562 housing units that would be built on-site would utilize existing library services in the City. Once the residences are constructed and occupied, on-site residents are likely to use the library at Summit High School and the new Lewis Library and Technology Center. This would increase service demands at these libraries. Based on the performance standards of 0.6 to 1.0 square feet of library space per resident and 1.62 books per capita, the project would require 8,411 to 14,019 square feet of library space and 22,711 library books.

Future developments under the proposed Specific Plan would pay development impact fees to help fund library services and facilities in the City. The City's 2006 Development Fee Impact Study found that the construction of Fontana's new main library facility represented a large up-front expenditure by the City that should be re-captured from existing and future development. Therefore, the impact fee for libraries is based on new development's share of the cost of Fontana's new main library. The City currently charges \$533.30 per single-family dwelling unit, \$239.99 per multi-family dwelling unit, and \$.042 per square foot of new non-residential development to pay for library services and facilities (fees are subject to change). These fees would be used to fund library services and facilities needed to serve the site and the City. Payment of these fees is expected to mitigate impacts associated with the demand for library services that would be generated by future residents of the project. Impacts would be less than significant.

Standard Conditions and Mitigation Measures

Standard Conditions

Implementation of the *Arboretum Specific Plan* would lead to 14,019 residents on the site, who would create a demand for library services. The implementation of the following standard condition would reduce the project's potential adverse impacts on library services:

Standard Condition 4.11.8: Future developments would be required to pay development impact fees for library services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the project.

Mitigation Measures

Implementation of the standard condition would prevent adverse impacts on library services. No mitigation measures are recommended.

Section 4.11: Public Services and Recreation

Unavoidable Significant Adverse Impacts

Future residential developments under the proposed Specific Plan would generate a demand for library services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to meet the demand for library services that would be generated by the project. Implementation of the standard condition would reduce potential adverse impacts on library services to insignificant levels. No unavoidable significant adverse impacts are expected.

Section 4.11: Public Services and Recreation

4.11.6 Medical Facilities and Services

Environmental Setting

The closest major health care facility to the site is located in the City of Fontana, the Kaiser Permanente of Southern California Hospital (a membership hospital) located on Sierra Avenue, north of the I-10 Freeway and approximately 7.0 miles southeast of the site. This hospital has 420 beds and provides the City with approximately 2.3 beds per thousand residents.

The Sierra San Antonio Medical Plaza is located at 16465 Sierra Lakes Parkway (west of Sierra Avenue and north of the SR 210 Freeway), approximately 2.5 miles southwest of the site. This 60,000-square-foot outpatient center and medical office building is supported by San Antonio Community Hospital. It offers a variety of healthcare services for the surrounding community, including urgent care services but not emergency services.

The Rancho San Antonio Medical Center, a 70,000-square-foot outpatient center supported by San Antonio Community Hospital, is located at 7777 Milliken Avenue in Rancho Cucamonga, approximately 8.0 miles southwest of the project site. This facility provides a wide selection of health care services, including urgent care, diagnostic and therapeutic services, educational programs, as well as physician offices.

There are several other medical service facilities in the Inland Empire, including the Chino Community Hospital, Pomona Valley Hospital and Medical Center, Arrowhead Regional Medical Center, San Antonio Community Hospital, and San Bernardino County Medical Center. Any of these facilities may serve the residents, employees, and visitors of the project area and the City of Fontana.

Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on public services, if its implementation results in any of the following:

- ◆ Results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or
- ◆ Creates a 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 or other public facilities.

Environmental Impacts

Medical Facilities (Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities. Would the project create a 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 any of the public services such as medical services?)

Future development under the proposed Specific Plan would create a direct demand for medical services and facilities in the area. The on-site residents, students and employees of the

Section 4.11: Public Services and Recreation

schools, and the employees and patrons of the commercial development proposed on the site are expected to require medical services for health maintenance, medical reasons, and emergencies. Medical service demand would be dependent on the insurance coverage of individual households, individual medical needs, and the site of medical emergencies. Also, personal preference for medical services and physicians would affect demand for medical services from the residents, students, patrons, visitors and employees of the proposed project, as well as the use of nearby or far-off medical facilities. Thus, the demand for medical services that would be generated by the proposed project could not be easily quantified or determined with any degree of certainty.

The proposed project would generate a demand for emergency medical services that would be served by local or nearby facilities. There are several medical facilities near the site and in the region that would provide emergency services to the residents, visitors and employees of the project, depending on the type of emergency. Again, available services in the area and the region are expected to serve the emergency medical needs of the project and the City.

The demand for medical services from the proposed project cannot be easily quantified. However, the size of the proposed development is relatively minor when compared to existing developments in the City and the region that are currently served by existing medical facilities in the area. Thus, the proportionate increase in demand for medical services from the project is also expected to be minor. No significant adverse impacts on medical facilities and services are expected with the project.

Standard Conditions and Mitigation Measures

No significant adverse impact on medical services and facilities is expected with the project; thus, no standard conditions or mitigation measures are identified.

Unavoidable Significant Adverse Impacts

The proposed *Arboretum Specific Plan* is not expected to generate significant adverse impacts on existing medical services and facilities. No unavoidable significant adverse impacts are expected.

Section 4.12: Utilities

Several utility services and infrastructure systems, such as water and sewer services, solid waste disposal, storm drainage, power and gas services, and communication systems, are needed to serve the proposed developments on the project site. The availability of these utilities and the resources needed to provide these services are discussed below. Utility companies were contacted and written response letters from these companies are provided in Appendix J to this EIR. A Water Supply Assessment was also prepared by the West Valley Water District and is provided in Appendix K. The Sewer System Analysis by Madole and Associates is provided in Appendix L.

4.12.1 Water Services

Environmental Setting

Until the early 1990's, the City of Fontana obtained its water only from local sources such as groundwater basins and surface water. However, rapid regional growth required the development of supply systems within the Inland Empire. Water sources that serve the project area currently include groundwater, surface water, and imported water which come from the State Water Project (SWP) in northern California and the Colorado River.

Four water companies provide domestic water service to the City of Fontana, including the Fontana Water Company, Marygold Mutual Water Company, Cucamonga County Water District, and West Valley Water District. The Fontana Water Company serves the majority of the City, while the other three companies provide water to smaller portions of the City.

The West Valley Water District (WVWD) provides water service to the northern and southeastern parts of the City of Fontana, including the project site. The WVWD serves an approximately 18,900-acre area located primarily within the southwestern section of San Bernardino County, with a small part of the District's service area located in northern Riverside County. The District's service area is located entirely within the San Bernardino Valley and in the Santa Ana River Basin Watershed and includes the cities of Fontana, Rialto, and San Bernardino. This service area follows the gentle upward slope at the foothills of Mount Baldy of the San Gabriel Mountain Range, which serves as the District's northernmost boundary. The eastern boundaries of the District are adjacent to the eastern limits of the cities of Rialto, San Bernardino, and Colton. The district's service areas include the area in North Fontana located on both sides of the I-15 Freeway and north of Casa Grande Avenue and the area north of the SR-210 Freeway and east of Sierra Avenue.

The WVWD obtains water from groundwater wells in the Lytle Creek, Rialto-Colton, Bunker Hill, North Riverside, and Chino basins, surface water on Lytle Creek, and imported water from the State Water Project. The District has rights to pump up to 12,105 gallons per minute from the Lytle Creek groundwater basin if they are diverting their full allotment of surface flow from Lytle Creek and has typically pumped between 5,000 and 10,000 acre-feet of water per year through nine wells.

The Rialto-Colton or Rialto groundwater basin provides 6,134 acre-feet (3,067 acre-feet per year) of water during droughts or unlimited amounts during normal conditions through the District's seven wells. The District has pumped at least 6,134 acre-feet per year from this basin over the last 42 years. The Bunker Hill groundwater basin provides unlimited water to the District through two wells. In addition, the District has an agreement with the San Bernardino

Section 4.12: Utilities

Valley Municipal Water District to pump 5,000 acre-feet per year from this basin. The Chino groundwater basin provides 1,000 to 2,000 acre-feet of water to the District through two wells. Any additional pumping requires replenishment with imported State water. The North Riverside groundwater basin provides up to 12,400 acre-feet of water. The District's five wells pump 3,000 to 5,000 acre-feet per year from this basin.

Surface water from Lytle Creek is also used by the District through the diversion of up to 2,290 gallons per minute (gpm) when it is available. An additional 1,350 gallons per minute are available for purchase from the City of San Bernardino. The District utilizes 5,500 acre feet per year (3,000 acre-feet during droughts) of surface waters to replenish the Lytle Creek groundwater basin; to supply non-potable customers; and to supply users after treatment of the surface waters at the District's Roemer Water Filtration Facility.

The District also buys imported water through the San Bernardino Valley Municipal Water District (SBMWD), which serves as the State water contractor and water wholesaler for the area. The District uses approximately 20 million gallons per day (mgd) of imported water. Imported water is used for groundwater recharge, to supply non-potable customers, or treated at the water filtration facility for domestic use.

The District's distribution system is comprised of approximately 17,400 water service connections, 360 miles of water mains, 25 domestic water production wells (with 44.0 mgd of pumping capacity), 9 booster stations, 26 pressure-reducing stations, one water treatment plant (with 14.4 mgd of treatment capacity), and 65.61 million gallons of covered reservoir storage capacity. The District serves approximately 52,300 customers, has 20,800 acre-feet of annual water production, an average of 18.7-mgd daily water demand and a 36.7-mgd peak daily water demand. It is planning the expansion of the Roemer Water Filtration Facility, as well as the construction of a new water filtration facility to be located at the Villages of Lytle Creek, north of the City of Fontana.

The Metropolitan Water District has a 120- to 121.5-inch water line (Rialto Pipeline) along the southern boundary of the site, within a 112-foot wide right-of-way that is proposed as the future alignment of Casa Grande Avenue. This pipeline conveys imported water from the State Water Project. The pipeline starts at Devils Canyon in the City of San Bernardino and runs south and west and connects to the Etiwanda Pipeline, which is located approximately 2,000 feet west of Citrus Avenue. The Rialto Pipeline ultimately ends at Live Oak Reservoir in La Verne. Along the site's southern boundary on Casa Grande Avenue, the MWD is planning another 121-inch pipeline within this right-of-way.

The West Valley Water District has a 6- to 8-inch and a 12-inch water lines located along Sierra Avenue, 24-inch line along the southern boundary of the site, a 12-inch line along Duncan Canyon Road, a 6-inch line on a dirt road ½ mile north of Duncan Canyon Road, and a 16-inch water line on Citrus Avenue, from Duncan Canyon Road to the future alignment of Casa Grande Avenue at the southern boundary of the site. Other water lines near the site include a 3-inch water line and a 10-inch water line owned by Crawford Canyon Mutual Water Company on Citrus Avenue between Duncan Canyon Road and Casa Grande Avenue; an existing 25-inch Fontana Water Company water line along Citrus Avenue, which connects to the water reservoir at the northern end of Citrus Avenue, and a 41-inch line owned by the San Gabriel Valley Municipal Water District along the future alignment of Casa Grande Avenue at the southern site boundaries.

Section 4.12: Utilities

The project site is now vacant, with the recent burning of a single family residential property located at the northwestern corner of the site. The WVWD previously provided water services to this residence through an existing water line on Sierra Avenue and a dirt road leading to the house.

Threshold of Significance

Appendix G of the CEQA Guidelines states that a project could have a significant adverse impact on utilities, if implementation of the project results in any of the following:

- ◆ Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- ◆ Sufficient water supplies are not available to serve the project from existing entitlements and resources, or new or expanded entitlements needed.

Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would require water services from the West Valley Water District.

Water Services and Facilities (*Would the project require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*)

There are several water lines on and near the site that would provide water services to future developments. In addition, the Specific Plan shows that 12-inch water main lines would be provided along Cypress Avenue and Grapeland Street on the site, extending from the existing water lines on Sierra Avenue, Duncan Canyon Road and the future alignment of Casa Grande Avenue. Water service to each village and building site would be provided by extensions from the existing and proposed main lines. Figure 4.12-1, *Existing and Proposed Water Lines*, shows the location of these lines.

As indicated in Section 4.8, *Hydrology, Water Quality and Flooding*, the Specific Plan does not propose the use of the on-site water from groundwater wells or the construction of groundwater wells on the site. Thus, no direct adverse impacts to the underlying groundwater basin are expected with the project.

Since there are several water lines in the area, including the Rialto Pipeline of the MWD, excavation and grading activities needed for construction of future developments and infrastructure systems to serve future development may disturb or destroy existing water lines. In addition, access to these water lines may be temporarily blocked during construction on or near the water lines. Coordination with the owners of the various water lines would be needed to prevent disturbance or damage to existing water lines and prevent potential disruption of water services to existing land uses.

Construction of Casa Grande Avenue along the site's southern boundaries would occur within the MWD right-of-way and would prevent direct access to the existing and planned water mains in these areas. Excavation in this area may also affect the Rialto Pipeline and a planned

Section 4.12: Utilities

pipeline. Any damage to the pipelines may affect water supply distribution and adverse impacts to water supplies in the region.

Impact 4.12.1: Construction of Casa Grande Avenue over the MWD right-of-way could adversely impact the MWD's Rialto Pipeline.

Construction of Casa Grande Avenue would need approval from MWD and any work within the right-of-way would need to comply with the MWD's guidelines to ensure that damage to the pipelines do not occur and that access to the pipelines would continued to be available to MWD at all times.

Water Supplies (Are sufficient water supplies not available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?)

The projected water demands of future development under the proposed *Arboretum Specific Plan* were accounted for in the Water Supply Assessment that was prepared by the West Valley Water District (WVWD) for the project. Estimates of water consumption from the project, as calculated by the WVWD, are provided in Table 4.12-1, *Estimated Water Consumption*. As shown, the project is expected to use an average of approximately 1,812 acre-feet per year (ac/yr) or 1.618 mgd, with a peak demand of approximately 3.236 mgd.

**TABLE 4.12-1
ESTIMATED WATER CONSUMPTION**

Village	Land Use and Size	Water Use (gpm/acre)	Average Day Demand (mgd)	Peak Day Demand (mgd)	Average Demand (af/yr)
Arboretum	574 condos	2.83	0.106	0.213	119
	9-acre park	2.43	0.031	0.063	35
	6.3-acre greenbelt	2.43	0.022	0.044	25
Gardens	240 condos	2.83	0.061	0.122	68
	335 detached condos	2.83	0.137	0.273	153
	191 small SFD	2.00	0.100	0.200	112
	140 large SFD	2.00	0.115	0.230	129
	9.7-acre park	2.43	0.034	0.068	38
Meadows	266 detach condos	2.83	0.108	0.217	121
	206 small SFD	2.00	0.108	0.216	121
	111 large SFD	2.00	0.091	0.183	102
	35-acre school	2.43	0.122	0.245	137
	7.3-acre park	2.43	0.026	0.051	29
Resort	943 attach condos	2.83	0.214	0.427	239
	426 detach condos	2.83	0.174	0.347	194
	94 small SFD	2.00	0.049	0.098	55
	8.9-acre activity center	2.43	0.031	0.062	35
	12-acre school	2.43	0.042	0.084	47
	13.3-acre park	2.43	0.047	0.093	52
Total			1.618 mgd	3.236 mgd	1,812 af/yr
Condos – condominiums gpm – gallons per minute af/yr – acre-feet per year Source: West Valley Water District, 2007					
SFD – single-family detached unit mgd – million gallons per day					

Section 4.12: Utilities

While the mix of housing types has changed slightly since this assessment, the total number of units remains the same and the change has lead to fewer detached units. Thus, a minor over-estimate would be seen in the water consumption estimates above.

The Water Supply Assessment (WSA) prepared for the proposed Specific Plan by the WVWD identifies existing and anticipated water supply entitlements, water rights, and water service contracts for the project area and provides a conservative estimate of available water supplies to the development during normal, dry, and multiple dry years.

The District does not plan to develop new sources of water supply to serve future increases in demand for water within its service area, but will utilize greater amounts of water from groundwater basins, surface water and imported water sources. Available extraction rights and supplies from various sources are expected to provide the District with as much as 81,500 acre-feet of water during the normal year, with 57,100 acre-feet of water during multiple-dry years.

Analysis provided in the WSA indicates that, in the event of successive years of poor climatic conditions, the district will be required to source up to 50% of its water supply from the State Water Project in the year 2025. The reliability of this State water has been called into question over recent years due to the ongoing uncertainty with the global climate. A summary discussion of the concerns raised over SWP water is provided here.

The State Water Project is primarily a water storage and delivery system intended to help close the gap in California between when and where precipitation primarily falls and when and where most water demands occur. Water from the SWP is a critical component of water supply for the 29 state-water contractors, including the San Bernardino Valley Municipal Water District, who may also receive water from other sources. While each water supply contract defines the maximum amount of water to be delivered annually, the amount of water actually delivered may range from somewhat to substantially less than this amount due to such factors as variable precipitation and runoff, physical and institutional limits on storage and conveyance, and variable contractor demands.

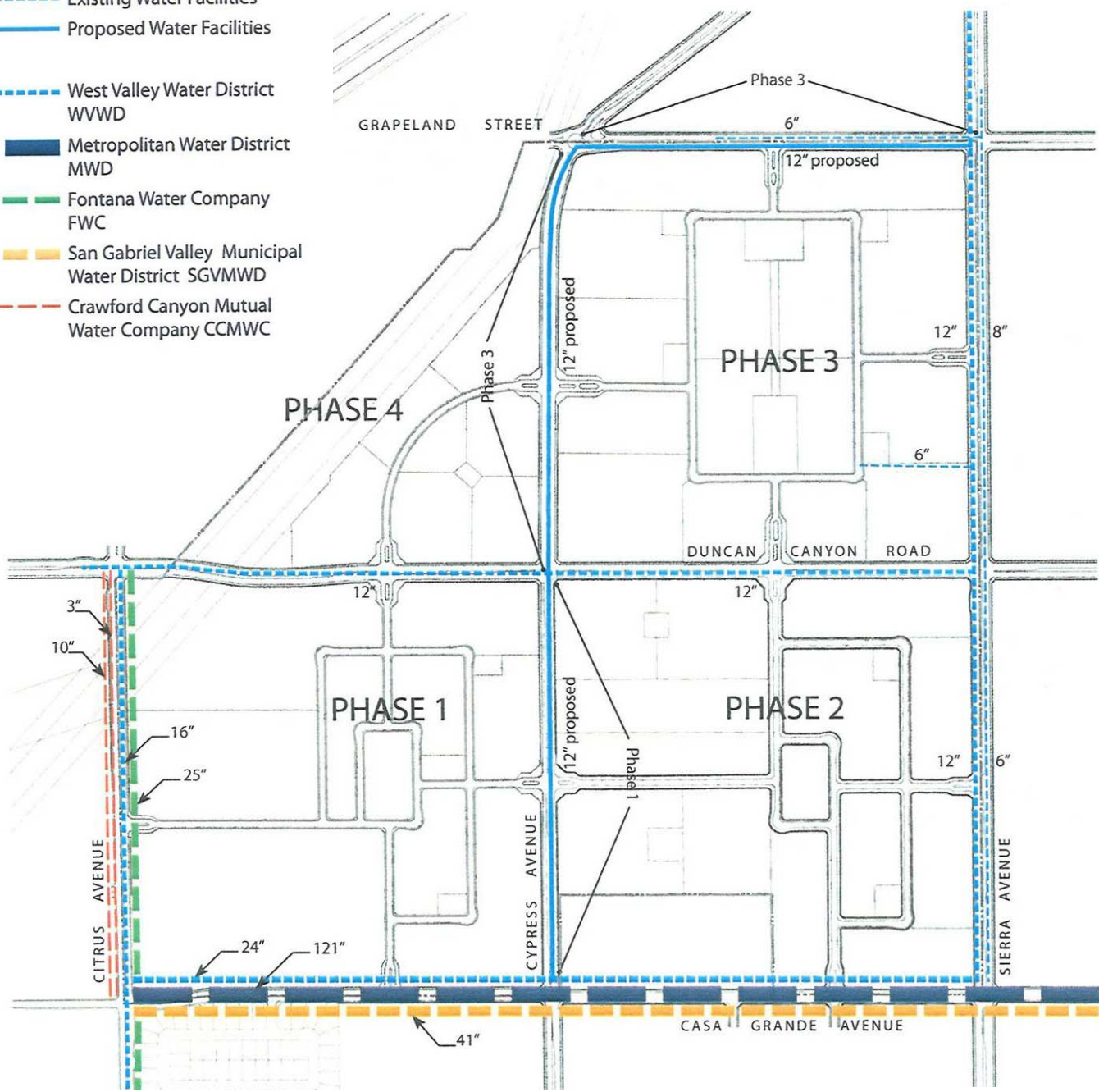
The draft State Water Project Delivery Reliability Report 2007 provides an estimate of current (2007) and future (2027) delivery reliability and expands the conditions under which reliability is quantified. The report also discusses areas of significant uncertainty with respect to delivery reliability including the delta smelt and striped bass decisions; climate change and global sea-level rise; and the vulnerability of Delta levees' to failure due to flooding and earthquake. The analysis provided in the report shows that under current conditions, future SWP deliveries will decrease virtually every year into the future. Estimates indicate that contracted water deliveries will be reduced by 20% for 1 out of every 4 future years and may be reduced by up to 30% for 1 out of every 6 future years. Modeling completed for the study indicates that in a future multiple dry year scenarios, contracted deliveries could be as low as 35% of the maximum allowable under the contract.

The District has anticipated future increases in water demand and is planning to meet this demand through the drilling of new groundwater wells, rehabilitation of existing wells, expansion of the Roemer water filtration facility, and construction of new water filtration facilities.

Figure 4.12-1
Existing and Proposed Water Lines

LEGEND

- Existing Water Facilities
- Proposed Water Facilities
- West Valley Water District WVWD
- Metropolitan Water District MWD
- Fontana Water Company FWC
- San Gabriel Valley Municipal Water District SGVMWD
- Crawford Canyon Mutual Water Company CCMWC



Arboretum Specific Plan
City of Fontana



Section 4.12: Utilities

In its Urban Water Master Plan, the District estimated the 2004/2005 demand at 19.2 mgd of potable water and 1.2 mgd of non-potable irrigation water. Peak summer day demand was 38.4 mgd of potable water and 1.9 mgd of non-potable water. Projected 2005/2006 peak day demand was estimated at 40.4 mgd of potable water and 0.8 mgd of non-potable water.

Currently, the District has provided Will Serve letters to several developments in the North Fontana area and within its service boundaries. Adding the West Valley Water District's current obligations to proposed developments in its service area (equivalent to 10.84 mgd) to the 2005/2006 peak day demand of 40.4 mgd brings a total of 51.24 mgd of projected peak day water demand. Existing service capacity indicates that, with all wells and water filtration facilities operating 24 hours per day, the District would have 70.0 mgd of water, which is greater than the peak day demand.

Adding the water demand from developments within the *Arboretum Specific Plan* (estimated peak demand of 3.236 mgd equates to a total of 54.48 mgd of peak day demand. This is within the District's current peak day water production capacity of 70.0 mgd, with a remaining reserve production capacity of 15.52 mgd.

The District also projects a total water demand from its service area of 45,000 acre-feet in 2025, with available supplies of 57,100 acre-feet for multiple dry years. Thus, there is capacity to serve the water demand of existing and future developments within the service boundaries of the District for the next 20 years, including the proposed developments within the *Arboretum Specific Plan*. Sufficient water supplies are available to serve the project and no adverse impacts on water supplies are expected.

In order to obtain water services, future developments on the site would need connections to the existing 6-inch and 12-inch water lines located along Sierra Avenue, 24-inch line along the southern boundary of the site, 12-inch line along Duncan Canyon Road and 10-inch and 16-inch water lines on Citrus Avenue. New water lines shall be extended along existing and planned roadways on the site, with water service connections provided to individual parcels, residences and buildings. These water line extensions would have to be made in coordination with the West Valley Water District during the construction of each project phase. No adverse impacts on water services are expected.

While the WVWD has indicated that water supplies are available for future developments on the site, the District has adopted a Water Conservation Plan to address drought conditions and the potential for water shortages. Stage 1 refers to normal conditions; Stage 2 calls for a voluntary program with a goal of 10 to 25% reduction in water use; Stage 3 calls for a voluntary and mandatory program with a goal of 25 to 35% reduction in water use; and Stage 4 is a Water Emergency with a voluntary and mandatory program and a goal of 35 to 50% reduction in water use.

Since October 2004, the District has been in Stage 2 for water conservation, which calls for the voluntary implementation of water conservation measures, including:

1. All new structures shall be equipped with ultra low flush toilets, low flow showers and faucets, and insulated hot water lines.

Section 4.12: Utilities

2. Existing structures, which are remodeled or expanded, shall be retrofitted with toilet tank dams or use ultra-low flush toilets and low flow showers and faucets.
3. Use of lawns shall be minimized in new commercial, hotel, condominium, and large scale housing developments.
4. Use of native or water conserving trees, shrubs, lawns, grass, groundcover, vines, and other plant species for landscape planting or replanting.
5. Development of a water conservation plan for large water users.
6. Cooperation by the district with other water agencies on increasing public awareness on the benefits of water conservation.
7. Encouragement of large water users to implement water recycling and reuse systems.
8. Watering with sprinklers between 11:00 PM and 8:00 AM and hand watering between 6:00 PM and 8:00 AM.
9. Restaurants shall not serve water to their customers unless specifically requested by the customer.
10. No hose washing of sidewalks, walkways, driveways, parking areas, patios, porches, verandas, tennis courts or other paved, concrete or other hard surface areas, except that flammable or other similarly dangerous or unhealthy substances may be washed from these areas by direct hose flushing.
11. No water shall be used to clean, fill, operate, or maintain levels in decorative fountains unless such water is part of a recycling system.
12. Washing of automobiles, trucks, trailers, boats, airplanes, and other types of mobile equipment is prohibited unless done with hand-held bucket or hand held hose equipped with an automatic positive shut off trigger nozzle for quick rinses, except for commercial car washes utilizing recycling systems.
13. Use of sprinklers during high winds is prohibited.
14. All customers are asked for a voluntary minimum 10% reduction of their water consumption over their last year's consumption.
15. Commercial nurseries and publicly owned lawns, landscapes, parks, school grounds, golf courses, and freeways shall be irrigated between the hours of 11:00 p.m. and 6:00 a.m. and consumption shall be reduced to 25% less than the customer's last year's comparable billing period unless they are using reclaimed water.
16. Water use for compaction, dust control, and other types of construction shall be by permit only and will be limited to conditions of the permit or may be prohibited as determined by the General Manager or his designee.

Additionally, the Inland Empire Utilities Agency (IEUA) is currently implementing a plan to provide recycled water throughout their service area. A total of seven pressure zones (based on elevation) for recycled water supply and distribution are being developed. Thus, recycled water will be available for use at the site in the future. The recycled water would be suitable for uses such as landscape irrigation, in cooling towers, decorative fountains, toilets and urinals, mixing concrete and flushing sanitary sewers. Use of recycled water in such areas would reduce demand for groundwater, surface water, and imported water supplies from the project. The IEUA expects the recycled water system for the area west of the project site and the I-15 Freeway to be developed in 5 to 10 years.

The City of Fontana evaluated the feasibility of a recycled water system for the City, including the North Fontana area and are planning a recycled water line on Summit Avenue to connect to IEUA's future recycled water line and extending north on Citrus Avenue to the site. This system

Section 4.12: Utilities

is expected to be implemented after the IEUA system is in place and would provide recycled water to the project in the future.

The City of Fontana is currently in the process of developing guidelines for a City-wide Recycled Water System, which will include requirements for new developments to provide recycled water lines and utilize recycled water supplies for irrigation, cooling towers, decorative fountains, and other similar uses, as feasible. This program is expected to be in place within the next 2 to 3 years. Since buildout of the site is expected to occur within 7 to 8 years, developments that occur after the City adopts the recycled water system regulations would need to comply with City requirements for the installation of recycled water lines and the use of recycled water. Together with connection to the IEUA's and the City's recycled water system, this will reduce potable water demand from the project.

Standard Conditions and Mitigation Measures

Standard Conditions

Future developments under the proposed Specific Plan would generate a demand of water. The implementation of the following standard conditions would reduce the project's demand for water and potential adverse impacts on water services:

Standard Condition 4.12.1: The developer shall comply with the requirements of the West Valley Water District on water line extensions to serve individual developments on the site.

Standard Condition 4.12.2: The developer shall comply with the requirements of the West Valley Water District, Fontana Water Company, San Gabriel Municipal Water District, and/or the Cucamonga Water District on excavation and construction near existing water lines on and near the site.

Standard Condition 4.12.3: Future developments shall implement water conservation measures into the project design of the individual developments on the site to reduce water demand, in accordance with the Water Conservation Plan of the West Valley Water District.

Mitigation Measures

The mitigation measure below would ensure that no adverse impacts to the MWD pipelines along the southern boundary of the site would occur, which may affect regional water supplies.

Mitigation Measure 4.12.1a: The City of Fontana shall submit a letter of intent to the MWD for their approval to use the MWD right-of-way as a public street right-of-way.

Mitigation Measure 4.12.1b: Any grading, excavation, or construction work near the MWD right-of-way or the MWD pipelines shall follow the MWD's guidelines, with plans submitted for review and approval by the MWD prior to the start of work.

Section 4.12: Utilities

Unavoidable Significant Adverse Impacts

Future development under the proposed *Arboretum Specific Plan* would generate a demand for water and would require water supplies and services from the West Valley Water District. Implementation of the standard conditions is expected to provide adequate service and reduce water demands. Implementation of the mitigation measures would prevent adverse impacts to the MWD water pipeline along the southern boundary of the site. No unavoidable significant adverse impact on water services is expected.

Section 4.12: Utilities

4.12.2 Wastewater and Sewer Services

Environmental Setting

Within the City of Fontana, wastewater collection is provided by the City's sewer lines, with sewage in the City's sewer lines conveyed to the sewer mains owned and operated by the Inland Empire Utilities Agency (IEUA) and the Rialto Sewer District for off-site treatment and disposal.

The IEUA provides sewage treatment for the majority of the City, through the agency's Regional Plant 1 (RP-1) at Archibald Avenue in Ontario and RP-4 at Sixth Street Avenue in Rancho Cucamonga. IEUA's service area includes the northern, central, and southwestern portions of the City of Fontana, and unincorporated County land in the City's sphere of influence. Approximately 90 percent of the City's sewage volume (south of Arrow Highway) is directed to RP-1 and 10 percent (north of Arrow Highway) is directed into RP-4.

The project site is within the service boundaries of the IEUA's RP-4 treatment plant. The Etiwanda regional interceptor sewer collects wastewater from the project area via the City's trunk lines and sewer lines for treatment at RP-4. The Etiwanda regional sewer ranges in size from 10 to 36 inches in diameter. The IEUA's RP-4 has a current capacity of 14 mgd. Average daily flows to RP-4 are approximately 11 mgd.

The Regional Plant No. 5 (RP-5), located in the City of Chino, began operation in March 2004. RP-5 is designed to treat 15 mgd of wastewater. Ultimately, RP-5 will treat 60 mgd of wastewater and process 68 mgd of solids from RP-5 and IEUA's Carbon Canyon Water Recycling Facility.

As stated, the project site is vacant, with the recent burning of a single family residence at the northwest corner. The residence was served by a septic tank system. No public sewer service is available to the site at this time. A 15-inch sewer line is located on Citrus Avenue, south of the SCE right-of-way, with a 10-inch sewer line on Summit Avenue. Recent developments in the area have extended these sewer lines north and east of the intersection of Citrus Avenue and Casa Grande Avenue.

Threshold of Significance

Appendix G of the CEQA Guidelines states that a project could have a significant adverse impact on utilities, if implementation of the project results in any of the following:

- ◆ Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- ◆ Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board; or
- ◆ Results in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Section 4.12: Utilities

Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would generate sewage and a demand for sewer service and disposal.

Sewer Services and Facilities (*Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*)

To provide sewer service to the site, the Specific Plan shows that 15-inch sewer lines would be installed along Duncan Canyon Road, Cypress Avenue, and Citrus Avenue, and 12- to 18-inch lines on Casa Grande Avenue. Twelve-inch lines would also be provided within the Resort village. Figure 4.12-2, *Existing and Proposed Sewer Lines*, shows that 12-, 15- and 18-inch main sewer lines would be provided on and near the site. Local sewer lines, laterals and service connections to individual planning areas and building sites would extend from these proposed sewer mains.

Estimates of sewage generation from the proposed project are based on loading factors in the Citrus Avenue Sewer System Analysis, which was prepared to determine if existing sewer lines south of the site are adequately sized to serve the proposed project. Table 4.12-2, *Estimated Sewage Generation*, shows the project is estimated to generate approximately 1.22 million gallons of sewage per day, which is approximately 75 percent of water consumption.

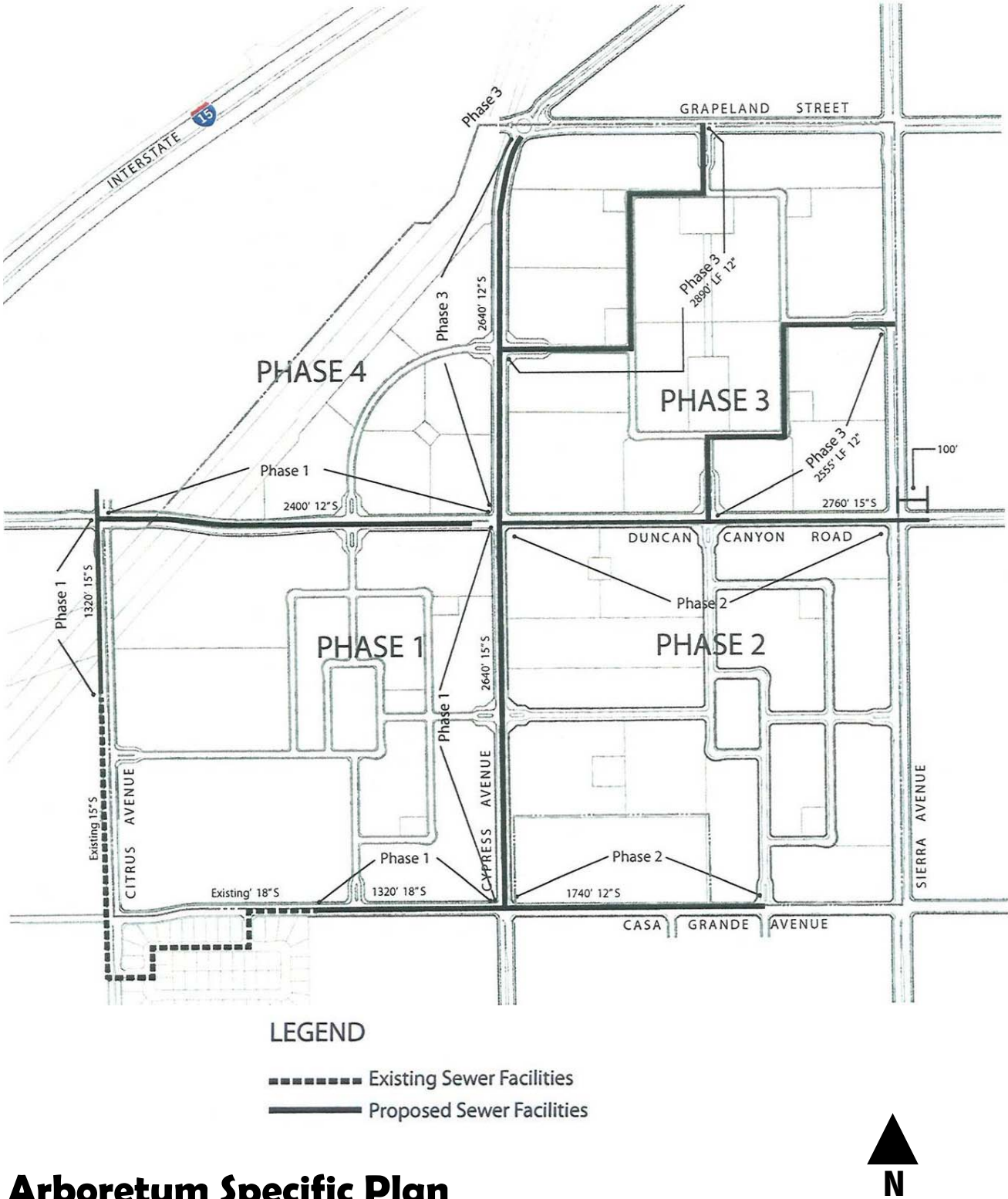
TABLE 4.12-2
ESTIMATED SEWAGE GENERATION

Land Use	Size	Sewage Generation Factor	Sewage Generation
Residential Uses			
Attached Units	93.5 acres	5,747.4 gpd/acre	537,382 gpd
HD Detached Units	102.7 acres	3,264.3 gpd/acre	335,244 gpd
Small Lot SFD	89.2 acres	1,311.3 gpd/acre	116,968 gpd
Large Lot SFD	71.6 acres	1,311.3 gpd/acre	93,889 gpd
Parks	39.3 acres	200 gpd/acre	7,860 gpd
Schools	47.0 acres	2,400 gpd/acre	112,800 gpd
Activity Center (commercial)	8.9 acres	1,200 gpd/acre	10,680 gpd
Greenbelt	6.3	200 gpd/acre	1,260 gpd
Total			1,216,083 gpd
gpd – gallons per day Source: Citrus Avenue Sewer System Analysis, 2007.			

While the acreage of development on the site is slightly different than the acreage breakdown in the proposed Specific Plan, the difference can be accounted by arterial streets and easements, which cover 78.2 acres and would not generate sewage or wastewater.

Approximately 3.0 mgd of capacity is available at RP-4 to serve the project area, including the proposed project. The project would utilize approximately 1.22 mgd of this available capacity and RP-4 would retain 1.78 mgd of capacity for other planned developments. Thus, no facility expansions or upgrades are needed to provide adequate sewer services to future development under the proposed Specific Plan. Impacts on sewer services are expected to be less than significant.

Figure 4.12-2
Existing and Proposed Sewer Lines



Section 4.12: Utilities

The Sewer System Analysis also indicates that the 15-inch sewer line on Citrus Avenue downstream to Sierra lakes Parkways would be adequate to handle sewage flows from future development under the *Arboretum Specific Plan* and the surrounding developments that are tributary to the same sewer main. The 21-inch pipe from Sierra Lakes Parkway to the SR-210 Freeway would be flowing at 81 percent but no upgrades are needed. Impacts would be less than significant.

Wastewater Treatment Requirements (*Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*)

Once occupied, the developments within the *Arboretum Specific Plan* area are expected to generate typical domestic wastewater requiring treatment at the RP-4 wastewater treatment facility as previously described. Typical constituents of residential wastewater include biochemical oxygen demand (BOD₅), total suspended solids (TSS), total nitrogen (TN), total phosphorus (TP), and coliforms (bacteria), as well as other chemical and biological parameters. Commercial facilities typically produce the same type of wastewaters as residential land uses, however, the variability with these types of waste streams are related to concentration (strength) and timing (surge). Wastewater would be routed through the proposed sewer mains, laterals and service connections. The typical characteristics of both expected wastewater streams are summarized in Table 4.12-3, *Typical Wastewater Characteristics*, below.

TABLE 4.12-3
TYPICAL WASTEWATER CHARACTERISTICS

Land Use	Wastewater Constituent (mg/L)			
	BOD ₅	TSS	TN	TP
Residential Housing	110	120	20	4-7
Commercial Facilities				
Restaurant	350	400	70	12
Office	110	120	20	4-7
Laundry	350	400	20	12
Shopping Center	190	210	40	7-12
Motel	190	210	20	4-7
mg/L – milligrams per liter Source: Metcalf & Eddy, 2003				

The proposed commercial facilities are not expected to produce industrial type wastewaters that would require special treatment beyond that which would be provided by the IEUA facilities. Commercial food facilities would be required to incorporate a grease trap, or similar device, to appropriately manage fats, oil, and grease (FOG) from their facility. Implementation of the proposed *Arboretum Specific Plan* would not exceed the wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board and impacts would be less than significant.

Sewer System Capacity (*Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*)

Section 4.12: Utilities

The sewer system analysis prepared for the project found that the existing sewer infrastructure within the project area has sufficient capacity to serve the proposed and future developments on the project site. The site is within the service boundaries of the IEUA's RP-4 treatment plant. The plant has a current capacity of 14 mgd and the average daily flows received at the facility are approximately 11 mgd. The project would need to pay sewer connection fees to the IEUA and monthly service charges to the City for sewer services. The fees are used to fund plant operations and expansions, as well as system maintenance, needed to provide adequate sewer services to the project site and the surrounding area. Water conservation measures would also reduce sewage generation from future developments on the site. Impacts to wastewater treatment capacity would be less than significant.

The existing septic tank on the site would not be utilized by future residential, commercial, school and park uses under the proposed Specific Plan. Removal of the tank and appurtenances would have the potential to cause adverse environmental impacts if not properly managed. The tank would be abandoned by a licensed contractor in accordance with the San Bernardino County Environmental Health Department's permits, procedures, and guidelines. Implementation of the recommended mitigation measure would ensure that no adverse impacts on the soil and groundwater occur.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed Specific Plan would generate a demand of sewage disposal and treatment. The implementation of the following standard condition would reduce the project's potential adverse impacts on sewer services:

Standard Condition 4.12.4: The developer shall comply with the requirements of the Inland Empire Utilities Agency and the City of Fontana on sewer line extensions and service connections to serve individual parcels and building pads on the site.

Mitigation Measures

No significant adverse impact on sewer services is expected and, thus, no mitigation measure is recommended. Impacts associated with the existing septic tank are discussed under Section 4.8, *Hydrology, Water Quality and Flooding*, and the following mitigation measure would be implemented.

Mitigation Measure 4.8.1: The existing septic tank shall be abandoned and removed prior to redevelopment of the parcel occupied by the former residence, in accordance with San Bernardino County Environmental Health Department permits and procedures.

Unavoidable Significant Adverse Impacts

Future development under the proposed Specific Plan would generate a demand for sewage disposal and would require services from the City and the Inland Empire Utilities Agency. Sewage treatment capacity is available to serve the proposed developments on the site. Implementation of water conservation measures would also reduce sewage generation. Installation of sewer lines on-site and implementation of the standard condition is expected to

Section 4.12: Utilities

provide adequate sewer service and reduce sewer service demands. No unavoidable significant adverse impact on sewer services is expected.

Section 4.12: Utilities

4.12.3 Storm Drainage

Environmental Setting

The project site is vacant and the majority of stormwater percolates into the ground, with off-site flows in a general south and southwest direction. There are no City or County storm drain facilities on or near the project site.

The nearest County flood control facilities are the Etiwanda-San Sevaine system located west of the I-15 Freeway and the Lytle-Cajon system located northeast of Riverside Drive. The County Flood Control District's 10-year construction plan does not propose any new flood control facilities in the area.

The Fontana Storm Drain Master Plan shows the runoff from the northern portion of the site flowing south into a proposed line on Duncan Canyon Road and westerly on this drain to the Hawker-Crawford Channel, located west of the I-15 Freeway. A 48- to 60-inch line is proposed along Sierra Avenue; a 45- to 48-inch line is proposed on Cypress Avenue; and a 36- to 39-inch line is proposed on Citrus Avenue. A 102-inch storm drain line is proposed on Duncan Canyon Road from Sierra Avenue to the I-15 Freeway, and connecting to a 10-foot by 8-foot box channel proposed from the I-15 Freeway to the Hawker-Crawford Channel. The Hawker-Crawford Channel connects to the San Sevaine Basin and the Etiwanda-San Sevaine Channel farther southwest.

A trapezoidal channel is also proposed along the I-15 Freeway, starting from just south of the Sierra Avenue interchange, to run along the eastern edge of the freeway southwesterly to Duncan Canyon Road. The City is currently evaluating the realignment of this storm drain line, such that the proposed channel would turn south at Citrus Avenue and connect to the proposed line on Duncan Canyon Road at Citrus Avenue.

The southern portion of the site would be served by a 42- to 54-inch line proposed on Casa Grande Avenue, starting at Cypress Avenue and running west toward Citrus Avenue. At this point, the line would turn south as a 57- to 69-inch line on Citrus Avenue, connecting to the 9-foot by 8-foot box culvert on Summit Avenue. This box culvert has been built from San Sevaine Road to Cypress Avenue and would convey runoff westerly across the I-15 Freeway to the San Sevaine Basin 5. In addition, a 36- to 63-inch line would be provided on Sierra Avenue, starting at just north of Casa Grande Avenue toward the box culvert on Summit Avenue.

Threshold of Significance

Appendix G of the CEQA Guidelines states that a project could have a significant adverse impact on utilities, if implementation of the project results in the following:

- ◆ Requires or results in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would result in the creation of impervious surfaces on the site, resulting in increases in stormwater runoff rates and volumes. Future residential, school and park uses would lead to the introduction of building structures, roadways, parking lots, driveways, and walkways, which would reduce ground percolation of

Section 4.12: Utilities

stormwater and increase runoff from the project site. Stormwater from the developed site would require drainage and disposal.

Storm Drainage Facilities (*Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*)

The storm drain system for the project area has not been built and planned drainage lines along Duncan Canyon Road, Sierra Avenue, and the I-15 Freeway that would serve the site do not exist at this time.

As shown in the proposed Specific Plan, future development on the site and in the surrounding area would be accompanied by the construction of a storm drainage system that would include reinforced concrete pipes and reinforced concrete boxes along Sierra Avenue, Duncan Canyon Road, Cypress Avenue, Summit Avenue, and along the I-15 Freeway. Figure 4.12-3, *Proposed Storm Drainage*, shows the location and sizes of the storm drain needed to serve future developments on the site and near the site. These proposed storm drainage improvements refine those contained in the City's Storm Drain Master Plan to account for planned land uses on and near the site.

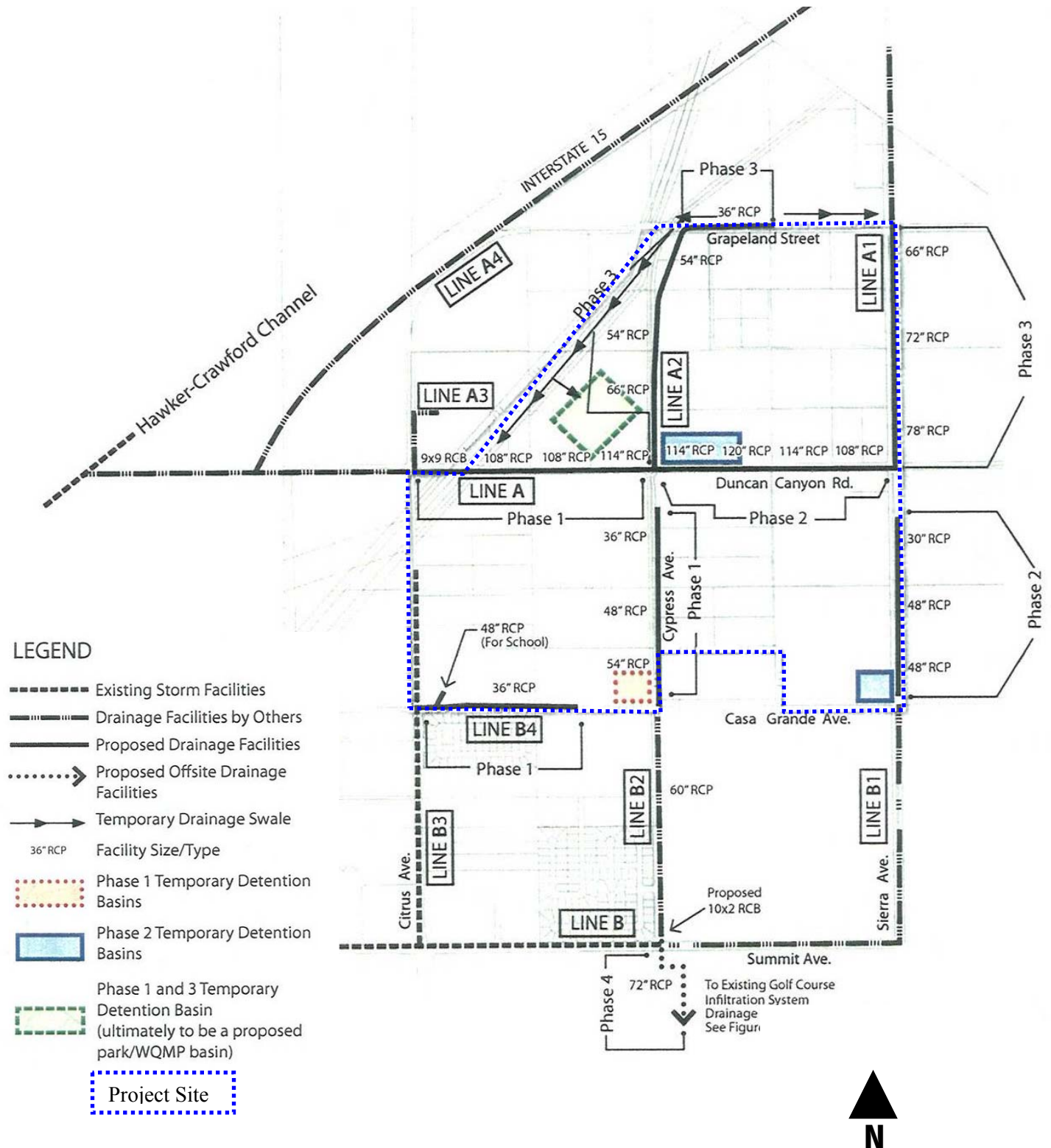
The on-site storm drainage system would include curbs and gutters on local streets, catch basins and inlets, and underground storm drain lines connecting to storm drains proposed on major roadways. Proposed storm drain lines would be constructed on Sierra Avenue, Cypress Avenue, Duncan Canyon Road, Citrus Avenue and Casa Grande Avenue, with southerly flows toward a proposed line on Duncan Canyon Road running westerly to the Hawker-Crawford Channel farther west or southerly to existing and planned lines that would connect to the Summit Avenue storm drain line or into Sierra Lake.

Since the downstream storm drain system has not been constructed, the San Bernardino County and the City of Fontana generally require that new developments retain increases in stormwater flows plus 10 percent of existing flows and release only 90 percent of existing flows into the existing drainage network. This would prevent the addition of excess flows into the undeveloped drainage system.

While the project anticipates that downstream lines would be constructed prior to development of the site, if these downstream facilities are not completed in time, the project would include the construction of interim retention/detention basins to capture flows from developed portions of the site prior to the release of runoff flows at the western or southern edges of the site. These temporary basins would allow runoff from the site to dissipate through evaporation or percolation into the ground to prevent stormwater leaving the site. These interim facilities would also provide drainage and treatment for the developed areas of the site. Upon completion of downstream facilities, the basins would be removed from the project site and replaced with proposed land uses. Stormwater flows would then be discharged off-site, as approved by the City.

Construction of the proposed on-site storm drain facilities, as contained in the Specific Plan and as approved by the City, will provide adequate storm drainage for the project area. On-site facilities will be constructed as part of each development to ensure that adequate facilities to

**Figure 4.12-3
Existing and Proposed Storm Drainage**



Section 4.12: Utilities

serve the proposed residential and commercial uses and schools and would prevent the creation of flood hazards on the project site.

The project would also need to comply with NPDES mandates regarding the prevention of pollutant discharges into the stormwater through the development and implementation of Stormwater Pollution Prevention Plan(s) during the construction phases and implementation of source control and treatment control measures as part of the Water Quality Management Plans for each development. This is discussed in greater detail in Section 4.8, *Hydrology, Water Quality and Flooding*.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed Specific Plan would increase stormwater runoff from the site. The implementation of the following standard condition would reduce the project's potential adverse impacts on storm drainage services:

Standard Condition 4.12.5: The developer shall comply with the requirements of the City of Fontana on the construction of needed storm drain lines and facilities to prevent flood hazards in the area and to provide adequate storm drainage for the future developments under the proposed Arboretum Specific Plan.

Mitigation Measures

No significant adverse impact on storm drainage is expected and, thus, no mitigation measure is recommended. Stormwater pollution and flood hazards are addressed in Section 4.8, *Hydrology, Water Quality and Flooding*.

Unavoidable Significant Adverse Impacts

Future development under the proposed Specific Plan would increase stormwater runoff from the site, which would be conveyed into proposed storm drain lines on major streets and planned facilities downstream of the site. Construction of needed storm drain lines and facilities by future developments on-site to adequately serve the storm drainage needs of the project and the surrounding area would prevent unavoidable significant adverse impact on storm drainage.

Section 4.12: Utilities

4.12.4 Solid Waste Disposal

Environmental Setting

Solid waste disposal services are provided in the City of Fontana by Burrtec Waste Industries, Inc. The company's service base includes over 150,000 residential customers and more than 16,000 commercial customers throughout Riverside, San Bernardino, and Los Angeles counties. Burrtec operates five satellite hauling facilities and three satellite Material Recovery Facilities/Transfer Stations, with its corporate headquarters located in the City of Fontana. Collected solid wastes from Fontana are brought to the West Valley Material Recovery Facility (MRF), located at 13373 Napa Street, west of the City of Fontana. This MRF is permitted to accept 5,000 tons per day of municipal solid wastes and mixed recyclables. Refuse from the MRF is brought to the Mid-Valley Landfill, located at 2390 North Alder Avenue in the City of Rialto.

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the County of San Bernardino's solid waste disposal system, including the Mid-Valley Sanitary Landfill, which serves the project area.

The Mid-Valley Sanitary Landfill is located at 2930 Alder Avenue in the City of Rialto, approximately 1.0 mile southeast of the project site. This landfill encompasses 498 acres and has a total capacity for 62 million cubic yards. As of August 2006, it had a remaining capacity of 57.8 million cubic yards and is expected to close in 2033. It has a daily limit capacity of 7,500 tons and receives an average of 3,900 tons per day.

On occasions when the Mid-Valley Landfill can no longer accept waste (due to inclement weather such as high winds and/or reaching peak capacity for the day), commercial haulers are diverted to the Colton Sanitary Landfill, located in the City of Colton (approximately 9.0 miles southeast of the project site). The San Bernardino County Waste Management Division has indicated that existing County landfills are adequate to meet current disposal needs and no new landfills are planned.

The Mid-Valley Landfill accepts non-hazardous residential, commercial, and industrial solid wastes and is expected to serve future development on the project site. There is also an on-site tire and metal recycling operation. The landfill does not accept hazardous wastes. An on-site load checking program serves to reject hazardous wastes for disposal at approved facilities. Hazardous waste disposal services are provided by private contractors or through the City of Fontana. The City's Household Hazardous Waste Collection Center is located at 16454 Orange Way and accepts household hazardous wastes, such as used oil, paints, cleaners, weed killers, and automobile products.

In accordance with AB 939, the California Integrated Waste Management Act, the City of Fontana and Burrtec operate waste diversion and recycling programs for residents and businesses in the City, which include residential curbside recycling for recyclable materials, waste oil, and green waste and a variety of recycling options for commercial customers.

Threshold of Significance

Appendix G of the CEQA Guidelines states that a project could have a significant adverse impact on utilities, if implementation of the project results in any of the following:

Section 4.12: Utilities

- ♦ Would be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs; or,
- ♦ Does not comply with federal, state, and local statutes and regulations related to solid waste.

Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would generate solid wastes and create a direct demand for solid waste collection and disposal services. Demolition of the existing structure and removal of debris at the site would lead to solid wastes requiring disposal at the Mid-Valley Landfill. This one-time disposal would not lead to significant adverse impacts on landfill capacity, as approximately 3,600 tons of daily capacity is available at the landfill.

Landfill Capacity (*Would the project be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs?*)

Construction activities on the site would generate solid wastes requiring disposal at local landfills. Construction waste disposal would be short-term and incremental as each planning area and development is built and would be dependent on the number and size of structures constructed. Estimates of construction waste range from 3.0 to 5.2 pounds per square foot of construction, or an average of 4 pounds per square foot and 0.025 cubic yard per square foot. Assuming the proposed 3,526 dwelling units would each have an average of 1,500 square feet of floor area, the proposed commercial uses having 95,832 square feet of floor area, and the two schools with a total floor area of approximately 400,000 square feet, construction wastes from the project would be approximately 11,570 tons or 144,621 cubic yards. These wastes would be generated incremental as each planning area and village is constructed in phases. There are existing capacities at the West Valley MRF and the Mid-Valley Landfill to accept these construction wastes. No significant adverse impacts are expected.

Estimates of long-term solid waste generation associated with future developments on the project site are provided in Table 4.12-4, *Estimated Solid Waste Generation*.

TABLE 4.12-4
ESTIMATED SOLID WASTE GENERATION

Land Use	Size	Residents/Employees	Generation Factor	Waste Generation
Residential Uses	3,526 units	14,019 residents	1,500 lbs/person/year	21 million lbs/year
Commercial Uses	95,832 sf	192 employees	3,650 lbs/employee/year	700,800 lbs/year
Schools		194 employees	3,650 lbs/employee/year	708,100 lbs/year
Total				22.44 million lbs/year
sf –square feet lbs – pounds				
Source: Factors from San Bernardino County Department of Public Works, 2006				

As shown, approximately 22.44 million pounds or 11,219 tons of solid wastes per year would be generated by the project, which would require disposal at area landfills. This translates to

Section 4.12: Utilities

approximately 31 tons per day. There is an average remaining daily limit capacity of 3,600 tons per day at the Mid-Valley Landfill to serve the waste disposal needs of the project and other new and future developments. The project would utilize 31 tons per day of this available capacity and the Mid-Valley Landfill would still have 3,569 tons per day of remaining capacity. Thus, no significant adverse impacts on landfill services are expected.

Burrtec has indicated that they have the capacity and resources to serve current and potential customers in the project area, with no adverse impact to existing services. The County Solid Waste Department has also indicated that there is available capacity to serve the waste disposal needs of the region for the next 27 years. Thus, future development under the *Arboretum Specific Plan* would be adequately served by existing waste collection services and landfills.

Solid Waste Regulations (*Would the project comply with federal, state, and local statutes and regulations related to solid waste?*)

During site development and construction, typical construction and demolition wastes are anticipated. These wastes would be acceptable for disposal at area facilities. Hazardous material drums on the site and other hazardous wastes generated by construction activities will need to be disposed by the contractor at a licensed landfill facility accepting hazardous material wastes and in accordance with relevant federal, state, and local regulations regarding their use, handling, storage, transport, and disposal. This is discussed further in Section 4.14, *Human Health and Hazards*.

In accordance with AB 939, the proposed residential and commercial developments would be participating in City-wide recycling programs and hazardous waste disposal to reduce demands for landfill space and prevent land or water contamination from hazardous wastes. As required by the City, the developer shall provide designated trash collection areas and collection services shall be provided by Burrtec. The provision of recycling bins and designated trash collection areas within each development, as well as collection services for recyclables would reduce the solid waste disposal needs of the project. No significant adverse impacts on solid wastes would occur with the project.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed Specific Plan would generate solid wastes requiring collection and disposal. The implementation of the following standard conditions would reduce the project's potential adverse impacts on solid waste disposal services:

Standard Condition 4.12.6: The developer shall comply with the requirements of Burrtec on the provision of solid waste collection services to individual developments on the project site.

Standard Condition 4.12.7: Burrtec and the City shall promote the recycling of wastes through the provision of informational brochures, recycling bins, barrel service, and recycled waste collection services to future residential and commercial developments on the site. Information on hazardous waste collection facilities

Section 4.12: Utilities

would also be provided to allow for convenient and proper disposal of hazardous wastes.

Mitigation Measures

No significant adverse impact on solid waste disposal services is expected and, thus, no mitigation measure is recommended.

Unavoidable Significant Adverse Impacts

Future development under the proposed Specific Plan would generate solid wastes and would require disposal services from Burrtec and landfill capacity at the Mid-Valley Sanitary Landfill. Existing landfill capacity is available to serve the proposed developments on the site. Implementation of waste reduction and recycling measures would also reduce solid waste generation from future developments. No unavoidable significant adverse impact on solid waste disposal services is expected.

Section 4.12: Utilities

4.12.5 Electrical Power Service

Environmental Setting

The Southern California Edison Company (SCE) provides electrical power services to the project site and the Southern California region. SCE is one of the largest electric utility agencies in the United States. On an average day, SCE provides power for 13 million individuals, 430 communities and cities, 5,000 large businesses, and 280,000 small businesses in central and southern California. SCE's service area includes a 50,000-square-mile area in coastal, central, and southern California. The company's distribution system includes 16 utility interconnections and 4,990 transmission and distribution circuits.

Existing power lines serving the project site include 12,000-kilowatt (KW) overhead lines on 40-foot wood poles run along the east side of Citrus Avenue and Sierra Avenue. High voltage (500 kilovolt) transmission lines within an approximately 200- to 250-foot wide easement run along the northwestern boundary of the project site. A power line also runs along a dirt road which provided access to the former residence at the northwestern corner of the site.

Power consumption at the site has ceased with the burning of the single-family residence at the northwest corner of the site.

Threshold of Significance

A project is considered to have a significant adverse impact on utilities, if implementation of the project results in any of the following:

- ◆ Requires or results in the construction of new utility facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects;
- ◆ Results in inadequate services to existing customers; or
- ◆ Sufficient energy resources are not available to serve the project.

Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would create a direct demand for electrical power services. Energy demand is highly variable between various types of appliances and machinery/equipment, and estimates of electric power consumption are difficult to make without more detailed information on the types of commercial uses that would be built on the project site and the equipment that will be in use.

Existing Electric Service (*Would the project result in inadequate services to existing customers?*)

General consumption factors for land uses are used in the estimates provided in Table 4.12-5, *Estimated Power Consumption*, below. As shown, as much as 23.05 million kilowatt-hours per year would be needed to serve future developments under the proposed Specific Plan. This represents a relatively minor amount of SCE's total power generation when compared to the service area and existing developments served by SCE in the region.

Section 4.12: Utilities

TABLE 4.12-5
ESTIMATED POWER CONSUMPTION

Land Use	Size	Consumption Factor	Estimated Consumption
Residential Uses	3,526 units	5626.5 kWh/unit/year	19.84 million kWh
Commercial Uses	95,832 sf	13.55 kWh/sf/year	1.30 million kWh
Schools	400,000 sf	5.9 kWh/sf/year	2.36 million kWh
Total			23.05 million kWh
sf – square feet kWh – kilo-watt hour			
Source: Consumption factors from SCAQMD Air Quality Handbook			

Electric Facilities *(Would the project require or result in the construction of new utility facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?)*

SCE provides electric power service on demand and would be able to serve future developments under the proposed Specific Plan. There are existing power lines on Sierra Avenue, Citrus Avenue, and the dirt road proposed as Grapeland Street that would serve as connection points for individual developments on the site. The overhead lines on Citrus Avenue and the dirt road proposed as Grapeland Street are also expected to be placed underground as part of the project.

Electricity Resources *(Are sufficient energy resources not available to serve the project?)*

Coordination with SCE would ensure that adequate power service is available to serve the proposed project. At the same time, SCE encourages the use of energy conservation measures to reduce overall demand for electricity. These conservation measures are available to existing and future customers through SCE's Demand Side Management Programs.

The project proposes the development of Duncan Canyon Road through the SCE easement, as well as the development of regional trails and gardens within the SCE easement. These improvements may potentially lead to damage to the transmission towers and lines, obstruction of access to the transmission lines and facilities, and potential interruption of electrical services.

Impact 4.12.2: Construction of Duncan Canyon Road across the SCE easement and the proposed trails and gardens within the easement could adversely impact the SCE's facilities.

The proposed improvements over the SCE easement would require approval from SCE. In order to allow for roadway construction through the SCE right-of-way, the City of Fontana would have to receive a Roadway Easement from SCE. Generally, the City of Fontana would issue a "Friendly Condemnation Letter" to SCE to obtain the roadway easement. Project plans are also sent to SCE for approval and to ensure that no damage to their facilities, no obstruction of access to the transmission lines, and no interruption of electrical services.

Proper coordination with SCE would ensure that adequate power services are made available to future developments and SCE facilities are not adversely affected by the proposed development, in order to prevent any adverse impacts on electrical power services and facilities from the project.

Section 4.12: Utilities

Standard Conditions and Mitigation Measures

Standard Conditions

Future developments under the proposed Specific Plan would generate a demand of electrical power. The implementation of the following standard conditions would reduce the project's potential adverse impacts on power services:

Standard Condition 4.12.8: The developer shall comply with the requirements of SCE on line extensions to serve individual parcels and building pads on the site.

Standard Condition 4.12.9: Future developments shall incorporate energy conservation measures into the project design of the individual developments, in compliance with the California Energy Efficiency Standards and as mandated under Title 24 of the California Code of Regulations (California Building Standards Code).

Mitigation Measures

Potential significant adverse impact on the existing high voltage power lines would be avoided by the following mitigation measure:

Mitigation Measure 4.12.2: Improvements proposed within the SCE easement shall be subject to review and approval by SCE to ensure no adverse impacts to the high-voltage transmission lines and for compliance with SCE's development guidelines.

Unavoidable Significant Adverse Impacts

Future developments under the proposed *Arboretum Specific Plan* would generate a demand for electrical power and would require services from SCE. Existing power supplies are available to serve future development on the site. Implementation of energy conservation measures would also reduce power use. Extension of existing lines to individual parcels and building pads and implementation of the standard conditions are expected to provide adequate service and reduce energy demands. Implementation of the mitigation measure above would avoid impacts on existing SCE facilities along the northwestern boundary of the site. No unavoidable significant adverse impact on power services is expected.

Section 4.12: Utilities

4.12.6 Natural Gas Service

Environmental Setting

The project area is served by the Southern California Gas Company (SCG), a subsidiary of Sempra Energy. SCG is the nation's largest natural gas distribution utility, with approximately 49,000 miles of transmission and distribution pipelines and 46,000 miles of service pipelines. It serves 19.8 million residential and business customers through 5.6 million gas meters in more than 500 communities. The company's service area encompasses 20,000 square miles throughout most of central and southern California, from Visalia to the Mexican border. SCG delivered 2.483 million cubic feet of gas per day in 2005. Like other privately-owned utilities in the State, Southern California Gas Company's operations are regulated by the California Public Utilities Commission.

The nearest gas line is located on the east side of Sierra Avenue, east of the site. Two high-pressure gas lines also run southwesterly through North Fontana and run along the northwestern boundary of the site, with a gas pumping facility located east of these gas lines, north of Duncan Canyon Road.

Threshold of Significance

A project is considered to have a significant adverse impact on utilities, if implementation of the project results in any of the following:

- ◆ Requires or results in the construction of new utility facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects;
- ◆ Results in inadequate services to existing customers; or
- ◆ Sufficient energy resources are not available to serve the project.

Environmental Impacts

Future developments under the proposed Specific Plan would create a demand for natural gas services. Since energy demand is highly variable between various types of appliances and machinery/equipment, estimates of natural gas consumption are difficult to make without more detailed information on the types of commercial uses that would be built on the project site and the mechanical equipment that would be in use.

Natural Gas Service (*Would the project result in inadequate services to existing customers?*)

General consumption factors for residential, commercial and office land uses (used for schools) are used in the estimates provided in Table 4.12-6, *Estimated Gas Consumption*, below. As shown, as much as 15.21 million cubic feet of natural gas per month or 0.5 million cubic feet per day would be needed to serve the proposed development on the site. This represents a relatively minor amount of SCG's total gas generation for the region when compared to the service area and existing developments served by SCG in the region.

Section 4.12: Utilities

TABLE 4.12-6
ESTIMATED GAS CONSUMPTION

Land Use	Size	Consumption Factor	Estimated Consumption
Residential Uses	3,526 units	4011.5 cf/unit/month	14.14 million cf
Commercial Uses	95,832 sf	2.9 cf/sf/month	277,913 cf
Schools	400,000 sf	2.0 cf/sf/month	800,000 cf
Total			15.21 million cf/month
sf- square feet cf – cubic feet			
Source: Consumption factors from SCAQMD Air Quality Handbook			

Natural Gas Facilities *(Would the project require or result in the construction of new utility facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?)*

The project proposes the development of Duncan Canyon Road through the SCG easement, as well as the development of regional trails and gardens within the SCG easement. These improvements may potentially lead to damage to the underground gas lines, obstruction of access to the gas lines and facilities, and potential interruption of gas services.

Grading operations for the Arboretum Village and Duncan Canyon Road would also occur near the gas pumping facility of SCG near the western edge of the site, possibly extending into the adjacent SCG parcel. While a block wall is proposed between the Arboretum Village and the pumping facility, grading may extend past the property line for a short distance.

Impact 4.12.3: Construction of Duncan Canyon Road across the SCG easement and the proposed trails and gardens within the easement could adversely impact the SCG's facilities.

The proposed improvements over the SCG easement would require approval from SCG. In order to allow for roadway construction through the SCG right-of-way, the City of Fontana would have to receive a Roadway Easement from SCG. Project plans on and near the SCG facilities would also need to be sent to SCG for review and approval and to ensure that no damage to their facilities, no obstruction of access to the underground gas lines, and no interruption of gas services.

Natural Gas Resources *(Are sufficient energy resources not available to serve the project?)*

Natural gas lines will need to be extended from the existing lines on Sierra Avenue to the site and service connections provided to individual parcels, in coordination with SCG regulations. SCG states that the availability of natural gas service is based on conditions of gas supply and regulatory agencies. However, the gas consumption from the project is not expected to represent a significant amount of SCG's natural gas supplies, and supplies are available to serve the project.

Coordination with SCG and compliance with their requirements would be needed to allow for timely and adequate service to the site. Implementation of energy efficiency measures would also reduce gas consumption by the proposed residential and commercial developments. No adverse impacts on natural gas services are expected with the project.

Section 4.12: Utilities

Proper coordination with SCG would ensure that adequate gas services are made available to future developments and SCG facilities are not adversely affected by the proposed development.

Standard Conditions and Mitigation Measures

Standard Conditions

Future developments under the proposed Specific Plan would generate a demand of natural gas. The implementation of the following standard condition would reduce the project's potential adverse impacts on natural gas services:

Standard Condition 4.12.10: The developer shall comply with the requirements of SCG on gas line extensions to serve individual parcels and building pads on the site, as well as for construction in or near the SCG right-of-way.

Mitigation Measures

Potential significant adverse impact on the existing high-pressure gas lines and pump station would be avoided by the following mitigation measure:

Mitigation Measure 4.12.3: Improvements proposed within the SCG easement and near the gas pumping facility shall be subject to review and approval by SCG to ensure no adverse impacts to the natural gas lines and facilities and for compliance with SCG's development guidelines.

Unavoidable Significant Adverse Impacts

Future developments under the proposed Specific Plan would generate a demand for natural gas and would require services from SCG. Existing natural gas supplies are available to serve future development under the proposed Specific Plan. Implementation of energy conservation measures would also reduce energy demands and natural gas consumption. Implementation of the standard condition is expected to ensure adequate service. Implementation of the mitigation measure would avoid impacts on existing SCG facilities along the northwestern boundary of the site. No unavoidable significant adverse impact on natural gas services is expected.

Section 4.12: Utilities

4.12.7 Telephone and Cable Television Services

Environmental Setting

Telephone service to the project area is provided by AT&T. There are no existing telephone lines in the project area that serve the site. The nearest lines are located at Summit Avenue and at the Sierra Avenue interchange on the I-15 Freeway.

The project area is served by Time Warner Communications, one of the nation's leading cable companies with more than 5.5 million residential customers nationwide. In addition to cable entertainment, Time Warner offers digital television, high-speed internet access, long distance telephone service, and paging services. There are no existing cable lines located near the site. The nearest line is located near the southeast corner of the intersection of Summit Avenue and Sierra Avenue. Time Warner has indicated that, in coordination with AT&T and SCE, there are future plans to extend cable lines into the northern Fontana area to provide cable services to existing and future residents.

Threshold of Significance

A project is considered to have a significant adverse impact on utilities, if implementation of the project results in any of the following:

- ◆ Requires or results in the construction of new utility facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects; or
- ◆ Results in inadequate services to existing customers.

Environmental Impacts

Future development under the proposed Specific Plan would require telephone and cable services from AT&T and Time Warner.

Telephone and Cable Television Facilities *(Would the project require or result in the construction of new utility facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?)*

Time Warner continues to expand its facilities to accommodate increased demand and to serve future developments. Since the company provides service on demand, new facilities and lines would be constructed as needed to serve future developments on the site. Cable services to the site would likely require the extension of existing lines from developed areas located southeast of the site. The extent of demand is not known at this time, and it would be necessary to coordinate with Time Warner to ensure the timely provision of cable services to the proposed project. At that time, Time Warner would review their existing facilities in relation to the proposed project and develop a plan for service expansion as necessary. No adverse impacts are expected.

Telephone and Cable Television Service *(Would the project result in inadequate services to existing customers?)*

Section 4.12: Utilities

Future developments under the proposed Specific Plan will create a direct demand for telephone services. Demand for telephone service would be dependent on the needs of individual households and commercial uses. AT&T would provide telephone service through the extension of feeder and distribution lines into the project site and to individual parcels. Telephone line extension, required manholes and conduits, and any necessary facility upgrades would have to be coordinated with AT&T during the construction phase. No adverse impacts are expected.

The proposed project would also create a demand for cable television services. Demand for cable service would be dependent on users, the type of land use, and other factors which cannot be quantified without more specific information on user needs and preferences.

Standard Conditions and Mitigation Measures

Standard Conditions

Future development under the proposed Specific Plan would generate a demand of telephone and cable television services. The implementation of the following standard condition would reduce the project's potential adverse impacts on these services:

Standard Condition 4.12.11: The developer shall comply with the requirements of AT&T and Time Warner on telephone and cable line extensions to serve individual parcels and building pads on the site.

Mitigation Measures

No significant adverse impact on telephone and cable television services is expected and, thus, no mitigation measure is recommended.

Unavoidable Significant Adverse Impacts

Future developments under the proposed Specific Plan would generate a demand for telephone and cable television services and would require services from AT&T and Time Warner. Existing telephone and cable lines would be extended into the site to serve the proposed developments. No unavoidable significant adverse impacts on telephone and cable television services are expected.

Section 4.13: Human Health and Hazards

A Phase 1 Environmental Site Assessment (ESA), dated September 2001, was prepared by Blasund, Bouck, and Lee to determine the potential for hazardous materials to be present in the North Fontana area. A review of the Phase 1 ESA was made in December 2003 by LOR Geotechnical Group. The findings of the Phase 1 ESA and the subsequent review are summarized below, and the complete studies are provided in Appendix M of this EIR.

4.13.1 Environmental Setting

The project site is vacant and largely covered with scrub vegetation and non-native grasses, with scattered large rocks and boulders. Dirt roads cut rough the site at various locations, with the single-family residence and accessory structures at the northwestern corner of the site having recently burned down.

Historic Uses

Review of historic aerial photographs shows that in 1933, 1938 and 1949, one residence is present at the site (APN 0239-131-45), located at the eastern central edge (southwest corner of Duncan Canyon Road and Sierra Avenue), where a sump and small agricultural field are also present. Several other residences are found at scattered locations near the site. Also, several residences and buildings were built at various locations on the site between 1955 and 1988, including the former residence at the northwestern corner that was built in 1958 and burned in 2007. By 1959, the SCE transmission line towers have been constructed along the northwestern boundary of the site. These transmission towers were built in 1954. By 1968, the agricultural field at the eastern central edge is no longer present. By 1976, the SCG gas lines and pumping facility have been constructed and two long sheds are present near the SCG easement. The I-15 Freeway is under construction at this time. Between 1979 and 1988, the SCE transmission lines were built east of Sierra Avenue and between 1988 and 1991, the single-family residences to the east in the City of Rialto were constructed.

A stone-lined ditch runs through the site, with a water line laid in the abandoned main canal. The remains of a possible skeet shooting range are present at the southwestern corner of the site, consisting of concrete slabs and small wood and mortar structure.

Illegal dumping of printing inks, trash, laboratory chemicals, and debris at the corner of Citrus Avenue and Duncan Canyon Road was reported, with removal of these hazardous materials soon after they were reported in 1989.

Hazardous Materials

A hazardous material is defined as any substance that may be hazardous to humans, animals, or plants, and may include pesticides, herbicides, toxic metals and chemicals, volatile chemicals, explosives, and even nuclear fuels or low-level radioactive wastes. The City of Fontana has a wide variety of industries and land uses, which generate, use, or handle hazardous materials. Most of these sites are associated with industrial and commercial uses located throughout the City.

The project site is undeveloped, with the recent burning of a single-family house and accessory structures at the northwestern corner. The site supports scrub vegetation and grasses, with scattered large cobbles. Graded roads and trails are present at some locations. Trash and

Section 4.13: Human Health and Hazards

debris are found along the roadway edges, with two 2 ½ and 5-gallon containers containing waste oil along an east-west dirt road between Duncan Canyon Road and the MWD right-of-way and two 2 ½ and 5-gallon containers and a 55-gallon drum containing waste oil along the dirt road at the northern boundary of the site. No significant soil staining was found near these containers.

Previously-observed sheds near the SCE/SCG easements were no longer present in 2003. The SCG high-pressure gas lines along the northwestern boundary of the site and the SCG pumping facility on the site is a hazardous material user, permitted by the San Bernardino County Fire Department.

No industrial or commercial uses are found on the site and the site is not listed in any database of hazardous material users or hazardous waste generators. The surrounding area consists of vacant land to the north and south, vacant land to the west, a residence to the northeast on Sierra Avenue, a new residential tract to the southwest, and vacant land, a residence, and the SCE transmission towers to the east, with single-family homes within the City of Rialto farther east.

A number of land uses near the site handle hazardous materials. These include the tank site of the Fontana Water Company and the Sierra Lakes Elementary School at the intersection of Citrus and Summit Avenues and the Summit High School at Lytle Creek Road and Summit Avenue. J&D Fabrication, SJ Steel, Pacific Diazo Products, All American Pipe/Steel, Coast Midwest Transport, Arrow Tire and Wheel, Alman's Truck Repair, Anderson Trucking Service, California Redwood Gazebo/Spas and Gazebos, Preferred Pallet (San Gabriel Valley Lumber and National Pallets), and Lowe's Home Improvement Store are located on Sierra Avenue south of Summit Avenue and approximately one mile or more southeast of the project site. At the northwest corner of the I-15 Freeway and Sierra Avenue interchange are four gas stations: Arco AM PM, Shell, Chevron and American Gas and Minimart. These uses are approximately 0.75 mile north of the project site. The AG-6M Egg Ranch is located to the west, across the I-15 Freeway.

The Mid-Valley Landfill is located approximately ½ mile southeast of the site at the southeastern corner of Summit and Mango Avenues. Groundwater contamination associated with landfilling activities has been reported at the Mid-Valley Landfill. However, the project site is up-gradient of the landfill and groundwater flow is toward the south. Thus, contamination at the landfill is not likely to migrate to the project site. Other hazardous material users are located farther away from the site and are unlikely to affect the project site.

Fire Hazards

There is a gas pumping facility at the western edge of the site, which includes aboveground valves/equipment over two 36-inch underground gas main lines that run in a northeast to southwest direction within a 100-foot wide easement. Another gas pumping facility is present northeast of the site at the corner of Sierra Avenue and Riverside Drive, where a 12-inch high-pressure gas main runs south along Sierra Avenue from this gas pumping facility. These pipes and facilities present safety hazards associated with fire and explosion due to leakage or damage of the pipelines. However, the pipes are located several feet below the ground surface and are encased. In addition, the gas lines are located within a 100-foot wide easement, which prevents any development near the gas lines without the review and approval of the Southern California Gas Company.

Section 4.13: Human Health and Hazards

No oil or gas wells are located on the site or adjacent areas. The project site is not located near an airport or airstrip, where hazards from aircraft operations are present. The site is not located within an area with wildfire hazards but supports heavy brush and thus, was subject to brush fires in 2006 and 2007. These brush fires burned on-site vegetation, a residence and accessory structures. No other hazards are known to be present on-site or near the site.

Electromagnetic Fields

The high-voltage (500-kilovolt) power transmission lines run along the northwestern boundary of the site, within a 225-foot wide SCE easement. These electrical transmission lines generate invisible electric and magnetic lines of force referred to as electromagnetic fields (EMF). There has been ongoing concern about EMF exposure and the potential for increased risks of developing rare forms of cancer. Studies from the late 1970s have suggested a possible relationship between cancer, specifically childhood leukemia, and exposure to EMF or proximity to overhead power lines. However, the scientific evidence is inconsistent and it cannot be clearly established that EMF causes cancer or increases the risk of cancer. While an observed association between childhood leukemia and EMF exposure has been found, the association is weak and there is currently no scientific explanation for the association.

The International World Health Organization's International EMF Project states that EMF is a possible carcinogen for humans but other explanations could not be ruled out (i.e., socio-economic factors, air pollution, use of home appliances, etc.). The National Institute of Health also states that scientific evidence for human health risks from EMF exposure is weak. The researchers of the California EMF Program by the Department of Health Services reported in 2002 an inclination to believe EMF can cause some diseases and not others, but at the same time strongly believe EMF is not a universal carcinogen (it does not cause all cancer types) but is a possible carcinogen. The State has no adopted policy at this time.

While EMF is known to induce electric fields and current in the body, the health effects found in scientific studies are not consistently adverse. Numerous studies have not shown a consistent finding that EMF causes cancer or other adverse health effects. Continued investigations and studies are being conducted to ensure that human exposure to EMF does not cause adverse health effects; that man-made EMF-generating devices are safe and their use does not electrically interfere with other devices; and to establish international guidelines and standards.

4.16.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on hazards and hazardous materials, if its implementation results in any of the following:

- ◆ Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ◆ Creates 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;
- ◆ Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

Section 4.13: Human Health and Hazards

- ◆ Is 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;
- ◆ 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;
- ◆ 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;
- ◆ Impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan; or
- ◆ Exposes people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.16.3 Environmental Impacts

Future development under the proposed *Arboretum Specific Plan* would be exposed to existing on-site hazards. Also, construction and use of the future residential and commercial developments, schools, and parks on the project site could create public safety or health hazards on the site or the surrounding area.

Hazardous Materials Use (*Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*)

Future schools and commercial uses on the project site may involve the handling of hazardous materials. Depending on the type of activities or uses that would occupy the proposed activity center, hazardous materials use and hazardous waste generation may occur. Dry cleaners, gas stations, print shops, photography stores, paint stores, hardware stores, liquor stores, auto repair shops, and other similar uses involve the use of hazardous materials that could pose hazards to employees and nearby residents. Nearby hazardous material handlers or hazardous waste generators are located south of the site and north on the other side of the I-15 Freeway. The presence of hazardous materials within the schools and commercial uses would present health and safety hazards (fire, contamination, explosion, health problems, etc.) to students, employees, patrons, faculty, and residents of the site and adjacent land uses. Transport of hazardous materials to and from these uses would also add hazards to the surrounding roadways and freeways.

However, hazardous materials are subject to federal, state, and local regulations regarding their use, handling, storage, transport, and disposal. The regulations include established measures for proper storage, use, and disposal, and a risk management and prevention plan for accidents. Where necessary, future commercial uses and schools would need to obtain a hazardous materials handler permit from the San Bernardino County Fire Department. The permit serves to comply with right-to-know laws, by ensuring that a business emergency/contingency plan containing information regarding the location, type, and health risks of hazardous materials on-site is readily available to emergency response personnel, authorized government officials, and the public. The plan would include an inventory of hazardous materials and wastes stored, generated, or treated at the site, prevention/reduction measures, employee training plan, emergency equipment, emergency contacts, and emergency response and evacuation procedures. Compliance with relevant regulations by future schools and commercial uses that

Section 4.13: Human Health and Hazards

would be built on the project site, as well as by those who transport hazardous materials to those facilities, would preclude the creation of hazards to on-site users and adjacent areas. Impacts would be less than significant.

Hazardous Materials Accidents *(Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?)*

Development of the site would require clearing and grubbing to allow for mass grading of the property. There are existing waste oil drums and other illegally dumped wastes at the site. If not properly removed and disposed, these wastes may leak hazardous materials into the soils and lead to contamination of the on-site soils or disposal site.

Impact 4.13.1: Waste oil drums and other illegally dumped hazardous wastes on the site may lead to soil contamination.

These wastes would need to be disposed at a facility permitted to accept and dispose of hazardous wastes.

Past agricultural activities at the eastern central section of the site (APN 0239-131-045) may have involved the use of pesticides, herbicides, and fertilizers. Depending on the type and amount of pesticides, herbicides, and fertilizers used on the site, agricultural chemical residues may be present in the on-site soils. These chemicals could pose hazards to construction workers and future site users/occupants.

Impact 4.13.2: Agricultural chemical residue in areas historically used for agriculture may present hazards to construction workers and future site users/occupants.

The existing structures on the site have burned down and no demolition is needed prior to development of the site. Thus, potential impacts associated with hazardous materials in the structures (such as asbestos-containing materials and lead-based paint) are no longer a concern. However, the residence was served by a septic tank system, as no public sewer service was available to the site at the time the residence was in use. The existing septic tank on the site would not be utilized by future residential, commercial, school and park uses under the proposed Specific Plan. This tank would be abandoned by a licensed contractor in accordance with the San Bernardino County Environmental Health Department's permits, procedures, and guidelines, to ensure that no adverse impacts on the soil and groundwater occur.

Hazardous Emissions *(Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?)*

Residential and commercial uses, schools and parks on the site are not expected to emit hazardous or toxic emissions that may affect schools, since no industrial or manufacturing processes are proposed at these uses.

Construction activities associated with development of the project site would involve the use of hazardous materials for construction. These would include paints, thinners, solvents, acids,

Section 4.13: Human Health and Hazards

curing compounds, grease, oils, and other chemicals. These hazardous materials could pose risks to construction workers or lead to soil and groundwater contamination, if not properly stored, used, or disposed. Compliance with existing hazardous material regulations would prevent undue hazards. This impact is expected to be less than significant, since construction activities on the site would involve limited hazardous material use, and disposal would be made in accordance with existing regulations.

Residential activities on the site would involve the use of hazardous materials, such as cleansers, solvents, paints, pesticides, and fertilizers, in household quantities. These hazardous materials would be limited and would not pose a significant risk to the on-site uses and adjacent developments. As part of the City's Household Hazardous Waste Program, residents would be informed on the proper disposal and drop-off locations. Impacts would be less than significant.

As stated, future schools and commercial uses on the project site may involve the handling of hazardous materials. However, hazardous materials are subject to federal, state, and local regulations regarding their use, handling, storage, transport, and disposal. Compliance with relevant regulations by future schools and commercial uses that would be built on the project site would preclude the creation of hazards to on-site users and adjacent areas. Impacts would be less than significant.

Nearby hazardous material handlers or hazardous waste generators are located south of the site and north on the other side of the I-15 Freeway. The gas stations to the north are not expected to pose hazards to on-site land uses due to their distance from the site. The Mid-Valley Landfill is located down-gradient from the site. Thus, groundwater contamination at the landfill will not affect on-site uses. Other industrial uses and hazardous material users are also located southeast and down-gradient of the site. No adverse impacts from adjacent hazardous material users and hazardous waste generators are expected with the project.

Government Databases *(Is the project 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?)*

No industrial or commercial uses are found on the site and the site is not listed in any database of hazardous material users or hazardous waste generators. However, past activities at the site have been identified above and include the potential for harmful agricultural residues from the use of pesticides, herbicides, and fertilizers (*Impact 4.13.2*). Also, trash and debris on the site include waste oil drums, other illegally dumped hazardous wastes, which will need to be disposed in licensed facilities (*Impact 4.13.1*). Mitigation has been provided below for these potential impacts.

Airport Hazards *(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? 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?)*

No private airstrips are located within the vicinity of the proposed project site. The nearest airport is the Rialto Municipal Airport located approximately 2.3 miles southeast of the project site. The project site is located outside of the airport's safety zones, including the Runway Protection Zone,

Section 4.13: Human Health and Hazards

Obstacle Free Zone, Outer Safety Zone (Safety Zone II), and Traffic Pattern/Overflight Zone as identified in the Final Comprehensive Land Use Plan for the Rialto Municipal Airport. Consequently, the proposed project would not be exposed to airport hazards; would not affect aircraft operations; and would not create an airport safety hazard for residents, employees and visitors to the project site. No adverse impacts from local airports or airstrips are anticipated with the project.

Emergency Evacuation *(Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?)*

The vacant site is not used for emergency evacuation, as an emergency route or evacuation site, and future development on the site would not affect evacuation of nearby areas along the surrounding streets. Emergency evacuation on and near the site would be provided by Sierra Avenue, Duncan Canyon Road, Citrus Avenue, Casa Grande Avenue and Cypress Avenue. Compliance with pertinent requirements of the Uniform Fire Code and Fire Protection District regulations on emergency access would provide adequate evacuation routes for future developments on the site. Impacts are expected to be less than significant.

Wildfire Hazards *(Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?)*

The development on the project site would change the largely vacant site to developed land, eliminating the potential for brush fires.

Fire Hazards

Future developments on the project site would be subject to review and approval by the San Bernardino County Fire Protection District for fire safety and preparedness, as well as the provision of adequate emergency access and evacuation. Compliance with pertinent requirements of the Uniform Fire Code and Fire Protection District regulations would prevent the creation of fire hazards on the site. Impacts are expected to be less than significant.

There is a gas pipeline pumping facility located at the western section of the site, along Duncan Canyon Road, with high pressure gas lines running along the northwestern boundary of the site. The pipelines and pumping facility pose a potential hazard from explosion and fire associated with pipeline rupture and valve damage. The pumping facility is located within a 0.57-acre triangular parcel and is expected will remain in place or be placed underground. While no construction or development is proposed as part of the *Arboretum Specific Plan* over the pipeline easement or at the gas pumping facility itself, nearby excavation and ground disturbance activities could lead to ground movement that could affect the adjacent pipelines.

Impacts 4.13.3: Construction activities near the gas pipelines may cause damage to the existing gas lines and pumping facility.

To protect the gas pipelines and valves, the Southern California Gas Company maintains a 100-foot wide easement along the northwestern boundary of the site. The easement width provides adequate separation as needed between the gas lines and any structure to prevent public health and safety hazards.

Section 4.13: Human Health and Hazards

No structure is allowed over the easement, although parking areas, driveways and landscaped areas may be developed over the SCG easement. Structures and uses that would preclude or obstruct access to the aboveground or underground gas lines, through an approximately 50-foot wide trench along the gas lines, are not allowed. Also, deep-rooting trees and shrubs that would need to be pulled out to obtain access to the gas lines are not allowed over the easement.

Mechanical equipment are not allowed within three horizontal feet of the gas lines, in order to prevent damage to the lines during construction and grading activities. Any closer work would have to be done by hand. Similarly, over seven feet of fill is needed over the gas lines where heavy construction equipment will be crossing over the easement. Approval by the Southern California Gas Company would be needed for any plans over the easement. A representative of the Southern California Gas Company must observe excavation work around and near the facilities to insure protection of the gas lines.

The developer would have to work closely with the Southern California Gas Company to ensure that the pipeline is not damaged during on-site construction activities. This will prevent the potential for fire and explosion hazards associated with the pipeline facility.

The proposed project would not include development over the 100-foot wide gas line easement or the gas pumping facility. However, residential uses proposed near the pipelines and pumping facility would be exposed hazards associated with damage or malfunction of the gas pipelines and pumping facility.

Impact 4.13.4: The proposed residential developments at the northwestern edge of the site may be exposed to hazards associated with the high-pressure gas lines and pumping facility at this location.

The proposed residential structures would also be separated from the gas pipeline by the 100-foot wide easement and a perimeter wall. The pumping facility should also be surrounded by a secured chainlink fencing and gate to prevent unauthorized entry and damage to the facility. The facility is subject to regular inspection and maintenance by SCG to prevent hazards associated with fire or explosion. No undue fire hazards associated with the gas line and gas pumping facility are anticipated with the proposed project.

Brush fire hazards that may be present on undeveloped lands would be eliminated with future development on the site. The construction of roadways along the perimeter of each of the villages would serve as buffers to adjacent areas that would remain undeveloped. Also, perimeter walls would be provided to separate the villages from the adjacent arterial streets. Thus, brush fire hazards would be reduced and eliminated with future development under the proposed *Arboretum Specific Plan*. No significant adverse impacts are expected.

Electromagnetic Fields

Residents that would occupy the homes near the northwestern boundary of the site would be located approximately 200 feet from the electrical transmission towers. These residents would be exposed to EMF from these transmission lines. The EMF exposure may induce electric fields and current in the human body for these individuals. However, decades of scientific research and investigations have not been able to conclude that EMF causes cancer or other adverse health effects. As indicated above, numerous studies have not shown a consistent finding that EMF causes cancer or other adverse health effects, by itself. Continued

Section 4.13: Human Health and Hazards

investigations and studies are being conducted to ensure that human exposure to EMF does not cause adverse health effects; that man-made EMF-generating devices are safe and their use does not electrically interfere with other devices; and to establish international guidelines and standards.

According to CEQA Guidelines Section 15145, “*if, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact*”. The known information about electromagnetic fields is summarized above, and no conclusion of significance is reached. Thus, the EMF exposure of future residential uses proposed near the SCE easement cannot be considered significant and adverse at this time.

Since the existing scientific data are inconclusive and potential impacts are speculative in nature, this issue area is dismissed from further analysis in this EIR. However, to allay concerns regarding EMF exposure and its health effects, a mitigation measure is provided below regarding the public disclosure of the SCE high-voltage power transmission lines near the site to all potential homebuyers.

4.13.4 Standard Conditions and Mitigation Measures

Standard Conditions

Numerous regulations address hazardous materials use, storage, transport, and disposal. Implementation of the following standard conditions would prevent undue public health and safety hazards associated with hazardous materials:

Standard Condition 4.13.1: Construction activities, school maintenance, and commercial uses that utilize hazardous materials shall comply with applicable regulations regarding hazardous materials use, handling, storage, transport, and disposal.

Standard Condition 4.13.2: As needed, future commercial uses and schools shall obtain a hazardous materials handler permit from the San Bernardino County Fire Department, prior to the issuance of a Certificate of Occupancy, which would include the development of a business emergency/contingency plan for hazardous materials and wastes that would be stored, generated, or treated at these facilities.

Mitigation Measures

Past agricultural uses and the gas lines and pumping facility would pose hazards to future developments on the site. Implementation of the following mitigation measures would reduce impacts to less than significant levels.

Mitigation Measure 4.13.1: Waste oil drums, television, and other illegally dumped hazardous wastes on the site shall be disposed at a facility licensed to accept such hazardous wastes, prior to grading and excavation activities at the site.

Mitigation Measure 4.13.2: Prior to the development of the eastern central section of the site (APN 0239-131-045), shallow soil sampling shall be made at areas which were

Section 4.13: Human Health and Hazards

formerly utilized for agricultural purposes, to determine if residues from pesticide applications remain in the soil. If the results of the soil testing show chemical levels are below regulatory levels, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above regulatory standards. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established maximum contaminant levels.

Mitigation Measure 4.13.3: In order to protect the gas pipelines and pumping facility, the developer shall coordinate and obtain approval from the Southern California Gas Company for grading and construction activities and any improvements and structures on or near the 100-foot wide gas line easement along the northwestern boundary of the site and the pumping facility at the western section of the site. Specifically, the following measures shall be followed:

- No structures shall be built over the 100-foot wide gas line easement although parking areas, driveways and landscaped areas may be developed over the easement.*
- Structures and uses that would preclude or obstruct access to the aboveground or underground gas lines, through an approximately 50-foot wide trench along the gas lines, are not allowed.*
- Deep-rooting trees and shrubs that would need to be pulled out to obtain access to the gas lines are not allowed over the easement.*
- Mechanical equipment are not allowed within three horizontal feet of the gas lines, in order to prevent damage to the lines during construction and grading activities. Any closer work would have to be done by hand.*
- At least seven feet of fill is needed over the gas lines where heavy construction equipment will be crossing over the easement during construction activities.*
- Approval by the Southern California Gas Company would be needed for any plans over the easement.*
- A representative of the Southern California Gas Company must observe excavation work around and near the facilities to insure protection of the gas lines.*

Mitigation Measure 4.13.4: A perimeter wall and/or security fence shall be provided around the gas pumping facility, along with a secured gate to prevent unauthorized entry and damage to the facility.

Mitigation Measure 4.13.5: The applicant shall provide information on the presence of high-voltage power transmission lines to all potential home buyers.

4.13.5 Unavoidable Significant Adverse Impacts

Construction and operation of future developments under the proposed *Arboretum Specific Plan* would utilize hazardous materials or generate hazardous wastes, which could adversely affect the construction crew, residents, employees, and visitors of the site. Hazards are also posed by

Section 4.13: Human Health and Hazards

past land uses and the existing gas pipelines and pumping facility near the site. Implementation of the standard conditions and mitigation measures above would reduce potential adverse impacts to less than significant levels. No unavoidable significant adverse impacts are expected after mitigation.

Section 4.14: Visual Quality and Aesthetics

4.14.1 Environmental Setting

Visual Quality

The project site consists of a slightly sloping undeveloped area, supporting chamise, sage scrub, California buckwheat, deerweed, non-native grassland, and a burn area, with trees at the east central and northwestern edges. A single-family residence and accessory structures that was located at the northwestern corner of the site burned down in Fall 2007. A gas pumping facility is located at the western central edge of the site, just north of the Duncan Canyon Road alignment. High-voltage power transmission lines on steel trusses of the Southern California Edison Company (SCE), run along the northwestern boundary of the site. The power lines are located within an approximately 200- to 250-foot wide easement. Two high-pressure gas lines are also present underground along the northwestern boundary of the site, within a 100-foot wide easement for the Southern California Gas Company (SCG). Citrus Avenue defines the western boundary of the site and Sierra Avenue defines the eastern boundary of the site. Overhead utility lines run along both roads. West of Citrus Avenue are vacant land and the I-15 Freeway. East of Sierra Avenue is vacant land and a single-family residence, with a 330-foot wide SCE right-of-way supporting high-voltage transmission lines on steel towers east of the vacant land and single-family homes within the City of Rialto farther east.

A 136- to 153-foot wide right-of-way owned by the Metropolitan Water District of Southern California (MWD) generally runs along the southern boundary of the site and is the planned future alignment for Casa Grande Avenue. South of the MWD right-of-way is vacant land within the Summit at Rosena Specific Plan, with the Shady Trail development to the southwest

A dirt road that provides access to the former residence extends westerly from Sierra Avenue and is the alignment of Grapeland Street. North of the dirt road are vacant lands and an existing single-family residence located on Sierra Avenue to the northeast of the site.

Figures 4.14-1 and 4.14-2, *Site Photographs*, provide views of the project site from various viewpoints. As shown in these photos, the project site is a large open area. Trash and scattered debris are found at various locations along the roadsides, with dirt roads cutting through the site at various locations.

Views

Views of the site show a relatively flat, open field, with low shrubs and gravelly soils and a few scattered trees. A brush fire in Fall 2007 has left the northern and northeastern sections of the site with a more open area with burnt shrubs. Along the northwestern boundary of the site is the SCE right-of-way with high voltage power lines on steel trusses. A natural gas pumping facility is located just west of the site on Duncan Canyon Road. Overhead power lines on wooden poles line the east sides of Sierra and Citrus Avenues and the south side of the dirt road along the site's northern boundary.

East of the site is vacant land across Sierra Avenue, a residence and high-voltage transmission lines on steel towers, with residences in Rialto farther east. South of the site is vacant land, with a new residential development to the southwest. West and north of the site is vacant land across Citrus Avenue, with the I-15 Freeway farther out. Views of the San Gabriel and San Bernardino Mountains are visible to the north, northeast and northwest.

Figure 4.14-1 Site Photographs



Looking south from 42nd Street at Sierra Avenue



Looking northeast from MWD right-of-way at Sierra Avenue



Looking southeast from Duncan Canyon Road at Citrus Avenue



Burnt area of former residence at northwestern corner

Arboretum Specific Plan City of Fontana

Figure 4.14-2 Site Photographs



Looking east at 42nd Street Dirt Road/ Grapeland Street alignment



Steel tower along northwestern boundary



Looking east at MWD right-of-way/ Casa Grande Drive alignment



Looking east at Duncan Canyon Road alignment

**Arboretum Specific Plan
City of Fontana**

Section 4.14: Visual Quality and Aesthetics

Scenic Highways

There are no scenic highways near the project site, as designated by the City of Fontana, the County of San Bernardino, or the State of California. While portions of the I-15 Freeway are considered eligible by the County for designation as a scenic highway, the freeway section west of the site is not officially designated or eligible. The eligible segment of the I-15 Freeway is located approximately 65 miles north of the site, starting at SR 58 near Barstow to SR 127 near Baker. The project site is not visible from the I-15 Freeway at Barstow or Baker. Thus, the site is not part of the scenic views along this freeway.

The nearest scenic highway is State Route 38 (SR-38), which is known as the Rim of the World Scenic Byway. This scenic highway runs from the City of Redlands to Big Bear Lake and winds through the San Bernardino Mountains. SR-38 is located approximately 20 miles east of the site and is not visible from Fontana or the project site. Foothill Boulevard, located approximately three miles south of the site is a designated Heritage Corridor (Historic Route 66) by the State and as a Theme Corridor by the City. Foothill Boulevard is not visible from the site, and the site is not visible from Foothill Boulevard.

Sierra Avenue is designated by the City of Fontana as a view/theme corridor for the San Gabriel Mountains to the north and the intersection of Riverside and Sierra Avenues is identified in the Fontana General Plan as a gateway to the City. The site is located just west of Sierra Avenue at the northern end of the City.

The site is vacant and does not feature unique geologic formations, trees or historic structures that may constitute scenic resources.

Light and Glare

The project site is vacant, and sources of light in the area are limited to streetlights along Citrus Avenue, Sierra Avenue, and Duncan Canyon Road, and exterior lighting at the nearby single-family residences. No sources of light or glare are present on the site.

Other sources of light in the project area include headlights from passing vehicles on the I-15 Freeway and local roadways and lights on freeway signs, as well as street lights and outdoor lighting at nearby residential tracts.

4.14.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on aesthetics, if its implementation results in any of the following:

- ◆ Has a substantial adverse effect on a scenic vista;
- ◆ Substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- ◆ Substantially degrades the existing visual character or quality of the site and its surroundings; or,
- ◆ Creates a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Section 4.14: Visual Quality and Aesthetics

4.14.3 Environmental Impacts

Future development on the site, as proposed under the *Arboretum Specific Plan*, would change the visual quality of the project site, as the vacant site is developed with residential and commercial structures, schools, and parks.

Scenic Vista (*Would the project have a substantial adverse effect on a scenic vista?*)

There are no scenic vistas on or near the site. The site is part of the undeveloped area of North Fontana and is visible on adjacent roadways and the I-15 Freeway. However, there are no unique geologic features, trees, or historic structures on the site which may constitute a scenic resource for the area.

Major views in the area include those of the San Bernardino and San Gabriel Mountains located north, northeast, and northwest of the project site. Views of the mountains from areas north, east and west of the site would not change with the proposed project, as future development on the site would not block their views. Views from areas to the south of the site would change as the proposed residential villages, schools and commercial activity center are built on the site. These developments would lead to residential structures up to four stories high that would change the foreground views of adjacent areas from vacant land to residential structures, a commercial center, parking areas, streets, schools, parks, and landscaped open space.

From the site, views would also be blocked by structures that would be built throughout the site, as buildings are placed between the viewer and the mountains to the north. Depending on the building heights of the proposed structures and the height of the viewer, views of the residential units on the southern section of the site could be partially block by the residential buildings, school, and the commercial development that is built on the site.

The maximum building height for residential structures is set by the proposed Specific Plan according to setbacks that would be provided from the street right-of-way. Single-story structures are required to provide 5-foot setbacks, with four-story structures required to provide 20-foot setbacks. This would lead to wider views along streets flanked by larger and taller structures. Thus, views would continue to be available along and through street rights-of-way. This will allow the mountains to remain visible from areas south of the site. Changes in mountain views are not expected to be significant and adverse.

The City of Fontana has designated Sierra Avenue as a view corridor to allow for the preservation of mountain views in North Fontana. The project would not affect the gateway to the City at Sierra Avenue and Riverside Avenue, which is northeast of the site. However, views of the mountains along the Sierra Avenue view corridor would change as perimeter walls and structures are built on the site. While on-site structures and improvements would block views of the mountains, the mountains rise to heights over 6,000 feet above mean sea level or over 4,000 feet above the project site. Thus, the mountains will remain visible above the foreground views of the proposed structures on the site.

Building separation and setback requirements for individual structures would also preserve distant mountain views and prevent total view obstruction. Existing single-family residences located southwest of the site are likely to experience a change in views of the mountains. However, the height of the mountains will allow them to remain visible from these homes. View impacts are expected to be less than significant.

Section 4.14: Visual Quality and Aesthetics

Scenic Resources and Scenic Highways *(Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?)*

There are no scenic highways on or near the site, which may be affected by the associated changes in the visual appearance of the site due to future development under the proposed Specific Plan. Thus, no impacts on scenic highways would occur with the project. Also, no changes in views from SR 38 and Foothill Boulevard would occur. Views from the I-15 Freeway would change but the site is not located adjacent to the freeway or to the freeway segment eligible for designation as a scenic highway. The eligible segment of the I-15 Freeway is located approximately 65 miles north of the site, starting at SR 58 near Barstow to SR 127 near Baker. No adverse impact on scenic highways would occur with the project.

Visual Quality *(Would the project substantially degrade the existing visual character or quality of the site and its surroundings?)*

Visual Quality

The vacant and undeveloped condition of the site would change into an urban environment, consisting of residential villages, parks, schools and a commercial activity center. As many as 3,526 residential units, along with an 8.8-acre commercial activity center with approximately 95,832 square feet of commercial floor area, a regional arboretum, various parks, an elementary school, and a combined elementary and middle school would be developed on the project site, as part of the project. These developments would change the open land characteristic of the site to one with several structures surrounded by improved landscapes and streetscapes. Proposed structures would feature a mix of the Santa Barbara, Spanish Colonial, Monterey, Tuscan, Provence, Italianate, California Craftsman, Prairie, and European Cottage architectural styles. Each planning area would feature an architectural theme, which would differentiate it from other planning areas within each village.

The proposed project would present a developed area consisting of four residential villages providing a mix of housing types, with a supporting commercial area, parks and schools that would be surrounded by vacant land to north, south, east, and west, if development of the site occurs prior to the development of these adjacent areas. While the project would have smaller lot sizes that typically found in the City, the site would feature more open space, parks, and amenities, along with a regional arboretum. Thus, overall residential density would be less than the City's allowable maximum of 24 units per acre.

Building setbacks from streets would depend on building height, with taller structures required to provide wider setbacks. This would reduce building mass and open up views through streets.

A community trail is proposed along the SCG easement at the northwestern boundary of the site and an internal trail would be provided that would form a circulation connection between the various neighborhood parks in the four villages. In addition, pocket parks would be provided at scattered locations to serve the individual villages. Perimeter landscaping and entryways would define the villages. Streetscape landscaping would also differ according to street classification.

The determination of whether the changes in visual quality of the site would degrade the site or its surroundings, and thus, be significant and adverse, is highly subjective as some individuals

Section 4.14: Visual Quality and Aesthetics

prefer open and natural settings, while others prefer urban and improved environments. Similarly, preferences for one architectural style over another make it difficult to conclude that a development would have a negative or positive aesthetic impact.

While the change in the visual quality of the site would be less “open and natural”, the project would provide a more structured setting, with defined edges between roads, parkways, landscaped areas, parking lots, buildings, and pathways. The perception of this change would be different from one person to another and visual preferences between the existing and future conditions are highly subjective.

Thus, if the City approves the proposed design guidelines under the *Arboretum Specific Plan*, it is assumed that compliance with the design guidelines in the Specific Plan would be in keeping with the aesthetic standards for future development on the site. The City would have to review and approve the site plans for the residential villages and commercial activity center for compliance with the development standards, sign regulations, and design guidelines in the proposed Specific Plan, prior to the approval of building permits. This will ensure that future development is consistent with the development anticipated under the proposed Specific Plan and does not result in negative aesthetic impacts.

Thus, the change in visual appearance related to implementation of the Specific Plan and future development on the site would result in a major change in the visual quality of the site but is not expected to have a significant adverse aesthetic impact, assuming development projects comply with the Specific Plan design guidelines.

Public Views

According to the proposed Specific Plan, the proposed dwelling units would be constructed as different product types within each village. Walls would be provided at the perimeter of residential villages along Duncan Canyon Road, Citrus Avenue, Sierra Avenue, Casa Grande Avenue and Cypress Avenue, with streetscape (median and parkway) landscaping provided.

Village entries would be provided at the main entries to each village, which would consist of signs/monumentation, landscaping materials, enhanced paving, entry structures and other features to create an identity for each village. At the same time, landscaping of parks, trails, pedestrian walkways and open areas would be limited to those included in the plant palette outlined in the Specific Plan. Compliance with the streetscape and landscaping standards and design guidelines would prevent the creation of visual clutter along roadways on and near the site. Potential changes in public views would not represent significant adverse impacts.

New Sources of Light and Glare (*Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*)

Future development under the proposed *Arboretum Specific Plan* would be accompanied by new sources of light and glare. These would include streetlights on planned roadways within the site and the abutting roadways, exterior security lighting for residential villages, schools, parks, and the commercial activity center, as well as lighted signs, parking lot lighting, and pedestrian pathway lighting. These new light sources would result in an increase in the lighting levels of the site over existing conditions. Increased lighting levels could impact adjacent residential uses to the southwest, but would not lead to a significant adverse effect on these residences since the homes are separated from the site by Casa Grande Avenue. Any light

Section 4.14: Visual Quality and Aesthetics

spillover would be confined to the site and the abutting streets and would not affect areas farther southwest. In addition, future residential uses that would be built east, south and west of the site would be separated from the site by Sierra Avenue, Casa Grande Avenue and Citrus Avenue, respectively. These perimeter streets would provide the separation to prevent light spillover on adjacent land uses from future developments on the site.

The construction of the commercial areas would also create new sources of glare in the form of glazed building surfaces, use of mirrors and glass as exterior building surfaces, and other reflective materials that would reflect the sun or light sources and create glare.

The Specific Plan states that light and glare standards in the City's Zoning and Development Code would remain applicable to future development on the site. Section 30-184 of the Zoning and Development Code states:

Section 30-184. Light and glare.

All lights shall be directed and/or shielded to prevent the light from adversely affecting adjacent properties. No structure or feature shall be permitted which creates adverse glare effects.

A number of development standards and design guidelines for commercial uses also regulate the spillover effects and lights on adjacent properties. Specifically, Section 30-230, Design Guidelines for Commercial Districts, includes the following standards for lighting:

Section 30-232 Site Plan Design, (f) Lighting:

(1) All exterior lighting shall be adequately controlled and shielded to prevent glare and undesirable illumination to adjacent properties or streets.

(2) On-site lights shall provide a safe, functional, and aesthetic design. Enough lighting should be provided to ensure a safe environment while at the same time not cause areas of intense light and glare.

(3) Light fixtures and poles shall be designed and placed in a manner consistent and compatible with the overall site and building design.

(4) Shall comply with Fontana Police Department security requirements.

(5) Security lighting shall be utilized in all parking areas and pedestrian walkways within the residential portions of mixed use projects.

Future development on the site would be required to submit lighting plans for design review and approval by the City. Compliance with the City's performance standards regarding light and glare would prevent the creation of significant adverse light and glare impacts.

Vehicles going to and from the site during the nighttime hours would also introduce vehicle lights on roadways that may also affect on-site and nearby residential uses. The proposed dwelling units would face back from major roadways and would not be impacted directly by vehicle headlights on Duncan Canyon Road, Citrus Avenue, Sierra Avenue, Grapeland Street, Cypress Avenue, and Casa Grande Avenue. Block wall around these villages would also

Section 4.14: Visual Quality and Aesthetics

reduce intrusion of vehicle headlights and streetlights into abutting residences. Light and glare impacts would not be significant and adverse.

4.14.4 Standard Conditions and Mitigation Measures

Standard Conditions

Future development under proposed Specific Plan would change the visual appearance of the project site. New sources of light and glare would be created. The implementation of the following standard condition would prevent the creation of negative aesthetic impacts and spillover light and glare impacts:

Standard Condition 4.14.1: Future development on the project site shall be subject to site plan and design review for compliance with the development regulations and design guidelines in the adopted Specific Plan and applicable regulations in the City's Zoning and Development Code.

Mitigation Measures

Implementation of the standard condition would prevent adverse impacts related to aesthetics and visual quality. No mitigation measures are recommended.

4.14.5 Unavoidable Significant Adverse Impacts

Changes in the visual quality of the site would occur with future development under the proposed Specific Plan, along with the introduction of new sources of light and glare. Changes in the visual quality of the project site are not expected to result in the substantial degradation of views to and from the site. Negative aesthetic impacts and impacts relating the light and glare can be prevented or reduced to less than significant levels by compliance with the landscaping and design guidelines and exterior lighting standards in the proposed Specific Plan and applicable City regulations. No unavoidable significant adverse impacts are expected in terms of aesthetics and visual quality.

Section 5.0: Significant Irreversible Environmental Changes and Unavoidable Adverse Impacts

The implementation of the proposed *Arboretum Specific Plan* and future development built on the site, as allowed under the proposed Specific Plan, would result in some forms of irreversible environmental changes. Primary resources that would be eliminated include the incremental loss of vacant land in the northern section of the City of Fontana. However, the site is designated for urban uses under the City's Land Use Plan and Zoning Map. Thus, development with urban uses has been anticipated and would likely occur in the future.

The project would also entail the commitment of energy and natural resources for construction and operation of the proposed land uses. The commitment of energy and natural resources and building materials would be proportionate with that of other development projects of similar land use and size. Labor would also be committed for the construction of buildings and the upgrading and maintenance of infrastructure systems and public facilities necessary to support the proposed developments. The use of these non-renewable resources would be irreversible. Once constructed, occupancy of the dwelling units on the site and use of the schools, parks and recreation areas, and commercial activity center would also entail a commitment of energy resources in the form of fossil fuels and electricity. This commitment would be a long-term obligation, since the proposed structures are likely to have a useful life of 30 years or more. However, future energy consumption by the project is not considered a significant adverse environmental impact.

In addition, the proposed project would involve the following irreversible environmental changes:

- The development of approximately 531.3 acres of vacant land with future residences, parks, commercial activity center, and school uses would result in the loss of vacant land and the potential to return the site to a primarily undeveloped condition. On-site improvements would include roadways, various residential and commercial structures, and infrastructure systems. The site would become an urbanized area, similar to the more developed sections of the City. Removal of all proposed buildings and infrastructure would be necessary to revert the site back to its vacant condition.
- The project would introduce as many as 3,526 households, with approximately 14,019 residents, and 386 employees who would be residing and working at the project site. The introduction of employees and residents to the site could only be reversed with the discontinuation of proposed land uses.
- Approximately 31,509 new vehicle trips would be generated and would utilize area roadways and freeways such as Sierra Avenue, Cypress Avenue, Duncan Canyon Road, Citrus Avenue, Casa Grande Avenue, Grapeland Street, internal roads, and other surrounding roadways. The project would include the construction of on-site and adjacent roadways, as well as the payment of fees to fund roadway improvements in the City. These would allow the local roadway network to handle the additional vehicle trips at acceptable levels of service.
- Pollutant emissions from construction activities would occur but would be short-term, incremental, and would be minimized by the implementation of standard conditions and mitigation measures. New vehicle trips on the roadway network would also generate air pollutants associated with vehicle exhaust. Stationary source pollutants from residences, parks, commercial activity center, and school uses would also add to area-wide and basin-wide air pollution levels. These emissions would exceed SCAQMD thresholds of significance, even after mitigation. These emissions would occur until the discontinuation of all proposed land uses.

Section 5.0: Significant Irreversible Environmental Changes and Unavoidable Adverse Impacts

- Construction noise impacts would be incremental, temporary, and short-term as buildings, roads, and infrastructure systems are constructed on and near the site. The project would also introduce long-term noise from vehicles traveling to and from the site. Stationary noise would also be generated by residential, park, commercial activity center, and school activities at the site. While exterior and interior noise levels from proposed uses and passing vehicles can be reduced by perimeter walls and acoustical treatment of structures, the impacts would continue for the life of the noise source.
- The project would require grading, which would permanently alter the surface soils and topography of the project site. However, the project site has a slight slope and future development under the proposed Specific Plan is expected to create generally flat areas, with landscaped berms and perimeter slopes. Excavation activities needed for the construction of future structures, roadways, and infrastructure would alter the surface soils on the site. This impact would be irreversible but not significant.
- The project would change drainage patterns at the site and increase stormwater runoff volumes and rates into the storm drain system serving the site. Changes in stormwater runoff quality would also occur as pollutants associated with urban developments are introduced into the stormwater. Stormwater pollutant treatment control measures would reduce soil erosion and pollutants during construction and occupancy of the dwelling units and operation of the schools, parks and commercial activity center.
- The project would lead to the disturbance and removal of existing vegetation on-site, including the loss of sage scrub vegetation, non-native grasses, and ornamental trees. Loss of nesting sites and habitat for raptors, migratory birds and the burrowing owl, as well as the loss of habitat for sensitive species would be mitigated by the payment of fees under the City's interim MSHCP program, compliance with the City's Tree Preservation Ordinance, and implementation of the recommended mitigation measures. This impact would be irreversible but considered less than significant after mitigation.
- The foundation remains at the SCE/SCG easement may also be removed as part of trails, gardens, and passive recreation areas within the easements. Mitigation measures have been included to require formal evaluation of these remains and implementation of a mitigation plan if they are determined to be important cultural resources. Changes to resources would be irreversible but impacts are expected to be less than significant after mitigation.
- The project site does not possess any significant energy, oil, or agricultural resources that would be adversely affected by the proposed project. Commitment of energy, water, and other natural resources for the construction and occupancy/operation of the proposed residences, commercial activity center, parks, and schools would occur. Resource utilization is not expected to represent a significant use of available resources in the region.
- The increase in demand for public services would be served by current facilities and staffing of public service agencies. Payment of development impact fees would allow public facilities (fire, schools, libraries, and police) to expand or upgrade services and facilities to provide adequate services to the site and the City. Annual review of service levels for fire and police services would

Section 5.0: Significant Irreversible Environmental Changes and Unavoidable Adverse Impacts

ensure acceptable service levels. This demand would continue to occur as long as the proposed developments are in use.

- The project would generate a demand for public utilities and would require the extension of existing infrastructure lines. The demands for electrical power, natural gas, water, sewage treatment, storm drainage, and solid waste disposal that would be required to serve the project are within available supplies, resources, and facility capacities, with implementation of the standard conditions. This demand would continue to occur as long as the proposed developments are in use.
- The proposed Specific Plan would lead to the construction of residences, schools, parks, and a commercial activity center on the site, which may store, generate, utilize, or dispose of hazardous materials and hazardous wastes. Use of hazardous materials would be made in accordance with current regulations and are not expected to create public health or safety hazards on the site, but would continue for the life of the developments.
- The project would change the visual quality of the vacant site through the construction of residential and commercial structures throughout the site. New light sources would also be introduced to the environment with future development under the proposed Specific Plan. Changes in the visual and aesthetic quality of the site would be irreversible.

Except for the loss of on-site vegetation, changes in surface soils, and the commitment of energy and mineral resources, all environmental changes can be reversed with the complete demolition of proposed improvements and structures built on the site and the discontinuation of the proposed residential and commercial uses, schools and parks. Thus, returning the site to a vacant condition would eliminate most of the environmental changes outlined above. However, this is unrealistic, as once developed, sites rarely revert to an undeveloped state. Rather, they are redeveloped with other land uses.

Based on the analyses in Section 4.0 of this EIR, the environmental changes that would accompany the proposed project can also be reduced to below levels of significance with the implementation of standard conditions and the recommended mitigation measures. While traffic impacts would be significant in the short-term, future completion of the roadway network in North Fontana would allow roadways and intersections to operate at acceptable levels of service. Only air quality impacts associated with Future development under the proposed Specific Plan would remain significant and unavoidable even after mitigation. However, SCAQMD is implementing area-wide and regional air quality management programs and strategies in accordance with the Air Quality Management Plan for the South Coast Air Basin. These regulations, programs, and strategies have been designed to achieve federal and state clean air standards in the region by a set deadline of 2023.

Section 6.0: Cumulative Impacts

Section 15355 of the State CEQA Guidelines describes *cumulative impacts* as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. These individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

6.1 RELATED PROJECTS

Section 15130(b) of the State CEQA Guidelines describes an adequate discussion of cumulative impacts as one which includes either of the following elements:

- 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.

The proposed *Arboretum Specific Plan* would allow the development of as many as 3,526 dwelling units, an 8.8-acre commercial activity center, an elementary school, a combined elementary and middle school, and various parks on 531.3 acres of vacant land in North Fontana. There are several other developments proposed or under construction near the site, which are considered related projects, in terms of the cumulative impacts of the project.

For the purposes of the cumulative effects analysis, planned developments in the project area and reasonably foreseeable future developments in the surrounding area have been considered. These related projects have been developed in coordination with City staff and in consultation with County of San Bernardino staff. The related projects in the City of Fontana are confined to those in the North Fontana area, located north of the SR-210 Freeway, and are presented in Table 6-1, *Related Projects in Fontana*.

TABLE 6-1
RELATED PROJECTS IN FONTANA

Project Name	Location	Description	Project Status
Private Developments in Fontana			
1. Citrus Heights North Specific Plan	198 acres north of Summit Avenue and east of Lytle Creek Road	606 SFR and 548 MFR dwelling units; 100,000 square feet within a neighborhood shopping center	123 SFR on 31 acres in Tract 16872 under construction; 114 MFR under review
2. Blackmon Homes	90 acres north of Summit Avenue and ½ mile west of Sierra Avenue	240 SFR units	Approved and under construction
3. Empire North Fontana - Tract 16445	83 acres east of Sierra Avenue, south of Riverside Avenue	720 residential dwelling units, 120,000 square feet of general commercial	Under review
4. Westfork (within Coyote Canyon Specific Plan Area)	North of Three Mile Road northwest of I-15 Freeway	225 SFR units	Under construction

Section 6.0: Cumulative Impacts

TABLE 6-1
RELATED PROJECTS IN FONTANA

Project Name	Location	Description	Project Status
5. Willowbend/Millbrook (within Coyote Canyon Specific Plan Area)	East of Roadrunner Drive northwest of the I-15 Freeway	440 SFR units	Under construction
6. Summit at Rosena Specific Plan	185 acres north of Summit Avenue and west of Sierra Avenue	475 SFR lots, 425 MFR, 4.5-acre neighborhood commercial area, 20 acres of parks, 1 elementary school	Approved
7. Annexation No. 169 – Monarch Hills	North of I-15, east of Coyote Canyon Specific Plan	Annexation of approximately 435 acres; Tract 17020 - 304 SFR lots on 213 acres; 40 SFR units on 20 acres zoned RE; and 1,160 SFR units on 202 acres zoned R-PC	Annexation with LAFCO, Tract 17020 in planning stages
8. Tentative Tract 16621 by Lewis Homes	90 acres on Citrus Avenue north of Summit Avenue and south of Duncan Canyon Road	Approximately 302 SFR lots	Filed tentative map, under review
9. Tentative Tract 16525 by Young Homes	North of Summit Avenue between Casa Grande Avenue and Duncan Canyon Road	173 SFR lots on 86.8 acres	Filed tentative map, under review
10. Ventana At Duncan Canyon Specific Plan	103.31 acres bounded by Citrus Avenue, I-15 Freeway, Lytle Creek Road and SCE right-of-way	334 units, 428,250 sf of retail and office, 165-room hotel and 3-acre park	Approved
11. Citrus Heights South	109.5 acres east of Lytle Creek Road and south of Summit	495 SFR	472 SFR completed, 23 SFR to be built
12. Westgate Specific Plan	954 acres east of I-15 and north and south of SR-210	2,505 residential units, 117 acres of business parks and 130 acres of mixed use developments	40 acres of commercial built (Falcon Ridge), 2,505 units and 207 acres of commercial uses still to be built
13. Sierra Lakes Specific Plan	700 acres west of Sierra and south of Summit Avenue	1855 SFR, 68.8 acres of commercial , with 1755 SFR built	100 SFR to be completed; 261,666 sf shopping center for Costco under construction; 5-10 acres still to be developed; Home Depot and health club under review.
14. Panorama at Hunters Ridge Specific Plan	North of I-15 freeway, near Bridlepath Drive and Foxborough Drive	71 SFR lots	51 SFR lots under construction; 20 SFR lots proposed
15. Falcon Ridge Town Center	40 acres on southeast corner of Beech and I-15 Freeway	446,600 square foot commercial center (Phase 1 = Target, Stater Brothers, Michaels, Chili's, Panera Bread, and Paisano; Phase 2 = 24 Hour Fitness and Sav-on)	370,825 square feet completed under Phase 1 with 95,775 square feet under Phase 2 in plan check
16. Lytle Creek Apartments	10.4 acres south of Sierra Lakes Parkway between Maloof Avenue and Lytle Creek Road and north of	233 MFR	Plan under review

Section 6.0: Cumulative Impacts

TABLE 6-1
RELATED PROJECTS IN FONTANA

Project Name	Location	Description	Project Status
	SR 210		
Public Developments in Fontana			
17. Fontana Park	Northeast corner of Summit Avenue and Lytle Creek Road	40 acres for future active park, community center, skate park and aquatic center	Approved, plan check stage
18. Coyote Canyon Sports Park	North of Duncan canyon Road and Coyote Canyon Road	15.5-acre community park with baseball fields and tot lot	Approved, under construction
19. Sierra Avenue/I-15 Interchange	Sierra Avenue at 1-15 eastbound and westbound ramps	Installation of traffic signal, roadway and ramp widening/restriping for additional lanes to improve circulation	Planning stage, to be completed when surrounding area is developed
20. Summit Avenue	Summit Avenue from I-15 to east City limits	Roadway widening	I-15 to Citrus done, Citrus to Cypress ongoing and Cypress to east end in planning stage
21. Casa Grande Avenue	From Sierra Avenue to eastern City limits	Roadway design, right-of-way, street, and utilities to improve circulation.	Planning stage, to be completed when surrounding area is developed
22. I-15/Duncan Canyon Interchange	Intersection of I-15 and Duncan Canyon Road in northern Fontana	New on and off ramps to the freeway and roadway widening	Planning stage, to be built 2009/2010
23. I-15 Freeway	Northbound and Southbound lanes between Glen Helen Parkway and the SR-210 Freeway	The addition of general use lanes and a carpool lane on I-15 Freeway.	Planning stage
24. Fire Station #79	Duncan Canyon Road, west of I-15 Freeway	Fire Station	Under construction
25. RUSD Elementary School	NEC of Sierra and Tierra Vista	Elementary School	Plan check
Sources: City of Fontana, Fontana Redevelopment Agency, Capital Improvements Program, and Department of Housing and Business Development			

As shown, approximately 7,718 single-family homes, 1,206 multi-family residences, a total of approximately 3.43 million square feet of commercial floor area (assuming a floor area ratio (FAR) of 0.25 for commercial uses), 2 elementary schools, a fire station, 4 parks, and several freeway/roadway widening and improvement projects are expected to be developed and constructed in North Fontana as part of approved and proposed developments in the project area.

Development projects that are proposed, ongoing, and planned in the unincorporated areas of San Bernardino County near the project site are listed in Table 6-2 *Related Projects in San Bernardino County*, as obtained from the County's Land Use Services Department. The construction of these proposed developments would result in approximately 2,325 new single-family residential dwelling units, a religious retreat, a telecommunications tower, and a dog kennel within the unincorporated County area north of the project site.

Section 6.0: Cumulative Impacts

TABLE 6-2
RELATED PROJECTS IN SAN BERNARDINO COUNTY

Project	Location	Description	Project Status
26. Eden Hill Mission	East side of Middle Fork Road, approximately 700 feet north of Lytle Creek Road	Conditional Use Permit (CUP) to establish a 3.08-acre religious retreat on a 9.7-acre lot	In review, to be conditionally approved within next 2-3 weeks
27. Waggin Tails Ranch	Cajon Boulevard, approximately 0.5-mile south of Cajon Blvd. and 2.5 miles northeast of Lytle Creek Road	CUP to establish a private kennel for no more than 100 dogs on a 4.86-acre portion of 40 acres	Project pending approval due to access issues
28. T-Mobile (Omnipoint Communications, Inc.)	SW of I-15 and Glen Helen Parkway APN 0239-061-24 (old) 0239-061-41 (new)	CUP for wireless telecommunications facility on 986 sf of 92.22 acres	Application Accepted
29. Lytle Creek North Planned Development	Glen Helen Parkway and Sierra Ave. APN 0239-061-32-0000	Master Tract 15900, Planned Development with 2,325 lots on 645 acres	Under construction
	Glen Helen Parkway and Sierra Ave. APN 0239-061-46-0000	Merge 21 lots on 350.92 acres	
	Glen Helen Parkway and Sierra Ave. APN 0239-061-65-0000	Tentative Tract 17771 for 363 residential lots and 3 lettered lots on 71.5 acres	
	Glen Helen Parkway and Sierra Ave. APN 0239-061-58-0000	Tentative Tract 18039 for 149 residential lots and 1 lettered lot on 27.38 acres	
Source: County of San Bernardino, April 2007			

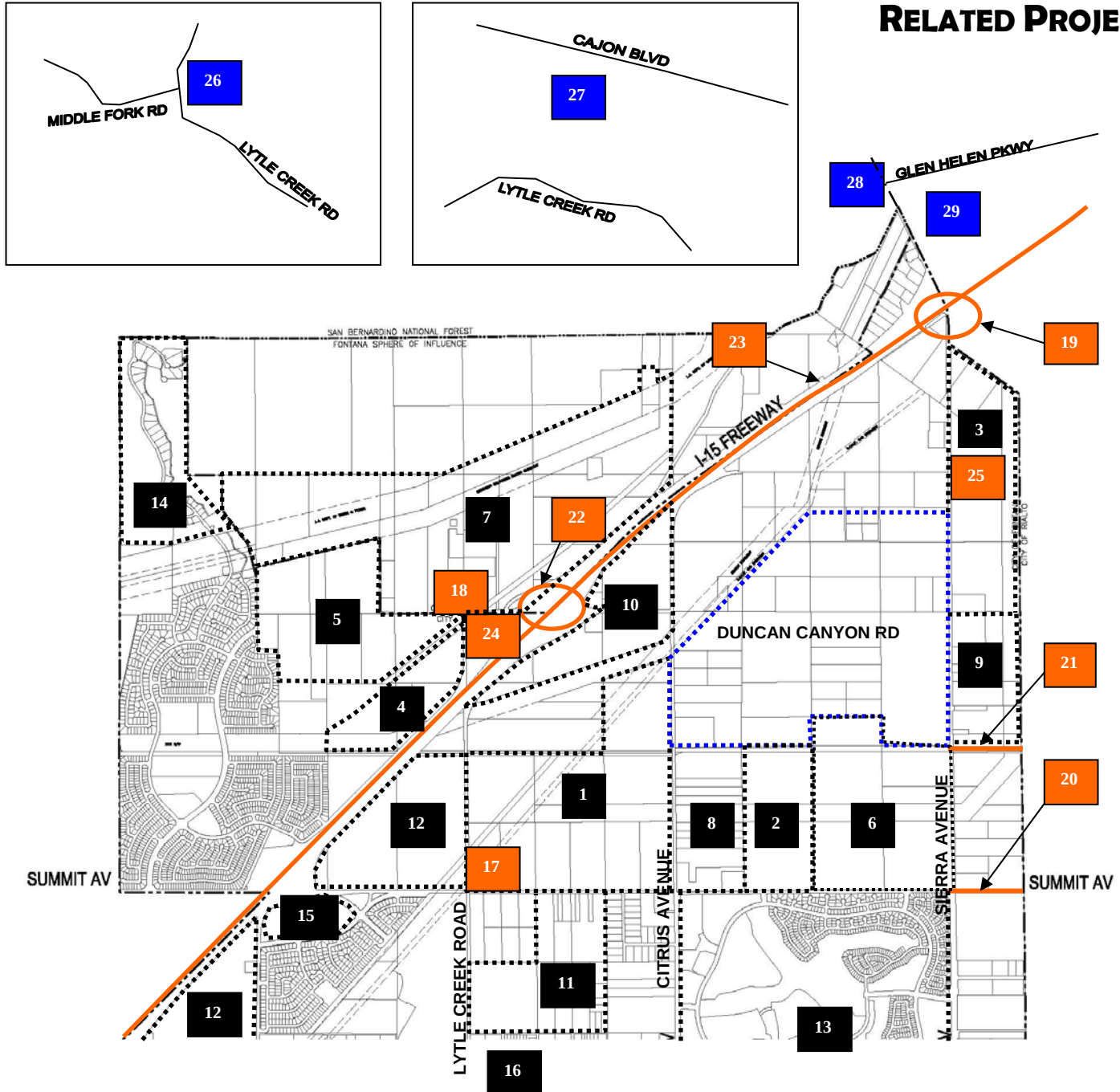
Together with future development under the proposed Specific Plan, as many as 14,775 dwelling units, approximately 3.53 million square feet of retail commercial and office uses, a religious retreat, a dog kennel, a fire station, three elementary schools, a combined elementary and middle school, several community, neighborhood, and pocket parks, and roadway and freeway projects are planned, proposed or under construction in the project area. Figure 6-1, *Location of Related Projects*, shows the general location of these planned and ongoing developments in the City and the surrounding area. Numbers in the exhibit refer to project numbers in the tables above.

While the extent of environmental changes that would occur with the individual developments that are proposed, planned, or under construction in North Fontana and the surrounding area may not be significant, the sum of the impacts of these related projects and future development on the project site may be cumulatively considerable, as defined in Section 15065 (c) of the CEQA Guidelines. A summary of the anticipated environmental changes resulting from the related projects and the anticipated development under the proposed *Arboretum Specific Plan* on a cumulative level is addressed in this section.

6.2 CUMULATIVE IMPACT ANALYSIS

The analysis of the potential cumulative environmental impacts of the related projects, together with the impacts of future development under the proposed *Arboretum Specific Plan*, is provided by issue area below.

**FIGURE 6-1
RELATED PROJECTS**



LEGEND

- 1** Private Developments in Fontana
- 2** Public Projects in Fontana
- 3** Developments in San Bernardino County

Project Site

**Arboretum Specific Plan
City of Fontana**



Section 6.0: Cumulative Impacts

6.2.1 Land Use and Planning

Future development under the proposed Specific Plan, as well as construction of the related projects, would mean changes in existing land uses. These projects would lead to new development on vacant areas and underutilized lots, leading to an intensification of housing development and commercial land uses throughout the North Fontana area. Future development under the proposed *Arboretum Specific Plan* and the related projects would increase the City of Fontana's housing stock by 12,450 housing units and would add approximately 2,325 housing units to San Bernardino County's housing stock, for a total of 14,775 new housing units in the project area. In addition, approximately 3.53 million square feet of new commercial uses would be developed, along with a religious retreat, a dog kennel, a fire station, four schools, a telecommunications tower, numerous parks, and various roadway/freeway projects.

The increasing urbanization and development in the project area are indicative of the ongoing developments in the northern section of the City of Fontana and in the County, as the project area develops and vacant lands are replaced with more urban land uses. The related projects and the proposed project also reflect the development trend associated with new development along freeways and major roadways in the area.

These projects would occur mostly on vacant land, with some projects proposed on underutilized parcels. These projects are not expected to divide established communities, as they will not occur within existing undeveloped areas, nor do they involve major displacement of existing housing units. No impact associated with the division of established communities on a cumulative level is expected.

Development of the proposed and related projects would only be allowed when found in compliance with the Fontana General Plan or the County General Plan. Future development has been anticipated in the General Plans for these jurisdictions and is not expected to result in adverse land use impacts. For projects that would not be in compliance with the relevant City's General Plan, the necessary General Plan Amendments would need to show consistency with the goals of the applicable General Plan and, thus, are not expected to lead to land use incompatibilities or conflicts.

Each proposed development project would be subject to the City's or County's jurisdictional development review process and, if discretionary actions are needed, will be subject to evaluation for potential environmental impacts as required by CEQA. This review process would address potential land use compatibility issues and planning policy conflicts. Future development in the City and the surrounding area would proceed in accordance with applicable General Plans and Zoning Ordinances. As part of permit processing, the development plan review processes for new development would analyze a project for conformity with applicable land use plans and policies, and within the context of existing and planned developments relative to the environmental goals, objectives, and policies of the applicable General Plan.

Infrastructure and public facilities are proposed in North Fontana to implement the City's General Plan and infrastructure master plans, as well as to provide the necessary facilities and services to the developing area. These related projects would complement the private development projects planned for the area. Thus, the cumulative land use impacts of new

Section 6.0: Cumulative Impacts

developments in North Fontana and in San Bernardino County would be considered less than significant.

Based on the analysis in Section 4.2, *Land Use and Planning*, the proposed Specific Plan would not result in the introduction of incompatible uses in the area, with compliance with the City's development standards and the development standards in the proposed Specific Plan. Development of the project site would not result in any cumulative land use impacts as other projects are constructed in the area, since the City of Fontana and San Bernardino County allow urban development in this area and have adopted development standards that specifically address land use compatibility. Compliance with these standards would prevent any land use conflict from future developments. Also, commensurate public and infrastructure improvements would be provided with each development, as required by the City and County.

Regional plans address area-wide issues related to growth, housing, transportation, basin-wide air pollution, water quality and other broader issues and do not focus on individual developments. The proposed project and related projects would comply with pertinent regulations that have been adopted to achieve the goals of regional plans. Thus, the project and related projects would not obstruct implementation of the regional plans or conflict with them.

Tree removal in the City is subject to the City's Tree Preservation Ordinance (Section 28-60 of the Fontana Municipal Code). If removal of applicable trees is proposed as part of the proposed or related projects it would be necessary for the development to comply with the ordinance requirements. Removal of these trees would require a permit from the City, along with implementation of conditions for replacement, relocation, or preservation.

The City of Fontana has developed a Multiple Species Habitat Conservation Plan (MSHCP) for North Fontana to address the critical habitats for the San Bernardino Kangaroo Rat (SBKR), California Gnatcatcher (CAGN), and other sensitive species in this area. The plan is expected to be approved by the USFWS in the near future. The City of Fontana has adopted an interim program in abeyance to the finalization of the proposed North Fontana MSHCP. The proposed project and related projects in the North Fontana MSHCP area would comply with the requirements set forth in the City's interim program through the payment of fees that would be used by the City to conserve off-site habitat. Development of the proposed and related projects would not conflict with local and regional conservation planning efforts.

The development of vacant land and the development trends in the surrounding area are not expected to result in cumulative, significant adverse land use impacts, with compliance with applicable land use controls. No significant cumulative adverse impacts on land use and planning are expected from the proposed project and related projects.

6.2.2 Population and Housing

Future development under the proposed *Arboretum Specific Plan* and the related projects would lead to development of 12,450 housing units in Fontana and 2,325 housing units in San Bernardino County, for a total of 14,775 housing units in the project area. These new housing units would result in approximately 49,501 new residents in Fontana and 7,266 new residents in San Bernardino County or a total population increase of 56,767 new residents in the project area. This assumes an average household size of 3.976 persons per household for Fontana and

Section 6.0: Cumulative Impacts

3.125 persons per household for the unincorporated areas of San Bernardino County (based on average household sizes in January 2007, as provided by the California Department of Finance).

In addition, a number of employment positions would also be created by the proposed commercial land uses, which would help reduce unemployment rates in the community and in the region. Assuming an average of one employee per 500 square feet of commercial uses, along with employment from 2 schools and a fire station, about 6,980 commercial employees are expected from the related projects. In addition, another 386 jobs would be created by retail and school uses on-site. Thus, a total of 7,366 jobs would be created in the project area.

The increase in population from the project and related projects is expected to be within regional growth projections, as the City of Fontana is anticipated to accommodate rapid growth and development between the years 2007 and 2030. Based on California Department of Finance population estimates for 2007 and the Southern California Association of Governments' (SCAG) population projections for 2030, as many as 59,010 new residents are expected in the City within the next 23 years. Unincorporated San Bernardino County is expected to grow by 140,537 residents for the same time period. The proposed project and related projects would represent a combined 33.7 percent of the anticipated resident population growth. Therefore, the increase in population that would be brought by the proposed project and related projects are within expected levels of growth in the area.

Similarly, the increase in housing and employment are expected to be within regional growth projections. According to SCAG housing and employment projections between the years 2007 and 2030, as many as 18,248 households and 19,906 employees are expected in the City of Fontana within the next 23 years. Unincorporated San Bernardino County is expected to grow by 23,997 households and 27,395 employees within the next 23 years. The proposed project and the related projects would represent a combined 34.97 percent of the housing stock growth and 15.57 percent of the employment growth for Fontana and unincorporated San Bernardino County. Thus, the increase in housing and employment that would be brought by the proposed project and the related projects are within expected levels of growth in the area.

Infrastructure and public facility projects would not increase population, housing stock or long-term employment in the project area. Regional population, housing, and employment projections would not be exceeded.

Related projects that occur on developed or underutilized lots may involve some displacement of local housing stock or population during the construction phases of each individual development. However, as discussed in Section 4.3, *Population and Housing*, of this EIR, the City of Fontana currently has a vacancy rate of approximately 5.26-percent. Therefore, sufficient alternative accommodation is available in the project area and significant displacement is not anticipated. Compliance with regulations regarding fair compensation and relocation assistance would reduce cumulative adverse impacts to less than significant levels. The proposed project would be developed on vacant land and would not displace existing housing stock, residents, businesses or employees.

No significant cumulative adverse impacts on population, housing or employment are expected from the proposed project and related projects.

Section 6.0: Cumulative Impacts

6.2.3 Transportation and Circulation

New residential and commercial developments resulting from future development on the site and construction of the related projects would increase the number of vehicle trips to, through, and from the surrounding area. Future traffic volumes and levels of services are discussed in Section 4.4, *Transportation and Circulation*. As noted in this section, traffic volumes were projected to 2010 and 2030 using the City's North Fontana traffic model, which considers ambient growth and buildout of the project area in accordance with the City's General Plan Land Use Map, as well as population, housing and employment growth throughout the Southern California region, based on existing and planned land uses. The model internally accounts for growth in the surrounding area, based on anticipated development and the cumulative impacts of these developments on traffic and the regional transportation and circulation system.

New vehicle trips from the project site and the vehicle trips from buildout development of adjacent areas would create or add to traffic volumes on the I-15 and SR-210 freeways and nearby roadways and intersections. Some vehicle trips would be confined to the area (short trips), while others would travel outside the project area to surrounding cities and urban centers and would affect the regional transportation system.

As discussed in the Traffic Study prepared for the project, modeling of regional development indicates that a number of intersections in the project vicinity will continue to operate at below acceptable levels of service in the future. Without needed traffic and circulation improvements, this impact would be considered cumulatively significant. However, the proposed project would include the full-width improvement of internal roadways, as well as half-width improvements on all abutting roadways to the site. Similarly, related projects would provide internal roadway improvements and half-width improvements on all abutting roadways. A number of roadway and freeway improvement projects are also planned as part of the related projects.

As part of its forward planning efforts, SANBAG has identified regional transportation projects in its Development Mitigation Nexus Study, along with project costs and cost allocations from new developments in the region. The Nexus Study serves as the deficiency plan that identifies the needed roadway improvements, cost and funding for these projects, and future implementation. Thus, projects that pay their fair share fees are considered consistent with the Congestion Management Plan for the region. New development would have to pay development impact fees for fair share traffic impact to fund the installation of traffic signals and other local and regional roadway projects that would be implemented by the City or the County. These would allow for the ultimate development of the circulation system in North Fontana, to meet the roadway transportation needs of future development.

Adverse impacts to the circulation network would occur if roadway improvements and trip reduction measures and programs are not implemented. In accordance with City regulations, each development would be required to implement the needed roadway improvements or pay its fair share for needed improvements. Payment of the City's traffic impact fees would allow the City to fund signalization, roadway widening and other transportation programs and improvements necessary to maintain acceptable levels of service at local intersections. The San Bernardino County Congestion Management Program (CMP) also calls for improvements to the designated CMP roadway network, to maintain levels of service at LOS E or better. This is monitored through an enhanced transportation management program. The City of Fontana has a more

Section 6.0: Cumulative Impacts

stringent standard of LOS C for roadway intersections. Thus, required improvements are based on achieving LOS C or better.

The traffic impacts associated with increases in traffic volumes due to new developments can be reduced or avoided through compliance with CMP requirements, payment of fair share fees, the City's roadway infrastructure projects, and project-level roadway improvements. These programs would maintain acceptable roadway operations and prevent cumulatively significant adverse impacts in terms of traffic and circulation. While increases in traffic volumes on the regional roadway network could be expected in the future, no significant cumulative adverse impacts on traffic and circulation are expected from the proposed project and related projects. Planned roadway widening and improvement projects would also help improve the transportation system and traffic circulation in the area.

The proposed project and related projects are primarily residential, commercial, and infrastructure driven, and as such are typically reliant on land transportation. These projects are not expected to have any impact on local air traffic patterns or significant cumulative impacts on regional air travel demands. No air traffic safety risks are expected on a cumulative level.

The proposed project and related projects have been or will be subject to review by either the City or County for compliance with traffic safety standards to prevent the creation of sharp curves, dangerous intersections, or other traffic hazards. Thus, no cumulative impact on traffic safety is expected from the project and related projects.

Similarly, the proposed project and related projects have been or will be subject to review by the Fontana Police Department and San Bernardino County Fire District for compliance with emergency access requirements to facilitate emergency response and evacuation. Thus, no cumulative impact on emergency access is expected from the project and related projects.

The provision of on-site parking is controlled by the City of Fontana Zoning and Development Code and the County of San Bernardino Code to ensure adequate parking commensurate with land use and avoid overflow parking or on-street parking. The proposed project and related projects would comply with the requirements set forth in each of these codes to ensure that no cumulative impact on parking availability occurs.

Alternative transport in the project vicinity is presently limited, with Omnitrans providing limited bus services along a number of routes in the surrounding area. In their 2006-11 Short Range Transit Plan (SRTP) Omnitrans' includes the provision of a community shuttle in North Fontana, which can provide connections to major destinations and the company is working with the City on a future fixed-route service for North Fontana as more development occurs in the area. Limited rail transport is available to the project area with the nearest railroad tracks running parallel to Arrow Highway, south of the area. Metrolink provides a commuter train service from a station located in the downtown area of the City of Fontana, just west of Sierra Avenue.

Development of the proposed project and related projects will include roadway improvements on abutting streets and along with planned roadway and freeway improvement projects in North Fontana, are expected to improve the transportation network in the project area. In addition, the City requires bus bays and bus shelters on sites where bus stops are existing or proposed, to encourage the use of public transit. Bike racks are required for commercial developments and trails, bikeways and pedestrian walkways are also being developed as part of planned

Section 6.0: Cumulative Impacts

developments. No cumulative significant adverse impacts on alternative transportation is expected from the project and related projects.

6.2.4 Air Quality

Future development under the proposed *Arboretum Specific Plan Specific Plan* and the related projects would increase air pollutant emissions in the South Coast Air Basin. New developments would result in pollutant emissions which could add to poor air quality in the region.

The SCAQMD has developed and adopted the Air Quality Management Plan (AQMP) for the South Coast Air Basin. The SCAQMD's AQMP includes measures, programs, and regulations designed to improve the region's air quality and to achieve clean air standards by set deadlines. The AQMP takes into consideration future regional growth and increases in vehicle trips throughout the region, such as those that would be created by developments on the project site and the related projects. New technology and improvements to products and equipment would represent offsets to the net increase in air pollution in the region. In addition, compliance by new developments with the rules and programs that implement the AQMP are expected to result in improvements to regional air quality in the long-term.

Construction of future development on the project site, when considered in concert with the related projects in the area is anticipated to result in short-term pollutant emissions that would accompany the construction phases of each project. Construction impacts would typically be associated with fugitive dust emissions during ground disturbance activities that would exceed SCAQMD thresholds. However, it is assumed that since these projects would not occur simultaneously, construction emissions would be short-term and incremental; would occur at scattered locations; and can be mitigated to below a level of significance with fugitive dust controls and measures to reduce pollutants from construction equipment.

Increases in construction-related pollutant emissions associated with the development of the proposed Specific Plan are expected to result in significant adverse impacts on air quality. PM10 emissions during mass grading activities would exceed the SCAQMD threshold, and while the implementation of dust control measures would reduce these emissions during final grading, impacts during mass grading would remain significant. Therefore, in line with SCAQMD's cumulative impact methodology, development of the proposed project would result in cumulatively considerable contributions to regional air quality impacts.

Residential and commercial developments proposed in the project area would potentially impact air quality through new vehicle trips and associated mobile source emissions generated by residents, employees, patrons, and visitors. Any single project does not typically create emissions in sufficient quantity to threaten air quality standards. Rather, the emissions from individual projects would be added to the emissions of similar projects throughout Southern California. While the individual impact of any single project is incrementally small, the cumulative impact of all such small sources ultimately adds to the basin's inability to meet clean air standards. At the same time, planned roadway widening and realignment projects would improve traffic circulation in the area and prevent traffic congestion and associated emissions.

Locally, the vehicle trips that would be generated by the proposed project and related projects would be added to surrounding roadways and may potentially create micro-scale impacts to sensitive receptors adjacent to traveled roadways. Continued local and regional growth not only

Section 6.0: Cumulative Impacts

contributes vehicular emissions but often creates a slowing of all other cars to less pollution-efficient speeds as roadways reach their capacity. In addition to automobiles as the primary source of growth-related air emissions, a number of small secondary sources may also contribute pollutants to the regional burden. These small sources include temporary construction activity emissions, off-site or non-basin emissions from power plants supplying electricity, natural gas combustion, fireplaces, or the use of gas-powered landscape utility equipment. The imprecise or poorly defined nature of many of these miscellaneous sources makes it difficult to accurately inventory all of them, but their incremental addition to the basin's air pollution burden makes it that much more difficult for the South Coast Air Basin to achieve clean air in the near future. Air quality impacts of project implementation, when considered in concert with other existing, approved and planned and not yet built projects, would therefore, result in an incremental contribution to the degradation of regional air quality.

Carbon monoxide (CO) emissions from project-related traffic would exceed SCAQMD significance thresholds, but would not cause any micro-scale "hot spot" impacts. ROG and NO_x significance thresholds would be similarly exceeded by large margins. These pollutants are precursors to regional smog formation. NO_x emissions have the potential for aggravation of respiratory illness, reduced visibility, reduced plant growth, and acid rain formation. As precursors to regional smog formation, ROG and NO_x can transform to ozone, which in turn causes aggravation of respiratory and cardiovascular diseases, irritation of the eyes, impairment of cardio-pulmonary function, and plant leaf injury. PM₁₀ emissions from vehicle use would also exceed SCAQMD thresholds. In the absence of viable transportation alternatives to the automobile, the pollutant emissions from the project cannot be mitigated to less than significant levels. Development of the proposed project would result in cumulatively considerable contributions to regional air quality impacts.

Effective reduction of mobile source emissions would require a unified transportation system management (TSM) approach where a wide variety of transportation control measures (TCMs) are integrated into a comprehensive system of procedures and goals for cleaner cars. The City of Fontana is cooperating with SCAQMD in the implementation of regional air quality management programs and strategies. SANBAG is also working on the development of additional park and ride facilities in the County. The Fontana General Plan contains an Air Quality Element that acknowledges air pollutant sources and outlines the City's goals, policies, and actions for reducing pollution levels in the City and contributing to the attainment of clean air standards in the region. The General Plan also has an open space plan that shows existing and proposed bike paths and bike routes throughout the City.

Omnitrans provides bus transit in the County to discourage reliance on the private automobile and encourage public transportation use. With the development of the 14,775 new housing units and approximately 7,366 new jobs in the area, the use of public transit services may increase. The proposed mix of land uses on the site and in the surrounding area would also provide opportunities for residents to walk to commercial areas and afford commercial employees to find nearby housing. Comprehensive land use planning for the area would allow the City and the County to work towards reductions in air pollution from stationary and mobile sources.

The proposed Specific Plan and the related projects would comply with applicable measures and programs of the AQMP, and with the regulations of SCAQMD is implementing in compliance with the AQMP. Future residential and commercial developments on the site would implement measures in accordance with SCAQMD Rule 403, Fugitive Dust Control and other applicable rules

Section 6.0: Cumulative Impacts

for future commercial uses and equipment use and other SCAQMD-regulated activities. The proposed commercial development on the project site would also implement measures designed to reduce vehicle trips, through the provision of an attractive pedestrian environment (resident pathways to the commercial development), energy conservation features, and design features that encourage trip elimination or diversion. Similarly, the related projects would comply with applicable SCAQMD rules, energy conservation design, and/or trip reduction measures. The SCAQMD rules have been developed to implement the AQMP and full implementation of the AQMP would improve regional air quality and prevent adverse air quality impacts from new developments in the air basin. The ultimate success of AQMP programs and measures on the region-wide level would result in successful reductions of cumulatively significant air quality impacts and in clean air in the basin.

Based on Sections 15064 (h) and 15130 of the CEQA Guidelines, the Lead Agency need not consider an effect to be significant, if the incremental effect of the project is not cumulatively considerable; if mitigation has been applied to reduce the project's impacts to less than significant levels; and if the project will comply with the requirements of an approved plan or mitigation program, which serves to reduce these impacts. The proposed project represents only a very small percentage of future development that is expected in the region. Thus, the project's air quality impacts would be minimal when compared to existing emissions in the air basin and the projected increases in pollutant emissions from the project would not be considered a significant cumulative impact on air quality. In addition, there is an AQMP in place, whose implementation would lead to air quality in the South Coast Air Basin meeting clean air standards by set deadlines, in spite of new development and growth in the region. Thus, the vehicle emissions from the project and the related projects are not considered to be a cumulatively significant regional air quality impact.

Future developments in the project area would need to comply with relevant SCAQMD rules and regulations that reduce pollutant and toxic emissions; prevent nuisance emissions from construction activities; promote ridesharing and decreased use of single-occupant vehicles; and decrease emissions from equipment and commercial activities. Compliance by individual development projects with pertinent air quality regulations would reduce future contributions to regional air pollution and allow the South Coast Air Basin to meet clean air standards.

6.2.5 Noise

Construction of the developments proposed under the Specific Plan, when considered in concert with related projects in the area, would result in short-term noise impacts that would accompany the construction phases of each project. Since these projects would not occur simultaneously, construction noise impacts would be short-term and incremental; would occur at scattered locations; and can be mitigated to below a level of significance with controls on construction time periods and equipment use. Short-term noise impacts would not be regarded as cumulatively significant.

Noise impacts associated with vehicles coming to and leaving individual developments would lead to increases in noise levels along roadways and freeways throughout the North Fontana area. This would affect land uses along major streets and could be adverse for noise-sensitive land uses such as residences, hospitals, libraries, schools, nursing homes, rehabilitation centers, and other areas with sensitive receptors that may be present or constructed along these streets. Stationary noise impacts would also occur as they relate to commercial activities, large crowds, and outdoor activities.

Section 6.0: Cumulative Impacts

Noise levels are expected to increase throughout the project area with new development in North Fontana and the County. The City and County require that new development not generate noise levels in excess of established standards and residential areas to be designed to control noise from traffic on abutting roadways. Thus, individual projects would provide noise control to meet noise standards and individual project mitigation would serve to reduce cumulative noise impacts to less than significant levels.

Noise from new developments would not result in significant cumulative adverse impacts with the provision of noise control measures at the project-level, as required by the City of Fontana and County of San Bernardino. Specifically, the Fontana General Plan Noise Element contains exterior noise standards for noise sensitive land uses and requires that new development implement measures to reduce noise impacts from transportation sources. The Noise Element also calls for local ordinances to control non-transportation noise impacts, acoustical design to meet noise attenuation standards, and monitoring of airport noise.

Section 18-61 of the Fontana Municipal Code outlines regulations for noise control, including prohibitions on various noise-generating sources and activities. The City generally requires the provision of block walls around residential tracts, noise control measures as needed to maintain acceptable exterior and interior noise levels, acoustical features to prevent noise impacts on adjacent land uses, and other similar measures. Compliance with these regulations would prevent the exposure of existing and future land uses to excessive and unwanted noise levels.

All new developments are generally required to provide noise studies that identify future noise levels that the development would be exposed to and the needed acoustical measures to attain acceptable interior and exterior noise levels, along with features to prevent the generation of excessive noise. Thus, related projects and the proposed project would implement measures to reduce noise impacts on adjacent land uses, as well as measures to prevent noise impacts on any proposed noise-sensitive land use. No cumulative noise impacts are expected from the proposed project and related projects.

6.4.6 Geology and Soils

The proposed project and the related projects would involve grading and excavation activities on individual sites, which would result in changes to the existing topography of the area. Development sites, which are relatively flat, would remain flat while the areas with rolling terrain along the San Gabriel Mountains may be graded to provide gradual slopes. The related projects in North Fontana are proposed on relatively flat areas, except for the Lytle Creek North project, dog kennel, and the religious retreat in the County, which could occur on rolling terrain. While there would be changes in the topography of the area due to grading and earth-moving activities, the adverse impacts would be limited to areas with steep slopes and areas where manufactured slopes would need to be developed. Hillside development presents the greatest impact on geology due to the potential alteration of landforms and the presence of geologic hazards (landslides, soil erosion, and slope stability) in these areas. Standard geotechnical engineering practices and mitigation measures would reduce geologic hazards to new development.

The Cucamonga fault and the San Jacinto fault are the nearest faults to the project area, which may present seismic hazards. Other inferred faults are located southeast of the project site.

Section 6.0: Cumulative Impacts

Significant fault rupture hazards are expected to affect developments along the fault zone. Related projects proposed near these faults would be subject to surface rupture hazards. However, critical facilities and residences are not allowed within the fault zone and surface rupture hazards would not represent cumulative adverse impacts.

Groundshaking hazards associated with regional earthquakes may also occur in the project area. While measures to prepare for an earthquake can be augmented, the actual impact of an earthquake event cannot be predicted. Should a major earthquake occur along the Cucamonga or San Jacinto fault or other nearby faults, structural damage to the project area could be sustained. Developments located near the fault would generally suffer more damage than those farther away from the fault, depending on local soil conditions. Compliance with seismic design criteria in the Uniform Building Code would limit damage to proposed structures and infrastructure systems. Earthquake impacts can also be reduced by emergency preparedness programs. Seismic risks associated with the project site, when considered with the related projects, would not be regarded as cumulatively significant.

The implementation of dust control measures by the proposed and related projects would reduce impacts associated with soil blowing and wind erosion. These include daily watering, stopping work during high winds, use of soil binders, perimeter silt fences and sand bags, and prompt revegetation. In addition, each project would implement erosion control BMPs outlined in the Stormwater Pollution Prevention Plan (SWPPP) that would be developed and implemented as part of the construction phases of the project. Implementation of erosion control measures per standard engineering practices and City or County requirements would prevent eroded soils from entering adjacent properties and minimize sediments and loose soils from entering the City's roadways and storm drain system, as well as adjacent areas. No cumulative erosion hazards are expected in the project area.

Site-specific geologic hazards would be addressed by the geotechnical investigation required by the City (and also assumed for the County) for each development proposal. This investigation identifies the geologic and seismic characteristics on a site and provides guidelines for engineering design and construction to ensure the structural integrity of proposed development. Compliance of individual projects with the recommendations of the geotechnical investigation would prevent hazards associated with unstable soils, landslide potential, lateral spreading, liquefaction, soil collapse, expansive soil, and other geologic issues. No cumulative adverse impacts are expected.

The proposed project and related projects are expected to be connected to a public sewer system and would not utilize septic tanks or alternative wastewater disposal systems. Thus, no hazard associated with soils incapable of supporting these systems is expected.

Impacts on geology by new development are not expected to be cumulatively significant, with compliance with geotechnical and engineering practices related to seismic and geologic hazard reduction, structural integrity, and soil management.

6.2.7 Hydrology and Water Quality

The project and the related projects would generate wastewater that would be disposed into the sewer system. Industrial wastes would require permits from the IEUA to provide proper treatment and disposal. These new developments would also bring new sources for urban pollutants, which could impact stormwater quality. However, construction activities are regulated under the NPDES

Section 6.0: Cumulative Impacts

and RWQCB's General Permit for Construction Activities and the City and County have adopted a program for urban runoff pollution mitigation through the requirement for a Water Quality Management Plan for individual developments. New developments that generate pollutants that could degrade stormwater quality are required to implement on-site treatment of runoff prior to off-site discharge. The project and the related projects would have to comply with these mandates through the implementation of both construction and operational best management practices (BMPs) for stormwater quality protection. This would prevent degradation of stormwater quality and reductions in off-site pollutant conveyance. No cumulative adverse impacts on hydrology and water quality are expected from the proposed project and related projects.

The project and the related projects would increase the resident population and intensity of development in the area. This translates to a greater demand for water and increased pumping of the groundwater basin, as well as greater use of imported water sources. The West Valley Water District and the Fontana Water Company provide water services to the North Fontana area. These agencies utilize water from groundwater resources, surface water from Lytle Creek, and imported water sources through the San Gabriel Valley Municipal Water District and the San Bernardino Valley Municipal Water District. Individual developments will coordinate with the water agencies to ensure that they can be provided water service in a timely and adequate manner.

The Water Quality Management Plan of individual projects, as required under the National Pollutant Discharge Elimination System (NPDES), requires new development to maintain existing runoff flows and rates so as not to create hydrologic conditions of concern at downstream drainage facilities. Thus, no increase in runoff volumes and rates are expected from the project and related projects and no cumulative significant adverse impacts are expected in terms of erosion or siltation off-site. Best management practices for site design, source control, and treatment control are required in each WQMP to prevent pollutants from entering the storm drain system. Thus, no substantial degradation of water quality is expected from the project and related projects.

New developments would increase impermeable surfaces and decrease water percolation areas. Future open space areas, parks, and pockets of vacant land serve as groundwater recharge areas, as they provide for the natural recharge of local groundwater resources. Increase in impervious surfaces would reduce recharge but since individual project sites are not designated as groundwater recharge areas, no significant adverse impacts are expected. The increase in runoff volumes would increase stormwater volumes and flow rates on local and regional drainage channels. The regional channels have been designed to accommodate runoff from the entire watershed and new developments are required to provide on-site improvements and other storm drainage system upgrades to prevent the creation of flood hazards at downstream areas. Future construction of the ultimate storm drain system in North Fontana would prevent cumulative significant adverse impacts.

With the lack of storm drainage infrastructure in North Fontana, new developments can be exposed to flooding hazards. Flood hazards in the project area are located along Lytle Creek and the San Sevaine Channel and developments proposed within this floodplain could expose residents, employees, and visitors to flood hazards. However, the City requires new development to provide the needed storm drain infrastructure systems to serve individual developments and the elimination of existing on-site flood hazards, as well as prevention of downstream flooding prior to development. With each new development, the area-wide storm drain system and infrastructure

Section 6.0: Cumulative Impacts

become more completed and flood hazards would be eliminated. Thus, no cumulative adverse impacts related to flood hazards or inadequate storm drainage are expected.

The North Fontana area is not located in an area with a potential for seiche or tsunami. Thus, no cumulative impacts related to these hazards are expected. While the San Gabriel Mountains to the north and west of the project area present a potential for mudflow hazards, the proposed project and related projects are not located on the steep hillside areas. Engineering methods recommended for each development site would ensure mudflow and other geologic hazards are avoided or minimized, rendering cumulative impacts less than significant.

6.2.8 Biological Resources

The cumulative impacts on biological resources due to the proposed project and the related projects include greater urbanization and removal of existing vegetation in the North Fontana area, which could affect existing plant and animal life in the area. Development on disturbed lands and developed areas, which are likely to support non-native species or disturbed habitats, would not have adverse impacts on sensitive plant and animal species. However, new development in vacant and undeveloped areas can disrupt sensitive biological communities. Sensitive plant and animal species and their habitats, which may exist in these areas, which are designated critical habitat areas for the San Bernardino kangaroo rat and the California gnatcatcher, would be disturbed and destroyed with the introduction of urban land uses.

The loss of open space that would result from increased urbanization of the project area would be accompanied by losses of ecological systems and wildlife habitats. The continued loss of sage scrub communities would also affect sensitive species that utilize these habitats. Removal of existing trees and open fields would lead to loss of nesting and foraging areas for migratory birds. Sensitive habitats, such as wetland areas, streams and channels, and coastal sage scrub communities that are present in the area could be disturbed or destroyed by new developments. The loss of these habitats would lead to the disturbance of sensitive plant and animal species, as well as the loss of biological diversity in the project area. Cumulative impacts on the loss of plant communities and animal habitats would occur.

Future developments in the project area would be required to conduct biological surveys for sensitive animal species such as the San Bernardino kangaroo rat and the California gnatcatcher. The disturbance or destruction of these species on a site would require a Section 10 or Section 7 consultation and coordination with the U. S. Fish and Wildlife Service, the California Department of Fish and Game, Regional Water Quality Control Board, and other resource agencies and would require on-site preservation or off-site mitigation, as required by existing regulations. In addition, sensitive habitats such as wetland areas, streams and channels, coastal sage scrub and other habitats would also need to be preserved through on-site or off-site mitigation. These biological surveys and requisite mitigation would be made in coordination with the City of Fontana, the County of San Bernardino, the California Department of Fish and Game, the U. S. Fish and Wildlife Service, the U. S. Army Corps of Engineers, and the Regional Water Quality Control Board, as necessary.

As discussed earlier, the City of Fontana has developed a Multi-species Habitat Conservation Plan for the North Fontana area to mitigate impacts associated with future developments in this area and the loss of existing vegetation communities and habitats. Adoption of this plan will require future development to pay fees for the preservation of off-site mitigation banks and reduce

Section 6.0: Cumulative Impacts

development impacts to less than significant levels. While awaiting approval from the U. S. Fish and Wildlife Service, the City's interim program for the MSHCP prevents impacts on existing vegetation communities and habitats by requiring new development to protect and preserve occupied habitat areas and the payment of fees for unoccupied habitat. This will allow for the future preservation of off-site and on-site habitat areas to mitigate for the loss of habitat areas in North Fontana, in accordance with the MSHCP. Thus, cumulative significant adverse impacts on biological resources from developments proposed in North Fontana are not expected with the proposed project.

The City of Fontana has also adopted a tree preservation ordinance, which requires the preparation of an arborist report for projects that involve the removal of select heritage, significant and specimen trees and the replacement of trees that are removed at a 1:1 or greater ratio. Future developments in the project area that involve the removal of mature trees would be required to comply with the City's tree preservation ordinance to reduce impacts to less than significant levels.

Thus, while changes in the biological diversity of the area would occur with future developments proposed in the project area, programs and regulations are in place which would reduce cumulative impacts to sensitive biological resources. These include on-site or off-site mitigation, permits, agreements, and coordination with resource agencies.

6.2.9 Cultural Resources

The North Fontana area was the historic site for the Grapeland community, which consisted of 10,600 acres from the toe of the San Gabriel Mountains to the Base Line (now Baseline Avenue), including the project site. Settlers came to the area in the late 1800's to grow peaches, oranges, olives, and grapes and the town had two schools a post office, and some stores. Sierra Vista Reservoir was constructed in 1886 to contain water diverted from Lytle Creek. Drainage channels were built to bring the water from the reservoir into the Grapeland community. While very few of the historic structures remain to date, there are remnants of the Grapeland community in the area, consisting of structural foundations, drainage ditches, and other historic features. Thus, there is a high potential for archaeological and historical resources to be present in the project area.

The proposed project and the related projects would lead to ground disturbance, which may affect in-situ cultural resources in the area. Due to the site-specific nature of cultural resources, it is difficult to determine if significant cumulative impacts to cultural resources would occur. Archaeological resources have been found in this section of the City and native soils are present in the area at the San Gabriel Mountains. Thus, development on sites with native soils and where no previous developments have occurred has the potential to yield archaeological and paleontological resources. The extent or significance of these resources cannot be determined until discovery during surveys and evaluation or excavation of native soils.

Historic structures that may be demolished as part of the related projects may affect the cultural significance of the site or the structure. Vacant areas where archaeological resources exist may be subject to grading and excavation that could damage cultural resources. Surveys that are conducted prior to development would allow the early identification of on-site cultural resources and the preservation of significant resources. Large developments are generally subject to cultural resource surveys prior to development, to allow for the preservation of important cultural resources. Other projects are checked against the City's list of historic structures to determine if they would affect important historic resources or are located in culturally sensitive areas.

Section 6.0: Cumulative Impacts

Cultural resources are site-specific and no cumulative significant adverse impacts are expected from new developments, with implementation of site-level surveys, compliance with the City's Historic Preservation Ordinance (Article XIII, Section 5-351 et seq. of the City's Municipal Code), and mitigation outlined as part of cultural studies for individual development projects. The project has completed a Cultural Resource Study and Historic Evaluation and implementation of mitigation measures outlined in this EIR would prevent potential impacts on cultural resources and its cumulative contribution to the disturbance and/or destruction of cultural resources in North Fontana.

6.2.10 Mineral Resources

The North Fontana area contains aggregate resources, as found within the alluvial fan of Lytle Creek. Regional resources are also available in Lytle Creek in the cities of Rialto and San Bernardino. However, no mining operations are present on-site or near the site. Based on the Fontana General Plan, the City does not seek to preserve aggregate resources in Fontana, since mineral extraction activities are likely to generate land use conflicts with adjacent urban developments existing and planned for the area. The San Bernardino General Plan; however, calls for the conservation of mineral resources for future beneficial uses, and that the ability to recover them must be preserved and protected, to assure that adequate supplies of such resources are available to meet the future needs of the County. The proposed project and related projects would preclude mining operations in the project area, but resources are present in other areas where mining is occurring and in undeveloped sites. Thus, impacts associated with access to mineral resources would not be cumulatively significant.

The project and the related projects would create a demand for energy and mineral resources. Construction activities would require the use of sand, gravel, water, lumber, and other natural resources for buildings and infrastructure. These resources are likely to come from the Lytle Creek area. The cumulative demand for aggregate resources by future developments in the City of Fontana and San Bernardino County may be significant, but they would occur incrementally over time. Energy for use and occupancy of the developments under the proposed project and the related projects would also be needed during the long-term use and occupancy of these structures. These demands are not expected to be significant when compared to available resources or the existing demands in the entire region.

Cumulative impacts are expected to be insignificant when compared to available resources in the State and the extent of demand from ongoing construction activities in the City of Fontana, San Bernardino County, and the Southern California region.

6.2.11 Agricultural Resources

The related projects and the proposed project reflect the development trend towards the conversion of undeveloped and vacant land to urban residential and commercial uses. The loss of agricultural lands in the area would add to increasing conversion of agricultural land to other uses. The sites where the related projects and the proposed project would be located are mainly designated as Grazing Land, Other Land, and Developed Land as found on and near the project site. There are no Unique, Prime and State-wide important farmland in the project area. Thus, the proposed project and related projects would not have significant adverse impacts on

Section 6.0: Cumulative Impacts

farmlands. Cumulative impacts on agricultural resources are not expected to be significant and would not affect regional agricultural production.

6.2.12 Public Services and Recreation

The proposed project, when considered with the related projects in the area, would cumulatively contribute to an increased demand for fire, police, school, and library services. New development on-site and the related projects would add to the cumulative demand for such services through the introduction of new residents, employees, visitors, vehicles, and structures in the project area.

Police Protection Services – The proposed project and the related projects would increase the demand for police protection and law enforcement services in the area. This would require an increase in police personnel and equipment to adequately provide for the public safety needs of residents and businesses. The Fontana Police Department would require additional staff and equipment to serve the increase in population associated with future developments in north Fontana. The City of Fontana reviews its police services annually to determine the appropriate level of service and budget to provide for adequate police protection services in the City. Thus, impacts of future developments in Fontana on the Fontana Police Department are expected to be addressed through City policies and programs.

The Fontana General Plan suggests a conservative police protection service ratio of 1.4 sworn personnel per thousand population. Additionally, the County Sheriff's Department standard is identified as one deputy per 1,000 residents. The 49,501 residents expected within the 12,450 new units within the City of Fontana under the proposed project and the related projects would create a demand for 69 sworn police personnel in the City of Fontana. The 7,266 persons expected with the 2,325 new units within unincorporated San Bernardino County area under the related projects would create a demand for 8 County deputies. In addition, non-sworn department staff would be needed to support the police officers. This cumulative demand would require an increase in police officers and staff at the City of Fontana Police Department and County of San Bernardino County Sheriff's Department.

Annual evaluation of police protection services would determine the adequacy of police service and the needed resources. Individual developments are also subject to development fees, which help finance public facilities, such as police facilities, fire services, and library facilities. Payment of these development fees and annual property taxes generated by development provide the funding for police protection and law enforcement services. Yearly evaluation of police services by the City and County would set the acceptable service levels for public safety. This evaluation and funding are expected to provide the necessary police services to the area and prevent any significant cumulative adverse impacts on police protection and law enforcement services.

Fire Protection Services – The proposed project and the related projects would increase the local population and introduce structures that would create a demand for fire protection and emergency services in the area. This would require service expansion from the San Bernardino County Fire District. The Fire District currently provides fire protection services to the City of Fontana equivalent to 0.58 firefighter per thousand population. The 56,767 persons that are expected with the 14,775 new dwelling units from the project and related projects would create a demand for approximately 33 additional firefighters in the project area.

Section 6.0: Cumulative Impacts

Individual developments are required to comply with pertinent provisions of the Uniform Fire Code to prevent the creation of fire hazards, to promote fire safety, and to facilitate emergency response. The County Fire District and the City of Fontana also regularly review fire services in the area and the needed increases in staffing, fire stations, and equipment as necessary to keep response times reasonable and to adequately serve the project area. Regular review of projects coming on-line by the County Fire District and the City of Fontana would ensure that no fire safety hazards are created by new development; that fire prevention measures are incorporated into new developments; and that fire emergency response is facilitated by provision of adequate access and fire alarm systems. Implementation of these measures would avoid potential significant cumulative adverse impacts on fire protection services. Individual developments are also subject to development fees, which help finance public facilities, such as police facilities, fire services, and library facilities. Payment of these development fees, along with property taxes from developments, and yearly evaluation of fire service provision are expected to provide the necessary fire protection services to the area and prevent any significant cumulative adverse impacts on fire protection services.

New fire stations are planned in North Fontana, with one on Duncan Canyon Road, west of the I-15 Freeway and another within the Lytle Creek North development. These stations and their personnel would augment fire protection services in the project area and would serve the project and related projects.

The County reviews their fire protection services annually to determine the appropriate level of service and budget to provide for adequate fire services, including an increase in firefighter personnel and other resources as necessary. The increase in development intensity in the project area is being considered by the County in their provision of fire services. Thus, impacts of the proposed project and related projects on fire protection services are expected to be addressed through County policies and programs.

Educational Facilities and Services - The increase in housing development in the area would lead to increases in the student population. Using the Fontana Unified School District's student generation factors of 0.56 K-6th grade student per housing unit, 0.16 7-8th grade student per housing unit, and 0.24 9-12th grade student per unit, the 14,775 new housing units expected in the project area would lead to a student population increase of approximately 14,184 new students from the proposed project and the related projects. New commercial developments may also indirectly add to the student population, as employees are allowed to request school transfers by place of employment. Some large developments include the dedication of school sites for the construction of new schools to serve the project and the surrounding area. As discussed earlier, 3 elementary schools and a combined elementary and middle school are planned as part of the project and related projects. These schools would serve new residents of North Fontana.

Payment of mandated school impact fees is intended to provide funds to allow the school districts to adequately serve the potential student population increases. Payment of these fees would mitigate any significant cumulative impacts on school services.

Parks and Recreation - The proposed project and the related projects would contribute to the cumulative need for more recreational open space and park facilities in the area. The Fontana Municipal Code requires payment of a fee, the dedication of land for Park and Recreation Facilities or a combination of both (Chapter 21, Article IV of the Fontana Municipal Code) for the

Section 6.0: Cumulative Impacts

provision of parks and recreational facilities by new development. Multi-family residential developments are also required to provide on-site open space and recreational facilities. Some of the related projects are providing on-site parks and recreational facilities. As part of the *Arboretum Specific Plan*, 31.9 acres of new parkland are proposed on-site. An additional 78.5 acres of parkland are proposed as part of the related projects. Consistent with the City's park requirement, individual projects would pay park fees or dedicate open space lands as required by the City of Fontana or San Bernardino County. Since individual development projects would mitigate their incremental impact on City and County-wide recreational needs, no significant cumulative impacts would result from project implementation.

Library Services - The increase in the resident population in North Fontana and the San Bernardino County area that would occur with the related projects and development under the proposed *Arboretum Specific Plan* would result in the increase in patrons at the Fontana Branch Library, Summit Branch Library, and other libraries in or near the City. Currently, library space and book materials are inadequate to serve the existing population. Future development would exacerbate this deficiency.

The Division of Library Development Services of the State of California recommends an average of 0.4 to 0.5 square feet per capita and 2.0 books per capita as the standard for library service. Thus, the 56,767 new residents of the area that would be generated by the project and related projects would require 28,384 square feet of library space and 113,534 books. The City of Fontana is currently constructing a new library facility with approximately 86,000 square feet of floor area. The proposed library would increase the floor area per capita from 0.10 to 0.48 square feet City-wide. Completion of the new library is expected in April 2008 and expanded services would mitigate cumulative adverse impacts.

Payment of developer fees would fund library services and facility improvements. The increase in demand for public services that is brought on by new developments will be mitigated by payment of developer fees and assessments imposed primarily to finance these public services. Thus, no significant cumulative adverse impacts on library services are expected.

6.2.13 Utilities

Development under the *Arboretum Specific Plan*, along with other approved and planned projects in the immediate area, would result in the need for additional water supplies, sewage treatment capacity, landfill capacity, and energy resources. The project area is located in an area where not all parcels are served by existing water, sewer, gas, and storm drain facilities. New developments in the project area would be required to provide the utility extensions and individual lot connections to provide utility services to the site. Coordination with the utility companies (West Valley Water District, Fontana Water Company, Inland Empire Utilities Agency (IEUA), Burrtec, SCE, SCG, AT&T, and Time Warner Communications) would allow for the extension of utility lines and timely service to serve individual developments. Storm drain facilities to serve individual projects are required by the City. There is adequate remaining capacity at area landfills to serve future development in the County.

Cumulative impacts on utilities anticipated to result from future development are subject to connection and service fees, to assist agencies in facility expansion and service improvements to support increase in demands. In addition, utility agencies such as Burrtec, SCE, SCG, AT&T, and Time Warner Communications provide services on demand and would not experience

Section 6.0: Cumulative Impacts

significant cumulative impacts from growth and new developments in the area. Water and energy conservation measures, as well as waste recycling programs are also expected to reduce long-term demands for water, power, gas, sewer, and solid waste disposal services. Project-specific and cumulative utility service impacts are considered less than significant. An expanded discussion of cumulative impacts to utilities is provided below.

Water Service - The increased demand for water from future development projects within the project area would result in increases in water consumption. Coordination with the Fontana Water Company and the West Valley Water District and payment of connection and service fees would be needed to ensure water service to future developments and the continued availability of imported water supplies and groundwater resources. Water conservation measures would help to reduce water consumption levels. Extension of water lines to serve individual lots and building pads would need to be made in coordination with the affected water company. No significant cumulative impacts to water services are anticipated.

Sewer Service – Future development projects would generate additional sewage volume. Coordination with the City, the County, and the IEUA, along with payment of service and facilities fees would be needed to ensure sewer service to future developments. These fees are used to fund operation and maintenance of the treatment plants and sewer mains, as well as for expansion of the needed facilities. Existing and planned sewer infrastructure and treatment plant capacities are available to serve future developments. Extension of sewer lines would be made in coordination with the City of Fontana or San Bernardino County. No long-term impacts to sewer service have been identified; thus, no significant cumulative impacts are anticipated.

Storm Drainage - The related projects and the proposed project would increase paved surfaces and limit natural recharge of the groundwater. They would also increase stormwater runoff volumes from the project area. However, major storm drain lines have not been constructed in Fontana and in the developing areas of the County to adequately accommodate future developments. Individual developments are also required to provide on-site facilities and storm drain facilities on abutting roadways, along with the elimination of on-site and downstream flood hazards by individual projects. On-site detention is also required until future regional facilities are constructed by the City or the County. No cumulative impacts to storm drainage facilities are anticipated.

Solid Waste Disposal – Related projects and the proposed project would generate solid wastes, which would require waste collection services. Burrtec can provide collection services on demand. Future developments would also create a demand for solid waste disposal and landfill capacity. There is capacity at the Mid-Valley Landfill to serve future developments in the area for the next 27 years. Recycling and waste reduction measures that are being implemented in accordance with AB 939 would also reduce solid waste volume and the demand for landfill capacity. No significant cumulative impacts are anticipated.

Power and Gas Services – A cumulative increase in demand for power and gas services would occur with the related projects and the proposed project. Because there is a wide variety of energy sources used for power generation, it is anticipated that the project and the related projects would present no adverse impacts on SCE services or existing energy sources. SCG also provides natural gas service on demand, and no adverse impact on their services is anticipated with future development projects in Fontana and the County. Extension of power and

Section 6.0: Cumulative Impacts

gas lines to serve individual projects would be made in coordination with SCG and SCE. Energy conservation measures incorporated into new developments would also reduce energy demands.

Telephone and Cable Services - Cumulative demand for telephone and cable services would occur with the related projects and the project. AT&T and Time Warner Communications provide service on demand, and no adverse impact on their services is anticipated with future developments in the project area. Extension of telephone and cable lines to serve individual projects would be made in coordination with AT&T and Time Warner Communications.

6.2.14 Human Health and Hazards

The cumulative impacts of future development projects on human health include increases in population and development, which may result in the creation of risks to public health and safety. There are existing regulations on a variety of activities and uses relating to health and safety at all levels of government. Compliance of individual projects with pertinent regulations would preserve public health and safety. Thus, new developments in the project area are not expected to present significant risks to public health and safety.

The proposed project and the related projects would require emergency planning for natural or manmade disasters that may occur in the planning area. Hazardous material explosions or contamination may potentially occur with proposed commercial developments that would handle these materials in large quantities. State and federal regulatory agencies are responsible for regulating hazardous materials use. Monitoring by the cities, the Fire District, and other local agencies would ensure compliance with existing regulations. State and federal regulatory agencies are responsible for regulating hazardous materials use, storage, disposal, and transport. Monitoring by the City, the San Bernardino County Fire District, and other local agencies would ensure compliance with existing regulations. Compliance with existing health and safety regulations would prevent the creation of health risks and public safety hazards from new developments in the project area. No cumulative adverse impacts are expected.

The related projects may be located near schools and proposals that would handle large quantities of hazardous materials may poses risks to students and faculty. However, notification of nearby schools and compliance with hazardous material safety planning would prevent the creation of public hazards.

Some of the related projects may be proposed on sites listed as utilizing hazardous materials now or in the past. Implementation of the require remediation for contaminated sites, as well as the disposal of hazardous wastes in accordance with current regulations, would avoid the creation of public hazards.

The North Fontana area is not located near an airport and would not be exposed to hazards associated with airport or private airstrip operations.

The project and related projects would contain construction activities on individual sites, with work on public rights-of-way regulate by the City's encroachment permit, which requires that traffic obstruction be minimized. Evacuation and emergency routes can be blocked by proposed roadway projects and construction activities that extend into the street. As required by the City and County, compliance with the Standard Specifications for Public Works Construction (Greenbook) would ensure that access to individual parcels is maintained at all

Section 6.0: Cumulative Impacts

times; detours are established; and temporary traffic controls are implemented. Impacts would be temporary and insignificant.

Future developments on the project site and related sites would be subject to review and approval by the San Bernardino County Fire Protection District for fire safety and preparedness, as well as the provision of adequate emergency access and evacuation. Compliance with pertinent requirements of the Uniform Fire Code and Fire Protection District regulations would prevent the creation of fire hazards on the site. Impacts are expected to be less than significant.

Compliance with existing health and safety regulations would prevent the creation of health risks and public safety hazards from new developments in the project area. No cumulative adverse impacts are expected.

6.2.15 Visual Quality and Aesthetics

More intense urban development in the North Fontana area can be expected as vacant land is utilized for the development of new residential, commercial, light industrial and other institutional or public land uses. Future developments on the site and the related projects would change the visual quality of the landscape through the introduction of structures in open areas and the redevelopment of older structures or large lots for higher density uses. Future developments would contribute to the cumulative loss of undeveloped land in the City of Fontana and San Bernardino County.

The project, as well as the related projects, would result in transformations of the visual environment. The transition from vacant land and lower density development to urban structures reflects the urbanizing trend that has occurred in Fontana and in the surrounding communities. As vacant land is developed and replaced with residential tracts or commercial uses, views of the area would change from an area in transition to one that is fully developed. These changes would include the introduction of homes and commercial structures, parking lots, landscaped areas, parks, outdoor signs, and other infrastructure improvements, creating an overall higher development intensity and urbanized setting for North Fontana and San Bernardino County.

Development and design review of individual development projects by the City and County would prevent the potential for adverse view impacts or negative aesthetic impacts to be created by new development. Compliance with applicable design standards by individual development projects would avoid or mitigate visual impacts so that aesthetic impacts do not become cumulatively significant.

The transition of vacant and lower development density land in the project area and surrounding areas to the urbanized landscapes becoming more common in the Inland Empire would result in a loss of scenic vistas and a substantial change to the visual character of this area in the City of Fontana and San Bernardino County. While project specific mitigation will be used to reduce the aesthetic impacts of individual projects, including the proposed *Arboretum Specific Plan*, they cannot reduce the residual impact to scenic vistas and visual character. Therefore, this impact would be considered substantial and cumulatively significant when considering the level of development planned for the region with the construction of the proposed project and related projects.

Section 6.0: Cumulative Impacts

There are no scenic highways in the surrounding area, which may be affected by anticipated changes in visual quality and appearance due to future development of the proposed project or related projects. Thus, cumulative impacts to scenic resources in the vicinity of a scenic highway are not expected to occur.

New sources of light and glare would also be created as new developments occur in the area. This would include exterior lighting for commercial and institutional structures, parking areas, walkways, play fields, as well as interior lighting from residential units, and buildings that are in use during the nighttime hours. An overall increase in lighting levels throughout the project area can be expected upon use and occupancy of the project and related projects. Similarly, glass and glazing at new structures would potentially create additional sources of glare in the area.

Compliance with City and County lighting standards would prevent light spillover and adverse impacts on adjacent residences, care facilities, and other light-sensitive uses. Glare impacts would be directly related to the amount of glazing and mirror surfaces used on building facades and vehicle lights which are directed into adjacent structures. Setbacks, landscaping, and development standards relating to lighting are expected to prevent substantial light intrusion and spillover. Changes to the visual quality of the landscape are not expected to be cumulatively significant or adverse, with compliance with lighting standards and design guidelines of the City of Fontana or San Bernardino County.

6.2.16 Global Climate Change

The role that human activities play in influencing global climate change remains hotly debated. However, the general scientific consensus accepts that human activities, in particular those involving the combustion of fossil fuels for industrial or domestic usage, and biomass burning produce greenhouse gases (GHGs) and aerosols that affect the composition of the atmosphere. The emission of chlorofluorocarbons (CFCs) and other chlorine and bromine compounds has not only an impact on the radiative forcing, but has also led to the depletion of the stratospheric ozone layer. Land use changes, due to urbanisation (sic) and human forestry and agricultural practices, affect the physical and biological properties of the earth's surface. Such effects change the radiative forcing and have a potential impact on regional and global climate (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 92).

Overwhelming scientific evidence suggests that global surface temperatures have increased about 0.6°C (plus or minus 0.2°C) since the late-19th century and about 0.4°F (0.2 to 0.3°C) over the past 25 years. The warming has not been globally uniform. The recent warmth has been greatest over North America and Eurasia between 40 and 70°N. Seven of the eight warmest years on record have occurred since 2001 and the 10 warmest years have all occurred since 1995 (U.S. Department of Commerce, National Climatic Data Center website, accessed 5/6/2008).

In California and throughout western North America, signs of a changing climate are evident. During the last 50 years, winter and spring temperatures have been warmer; spring snow levels in lower- and mid-elevation mountains have dropped; snow pack has been melting one to four weeks earlier; and flowers are blooming one to two weeks earlier. These regional changes are consistent with global trends (California Energy Commission (CEC Our Changing Climate Report, 2006 p.2).

Section 6.0: Cumulative Impacts

Greenhouse Gases

GHG's (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change. These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation. The principal greenhouse gases are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Non-gas aerosols are also a major contributor to global climate change and are discussed further in this section.

Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions (UNFCCC GHG Emissions (2006) Data website, accessed 5/6/2008).

Global Warming Potential (GWP) is commonly used as a simplified index to estimate the potential effect of different gases on the climate in a relative sense and to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the heat-absorbing ability of each gas relative to that of carbon dioxide (CO₂) and the decay rate of the gas over a 100-year time horizon (U.S. EPA, Climate Change website, accessed 5/6/2008). Another commonly referenced attribute of GHGs is their atmospheric lifetime, which reflects the compound's ability to persist in the atmosphere under prevailing conditions. A summary of atmospheric lifetimes and the GWP of selected greenhouse gases are provided in Table 6-3, *GHG Global Warming Potential and Atmospheric Lifetimes*.

TABLE 6-3 GHG GLOBAL WARMING POTENTIAL AND ATMOSPHERIC LIFETIMES		
Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO ₂)	50-200	1
Methane (CH ₄)	12 ± 3	21
Nitrous oxide (N ₂ O)	120	310
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
CF ₄	50,000	6,500
C ₂ F ₆	10,000	9,200
C ₄ F ₁₀	2,600	7,000
C ₆ F ₁₄	3,200	7,400
SF ₆	3,200	23,900
HFC – Hydrofluorocarbon compounds C _# F _# – Chlorofluorocarbon compounds		
SF ₆ - Sulfur hexafluoride		
Source: U.S. EPA Climate Change website, accessed 5/6/2008.		

Section 6.0: Cumulative Impacts

Carbon Dioxide – Carbon dioxide (CO₂) is an odorless, colorless, natural greenhouse gas. It enters the atmosphere through natural and anthropogenic (human) sources. Natural sources of atmospheric carbon dioxide include volcanic outgassing, the combustion of organic matter, and the respiration processes of living aerobic organisms. Anthropogenic sources of carbon dioxide come mainly from the burning of fossil fuels for heating, power generation and transport. In 2004, fossil fuel combustion accounted for 96.2 percent of gross CO₂ emissions. Other CO₂ emissions sources included cement and lime production, limestone and dolomite consumption, soda ash, CO₂ consumption, waste combustion, and finally, changes in land use and forestry operations (CEC California GHG Emission Inventory, 2006 p. 35). Carbon dioxide is a normal characteristic of the earth's atmosphere, with the present composition typically 0.038% by volume or 380 parts per million (ppm). At typical outdoor concentrations, CO₂ levels are not known to be associated with negative health effects. Using ice-core analysis, research has shown that atmospheric carbon dioxide concentrations increased approximately 31% over the past 200 years from approximately 280 ppm around the year 1800 to approximately 367 ppm in 1999 (IPCC, 2001 p. 187). Presently accepted models predict that continuing along the present trajectory, atmospheric CO₂ concentrations will continue to increase throughout the 21st century to an approximate range between 540 to 960 ppm by the year 2100 (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 186). Carbon dioxide is the reference compound for determining GWP; therefore it has a GWP value of 1.

Methane - At room temperature and standard pressure, methane (CH₄) is an odorless, colorless gas. Methane is the principal component of natural gas, contributing approximately 97% by volume. It is emitted from a variety of both anthropogenic and natural sources. Human-related activities include fossil fuel production, livestock management, rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. It is estimated that 60% of global methane emissions are related to anthropogenic activities (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 248). Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires (U.S. EPA Climate Change website, accessed 5/6/2008). Methane emission levels from a source can vary significantly from one country or region to another, depending on many factors such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. Methane is not toxic below the lower explosive limit of 5% (50,000 ppm). Ice-core analysis indicates that the atmospheric abundance of CH₄ has increased by a factor of approximately 2.5 since the pre-industrial era (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 248). Corresponding to an estimated increase from 700 parts per billion (ppb) in 1750 to 1,745 ppb in the year 1998 (IPCC Climate Change 2001 – The Scientific Basis, 2001 Table 4.1(a)). Because of its relative abundance and clean burning capability, methane is heavily used for fuel. Methane has a GWP value of 21 and an estimated atmospheric lifetime of 12 (±3) years (U.S. Environmental Protection Agency, Climate Change website, accessed 5/6/2008).

Nitrous oxide - Nitrous oxide (N₂O), also known as laughing gas, is used commonly in medical practice. At room temperature, it is a colorless non-flammable gas, with a pleasant, slightly sweet odor and taste. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N₂O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, and adipic or nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests (U.S. EPA Climate Change website, accessed 5/6/2008). Human-related activities are thought to account for between 35 and

Section 6.0: Cumulative Impacts

50% of total global nitrous oxide emission levels (IPCC Climate Change 2001 – The Scientific Basis, 2001 Table 4.4). Current estimates indicate that agricultural activities produce up to 70% of human-related nitrous oxide, while industrial sources account for only about 20% of all anthropogenic sources, and include the production of nylon and nitric acid, and the burning of fossil fuel in internal combustion engines. Natural emissions of N₂O primarily result from bacterial breakdown of nitrogen in soils and in the earth's oceans (U.S. EPA Climate Change website, accessed 5/6/2008). Nitrous oxide is non-toxic and non-irritating. While acting as one of the five primary GHG's, N₂O also acts in a secondary role to increase global warming by aiding in the destruction of ozone (O₃) in the stratosphere. This action occurs when nitrous oxide is converted to nitric oxide, which acts as a catalyst in the reactions in which chlorine and bromine from halocarbons (CFC's etc.) destroy ozone (U.S. EPA Ozone Layer Depletion website, accessed 5/6/2008). Global atmospheric concentrations of N₂O have increased from about 270 ppb in 1750 to 314 ppb in 1998, which equates to a 16 % increase (IPCC Climate Change 2001 – The Scientific Basis, 2001 Table 4.1(a)). In the last 2 decades, atmospheric concentrations of N₂O continue to increase at a rate of 0.25 % per year (IPCC, 2001 p.253). Nitrous oxide has a GWP value of 310 and an estimated atmospheric lifetime of 120 years (U.S. EPA Climate Change website, accessed 5/6/2008).

Ozone - Ozone (O₃) is a tri-atomic molecule, consisting of three oxygen atoms. Under standard atmospheric conditions it is an odorless, colorless gas. When discussing atmospheric ozone, it is important to make a clear distinction between the functions and implications of the gas from different sources and at differing locations within the earth's atmosphere. "Natural" ozone, occurring at ground level, is a combination down-mixing from the stratosphere and photochemical reactions of natural precursors from natural sources. At ground level, natural ozone formation by sunlight is weak, and most ozone comes from reactions of ultraviolet radiation with "ozone precursors", volatile organic compounds (VOCs), and nitrogen oxides (NO_x). Because ozone is chemically reactive and is quickly destroyed, naturally derived ozone concentrations typically represent a balance between formation (generators) and loss processes (sinks) (CEC Public Health Related Impacts of Climate Change, 2005 p. 22). Stratospheric (high-altitude) ozone is formed when oxygen atoms ionized by solar ultraviolet (UV) light combine with other oxygen molecules. About 90 percent of earth's ozone is contained in the stratospheric boundary, commonly referred to as the 'ozone layer'. Here, ozone absorbs a portion of the radiation from the sun, preventing it from reaching the earth's surface. Most importantly, it absorbs the portion of ultraviolet light called UVB, which has been linked to many harmful effects, including various types of skin cancer, cataracts, and harm to some crops, certain materials, and some forms of marine life (U.S. EPA Ozone Depletion website, accessed 5/6/2008). Thus, stratospheric ozone is beneficial for the earth's ecosystem. At any given time, ozone molecules are constantly formed and destroyed in the stratosphere. The total amount, however, remains relatively stable.

Tropospheric (low-altitude) ozone is also created by chemical reactions from automobile, power plant, and other industrial and commercial source emissions in the presence of sunlight. Tropospheric O₃ is a direct greenhouse gas. The past increase in tropospheric O₃ is estimated to provide the third largest increase in direct radiative forcing since the pre-industrial era. In addition, through its chemical impact on OH⁻, it modifies the lifetimes of other greenhouse gases, such as CH₄ (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 260). Ozone abundances in the troposphere typically vary from less than 10 ppb over remote tropical oceans up to about 100 ppb in the upper troposphere, and often exceed 100 ppb downwind of polluted metropolitan regions. This variability, reflecting its rapid chemical turnover, makes it impossible to determine the tropospheric burden from the available surface sites (IPCC Climate Change 2001 – The Scientific

Section 6.0: Cumulative Impacts

Basis, 2001 p. 261). Model estimates of average “natural background” ozone in California are 15 to 35 ppb in coastal areas, with a maximum monthly mean near 40 ppb at low altitude inland sites. At altitudes above 2-kilometers stratospheric intrusions can occasionally push peak “natural background” concentrations to 45 to 50 ppb (CEC Public Health Related Impacts of Climate Change, 2005 p.23).

Besides being a greenhouse gas, ozone can also be a harmful air pollutant at ground level, especially for people with respiratory diseases and children and adults who are active outdoors (U.S. EPA Ground Level Ozone website, accessed 5/6/2008). There is evidence from controlled human and animal exposure studies of the potential for O₃ to cause adverse health effects. Epidemiological studies have also addressed the effects of short and long-term exposures to O₃ (World Health Organization [WHO] Health Aspects of Air Pollution, 2003 p. 30). Studies show that ozone damages lung tissue and causes problems for people with asthma and other lung diseases (CEC Climate Change and Health in California, 2005 p. 20). Ozone exposure may also reduce the rate of lung growth during childhood and accelerate the decline of lung function during adulthood. Current estimates indicate that tropospheric O₃ has increased by up to 36% since the pre-industrial era, although substantial variations exist for regions and overall trends (IPCC Climate Change 2001 – The Scientific Basis, 2001 Table 4.9). Quantifying the greenhouse gas potential of tropospheric ozone is difficult as it is not present in uniform concentrations across the globe. However, the most recent scientific review on the climate change research (IPCC Climate Change 2001 – The Scientific Basis, 2001 Table 6.11) suggests that the radiative forcing of tropospheric ozone is approximately 24% that of carbon dioxide.

Water Vapor - Water vapor (H₂O) is the most abundant greenhouse gas in the atmosphere. The principal source of water vapor in the atmosphere is evaporation of the earth's surface waters (oceans, rivers, lakes, etc.). Secondary sources include evaporation from soils, sublimation (change from solid to gas) from sea ice and snow, transpiration from vegetation, and animal respiration (American Geophysical Union [AGU] Water Vapor in the Climate System, 1995 p. 3). Water vapor is distributed unevenly in the atmosphere, not only horizontally but vertically as well. Water vapor decreases rapidly with height as the atmosphere gets colder. Almost half the total water in the air is between sea level and about 1.5 km above sea level. Less than 5 to 6% of the water is above 5 km, and less than 1% is in the stratosphere, nominally above 12 km. Despite the small amount of water vapor in the upper troposphere (above about 5 km) and stratosphere, recent research has shown that upper tropospheric water vapor is very important to the climate (AGU Water Vapor in the Climate System, 1995 p. 4). As the temperature of the atmosphere rises, more water is evaporated from ground storage and because the air is warmer, the relative humidity can be higher, leading to more water vapor in the atmosphere. The higher concentration of water vapor is then able to absorb more thermal infra-red energy radiated from the earth, thus, further warming the atmosphere (U.S. Department of Commerce, National Climatic Data Center GHG FAQ website, accessed 5/6/2008). The cyclical reinforcement of this system is referred to as a 'positive feedback loop'. However, huge scientific uncertainty exists in defining the extent and importance of this mechanism, as water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (U.S. Department of Commerce, National Climatic Data Center GHG FAQ website, accessed 5/6/2008).

Fluorinated Gases (High GWP Gases) - Hydro-Chlorofluorocarbon compounds (H-CFCs) are haloalkanes with hydrogen, chlorine, and fluorine. Hydrofluorocarbon compounds (HFCs) consists of carbon, hydrogen, and fluorine, but contain no chlorine. Perfluorocarbon compounds (PFCs) are composed of carbon and fluorine. Sulfur hexafluoride (SF₆) consist of fluorine and

Section 6.0: Cumulative Impacts

sulfur. H-CFCs were formerly used widely in industry as refrigerants, propellants, and cleaning solvents. Their use has been regularly prohibited by international protocol in 1989; therefore, they are no longer likely to be encountered. HFCs contain no chlorine and are composed entirely of carbon, hydrogen, and fluorine. PFC emissions are byproducts of aluminum production, arising during discrete periods of process inefficiency. Sulfur hexafluoride has been widely used by the magnesium industry for more than 25 years (U.S. EPA Climate Change website, accessed 5/6/2008). The majority of emissions of high GWP gases are associated with their use as alternatives to ozone depleting substances, which are being phased out to prevent the depletion of the stratospheric ozone layer. Other important emission sources include a variety of industrial processes, such as aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of H-CFC-22 (U.S. EPA Climate Change website, accessed 5/6/2008).

Natural and synthetic chemistry has created a multitude of compounds associated with the four categories of gases described above. Not all are considered GHG's, although almost all of the H-CFC's are considered ozone-depleting substances (U.S. EPA Ozone Layer Depletion website, accessed 5/6/2008). Under Section 602 of the Federal Clean Air Act, there are 90 recorded H-CFC gases. HFC and PFC gases are found in 23 additional forms, 16 and 7 respectively, along with sulfur hexafluoride (SF₆) (U.S. EPA Climate Change website, accessed 5/6/2008). With exception, most high GWP gases have no recorded ambient air health effects associated with them. Hydro-chlorofluorocarbons (H-CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) are potent greenhouse gases, and some persist in the environment for thousands of years. These gases, referred to as high global warming potential gases (high GWPs), have GWP values 140 to 23,900 times more potent than CO₂ in terms of their capabilities to trap heat in the atmosphere over a 100-year period. Also, because they remain in the atmosphere almost indefinitely, concentrations of these gases will increase as long as emissions continue (U.S. EPA Climate Change website, accessed 5/6/2008). Estimates indicate that high GWP gases constitute approximately 1.0% of the total anthropogenic greenhouse gas emissions annually (US EPA – Global Greenhouse Gas Data – accessed 5/6/2008). Notwithstanding their acknowledged potency and persistence in the atmosphere, and the highly detrimental role they continue to play in global warming, they are typically found only in trace amounts in the lower troposphere, near the earth's surface (US EPA – Global Greenhouse Gas Data – accessed 5/6/2008).

Aerosols - are liquid or solid particles suspended in the air. They are emitted to the atmosphere through a range of natural and anthropogenic mechanisms. Soil dust is a major contributor to aerosol loading and optical thickness, especially in sub-tropical and tropical regions. Dust source regions are mainly deserts, dry lake beds, and semi-arid desert fringes, but also areas in drier regions where vegetation has been reduced or soil surfaces have been disturbed by human activities (IPCC Climate Change 2001 – The Scientific Basis, 2001 p. 296). Sulfate aerosols are emitted when fuel containing sulfur, such as coal and oil, is burned. These aerosols have decreased in concentration in the past two decades resulting from efforts to reduce the coal-fired power plant emissions of sulfur dioxide in the United States and other countries (U.S. EPA Climate Change website, accessed 5/6/2008). Carbonaceous aerosols (organic and black carbon) results from the incomplete combustion of fossil fuels and biomass burning (forest fires and land clearing). Although it is thought that global concentrations are likely increasing, there are significant regional differences. In the United States and many other countries, efforts to reduce particulate matter (of which black carbon is a part) are lowering black carbon concentrations (U.S. EPA Climate Change website, accessed 5/6/2008). Sea salt aerosols are generated by various

Section 6.0: Cumulative Impacts

physical processes, especially the bursting of entrained air bubbles during whitecap formation, resulting in a strong dependence on wind speed. This aerosol may be the dominant contributor to both light scattering and cloud nuclei in those regions of the marine atmosphere where wind speeds are high and/or other aerosol sources are weak (IPCC Climate Change 2001 – The Scientific Basis p. 297). Anthropogenic aerosols are emitted from activities such as transportation, coal combustion, cement manufacturing, metallurgy, and waste incineration (IPCC Climate Change 2001 – The Scientific Basis p. 299). Other smaller sources of atmospheric aerosols include biogenic aerosols from plant debris and material, nitrate aerosols, and episodic contributions from volcanic eruptions and outgassing (IPCC Climate Change 2001 – The Scientific Basis p. 303).

Aerosols have a direct radiative forcing because they scatter and absorb solar and infrared radiation in the atmosphere. Aerosols also alter warm, ice and mixed-phase cloud formation processes by increasing droplet number concentrations and ice particle concentrations. They decrease the precipitation efficiency of warm clouds and thereby cause an indirect radiative forcing associated with these changes in cloud properties. Aerosols have most likely made a significant negative contribution to the overall radiative forcing. An important characteristic of aerosols is that they have short atmospheric lifetimes and, therefore, cannot be considered simply as a long-term offset to the warming influence of greenhouse gases (IPCC Climate Change 2001 – The Scientific Basis p. 291).

Relevant Legislation

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by two United Nations organizations: the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). The key objectives of the IPCC are to evaluate the risk of anthropogenic climate change, based mainly on peer reviewed and published scientific/technical literature, and assist in the development of strategies to monitor and limit global climate change (IPCC/UNFCCC 10th Anniversary brochure). The UN Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and entered into force in 1994. The Convention sets an ultimate objective of stabilizing greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system" (UNFCCC website, accessed 5/6/2008).

In response to growing international concerns over long-standing deterioration of the earth's atmospheric ozone layer, the U.S. became a signatory to the Montreal Protocol in 1987. The protocol, and subsequent amendments, is a binding international treaty agreement designed to halt the production and use of ozone depleting substances and to initiate their accelerated phase out. The treaty is the basis on which Title VI of the Federal Clean Air Act was established. The Montreal Protocol stipulated that the production and consumption of compounds that deplete ozone in the stratosphere - chlorofluorocarbons (CFCs), halons and carbon tetrachloride were to be phased out by 2000 and methyl chloroform – phased out by 2005. Subsequent amendments have adjusted to timeframes for final phase out of certain compounds in both developed and developing countries.

In April 1993, the U.S. Climate Change Action Plan (CCAP) was enacted to meet the twin challenges of responding to the threat of global warming and strengthening the economy. The CCAP sought to return U.S. greenhouse gas emissions to their 1990 levels by the year 2000 and contained over 50 new and expanded federal and voluntary initiatives.

Section 6.0: Cumulative Impacts

The current U.S. administration is implementing a comprehensive policy that employs near term domestic measures to address climate change; while also making investments in climate change science and technology in the United States and around the world. The policies promote the development and deployment of clean energy technologies and global collaboration to reduce greenhouse gas emissions, improve energy security, and cut air pollution while ensuring continued economic growth. In 2002, the President set an ambitious goal to reduce the greenhouse gas intensity of the U.S. economy by 18% by 2012. The Administration estimates that this will reduce cumulative emissions of carbon dioxide equivalent by more than 1,833 million metric tons by 2012 (U.S. Department of State website, accessed 5/6/2008).

The State of California has had legislation addressing global climate change as early as the late 1970's. Starting with the establishment of the State's appliance (Title 20) and new building (Title 24) standards in 1976 and 1978, respectively, and concurrent investments in energy efficiency programs across the State, California has pursued strong energy efficiency programs and policies that have set it apart from the rest of the U.S.

California's historical energy efficiency policies have enabled the state to hold per capita electricity use essentially constant, while in the United States as a whole, per capita electricity use increased by nearly 50 percent since the mid-1970s (Chang, et al. Energy Efficiency in California and the United States, 2007 p. 10). California's most recently adopted statewide energy efficiency standards for buildings and appliances (the 2005 updates to the previous 2003 standards) are expected to save 2,800 megawatts (MW) over the next ten years (about five percent of the 60 gigawatts of in-State capacity), effectively avoiding the need to build five 500-MW power plants in the next ten years (Chang, et al. Energy Efficiency in California and the United States, 2007 p. 13).

California Assembly Bill 1493, enacted in 2002, required that the State Air Resources Board "develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gases from motor vehicles". In the bill the Legislature declared that "global warming is a matter of increasing concern for public health and the environment in the state" and that "the control and reduction of emissions of greenhouse gases are critical to slow the effects of global warming". The bill also directed the California Climate Action Registry to adopt protocols for reporting "reductions in greenhouse gas emissions from mobile sources."

In 2005, the Governor issued Executive Order S-3-05 recognizing the importance of the natural resources of the State of California and the risks posed to them by potential changes in global climate. The Executive Order requires that the California Environmental Protection Agency coordinate with State agencies to adopt limits and requirements to reduce greenhouse gas emissions to 1990 and pre-1990 levels by set target dates. The targets set forth in Executive Order S-3-05 are:

- ❖ 2010 - Reduce greenhouse gas emissions to Year 2000 levels
- ❖ 2020 - Reduce greenhouse gas emissions to Year 1990 levels
- ❖ 2050 - Reduce greenhouse gas emissions to 80 percent below Year 1990 levels

Subsequently, the California State Legislature followed with the adoption of the California Global Warming Solutions Act of 2006 (California Assembly Bill No. 32). California Assembly Bill No. 32 requires the California Air Resources Board (CARB) to adopt rules and regulations that would

Section 6.0: Cumulative Impacts

achieve greenhouse gas emissions equivalent to statewide levels in 1990 by the target Year 2020.

Existing Greenhouse Gas Emissions Inventory

Data compiled by the United Nations Framework Convention on Climate Change (UNFCCC) from annual inventories submitted by developed (Annex I) countries estimate that global GHG emissions in the most recent data year (2005) were approximately 22,375 Tg CO₂ Eq. (Teragrams of CO₂ equivalent or million gross metric tons of CO₂ equivalent) from all sources, not including emissions related to land use, land use change, or forestry (UNFCCC GHG Emissions (2007) Data website, accessed 5/6/2008). This figure represents an approximate decrease of 1.85% below base year (1990) GHG emission levels for those countries. Data for developing (Annex II) countries is not included because of incomplete data availability and the proportionately minor size of their global contributions. Under the convention, precise and regularly updated inventories of greenhouse gas emissions from industrialized countries are required to be submitted on an annual basis. Developing countries also are encouraged to carry out similar inventories.

Data submitted to the UNFCCC by the U.S. in 2005 indicated total GHG emissions of 7,241 Tg CO₂ Eq., an increase of approximately 16.3% from 1990 levels (UNFCCC GHG Emissions (2007) Data website, accessed 5/6/2008). This figure represents over 32% of global emissions for 2005. Analysis of historical data shows that U.S. annual emissions steadily increased over the recording period 1991-2005. In 2006, total U.S. greenhouse gas emissions were 7,054 Tg CO₂ Eq. Overall, total U.S. emissions have risen by 14.7 percent from 1990 to 2006, while the U.S. gross domestic product has increased by 59 percent over the same period. Emissions fell from 2005 to 2006, decreasing by 1.1 percent (75.7 Tg CO₂ Eq.). The following factors were primary contributors to this decrease: (1) compared to 2005, 2006 had warmer winter conditions, which decreased consumption of heating fuels, as well as cooler summer conditions, which reduced demand for electricity, (2) restraint on fuel consumption caused by rising fuel prices, primarily in the transportation sector and (3) increased use of natural gas and renewables in the electric power sector (U.S. EPA U.S. GHG Emission Inventory, 2008 p. ES-4).

The State of California is a substantial GHG generator and is ranked second in the United States, only behind Texas. In 2004, the State produced an estimated 492 Tg CO₂ Eq. GHG emissions, with transportation and electricity generation being by far the largest end-user contributors (CEC California GHG Emission Inventory, 2006 pp. 5-7). California's greenhouse gas emissions are also large in a world scale context and continue to grow. If California was considered an independent country, its emissions would rank sixteenth largest (CEC California GHG Emission Inventory, 2006 Figure 10). The report found that the proportional contributions from all sources of GHG in the State were 81% from fossil fuel combustion, 2.8% from other sources of CO₂, 5.7% from methane, 6.8% from nitrous oxide, and the remainder from high GWP gases (2.9%) (CEC California GHG Emission Inventory, 2006 p.5).

Implications of Global Climate Change

On a cumulative level, the GHG emissions from the proposed project and the related projects are not likely to have major impact on the global climate. However, when taken together with all existing sources of GHG and future developments throughout the State, a modified climate will affect virtually every aspect of California's economy and natural resources, with energy supply and demand, water resources, agriculture, vegetation patterns, ecosystems, air quality, public health, and sea level rise among them. The following information is adapted from a California

Section 6.0: Cumulative Impacts

Energy Commission Staff Paper titled "Climate Change Impacts and Adaptation in California" that was prepared in support of the 2005 Integrated Energy Policy Report (CEC Climate Change Impacts and Adaptation in California, 2005 pp. 16-22).

Energy Supply - Climate change may affect the amount of electricity produced in hydroelectric power plants, which contributes about 20 percent of the electricity generated by California's in-state power plants. California also imports significant amounts of hydropower from the Pacific Northwest. Warmer temperatures will affect the snowpack on which the state depends for a reliable, year-round water supply. Changes in precipitation levels and patterns and timing of snowmelt would alter the amount of electricity that hydroelectric facilities could generate. It would also affect seasonal availability, with less water available for hydroelectric generation in the spring and summer months, when demand is the highest. In addition, there is a high likelihood that changes in precipitation and runoff patterns would lead to changes in broader water policies and end-use priorities, which could place further limitations on hydroelectric production. The Pacific Gas and Electric Company (PG&E) produces about one-third to one-fourth of the in-state hydroelectric generation in California. PG&E's hydropower generation, on average, originates from the following runoff sources: groundwater aquifers (38 percent); snowmelt (36 percent); and rainfall (25 percent). The research paper found it important to emphasize that even relatively small changes in in-state hydropower generation could result in substantial extra expenditures for energy generation, because this "free" generation must be purchased from other sources. With the increasing demand for electricity in California and on the West Coast, the relative contribution of hydropower to total generation will diminish with time, even in the absence of climate change. In the distant future, California may not be able to count on large transfers of hydropower from the Pacific Northwest, given the expected increase in local demand in this region and, perhaps, decreased ability to generate electricity in the summer months.

Energy Demand - Climate change is also likely to affect energy demand in California. A recent study estimated that by 2020, increases in net energy expenditures for natural gas and electricity in the residential and commercial sectors could be relatively small in a mild warming scenario, or they could be in the order of \$2 billion, in an extreme case. The increase in net energy expenditure results from an increase in summer cooling demand that overrides the decreases in heating demand from warmer winter temperatures. In relative terms, \$2 billion dollars represents about 6 percent of California's current expenditures in energy (natural gas and electricity) for cooling and heating in the residential and commercial sectors, and it would represent an even smaller fraction by 2020.

Water Resources and Agriculture - Most of California's precipitation falls in the northern part of the state during the winter while the greatest demand for water comes from users in the southern part of the state during the spring and summer. A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages (CEC Our Changing Climate Report, 2006 p. 6).

Continued global warming will increase pressure on California's water resources, which are already overstretched by the demands of a growing economy and population. Decreasing snowmelt and spring stream flows coupled with increasing demand for water resulting from both a growing population and hotter climate could lead to increasing water shortages. By the end of the

Section 6.0: Cumulative Impacts

century, if temperatures rise to the medium warming range and precipitation decreases, late spring stream flow could decline by up to 30 percent. Agricultural areas could be hard hit; with California farmers losing as much as 25 percent of the water supply they need (CEC Our Changing Climate Report, 2006 p. 7).

Water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. In particular, saltwater intrusion would threaten the quality and reliability of the major fresh water supply that is pumped from the southern edge of the Sacramento/San Joaquin River Delta. Coping with the most severe consequences of global warming would require major changes in water management and allocation systems. As more winter precipitation falls as rain instead of snow, water managers will have to balance the need to fill constructed reservoirs for water supply and the need to maintain reservoir space for winter flood control. Some additional storage could be developed; however, the economic and environmental costs would be high (CEC Our Changing Climate Report, 2006 p. 7).

Agriculture, along with forestry, is the sector of the California economy that is most likely to be affected by a change in climate. California agriculture is a \$68 billion industry. California is the largest agricultural producer in the nation and accounts for 13% of all U.S. agricultural sales, including half of the nation's total fruits and vegetables. Regional analyses of climate trends over agricultural regions of California suggest that climate change is already in motion. Over the 50-year period extending from 1951 to 2000, the growing season has lengthened by about a day per decade, and warming temperatures have resulted in an increase of 30 to 70 growing degree days per decade, with much of the increase occurring in the spring. Climate change affects agriculture directly through increasing temperatures and rising CO₂ concentrations, and indirectly through changes in water availability and pests (CEC Possible Scenarios of Climate Change in California, 2005 p. 19).

Vegetation Patterns and Ecosystems - California is one of the most climatically and biologically diverse areas in the world, supporting thousands of plant and animal species. The state's burgeoning population and consequent impact on local landscapes is threatening much of this biological wealth. Global warming is expected to intensify this threat by increasing the risk of wildfire and altering the distribution and character of natural vegetation (CEC Our Changing Climate Report, 2006 p. 10).

Fire is an important ecosystem disturbance. It promotes vegetation and wildlife diversity, releases nutrients into the soil, and eliminates heavy accumulation of underbrush that can fuel catastrophic fires. However, if temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. In many regions, wildfire activity will depend critically on future precipitation patterns. For example, if precipitation increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are expected to increase by approximately 30 percent toward the end of the century. This is 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 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation (CEC Our Changing Climate Report, 2006 p. 11).

Section 6.0: Cumulative Impacts

Land use and other changes resulting from economic development are altering natural habitats throughout the State. Continued global warming will intensify these pressures on the State's natural ecosystems and biological diversity. In northern California, warmer temperatures are expected to shift dominant forest species from Douglas and White Fir to madrone and oaks. In inland regions, increases in fire frequency are expected to promote expansion of grasslands into current shrub and woodland areas. Alpine and sub-alpine ecosystems are among the most threatened in the State. Plants suited to these regions have limited opportunity to migrate "up slope" and are expected to decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures (CEC Our Changing Climate Report, 2006 p. 11).

Also, forest lands cover approximately 45 percent of the State. Recent projections suggest that continued global warming could adversely affect the health and productivity of California's forests. If average statewide temperatures rise to the medium warming range, the productivity of mixed conifer forests is expected to diminish by as much as 18 percent by the end of the century. Yield reductions from pine plantations are expected to be even more severe, with up to a 30 percent decrease by the end of the century (CEC Our Changing Climate Report, 2006 p. 11).

Air Quality and Public Health - Continued global warming will affect public health by exacerbating air pollution, intensifying heat waves, and expanding the range of infectious diseases. The primary concern is not so much the change in average climate but the projected increase in extreme conditions, which pose the most serious health risks. Californians currently experience the worst air quality in the nation, with more than 90 percent of the population living in areas that violate the State's air quality standard for either ground-level ozone or airborne particulate matter. These pollutants can cause or aggravate a wide range of health problems, including asthma and other acute respiratory and cardiovascular diseases, and can decrease lung function in children. Combined, ozone and particulate matter contribute to 8,800 deaths and \$71 billion in health care costs every year. If global background ozone levels increase as projected in some scenarios, it may become impossible to meet local air quality standards. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions (CEC Our Changing Climate Report, 2006 p. 5).

Analyses of various climate change scenarios also suggest that the future will have a greater number of extremely hot days and fewer extremely cold days. Individuals likely to be most affected include the elderly, the already ill, and the economically disadvantaged. Other identified risk factors for temperature related health effects include social isolation, not leaving the home daily, and for heat-related mortality, living on the upper floors of multi-story buildings. The number of deaths attributed to heat has declined over the past 30 years in the United States, primarily due to the increasing number of households with central air conditioning, which appears to be the strongest protective factor. The U.S. Department of Commerce expects that air conditioning will be universal in the United States by 2050, which will increase demand for electricity for residential cooling, especially on peak demand summer days in the future (CEC Possible Scenarios of Climate Change in California, 2005 pp. 26-27).

Effects of Sea Level Rise - California's 1,100 miles of coastline are a major attraction for tourism, recreation, and other economic activity. The coast is also home to unique ecosystems that are among the world's most imperiled. As global warming continues, California's coastal regions will be increasingly threatened by rising sea levels, more intense coastal storms, and warmer water

Section 6.0: Cumulative Impacts

temperatures. During the past century, sea levels along California's coast have risen about seven inches. If heat-trapping emissions continue unabated and temperatures rise into the higher 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 (CEC Our Changing Climate Report, 2006 p. 12).

Project Significance

Increases in the concentrations of greenhouse gases (GHGs) and aerosols are strongly implicated as contributors to climatic changes observed during the last century and are expected to contribute to future changes in global climate. These changes in atmospheric composition are likely to alter temperatures, precipitation patterns, sea level, extreme events, and other aspects of climate on which the natural environment and human systems depend. The project-generated GHGs, along with GHGs from other developments proposed, planned or under construction in the project area, as well as activities and land uses throughout the City, County, State and the nation, are expected to generate greenhouse gases and contribute proportionately to global warming. Thus, the proposed project and related projects would cumulatively increase concentrations of greenhouse gases in the project area, increasing the potential for global warming and climate change.

The proposed Specific Plan and related projects would be expected to provide alternative transport and transit options, where feasible, to reduce vehicle use and reduce vehicle trips. Also, project-related construction would be required to meet California Energy Efficiency Standards for Residential and Nonresidential Buildings, helping to reduce future energy demand, as well as reduce the project's combined contributions to regional greenhouse gas emissions. Other project-specific initiatives that may be incorporated include:

- ◆ *Utilize high efficiency HVAC equipment.*
- ◆ *Install Energy Star labeled roof materials.*
- ◆ *Wire homes to facilitate installation of roof-top solar panels.*
- ◆ *Exceed Title 24 energy conservation design by 20%.*
- ◆ *Incorporate solar orientation into site planning.*
- ◆ *Hardwire buildings to incorporate current telecommunication technologies.*
- ◆ *Install 220-volt electric vehicle charging system in garages.*
- ◆ *Utilize light-colored hardscape in common areas.*
- ◆ *Use highly reflective "cool roofs" in commercial uses.*
- ◆ *Utilize recycled building materials, where feasible.*
- ◆ *Install energy-reducing day lighting (skylights).*
- ◆ *Use low-water use appliances.*

These measures have been recommended for inclusion into the project as part of Mitigation Measure 4.5.6 in Section 4.5, *Air Quality*, and would reduce the project's contribution to GHG.

Future development under the proposed Specific Plan and the related projects would represent a minor proportion of all existing and planned developments in the City of Fontana, San Bernardino County and the State and is expected to provide a proportionately minor contribution to total GHG emissions, when compared to existing developments in the City, County or State. Thus, the project's and related projects' cumulative contribution to global warming potential is considered minimal. Since there are no thresholds, plans or mitigation measures adopted by the City,

Section 6.0: Cumulative Impacts

SCAQMD or the CARB for greenhouse gases (GHG), the significance of the project's cumulative impacts on GHG cannot be determined.

The SCAQMD and the CARB have no proposed or adopted significance criteria or methodologies for estimating a project's contribution of greenhouse gases or evaluating its significance. However, an analysis of the project's compliance with AB 32 strategies, as outlined in the Climate Action Team Report, is provided in Section 4.5, *Air Quality*, and shows that the project would comply with applicable strategies. Mitigation has also been provided in Measure 4.5.6 in Section 4.5, *Air Quality*, to reduce project GHG. However, due to the cumulative potential of greenhouse gas emissions to lead to global warming, the project would cumulatively contribute to significant adverse impacts.

Section 7.0: Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires that an EIR include a discussion of ways in which a proposed project could induce economic or population growth, or the construction of additional housing or other development, either directly or indirectly, in the surrounding environment. Projects that remove obstacles to population growth or tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects, may have growth-inducing impacts. CEQA requires that “...it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.” Induced growth is considered a significant impact only if it can be demonstrated to result in significantly adverse effect on the environment.

Generally, growth-inducing impacts refer to impacts from projects that possess such characteristics as being located in isolated, undeveloped or underdeveloped areas, necessitating the extension of major infrastructure (e.g., roadways, sewer and water lines and facilities) or other services or infrastructure that encourage “premature” or unplanned growth (i.e., “leap frog” development). In addition, projects that induce new development in nearby areas due to the provision of major infrastructure, employment centers, or residential communities may be considered to have growth-inducing impacts.

The growth-inducing impacts of the *Arboretum Specific Plan* may be related to several features of the proposed Specific Plan, as well as the existing condition of lands adjacent to and near the site. These include the potential for the Specific Plan itself to induce development on the site, as well as for future developments on the site to induce development in adjacent areas. These impacts are discussed below.

Development Capacity

The Regional Mixed Use (RMU) land use designation, under the Fontana General Plan Land Use Map, permits a mix of commercial, light industrial and high density residential land uses on the northern section of the project site. The Residential Planned Community (R-PC) designation the southern section allows the development of residential uses at 3 to 6.4 units per acre. The proposed Specific Plan will lead to the development of residential and commercial land uses on the site, requiring a General Plan Amendment to change the RMU and R-PC designations to Residential Multi-Family (R-MF). The proposed *Arboretum Specific Plan* proposes a development mix that would lead to the site being developed largely with residential uses. The preferred mix of uses for areas designated as RMU is 0 to 30% retail; 5 to 15% office; 15 to 30% light industrial/business park; 25 to 35% residential and 4 to 6% public open space. Under the proposed R-MF designation, more residential uses would be constructed on the site than otherwise anticipated under the RMU designation. The Specific Plan would increase residential development capacities on the site with the change from R-PC (up to 6.4 units per acre) to R-MF (up to 24 units per acre), which may induce additional residential growth in the area in response to the demand for housing in North Fontana.

Approved Specific Plan

Adoption of the Specific Plan would change development regulations for the site. The proposed Specific Plan calls for the development of four separate residential villages, two schools, various parks, and a commercial activity center. The proposed Specific Plan would allow higher density residential development on a portion of the southern section than what is allowed under the current R-PC designation. Thus, the project would induce residential growth in North Fontana.

Section 7.0: Growth-Inducing Impacts

In addition, the Specific Plan sets development standards that are different than those applicable to the R-PC and RMU zoning districts in the City's Zoning and Development Code. While the standards are not necessarily less stringent than those of the City, they are more specific and detailed than what is contained in the City's Code. Thus, development of residential and commercial uses on the site could be induced by the development standards in the Specific Plan.

Other Developments

As discussed in Section 2.0, *Environmental Setting*, the City of Fontana has been experiencing rapid growth and development for over 20 years, resulting from its proximity to urban centers and freeways and the availability of vacant land. Recent developments in the City have occurred mainly along the I-15 and SR-210 Freeways and in the northern and southern sections of the City, in areas where easy freeway access and improved circulation exists.

The North Fontana area, in particular, has been experiencing rapid development within the last five years. New developments in the area have included residential subdivisions north and south of the SR-210 Freeway and within the Sierra Lakes, Summit Heights, Citrus Heights, and Westgate Specific Plan areas. Commercial uses have been developed in proximity to the SR-210 Freeway at the Sierra Avenue interchange and near the I-15 Freeway at the Summit Avenue interchange. A number of other residential tracts and specific plans have also been proposed on various parcels along Sierra, Citrus, and Summit Avenues and Lytle Creek Road. These include the Summit at Rosena Specific Plan, the Ventana at Duncan Canyon Specific Plan, Empire North Fontana, Annexation No. 169/Monarch Hills, Lytle Creek North Specific Plan, and other smaller tracts and developments.

Ongoing construction includes residential developments within the Coyote Canyon Specific Plan, Citrus Heights North Specific Plan, Hunter's Ridge, Northwood Ranch, and Shady Trails, as well as commercial developments within the Summit Heights and Sierra Lakes Specific Plan areas. These ongoing and planned projects are listed in Section 6.0, *Cumulative Impacts*. Thus, at the time the project approvals and permits are obtained for the proposed Specific Plan, it is expected that development within approved tracts and specific plans in the surrounding area would have begun or would follow soon after. The project would not induce the development of these and proposed projects in the area. Rather, ongoing residential developments to the east, west and south of the site have influenced the proposed Specific Plan and the future development of residential uses on the site.

Vacant Lands

Development of the project site could encourage the development of adjacent lands. However, whether the proposed project would have a major influence on the development of these vacant sites cannot be ascertained. There are many other factors that would play a part in development, including property owner decisions, economic conditions, demand for commercial and residential developments, cost of development, regulatory controls, and other market forces. These factors have exerted more development pressures on adjacent vacant lands than the project, as evidenced by prior development proposals for these areas. Nonetheless, it cannot be discounted that development on the site and in the area is likely to provide an additional inducement for other nearby vacant lots to develop.

The project site is located at the northern end of the City of Fontana and is surrounded by vacant land to the north, east, west, and south. However, the areas west and south of the site are planned

Section 7.0: Growth-Inducing Impacts

for development under the approved Ventana at Duncan Canyon Specific Plan and Summit at Rosena Specific Plan, respectively. The vacant land northeast of the site is currently being proposed for development with residential and commercial uses under the Empire North Fontana project. Vacant lands with no known development proposals are located north and southeast of the site.

The remaining “unplanned” area southeast of the site is more likely to be affected by new development within the Summit at Rosena Specific Plan and the Empire North Fontana project. These two developments abut the “unplanned” area. The other “unplanned” area north of the site is likely to be affected by the project, as well as new developments to the southwest and east, especially at the Sierra Avenue and I-15 Freeway interchange. The unplanned areas are likely to be developed once urban development occurs around them, including the development proposed on the project site. Future development under the proposed Specific Plan may induce the early development of these adjacent vacant lands.

Some vacant lands remain within approved Specific Plans. The timing of development within adjacent Specific Plans could be induced by development on the site. The rapid residential development in North Fontana is occurring in response to the high demand for housing in the region and other economic factors. The proposed Specific Plan is not expected to induce residential development in the adjacent Specific Plans. Rather, the presence of large residential developments along the SR-210 and I-15 Freeways is likely to have more influence on the future development of vacant lands within approved Specific Plans.

Freeway Interchange

The proposed Duncan Canyon interchange at the I-15 Freeway will provide additional access to North Fontana and will be a new exit between Summit Avenue and Sierra Avenue. The interchange would improve regional access to the site and areas farther to the east. With the new interchange, commercial uses proposed along Duncan Canyon Road would become more economically viable. Development near this interchange is likely to occur when the interchange is built and will serve as the extension of urban development in the area. The planning of the Duncan Canyon interchange has specifically influenced the development of the Ventana at Duncan Canyon Specific Plan to the west of the site and the location of commercial uses near this proposed interchange. Subsequently, the proposed project and other developments on Duncan Canyon Road and Citrus Avenue would likely follow, including development of the vacant lands north of the site as a Corporate Office Corridor.

Roadway Improvements

The construction of the internal and perimeter roadways under the *Arboretum Specific Plan* would improve access to areas north and east of the site and facilitate freeway access when the Duncan Canyon freeway interchange is completed. The roadway and infrastructure improvements that would accompany the proposed project would improve access to nearby vacant areas and could increase pass-by traffic. The proposed project would be required to improve the ultimate half-widths of Citrus Avenue, Casa Grande Avenue, Sierra Avenue, and Grapeland Street along the site perimeter. Full-width improvements would also be provided for roads crossing through the site (Cypress Avenue and Duncan Canyon Road). Other internal roads would be constructed to serve the residential villages. Improvements of these roads would provide a more developed street system (with street lights, sidewalks, medians, and parkways), over those that are mainly two-lane

Section 7.0: Growth-Inducing Impacts

roads with soft shoulders or dirt roads. Thus, the provision of roadway improvements by the project may result in a more attractive area for new development.

The street improvements that would accompany the proposed project would add travel lanes and traffic signals to improve traffic flow in the area. These improvements may also make the areas near the site more attractive to investors, property owners, and future residents and, thus, could create additional housing demand and induce new development in these areas. As mentioned earlier, the adjacent vacant lands have been proposed for development, except those to the north and southeast of the site. Growth may be induced in the “unplanned” areas to the southeast and north by new roads. The proposed street improvements on Citrus Avenue and Grapeland Street would benefit the vacant parcels to the north and the improvement of Casa Grande Avenue and Sierra Avenue would improve access to the undeveloped parcels to the southeast of the site.

New developments would have to provide half-width improvements for perimeter roads and full-width improvements for internal roads. They would also have to pay fair share for the traffic signal and intersection improvement costs. Thus, a perceived decrease in development costs for adjacent lands, due to existing improved roadways, would actually not translate to a decrease in development costs for roadway improvements.

The construction of Duncan Canyon Road through the site as a full six-lane roadway would improve access to adjacent areas to the east. Similarly, improvement of Cypress Avenue would improve access to the north. The development of these areas could be further induced by the construction of Casa Grande Avenue, Citrus Avenue, Sierra Avenue, and Grapeland Street along the site boundaries. Since the development of areas to the northeast, west and south of the site have been proposed earlier than the project, the project cannot be attributed with growth-inducing impacts on these areas. However, development of “unplanned” parcels to the north and southeast of the site may be induced by roadway improvements proposed as part of the project.

Infrastructure Improvements

The proposed Specific Plan would be accompanied by a number of infrastructure improvements. On-site infrastructure would be designed and built to specifically serve the proposed land uses on the site and would not benefit adjacent areas. Off-site infrastructure that would be built as part of the project include a 12-inch water line on Grapeland Street; 15-inch sewer lines on Citrus Avenue, Grapeland Street, Casa Grande Avenue, Duncan Canyon Road, and Cypress Avenue; and storm drain lines on Duncan Canyon Road and Sierra Avenue. These infrastructure system extensions would lead to the availability of these utilities to vacant lands located along or near the utility line extensions.

The proposed *Arboretum Specific Plan* would connect to utility lines that have been extended from the south and those planned to the west. Utility line extensions on Grapeland Street, Citrus Avenue, and Cypress Avenue would provide services to the vacant lands north of the site. The extension of the utility lines on Sierra Avenue and Duncan Canyon Road would provide future service to developments east and northeast of the site. This could reduce costs for developments that may occur on the adjacent lands. However, the need for utility line upgrades or the costs to pay for new service would still have to be paid by individual developments. Similarly, the cost for upgrades to the roadway and utility lines would be borne by each developer, with fee credits from the City of Fontana or utility agency for costs that are not associated with the development. Thus, future development served by a new utility line

Section 7.0: Growth-Inducing Impacts

would still pay the proportionate impact fees to the City or utility agency. Thus, utility infrastructure extensions that would accompany the project would reduce but not eliminate the cost of line extensions.

The availability of utility infrastructure in the project area could induce the development of adjacent vacant lands. However, the need for utility line upgrades or costs to pay for new service would still have to be paid by individual developments and future developments connecting to the water, sewer, storm drain, power, gas, telephone and cable lines would pay development impact fees to the City, the West Valley Water District, or other utility agencies. The reduction in the costs of the utility infrastructure extensions that would be provided by the project may reduce development costs of adjacent vacant lands and thus, induce growth.

Public Services

While the proposed project would need the same public services as other developments in the City, police and fire stations need not be constructed as part of the project or to serve the project. Rather, police protection services will be provided by officers from the City's main station, located approximately 4.5 miles south of the site. Fire protection services will be provided by firefighters from the new Station #79, located at Duncan Canyon Road, west of the I-15 Freeway.

There is an elementary school site and a combined elementary and middle school site proposed on-site. These schools are expected to serve residents of the site and surrounding area. Thus, the future construction of on-site schools could induce additional residential development in the area. New developments would have to pay school impact fees. Thus, a perceived decrease in development costs for adjacent lands, due to existing schools, would actually not translate to a decrease in development costs for school facilities. No growth-inducing impacts associated with school services would occur with the project.

No libraries or other public facilities would be developed on the site, which would induce growth or otherwise draw people to the site.

Resident Population

The proposed project would bring in approximately 3,526 dwelling units with approximately 14,019 residents and 386 employees to the area. Demand for commercial goods and services generated by residents and employees could induce additional commercial development at nearby vacant areas along the I-15 Freeway, Duncan Canyon Road, and Sierra Avenue. Commercial developments are now found south and southwestern of the site, along the I-15 Freeway and Summit Avenue and along the SR-210 Freeway at Sierra Avenue. Commercial uses developed on the site would supplement these adjacent businesses. Together with other proposed developments in the surrounding area, the proposed project would contribute to the ongoing growth and development in the North Fontana area. The project would influence adjacent lands to develop, just as the project was influenced by adjacent developments.

The proposed Specific Plan is expected to result in more population growth for the site than was projected under the Fontana General Plan, due to the increase in allowable residential density proposed by the change in land use designations under the General Plan Amendment. This increased population may result in more indirect growth in order to serve their needs than previously was forecast, such as in the area of retail and services. Existing and future commercial uses on-site and along Sierra Avenue, Duncan Canyon Road, and the I-15 and SR-

Section 7.0: Growth-Inducing Impacts

210 freeways are expected to meet the demand for goods and services generated by future residents of the site.

While the project would induce growth in the surrounding area, future development of the adjacent vacant parcels would be subject to review and approval by the City of Fontana and include the necessary environmental clearance in accordance with the California Environmental Quality Act. Environmental review for individual projects would ensure that potentially significant adverse impacts are identified and mitigated, in accordance with the California Environmental Quality Act. Public utility and service providers would also need to determine if the additional growth associated with individual projects can be accommodated by existing or planned infrastructure improvements and public services and utility agencies' capabilities to provide services. This review and approval of future developments by public agencies and service providers would ensure that adequate services and infrastructure are available to serve individual developments and that no land use conflicts are created. Mitigation measures, standard conditions, and conditions of approval imposed on development projects in the area are expected to avoid or reduce environmental impacts, which may be indirectly attributed to the project. Thus, the growth-inducing impacts of the project are not expected to result in significant adverse effects to the environment.

Section 8.0: Impacts found to be Insignificant

Pursuant to Section 15128 of the CEQA Guidelines, an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project are determined not to be significant and are, therefore, not discussed in detail in the EIR. The Initial Study that was prepared for the *Arboretum Specific Plan* indicated that adoption of the Specific Plan and future developments under the Specific Plan are not expected to have the potential to cause significant adverse effects on Agricultural Resources and Mineral Resources. A discussion of the impacts of the project on these issue areas is provided below.

8.1 AGRICULTURAL RESOURCES

8.1.1 Environmental Setting

Agricultural Uses

In the late 1800's and early 1900's, the City of Fontana was an agricultural area, supporting the diversified agricultural production of citrus, grapes, grain, poultry, and swine. The North Fontana area was part of the historic Grapeland community during that time. However, the community did not exist for long because of the lack of water to serve the scattered residences and orchards/vineyards in the area.

The Kaiser Steel Mill brought about the urbanization of the City beginning in 1942 and the subsequent conversion of agricultural lands to residential, commercial, and industrial land uses. Today, the City has limited agricultural areas, confined mainly to scattered vineyards and occasional sheep grazing at the northern section of the City.

Aerial photographs show the project site has remained as shrubland and only a small section at the eastern central section of the site was historically used for agricultural purposes. Since the second quarter of the 20th century, the site has been largely vacant and undeveloped. No agricultural use or grazing is known to have occurred on the site in the recent past or at this time.

Farmland Designations

The California Farmland Mapping and Monitoring Program develops statistical data for analyzing impacts on California's agricultural resources for use by decision makers in assessing the present status, reviewing trends, and planning for the future of California's agricultural land resources. The program has designated approximately 34,674 acres of Important Farmland in the County of San Bernardino in 2004. Of that, 20,315 acres are designated as Prime Farmland, 8,777 acres are designated as Statewide Importance Farmland, 2,654 acres are Unique Farmland, and 2,928 acres are designated as Farmland of Local Importance. In 2006, only 30,920 acres of farmland remains. This includes approximately 17,046 acres of Prime Farmlands, 7,936 acres of Farmland of Statewide Importance, 3,150 acres of Unique Farmland, and 2,786 acres of Farmland of Local Importance. In addition, there are 902,853 acres of Grazing Land.

Prime Farmland is land with the best combination of physical and chemical characteristics that are able to sustain long term production of agricultural crops. Farmland of Statewide Importance is land with a good combination of physical and chemical characteristics for agricultural production, having only minor shortcomings, such as less ability to store soil moisture, compared to Prime Farmland. Unique Farmland is used for production of the state's major crops on soils not qualifying for prime or

Section 8.0: Impacts found to be Insignificant

statewide importance. This land is usually irrigated, but may include non-irrigated fruits and vegetables as found in some climatic zones in California. Farmland of Local Importance is land of importance to the local agricultural economy. Farmland of Local Importance could include dairies, dry land farming, aquaculture, and uncultivated areas.

Other designations include the following:

- Grazing Land
- Other Land
- Urban and Built-Up Land

Review of the 2006 San Bernardino County Farmland Maps issued by the California Department of Conservation shows that the site is designated as "Grazing Land" or land in which the existing vegetation is suited for the grazing of livestock. Adjacent areas to the north, south, and east are also designated as Grazing Land. Figure 8-1, *Farmland Designations*, shows the current farmland designations of the site and the surrounding areas.

8.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on agricultural resources, if its implementation results in any of the following:

- ◆ 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;
- ◆ Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- ◆ Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

8.1.3 Environmental Impacts

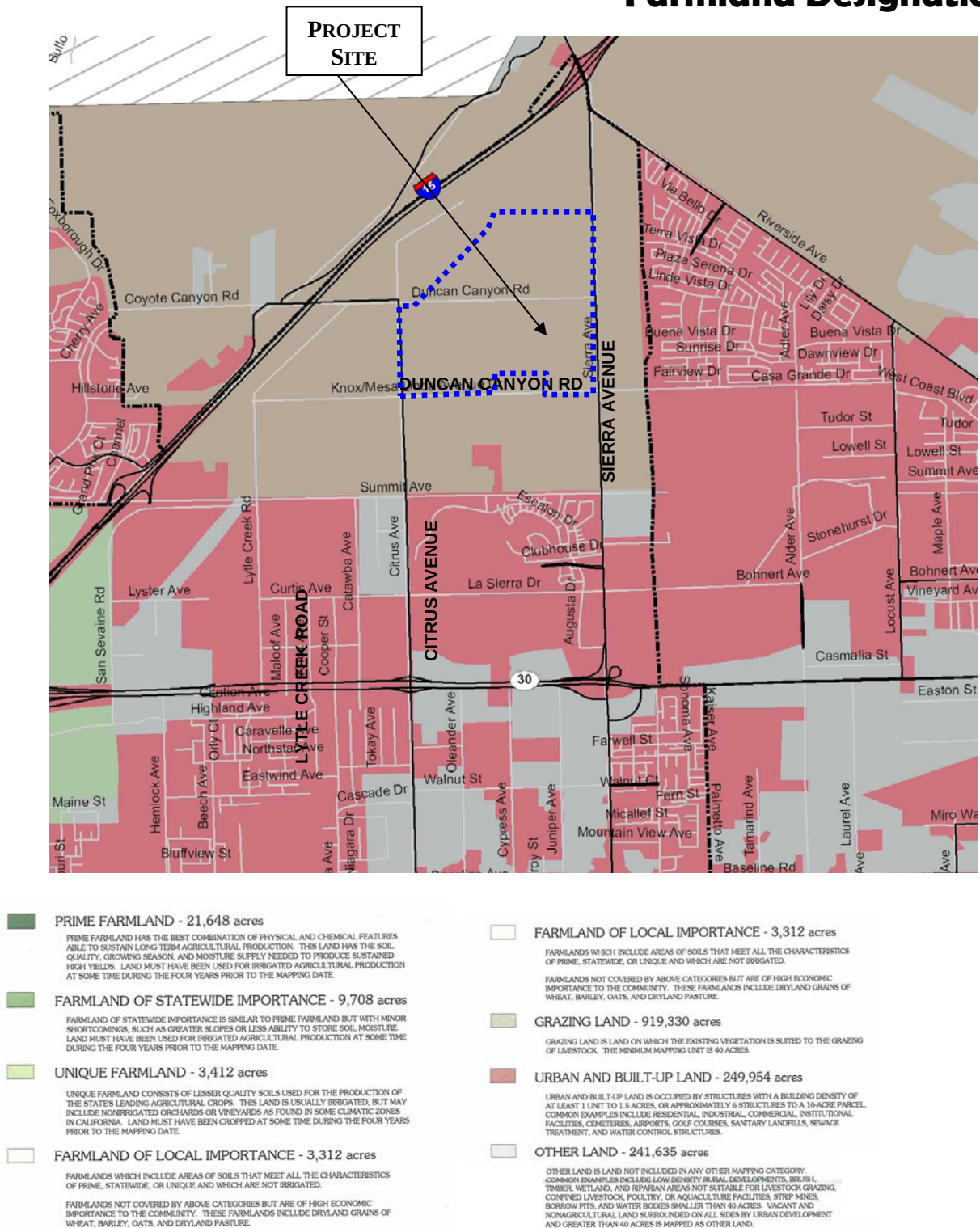
The implementation of the proposed *Arboretum Specific Plan* would preclude future agricultural uses on the project site. However, the site is not currently used for agricultural purposes and the existing land use and zoning designations of the site do not permit agricultural uses. Further, the City does not have a zoning district for agricultural uses.

Since the project site is not designated as Prime Farmland, Unique Farmland, Locally Important Farmland, or Farmland of Statewide Importance, future development on the site, as allowed under the proposed Specific Plan, would not lead to the conversion of farmland to a non-agricultural use. The 531.3 acres of Grazing Land on the site represent 0.06 percent of all Grazing Land in the County. However, the site is not used for grazing at this time or in the recent past.

Future development on the site would preclude any grazing activities or future agricultural use on the project site. But, with the absence of ongoing agricultural uses on or near the site, future development under the proposed Specific Plan would not interfere with any ongoing agricultural uses in the area.

No conflict with the existing zoning for agricultural use or with a Williamson Act contract would occur with the adoption of the Specific Plan or future development, since there is no agricultural zone or land under a Williamson Act contract on or near the site.

**Figure 8-1
Farmland Designations**



Section 8.0: Impacts found to be Insignificant

Since the site is not currently used for agricultural purposes, the proposed project would not result in conversion of existing farmland to a non-agricultural use on or near the site. No adverse impacts relating to agricultural resources in the City or the region are expected with the proposed project.

8.1.4 Standard Conditions and Mitigation Measures

No significant adverse impact on agricultural resources is expected; thus, no standard conditions or mitigation measures are identified.

8.1.5 Unavoidable Significant Adverse Impacts

No impact to agricultural uses or farmlands is expected with the proposed *Arboretum Specific Plan*. No unavoidable significant adverse impact on agricultural resources is expected.

8.2 MINERAL RESOURCES

8.2.1 Environmental Setting

Based on the California Department of Conservation maps, there are no oil, gas, or geothermal resources in the City of Fontana, including the site and the surrounding area. There are no exploratory core holes or completed/abandoned oil wells on or near the site. Also, there are no mining operations on or near the site but sand and gravel resources are present along the Lytle Creek alluvial fan (northeast of the site), and are being mined in the cities of Rialto and San Bernardino.

In conformance with the California Surface Mining and Reclamation Act (SMARA), land use decisions that may affect mineral-bearing lands should be made with the knowledge of these resources. The SMARA requires the State Geologist to classify areas with potential for significant mineral resources. The SMARA states:

The primary objective of the mineral land classifications is to assure that mineral potential and its significance is recognized and considered before land use decisions that could preclude mining are made. The availability of mineral resources is vital to our society. Yet for most types of minerals, economic deposits are rare, isolated occurrences. Access to terrain for purposes of mineral exploration and mine development has become increasingly difficult because California is also faced with growing land use competition.

In accordance with the SMARA, aggregate materials are classified as reserves or resources. Reserves are defined as aggregate materials believed to be acceptable for commercial use, that exist within property boundaries owned or leased by an aggregate-producing company and for which permission allowing extraction and processing has been granted by the proper authorities. Aggregate resources include reserves and similar potentially usable aggregate materials that may be economically mined in the future, but for which no use permit allowing extraction has been granted.

In accordance with the SMARA, Regionally Significant Aggregate Resources Areas have been identified in the City of Fontana and are located at the northern section of the City of Fontana along Lytle Creek; at the western section of the City along San Sevaine Creek; at the central section of the City between the SR 210 Freeway and Foothill Boulevard; and at small scattered locations at the

Section 8.0: Impacts found to be Insignificant

southern half of the City.

The Lytle Creek alluvial fan is generally located in areas along both sides of the creek as it crosses the northern end of the City of Fontana. This alluvial fan contains mineral resources that supply the region with aggregate materials (sand and gravel) for construction. Reserves are present along the Creek in the cities of Rialto and San Bernardino and resources have been identified within and near the creek bed.

Based on the Mineral Land Classification for the Greater Los Angeles Area, as prepared by the California Department of Conservation, the project area is located within the San Bernardino Production-Consumption region, where regionally significant mineral resources have been identified along Lytle Creek.

Figure 8-2, *Mineral Land Classification*, shows significant aggregate resource areas near the project site, as classified by the California Department of Conservation.

The Mineral Land Classification for the area shows that the site is designated as MRZ-3, which means that aggregate resources are present but their significance cannot be evaluated with present data. This designation could be largely due to the presence of boulders and gravelly soils on the site.

The Open Space and Conservation Element of the City of Fontana General Plan acknowledges that aggregate resources are present within the Lytle Creek alluvial fan, its associated drainages, and at the base of the surrounding mountains. However, urbanization of these lands has precluded mining and extraction of these resources. There are currently no mining activities in the City of Fontana and on or near the project site. A surface mining operation is located within the unincorporated County area southwest of the City, with another operation northeast of the site in the City of Rialto.

Due to potential conflicts with urban developments and land uses, as well as strong public opposition, the Fontana General Plan does not call for the conservation of mineral resource lands in its limits. The City's Municipal Code (Chapter 9 – Environmental Protection and Resource Extraction) also provides standards and regulations for resource extraction activities, to ensure that land use conflicts are not created by future mining activities on existing and planned urban land uses.

8.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on mineral resources, if its implementation results in any of the following:

- ◆ Loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- ◆ Loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

8.2.3 Environmental Impacts

Access to Mineral Resources

There are no mining activities on or adjacent to the project site and no mining is proposed as part of

Section 8.0: Impacts found to be Insignificant

the *Arboretum Specific Plan*. While the project site is within a MRZ-3 zone, which identifies the presence of aggregate resources with undetermined significance, this could be largely due to the presence of gravelly soils on the site. No mineral resources of state or regional significance are identified on-site. Thus, development of the site is not expected adversely affect access to regionally significant mineral resources.

Additionally, the site is not designated or zoned for future mining activities. The site and adjacent areas are currently planned for commercial, residential, regional mixed uses, and public utilities within the City's General Plan and Zoning Ordinance, which would not be compatible with mineral extraction activities. The proposed Specific Plan also calls for the development of residential and commercial land uses, parks, and schools on the project site. Adjacent areas have also been proposed for residential and commercial uses under various Specific Plans and tentative tracts.

The Fontana General Plan does not propose the conservation of mineral resources on the project site and the surrounding area. Also, the project would be located several miles from existing mining operations and would not affect existing or future mining operations along Lytle Creek. Thus, the proposed project would not adversely impact mineral resources that are available in the City of Fontana or in the planning area.

Demand for Mineral Resources

Sand and gravel are important resources for construction and the development of buildings and infrastructure. Construction activities associated with the development of structures, roadways, and infrastructure proposed under the *Arboretum Specific Plan* would require aggregate resources. These resources would be supplied by available sand and gravel resources found throughout the region.

The demand for aggregate resources generated by the proposed project can be met by resources available from the mining operations along Lytle Creek, near the City, or other resource extraction operations in the region. The project's demand would represent a minimal amount of construction activity in the region and of the total demand of aggregate resources. Thus, the project is not expected to have an adverse effect on the availability of aggregate resources in the region. When compared to construction activities currently ongoing throughout the City or the County, the demand for aggregate resources that would be generated by the project is not expected to represent a significant adverse impact on mineral resources.

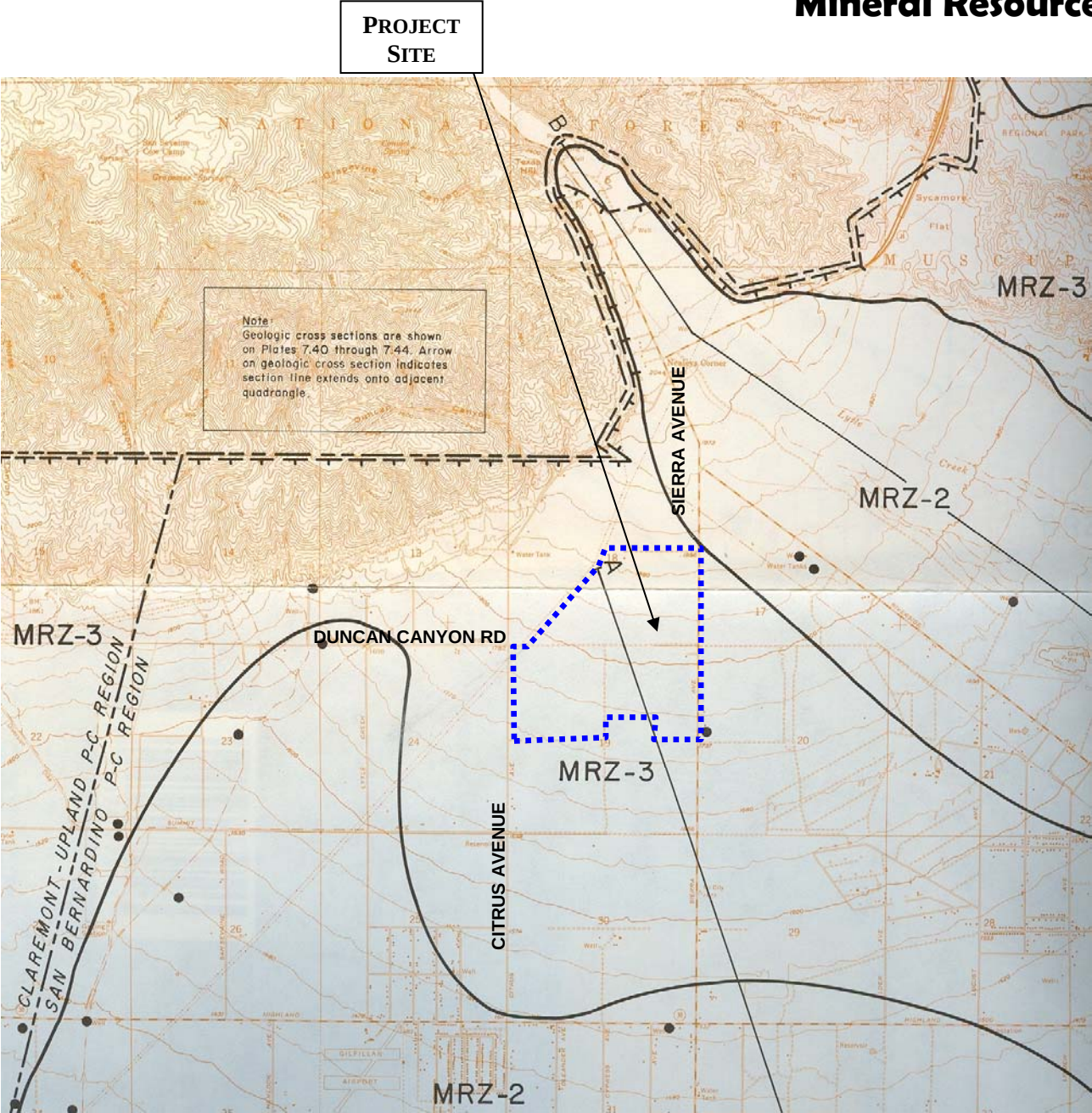
8.2.4 Standard Conditions and Mitigation Measures

No significant adverse impact on mineral resources is expected; thus, no standard conditions or mitigation measures are identified.

8.2.5 Unavoidable Significant Adverse Impacts

The demand for mineral resources that would be generated by future land uses and developments under the proposed *Arboretum Specific Plan* is not expected to have a significant adverse impact on regional mineral resources. No unavoidable significant adverse impact is expected.

Figure 8-2
Mineral Resources



Section 9.0: Alternatives Analysis

In accordance with Section 15126.6 of the CEQA Guidelines, an EIR must contain “a range of reasonable alternatives to the project, or the location of the project, which could feasibly attain most of the basic objectives of the project”, as well as an evaluation of the “comparative merits of the alternatives”. The discussion of alternatives shall focus on alternatives that “would avoid or substantially lessen any of the significant effects of the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly”.

9.1 SUMMARY OF PROJECT ACTIONS AND OBJECTIVES

This EIR analyzes the potential environmental effects associated with the adoption and implementation of the proposed *Arboretum Specific Plan*, a mixed use development proposed on 531.3 acres in the northern section of the City of Fontana. The project site is bounded by Citrus Avenue on the west, Sierra Avenue on the east, the future alignment of Grapeland Street on the north, MWD right-of-way (also future alignment of Casa Grande Avenue) on the south and the SCE/SCG easements on the northwest. The proposed Specific Plan would allow the development of four residential villages on the site, with a total of 3,526 residential units, along with an 8.8-acre commercial activity center, a regional arboretum, various parks, one elementary school, and a combined elementary-middle school. The City of Fontana and the applicant, North Fontana Investment Company, LLC, seek to accomplish the following objectives with the proposed *Arboretum Specific Plan*:

- To implement a comprehensive development plan for the project site;
- To provide a complementary mix of housing types that will appeal to a wide range of future homebuyers;
- To assist in creating a synergistic community; and
- To create an integrated lifestyle community which incorporate a regional arboretum as part of the living environment.

9.2 SUMMARY OF SIGNIFICANT IMPACTS

The evaluation of the project’s environmental impacts in Section 4.0, *Environmental Analysis*, of this EIR concludes that the project would result in adverse environmental impacts associated with land use and planning, transportation and circulation, air quality, noise, geology and soils, hydrology and water quality, biological resources, cultural resources, hazards and human health, public services, utilities, and aesthetics. Implementation of standard conditions and the recommended mitigation measures would reduce most of the project impacts to less than significant levels. The project’s traffic impacts would remain significant until off-site roadway and intersection improvements are built by the City and adjacent developments. This impact would be significant but short-term. However, air quality impacts from future development would be long-term and would exceed SCAQMD thresholds. These impacts would also remain significant even after mitigation.

9.3 ALTERNATIVES ANALYSIS

This section considers several alternatives to the proposed Specific Plan development. These alternatives are discussed below.

- **No Project Alternative.** The No Project Alternative anticipates that the project site would remain in its existing condition, being vacant with the recent burning of the single-family residence on the northwest corner of the site. No specific plan would be approved for the site, and no new

Section 9.0: Alternatives Analysis

development would occur on the project site. This alternative assumes that the existing conditions on the site would remain indefinitely.

- **Existing Land Use Designation.** As a subset of the No Project Alternative, the Existing Land Use Designation Alternative would allow future development on the site in accordance with the current land use designations of Regional Mixed Use (RMU) on the northern section, Residential Planned Community (R-PC) on the southern section, Public Utility Corridor (PUC) along the SCE and SCG easements, and Community Commercial (C-C) at Sierra Avenue and Duncan Canyon Road. The RMU designation applies to 185.7 acres of the site, where approximately 25% of the site would be developed with retail uses, 15% with office uses; 30% light industrial/business park; 25% with residential uses and 5% as public open space. The C-C designation applies to 40 acres of the site. The R-PC designation applies to 274.4 acres of the site and the PUC designation applies to 31.2 acres of the site. A mix of residential, commercial, and light industrial developments can be constructed on the site under these existing land use and zoning designations.
- **Lower Intensity Alternative.** Under this alternative, the project site would be developed with the same land uses under the proposed Specific Plan, but at lower densities. This alternative seeks to reduce the potential impacts of the proposed Specific Plan on impacts that are generated according to the size of proposed development. While lower development intensities may be constructed on the project site, the intensity of development that would be constructed on the site under this alternative would still not reduce potential air quality impacts to levels below SCAQMD thresholds. The project would have to scale down to 297 condominium units only or 20,000 square feet of retail commercial and office uses only. Development of only 297 unit on a 531.3-acre site or only 20,000 square feet of commercial floor area on the same site was considered economically infeasible due to the cost of roadway and infrastructure system improvements that would be needed. Another option would be to develop the site as separate projects on smaller sites, in order to fall below SCAQMD thresholds for pollutant emissions. But the benefits of comprehensive planning outweigh piecemeal development. Also, the development of 297 condominiums or 20,000 square feet of commercial uses on the site would not be compatible and consistent with planned land uses in the North Fontana area under Fontana General Plan and the existing land use designations of the site or with the development under the proposed Specific Plan. Thus, a slightly reduced development is proposed under this alternative, featuring 1,500 single-family detached housing units, with the same commercial development at the northwest corner of Sierra Avenue and Duncan Canyon Road, an elementary school, a combined elementary and middle school and various parks.
- **Alternative Sites.** Under this alternative, vacant parcels in other areas of the City, which may accommodate the residential and retail commercial developments, schools and parks, as proposed for the project site, are considered as potential alternative sites for the project. These include existing vacant sites in the North Fontana area, some of which have been proposed for residential and commercial developments under approved Specific Plans and tract maps. Since there are no remaining undeveloped areas in Fontana with as much as 531.3 acres, this alternative assumes that the proposed developments under the Arboretum Specific Plan would be developed on separate sites located to the north, west and east of the site. This alternative would move the demand-driven impacts of the project to other sites but would not reduce them. Also, the alternative sites present a different set of constraints to development or would lead to environmental impacts based on the presence of environmental resources at each site. Thus, they do not necessarily avoid or reduce the impacts associated with the proposed project.

Section 9.0: Alternatives Analysis

9.3.1 No Project Alternative

The No Project Alternative is included pursuant to the requirements of CEQA and the CEQA Guidelines. Under the No Project Alternative, it is assumed that the Arboretum Specific Plan would not be adopted and implementation of the proposed Specific Plan would not occur. Rather, the existing conditions on-site would remain unchanged indefinitely. Thus, the project site would remain undeveloped, with the recent burning of the existing on-site residence and its accessory structures.

Retaining the project site in its undeveloped condition would result in the elimination of all short-term construction and long-term operational impacts, including potential for generation of air pollution, noise, and traffic. If the Specific Plan is not adopted and implemented and no changes in existing land uses occur, it can be assumed that existing environmental conditions would remain consistent with those identified in Section 2.0, *Environmental Setting*, of this EIR and under the Environmental Setting subsections under each issue area in Section 4.0, *Environmental Impact Analysis*. No new environmental impacts would occur on-site or would be generated under this alternative.

It is unlikely that the site would remain largely undeveloped indefinitely, as it is planned for urban land uses under the Fontana General Plan and Land Use Map. While this alternative means that no development would occur on the site and environmental impacts would be avoided, this project would not meet any of the objectives related to utilization of the project site. Under this alternative, North Fontana Investment Company would have to retain the site as permanent undeveloped land. Without development within the project site, the developer would not be able to obtain a reasonable return on investment and the City would have to pay the property owner for the land if it would not allow any development on the site. This alternative would require that the City designate the site as Open Space if the City wanted to keep the site in its existing vacant condition indefinitely.

The environmental impacts of this alternative are briefly discussed below, along with a comparison of impacts with the proposed project.

Environmental Analysis of Alternative

The No Project Alternative generally assumes that no new environmental impacts would occur on-site, since changes to existing conditions would not occur and no development would be permitted on the entire 531.3 acres. The environmental effects that may be expected under the No Project Alternative are discussed by issue area below.

Land Use and Planning - The project site would remain in its vacant condition and would not be developed. No Specific Plan, Tentative Tract Map, or other City approval would be needed to accommodate this alternative. Under the No Project Alternative, no new development would occur within the project site, which may impact adjacent land uses. Thus, no impacts on adjacent land uses would occur under this alternative. This alternative would not implement the development anticipated on the site in the Fontana General Plan. No impacts on land use and planning are expected under this alternative, which would be less than those of the project.

Population and Housing – With no new housing units on the site, no increase in the resident population of the City would occur. In addition, with no new commercial retail or office development, no employment opportunities would be generated. Also, no schools or parks

Section 9.0: Alternatives Analysis

would be developed on the site. No changes to the City's existing population or housing stock would occur under this alternative, which is less than the anticipated impacts under the proposed project. At the same time, without the project, demand for housing in the area would have to be met by other projects. Goods, services, and employment for the surrounding area would also not be provided. No impacts are expected under this alternative, which would be less than those of the project.

Transportation and Circulation – No new trips would be added to existing traffic volumes on the surrounding or nearby roadways and freeways, under this alternative. Existing traffic volumes would be maintained. The trip generation impact is less than that anticipated with the proposed project. However, improvements to planned roadways on and near the site (Sierra Avenue, Casa Grande Avenue, Duncan Canyon Road, Cypress Avenue, and Citrus Avenue) would not occur, which could affect traffic flows in the area. While less adverse impacts would occur under this alternative, than the proposed project, this alternative would not implement the City's Circulation Master Plan. No impacts on traffic are expected under this alternative, which would be less than those of the project.

Air Quality – The project site is vacant and no vehicular emissions and stationary emissions are generated by the site. The project site is currently contributing to PM₁₀ and fugitive dust levels in the area due to its undeveloped condition. During high winds, this creates nuisance impacts to homes located near the site. This impact would continue under the No Project Alternative. Without development, grading and site preparation would not be necessary, thereby eliminating the associated construction emissions. Also, with no development, no new vehicle emissions and stationary emissions from the site would be generated. No air quality impacts are expected under this alternative, which would be less than what would occur under the proposed project.

Noise – The project site does not generate any noise in its vacant condition. This would continue under the No Project Alternative. No construction, vehicle or stationary noise impacts associated with future development that could occur on the project site as a result of the proposed project would occur under this alternative. No noise impacts are expected under this alternative, which would be less than what would occur under the proposed project.

Geology and Soils – No changes in topography would occur under this alternative, because no construction, grading, and excavation activities are proposed. No development would be exposed to the seismic and geologic hazards on the site. No impacts are expected under this alternative, which would be less than that anticipated under the proposed project.

Hydrology and Water Quality – No changes to existing drainage patterns would occur, and no improvements to on-site and off-site drainage are expected under this alternative. At the same time, no urban land uses would be introduced to the site, which may increase runoff volumes and generate pollutants entering the storm drain system. No impacts are expected under this alternative, which would be less than the impacts anticipated under the proposed project.

Biological Resources – Existing on-site vegetation would remain on the site and the undeveloped site's use as a foraging, nesting and habitat area for burrowing owls and migratory birds would continue under this alternative. No new vegetation would be introduced.

Section 9.0: Alternatives Analysis

No impacts are expected under this alternative, which would be less than what would occur under the proposed project.

Cultural Resources – The existing foundation remains found on-site would remain in their current condition under this alternative. In addition, no ground disturbance activities and no impacts to paleontological or archaeological resources would occur. No impacts are expected under this alternative, which would be less than those of the project.

Public Services and Recreation – The project site's demand for public services is limited to police protection services for trespassing, illegal dumping, and vandalism and fire protection services for brush fire hazards. The site also has no demand for school, park, library, and medical services. This would continue under the No Project Alternative. No impacts on public services and recreation are expected under this alternative, which would be less than what would occur under the proposed project.

Utilities – The vacant site does not generate a demand for utility services. This would continue under the No Project Alternative. No impacts on utilities are expected under this alternative, which would be less than what would occur under the proposed project.

Hazards and Human Health – There is no hazardous materials use currently occurring on the project site, although illegally dumped trash and debris includes some hazardous materials. No hazardous material users would be introduced to the project site under the No Project Alternative. No impacts are expected under this alternative, which would be less than what would occur under the proposed project.

Aesthetics – The project site is vacant, with non-native grasses, scrub vegetation, and scattered trees. Views of the San Gabriel and San Bernardino Mountains are available on-site and from adjacent properties. The site would remain undeveloped under this alternative. No new structures or landscaping would be introduced on-site. Also, no new sources of light and glare would be introduced on-site. The visual characteristics of the site would remain the same as existing, under the No Project Alternative. No impacts are expected under this alternative, which would be less than what would occur under the proposed project.

The analysis shows that the No Project Alternative would have less impact on the existing environment than the proposed *Arboretum Specific Plan* on all environmental issue areas due to the preservation of existing environmental conditions. However, this alternative would not meet any of the project objectives as they relate to a comprehensive development plan for the project site; a complementary mix of housing types that will appeal to a wide range of future homebuyers; a synergistic community; and an integrated lifestyle community which incorporate a regional arboretum.

9.3.2 Existing Land Use Designation

As a subset of the No Project Alternative, the Existing Land Use Designation Alternative assumes that future development on the project site would be subject to existing land use regulations applicable to the project site. The Existing Land Use Designation Alternative assumes that future development would take place on-site, as allowed under the City's General Plan Land Use Map and the Fontana Zoning and Development Code. Future development on the site would occur in accordance with the current Regional Mixed Use (RMU), Residential Planned Community (R-PC), Public Utility Corridor (P-UC) a, and Community Commercial (C-C) designations of the site.

Section 9.0: Alternatives Analysis

A mix of residential, commercial, and light industrial developments can be constructed on the site under the existing land use and zoning designations. The RMU designation applies to 185.7 acres of the site, where approximately 25% of the site would be developed with retail uses, 15% with office uses; 30% light industrial/business park; 25% with residential uses and 5% as public open space. The C-C designation applies to 40 acres of the site. The R-PC designation applies to 274.4 acres of the site and the P-UC designation applies to 31.2 acres of the site. The development potential under this alternative is provided in Table 9-1, *Existing Land Use Designation Development*.

TABLE 9-1
EXISTING LAND USE DESIGNATION DEVELOPMENT

Land Use Designation	Allowable Density	Allowable Uses	Acres	Future Development
Regional Mixed Use	FAR 1.0; 12 to 24 units per acre	Retail commercial (25%), office (15%), light manufacturing (30%), residential uses (25%) and open space (5%)	185.7	505,568 sf of retail uses; 303,341 sf of office uses; 606,682 sf of light industrial uses; 836 units
Public Utility Corridor	--	Public facilities for the health, safety, and general welfare of the public	31.2	--
Residential Planned Community	3.0 to 6.4 units per acre	Master-planned communities with a mix of residential uses and amenities with an approved specific plan	274.4	1,619 units
Community Commercial	FAR 1.0	Retail commercial, office, and medical offices and clinics	40	435,600 sf
Activity Center Overlay	FAR 0.25- 1.5; 7.7 to 24 units per acre	Any use permitted in the underlying zoning district with mixed use projects encouraged	--	--
		Total	531.3 acres	2,455 units, 1.2 million sf of commercial uses and 606,682 sf of light industrial uses
sf – square feet Development potential based on average FAR of 0.25. RMU residential density 18 units per acre and R-PC areas at 5.9 units per acre				

Based on existing land use designations and the allowable development density and intensity for each designation, as much as 2,455 dwelling units, 1.2 million square feet of commercial retail and office uses and 606,682 square feet of light industrial uses can be constructed on the site under the existing land use and zoning designations.

Section 9.0: Alternatives Analysis

Under this alternative, new development that may occur on the site would be at a higher intensity than the proposed project. This alternative assumes that the project site is developed with 1,071 less dwelling units, but with over 1.14 million square feet of additional commercial development and 606,682 square feet of light industrial uses. Also, approximately 9 acres of the site would be developed with parks. No schools are proposed on-site as part of this alternative. With the increase in development intensity that would be developed on the site, it can be expected that this alternative would result in greater environmental impacts than the proposed *Arboretum Specific Plan*.

The environmental impacts of this alternative are briefly discussed below, along with a comparison of impacts with the proposed project.

Environmental Analysis of Alternative

The project site would be subject to future development activities under this alternative, to include 2,455 dwelling units, 1.2 million square feet of commercial retail and office uses and 606,682 square feet of light industrial uses. The environmental effects that may be expected under the Existing Land Use Designation Alternative are discussed by issue area below.

Land Use and Planning – Under this alternative, the project site would be developed with retail commercial, light industrial, and multi-family residential land uses. A General Plan Amendment or Specific Plan would not be needed because this alternative is consistent with the Fontana General Plan land use and zoning designations for the site. However, more intensive development would occur on site than what is currently proposed under the *Arboretum Specific Plan*. This alternative is consistent to what is anticipated under the Fontana General Plan. However, with more intensive development on the site, greater impacts would occur under this alternative than under the project. However, impacts would be considered less than significant.

Population and Housing – With 2,455 new housing units on the project site, an increase in the resident population of the City by 9,761 persons (average 3.976 persons per household) would occur under this alternative. This is slightly lower than the estimated resident population of the project due to the decrease by 1,071 units over the proposed project. However, employment generation would be greater with the greater floor area of retail commercial, office, and light industrial developments. This alternative would meet some of the housing needs of the City, as well as provide a larger employment base. Impacts would be more beneficial than what would occur under the proposed project. Impacts under this alternative would be considered less than significant.

Transportation and Circulation – With the development of 1.2 million square feet of retail commercial and office uses and 606,682 square feet of light industrial land uses on the site, even with 1,071 less dwelling units, this alternative is expected to result in more vehicle trips from proposed land uses. Area roadways would have to handle greater traffic volumes under this alternative. These traffic impacts are greater than what would occur under the proposed project. Impacts under this alternative would be considered significant and would require mitigation. As with the proposed project, until off-site roadway and intersection improvements are completed by the City, traffic impacts would remain significant and adverse in the short-term.

Section 9.0: Alternatives Analysis

Air Quality – The development of the retail commercial, office, light industrial, and multi-family residential land uses on the project site would result in construction, vehicular and stationary air pollutant emissions. These emissions would be greater than the proposed project since the Existing Land Use Designation Alternative would result in more non-residential development than the proposed project. Air quality impacts are expected to be greater than what would occur under the proposed project. Impacts under this alternative would be considered significant and would require mitigation. As with the proposed project, ground disturbance may be limited and the construction phasing prolonged to reduce construction impacts to below SCAQMD daily thresholds. However, long-term air quality impacts will remain significant and unavoidable even after mitigation.

Noise – Noise generated from the land uses on-site would likely be greater under this alternative than the proposed project. This is because higher intensity commercial and light industrial developments would occur on the site. Also, residential land uses would be located near retail commercial and light industrial developments. Due to the increase in development intensity, construction noise impacts would be greater. With the greater number of vehicle trips that would be generated under this alternative, vehicle noise impacts would also be greater. The noise impacts under this alternative would be greater than what would occur under the proposed project. Impacts under this alternative would be considered significant and would require mitigation.

Geology and Soils – Future development on the site would lead to ground disturbance activities and exposure of future residents, employees and visitors of the site to geologic and seismic hazards. No significant changes in topography would occur under this alternative, as associated with grading and excavation activities for future developments. The extent of grading and excavation would be the same because the same size project site would be developed. Development under this alternative would be exposed to the same geologic hazards as the proposed project. This impact is similar to what would occur under the proposed project and would be significant, requiring mitigation.

Hydrology and Water Quality – With future development of the project site, changes to existing drainage patterns would occur, as runoff would be directed into the storm drain system serving the site. The introduction of impervious surfaces would result in increased runoff volumes and rates from the site. With more commercial and light industrial uses built on the site, more sources of stormwater pollutants would be generated. Impacts are expected to be greater than what would occur under the proposed project. Impacts under this alternative would be considered significant and would require mitigation.

Biological Resources – Existing vegetation on the site would be removed as part of future grading and excavation activities to build new development. Future development on the site would include the introduction of new vegetation in the form of landscaping materials for individual development sites. The development of the site with retail commercial, office, light industrial, and multi-family residential land uses would have the same impacts on biological resources as the proposed project since the same 531.3 acres of existing vegetation would be disturbed. Impacts would be similar to what would occur under the proposed project and would be significant, requiring mitigation.

Cultural Resources – The development of the project site under this alternative would lead to ground disturbance similar to the proposed project. Impacts to the foundation remains and

Section 9.0: Alternatives Analysis

unknown archaeological and paleontological resources under this alternative would be the same as what would occur under the proposed project, since the disturbance area or project site would remain the same. Impacts would be significant, requiring mitigation.

Public Services and Recreation – The demand for public services under this alternative would include school services for the 2,455 dwelling units, which could generate 1.1 students per unit or 2,701 students. This is 767 students less than anticipated with the proposed project, with no school sites proposed. Similarly, demand for library services and parks to be generated by on-site residents would be less. An increase in demand for fire and police protection services is expected under this alternative due to the increase in commercial and light industrial development proposed. The Existing Land Use Designation Alternative is expected to have impacts on public services that would be greater than what would occur under the proposed project. Impacts under this alternative would be considered less than significant, with payment of development impact fees.

Utilities and Service Systems – Even with less housing units, the substantial increase in retail commercial, office and light industrial floor area anticipated under this alternative is expected to result in a greater demand for utility services. Connections to existing infrastructure systems would be needed and utility line extensions and new facilities would be constructed within the project site, similar to the project. Impacts on utilities would be greater than what would occur under the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Hazards and Human Health – The development of light industrial uses on the site, as anticipated under this alternative, could include hazardous material users and generators. Compliance with existing regulations would not create significant impacts to public health and safety. However, the potential for hazardous material spills and accidents would be greater and impacts would be greater than what is anticipated under the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Aesthetics – Developments on the site, as anticipated under this alternative, would reflect the development anticipated under the City of Fontana Land Use Policy Map. More intensive developments on the site would lead to greater obstruction of views of the mountains to the north. More sources of light and glare would also be created. With more non-residential development under this alternative, exterior lighting sources would be greater. This alternative would have greater impacts than that expected under the proposed project. However, impacts under this alternative would be considered less than significant, with compliance with the City's development and design standards.

The analysis shows that the Existing Land Use Designation Alternative would have the same impacts as the proposed project on geology, biological and cultural resources. This alternative would have greater impacts than the proposed project as they relate to land use, transportation, air quality, noise, hydrology, public services, aesthetics, utilities, and hazards and human health, due to the construction of light industrial uses, and the greater floor area of non-residential development that would occur on the project site. More beneficial impacts on employment would occur under this alternative.

This alternative would not meet the project's objectives for a comprehensive development plan for the project site since no specific plan is proposed. Also, the mix of housing types may be limited to those

Section 9.0: Alternatives Analysis

typically found the RMU and R-PC designations. A synergistic community and a regional arboretum would likewise not be provided under this alternative.

9.3.3 Lower Intensity Alternative

This alternative would allow a lower intensity of retail commercial and residential development on the site than the proposed project. This alternative is being considered to reduce the level of impacts on traffic, air quality, noise, public service demand, and utilities demand from future development under the proposed project. To reduce air quality impacts to below SCAQMD thresholds, the project would have to be scaled down to 297 condominium units only or to 20,000 square feet of retail commercial uses only. Since the 531.3-acre site would accommodate more than either development under the City's allowable development density/intensity, a substantial reduction in the development potential of the site would effectively reduce the economic value of the site.

Cutting up the site into smaller parcels to come below the SCAQMD thresholds would defeat the purpose of comprehensive planning and development of a livable community. The project has also been separated into planning areas to better reflect the phasing of development, but SCAQMD thresholds would still be exceeded in each planning area (more than 297 dwelling units or 20,000 square feet of commercial uses are proposed in each village).

The development of only 297 condominium units or 20,000 square feet of retail commercial uses would not be compatible and consistent with planned urban land uses in the North Fontana area and under the current land use designations, where a mix of commercial, light industrial and residential land uses are allowed. Additionally, a significantly lower intensity of development on the site would make development of the site financially infeasible (considering the costs of roadway and infrastructure systems that would be needed) and inconsistent with the goals of the Fontana General Plan. Thus, a slightly reduced development is proposed under this alternative, featuring 1,500 single-family detached housing units, with the same commercial development at the northwest corner of Sierra Avenue and Duncan Canyon Road, an elementary school, a combined elementary and middle school, and various parks.

The reduced development density proposed under this alternative would reduce the environmental impacts from future development on the site. However, the intensity of development would not reduce potential air quality impacts of the project to levels below SCAQMD thresholds for pollutant emissions.

The environmental impacts of this alternative are briefly discussed below, along with a comparison of impacts with the proposed project.

Environmental Analysis of Alternative

With the same commercial uses, schools, and parks, the decrease in residential units that would be developed on the project site under this alternative would lead to a decrease in potential demand-driven environmental impacts. The environmental effects that may be expected under the Lower Density Alternative are discussed below.

Land Use and Planning – Under this alternative, a lower density residential development would be provided on the project site. Future development on the site would be limited to 1,500 dwelling units and the same commercial uses, schools, and parks. Similar to the proposed project, a Specific Plan would be adopted to accommodate this alternative. Impacts

Section 9.0: Alternatives Analysis

would be less than significant under this alternative and would be less than the impacts of the proposed project.

Population and Housing – With the commercial uses and schools on the site, the same employment generation is expected. With less residential units, a lower resident population would occur under this alternative than the proposed project. The 1,500 dwelling units under this alternative would generate fewer residents (5,964 residents versus the projects 14,019 residents) on-site. The decrease in housing and population would mean less impact would occur under this alternative than the proposed project. Also, impacts would be less than significant.

Transportation and Circulation – With fewer residential units, trip generation from the site would be less than the proposed project. Fewer vehicles would be generated by this alternative, contributing less to traffic congestion on area roadways and the nearby I-15 Freeway. This alternative would still include construction of the proposed roadway system for the area. Thus, traffic impacts under this alternative would be less than what would occur under the proposed project. Impacts under this alternative would be considered significant and would require mitigation. As with the proposed project, until off-site roadway and intersection improvements are completed by the City, traffic impacts would remain significant and adverse in the short-term.

Air Quality – Future development of residential and retail commercial uses, schools and parks under this alternative would result in air pollutant emissions associated with construction, vehicle use and power generation. However, with less residential development, emissions associated with construction, vehicle trips and stationary emissions would be less under this alternative than the proposed project. Thus, air quality impacts under this alternative would be less than what would occur under the proposed project. However, impacts under this alternative would be considered significant and would require mitigation. As with the proposed project, ground disturbance may be limited and the construction phasing prolonged to reduce construction impacts to below SCAQMD daily thresholds. However, long-term vehicle and stationary impacts will remain significant and unavoidable even after mitigation.

Noise – Vehicle noise generated from residential and retail commercial uses, schools and parks would likely be less under this alternative than those of the proposed project due to the decrease in the number of dwelling units built on the site and fewer sources of vehicle and stationary noise sources. The noise impacts under this alternative would be less than what would occur under the proposed project. However, impacts would be considered significant and would require mitigation.

Geology and Soils – No significant changes in topography would occur under this alternative, as associated with grading and excavation activities for future development. The extent of grading and excavation would be the same because the entire project site would still be developed. Future development under this alternative would be exposed to the same geologic hazards as the proposed project. This impact is similar to what would occur under the proposed project and would be significant, requiring mitigation.

Hydrology and Water Quality – Changes to existing drainage patterns would occur as runoff from streets is directed into the on-site drainage channels and off-site drainage facilities. The development of fewer residential units would result in a lower potential for urban stormwater

Section 9.0: Alternatives Analysis

pollutants, which would impact stormwater quality. This impact is less than what would occur under the proposed project. However, impacts would be considered significant and would require mitigation.

Biological Resources – The development of the site with a lower intensity residential development would have the same impacts on biological resources as the proposed project because the entire project site would still be developed. Existing vegetation on the site would be removed as part of future grading and excavation activities. Future development would require that new vegetation be introduced in the form of landscaping materials for individual development sites. This impact is similar to what would occur under the proposed project and would be significant, requiring mitigation.

Cultural Resources – This alternative would lead to ground disturbance similar to the proposed project. Thus, impacts to foundation remains and unknown archaeological and paleontological resources on the site under this alternative would be similar to what would occur under the proposed project and would be significant, requiring mitigation.

Public Services and Recreation– The Lower Intensity Alternative would develop the site with fewer residential units on the site. This would lead to a decrease in demand for schools, library, parks, police, and fire protection services. Approximately 1,650 students would require school services, less than 48 percent of the proposed project's student generation. In addition, demands for parks, library, and medical services would also be less. These impacts would be less than what would occur under the proposed project. Impacts under this alternative would be considered less than significant, with payment of development impact fees.

Utilities and Service Systems – With less intensive residential development, this alternative is expected to have a lower demand for utility services than the proposed project. Demands for water, sewage treatment, storm drainage, solid waste disposal, power and gas, telephone and cable services would be less. Utility line extensions and connections to existing infrastructure systems would still be needed, similar to the proposed project. However, impacts on utility services would be less than what would occur under the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Hazards and Human Health – Similar to the proposed project, future retail commercial development under this alternative could include hazardous material users, but compliance with existing regulations would not create significant impacts to public health and safety. With the same commercial development as the proposed project, the potential for hazardous material users to be developed on the site would be the same. Thus, potential impacts associated with hazards and human health would be the same as those anticipated under the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Aesthetics – The proposed developments under this alternative would lead to the change in the visual quality of vacant land to urban development. With fewer residential units, a decrease in the number of structures that would be built on the site is expected. A lower overall density of development would be found throughout the site under this alternative. Views of the San Gabriel Mountains to the north may be blocked in some areas but structures would have lower heights than those proposed under the *Arboretum Specific Plan*. Views of

Section 9.0: Alternatives Analysis

the San Gabriel and San Bernardino Mountains would be available from more vantage points due to the greater amount of open areas on the site. Therefore, less impact on aesthetics and visual quality is expected under this alternative than the proposed project. Impacts would be considered less than significant, with compliance with the City's development and design standards.

The analysis shows that the Lower Density Alternative would have less impact than the proposed project on the majority of the environmental issues: land use, population and housing, transportation, air quality, noise, hydrology, mineral resources, utilities, public services, hazards and human health, and aesthetics. The alternative would have the same impacts as the proposed project as they relate to geology, biological resources, and cultural resources.

This alternative would lead to a comprehensive development plan for the project site; a complementary mix of housing types; a synergistic community; and a regional arboretum. Thus, it would meet the project objectives, although to a lesser degree.

9.3.4 Alternative Sites

Where consideration of alternate sites is warranted for a proposed project, CEQA requires that the analysis first consider if any of the significant effects of the project would be avoided or substantially lessened if the project was located at another site. Only the locations that avoid or substantially lessen significant effects need to be considered. If no alternative sites are feasible, reasons for this conclusion must be included in the EIR. The EIR need not discuss sites which are infeasible, remote, or speculative.

There are large areas of vacant land in the northern section of the City, which may serve as alternative sites to the project. However, most of these sites have been proposed for development under various specific plans and tentative tract maps. The remaining vacant sites in the northern portion of the City cannot accommodate the approximately 531.3 acres of development planned under the proposed project. The northwestern area of the City, west of the I-15 Freeway, features hillside areas designated for open space uses. Vacant areas are limited to the 435 acres proposed for development under Annexation 169. Vacant areas east of the I-15 Freeway and north of SR-210 (within the designated "Growth Areas" of the Fontana General Plan) are mostly part of adopted Specific Plans or are also proposed for development, as listed in Table 6-1, *Related Projects in Fontana*. The remaining unplanned vacant sites are located southeast and north of the site. The southeast area is approximately 160 acres and the vacant area to the north covers approximately more than 250 acres. Thus, both sites would provide less than 531.3 acres.

Since there are no remaining undeveloped areas in Fontana with as much as 531.3 acres of land area, this alternative assumes that the proposed developments under the *Arboretum Specific Plan* would be developed on separate sites located to the north and southeast of the site. This alternative assumes that the proposed residential and commercial developments, schools and parks would be developed on approximately 160 acres to the southeast of the site, 250 acres north of the site and south of the I-15 Freeway and another 130 acres north of the I-15 Freeway (which is within the unincorporated area of the County but within the City's Sphere of Influence). This alternative would move the demand-driven impacts of the project to other sites but would not reduce them. Also, the alternative sites present a different set of constraints to development or would lead to environmental impacts based on the presence of environmental resources at each site. Thus, they do not necessarily avoid or reduce the impacts associated with the proposed project.

Section 9.0: Alternatives Analysis

The analysis of the environmental impacts of this alternative, as discussed below, is provided for discussion purposes only since the developer does not own any or all of these sites.

Environmental Analysis of Alternative

The development of residential and commercial land uses, schools and parks at the alternative sites would transfer impacts to another site, while not necessarily preventing the future development of the project site, unless the project site is designated and preserved as open space. The environmental effects that may be expected under the Alternative Site are discussed below.

Land Use and Planning – Similar to the proposed project site, the majority of the alternative sites are designated for RMU development (north and southeast of site), with the intersection of Summit Avenue and Sierra Avenue designated as an Activity Center. The site north of the I-15 Freeway is designated as Residential Estate. The City would have to annex the site north of the I-15 Freeway and a General Plan Amendment and Zone Change would be needed to accommodate the same residential villages, commercial activity center, schools and parks proposed as part of the project. A specific plan would still be adopted under this alternative. Proposed commercial land uses would be located near residential uses and would also require compliance with land use compatibility standards of the City. The land use impacts are expected to be the same as the impacts of the proposed project and would be less than significant.

Population and Housing – With the residential and commercial developments, schools and parks on the alternative sites as the proposed project, the same employment generation (386 jobs), increase in City population (14,019 residents), and 3,526 new housing units would occur under this alternative. Impacts are expected to be the same as the proposed project and would be considered less than significant.

Transportation and Circulation – The trip generation of residential and commercial developments, schools and parks would be the same on the alternative sites as the project site. However, development on the alternative sites would impact a different set of roadways and intersections. Depending on the existing traffic volumes at the roadways and intersections near the alternative sites, different traffic and roadway improvements would be needed under this alternative. Since the vehicle trips would be generated at scattered sites, new vehicle trips would be dispersed through a wider area and impacts on any one roadway would be less than the project. Traffic impacts would be less than those anticipated under the proposed project. However, impacts under this alternative would be considered significant and would require mitigation. As with the proposed project, until off-site roadway and intersection improvements are completed by the City, traffic impacts would remain significant and adverse in the short-term.

Air Quality - The air pollutant emissions associated with future development on the alternative sites would be the same as those generated by the proposed project. Sensitive receptors (such as a residential development) which are located near the alternative sites may be subject to adverse air quality impacts associated with construction emissions. Since residential villages, schools and parks could be located along both sides of the I-15 Freeway, air quality impacts on future residents and sensitive receptors are expected to be greater than the impacts of the proposed project. Impacts under this alternative would be considered

Section 9.0: Alternatives Analysis

significant and would require mitigation. As with the proposed project, ground disturbance may be limited and the construction phasing prolonged to reduce construction impacts to below SCAQMD daily thresholds. However, long-term vehicle and stationary emissions will remain significant and unavoidable even after mitigation.

Noise – The noise impacts associated with future development on the alternative sites would be similar to what may be expected under the proposed project. With a different set of roadways and traffic distribution, project-related vehicle noise impacts would have a different effect. Since development would occur on scattered sites, increase in noise levels would not be concentrated in one place. Residential villages, schools and parks that may be located along the I-15 Freeway would be exposed to excessive freeway noise levels. Impacts would be greater than those of the proposed project. Impacts would be considered significant and would require mitigation.

Geology and Soils – The topography at the alternative sites to the southeast and north of the site is relatively flat but the site north of the freeway features some hillside slopes. On-site geologic conditions are also different since the site north of the freeway is located nearer the San Jacinto Fault and the Cucamonga Fault (which is located just northwest of the I-15 Freeway). Thus, residents, employees, and visitors on the alternative sites may be exposed to increased seismic hazards. Additionally, there is an area identified as having high liquefaction susceptibility at the northern end of this alternative site. This impact is greater than the impact of the proposed project. Impacts would be significant, requiring mitigation.

Hydrology and Water Quality – Changes to existing drainage patterns would occur as the alternative sites are developed and runoff from the alternative sites are directed into off-site drainage facilities. There are no existing storm drain facilities to serve the alternative sites. Thus, storm drain infrastructure would need to be constructed to serve development at the alternative sites. The development of the same residential and commercial developments, schools and parks would result in the same potential for urban pollutants which would impact stormwater quality. The alternative sites were previously located within a 100-year flood area identified by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). However, this hazard has been eliminated on the project site and adjacent areas, including the alternative sites by levees constructed along Lytle Creek. Thus, impacts would be the same than what would occur under the proposed project. Impacts would be considered significant and would require mitigation.

Biological Resources – Similar to the proposed project, existing vegetation on the alternative sites would be removed as part of grading and excavation activities. New vegetation would be introduced in the form of landscaping materials for individual development sites. The alternative sites, along with the project site, are located within the critical habitat for the San Bernardino Kangaroo Rat, California Gnatcatcher, and Raptors, similar to the project site. Based on the Fontana General Plan, the alternative sites also contain Riversidean Alluvial Fan Sage Scrub (RAFSS), which are considered a sensitive biological resource. Thus, impacts of future development on the alternative sites are expected to be the same as those expected from the proposed project and would be significant, requiring mitigation.

Cultural Resources – Development of the alternative sites would lead to ground disturbance similar to the proposed project. The North Fontana area was the site for the Grapeland community and the Grapeland Irrigation District. Several cultural sites have been found in this

Section 9.0: Alternatives Analysis

area as part of adjacent developments. Due to the site-specific nature of cultural resources, it is not known if significant cultural resources are present on the alternative sites. There is a residence at each alternative site to the north and east, but their historical significance is not known. A potential for the presence of foundation remains which may be associated with the Grapeland community is also possible. Thus, impacts to cultural resources on the alternative sites would be the same to what would occur under the proposed project. Also, these impacts would be significant, requiring mitigation.

Public Services and Recreation – The demand for public services on the alternative sites would be similar to that expected under the proposed project, since the development types and intensities would not change. Locating the project at alternative sites would still create the same demand for police and fire services, school and library services, parks and recreation, and other public service providers in the City. Impacts under this alternative are expected to be the same as the impacts of the proposed project. Impacts would be considered less than significant, with payment of development impact fees.

Utilities and Service Systems – With the same residential and commercial developments, schools, and parks, this alternative is expected to have the same demand for utility services as the proposed project. Connections to existing infrastructure systems would be needed and utility lines and facilities would be constructed within the alternative sites, similar to the proposed project. Impacts are expected to be the same as the impacts of the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Hazards and Human Health – Similar to the proposed project, the commercial development under this alternative could include hazardous material users, but compliance with existing regulations would not create significant impacts to public health and safety. With the same density/intensity of commercial and residential development, schools and parks, the same potential for hazardous material users to be developed on the site would occur. Similar impacts associated with hazards and human health are expected as those anticipated under the proposed project. Impacts under this alternative would be considered significant, requiring mitigation.

Aesthetics – Developments on the alternative sites, as anticipated under this alternative, would reflect the development anticipated on the project site. The locations of villages, schools and parks on alternative sites may change over what is proposed under the *Arboretum Specific Plan*; however, views of the mountains to the north would still be available on public roadways and open areas. New sources of light and glare would also be created, similar to the project. This alternative would have similar impacts as the proposed project. Impacts would be considered less than significant, with compliance with the City's development and design standards.

The alternative sites offer different advantages in terms of avoiding or reducing the potential environmental impacts of the proposed project on site-specific resources. The alternative sites also bring in their own site-specific characteristics and constraints that could affect future development. The analysis shows that the Alternative Sites would have the greater impacts than the proposed project as they relate to geology, air quality and noise, with less impact on traffic due to the dispersion of vehicle trips to and from the site. All other impacts would remain similar to the proposed project. This alternative would not reduce the impacts of the project on public services, utilities, biological resources, cultural resources, and other issues. Impacts on air quality and noise would be greater

Section 9.0: Alternatives Analysis

than the proposed project, due to the exposure of sensitive receptors to vehicle noise and pollutant emissions along the I-15 Freeway.

This alternative would meet the project objectives and would allow for the comprehensive development of the alternative sites, as well as provide a complementary mix of housing types; a synergistic community; and a regional arboretum.

9.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 9-2, *Comparison of Alternatives*, summarizes the potential environmental impacts of the project and alternatives by issue area, to compare the different alternatives with the potential impacts of the proposed project. CEQA requires that the EIR identify the environmentally superior alternative among all of the alternatives considered, including the proposed project. If the No Project Alternative is selected as environmentally superior, then the EIR shall also identify an environmentally superior alternative among the other alternatives.

TABLE 9-2
COMPARISON OF ALTERNATIVES

Proposed Project	No Project	Existing Land Use Designation	Lower Intensity	Alternative Site
Land Use and Planning 3,526 dwelling units, 95,832 square feet of commercial floor, 2 schools and parks; GPA, SP and TTM approval needed	No new development or land uses would occur on the largely vacant site (less impact)	1.2 million square feet of retail commercial and office uses, 606,682 square feet of light industrial uses, and 2,455 housing units (greater impact)	1,500 housing units, same commercial uses, schools and parks (less impact)	3,526 dwelling units, 95,832 square feet of commercial uses, 2 schools and parks; Annexation, GPA, SP and TTM approval needed (same impact)
Population and Housing 3,526 housing units with 14,019 residents and 386 jobs created	No new housing units, no new residents and no jobs created (less impact)	2,455 new housing units with 9,761 residents; more jobs created (more beneficial impact)	1,500 new housing units; 5,964 residents and same jobs created (less impact)	Same number of jobs, residents and housing stock within the City (same impact)
Transportation and Circulation 31,509 new vehicle trips; increase in traffic volumes on area streets	No new vehicle trips and no change in traffic volumes (less impact)	More vehicle trips; greater roadway traffic volumes (greater impact)	Less vehicle trips; less roadway traffic volumes (less impact)	Trip generation would be the same as project but trips would affect scattered roadways (less impact)
Air Quality Construction, vehicle, and stationary emissions from new residential and commercial developments, schools and parks	Fugitive dust nuisance, no new construction, vehicle and stationary emissions (less impact)	More construction, vehicle, and stationary emissions due to increased development intensity (greater impact)	Less construction, vehicle, and stationary emissions from new development (less impact)	Construction, vehicle, and stationary emissions from same development; exposure of residents to freeway emissions (greater impact)

Section 9.0: Alternatives Analysis

TABLE 9-2
COMPARISON OF ALTERNATIVES

Proposed Project	No Project	Existing Land Use Designation	Lower Intensity	Alternative Site
Noise Construction, vehicle, and stationary noise impacts from new development	No construction noise; no vehicle and stationary noise (less impact)	More construction, vehicle, and stationary noise due to increased development (greater impact)	Less construction, vehicle, and stationary noise from new development (less impact)	Construction, vehicle, and stationary noise from same development, exposure of residents to freeway noise (greater impact)
Geology and Soils Soil disturbance due to grading activities	No grading activities; no changes in topography (less impact)	Soil disturbance due to grading activities (same impact)	Soil disturbance due to grading activities (same impact)	Soil disturbance due to grading; presence of earthquake fault and liquefaction susceptibility on alternative site (greater impact)
Hydrology and Water Quality Changes in the existing drainage pattern; construction of storm drain lines, creation of urban stormwater pollutants	Maintain existing natural drainage patterns, no construction of storm drains, no urban pollutants (less impact)	Changes in the existing drainage pattern; construction of storm drain lines, more sources of urban stormwater pollutants (greater impact)	Changes in the existing drainage pattern; construction of storm drain lines, fewer sources of urban stormwater pollutants (less impact)	Changes in the existing drainage pattern; construction of storm drain lines; creation of stormwater pollutants (same impact)
Biological Resources Existing vegetation would be removed and landscaping materials introduced	No change in existing vegetation; burrowing owl and raptor foraging area preserved (less impact)	Existing vegetation would be removed and landscaping materials introduced (same impact)	Existing vegetation would be removed and landscaping materials introduced (same impact)	Existing vegetation would be removed and landscaping materials introduced; removal of Riversidean alluvial fan sage scrub (same impact)
Cultural Resources Removal of foundation remains	No ground disturbance would occur; retain existing foundation remains (less impact)	Removal of foundation remains (same impact)	Removal of foundation remains (same impact)	Similar potential for cultural resources on alternative sites (same impact)
Public Services and Recreation New development would require police, fire, school, library and other public services	No change in demand for public services (less impact)	Less demand for school, park, and library services; increase in demand for fire and police protection services due to increase in development (greater impact)	Decreased demand for school, library; parks, fire and police protection services due to less housing units (less impact)	Future developments would require school, police, fire, and other public services (same impact)
Utilities				

Section 9.0: Alternatives Analysis

TABLE 9-2
COMPARISON OF ALTERNATIVES

Proposed Project	No Project	Existing Land Use Designation	Lower Intensity	Alternative Site
Utility services and connections needed to serve new development	No demand for utility services (less impact)	Increase in retail commercial, office and light industrial floor area would have greater demand for utility services (greater impact)	Decrease in dwelling units would have less demand for utility services (less impact)	Utility services and connections needed to serve future developments (same impact)
Hazards and Hazardous Materials Hazardous material users associated with retail commercial developments	No hazardous material use would occur (less impact)	Light industrial land uses with increased potential for hazardous materials use on the site (greater impact)	Same potential for hazardous materials use on the site (same impact)	Same potential for hazardous material users to be developed on the site (same impact)
Aesthetics Visual change from vacant land to residential and retail commercial developments, schools and park; new sources of light and glare	No changes to visual characteristics of the site; no new sources of light and glare (less impact)	More intensive development; new sources of light and glare (greater impact)	Lower development intensity; fewer sources of light and glare (less impact)	Visual change from vacant land to residential and retail commercial development, schools and parks; new sources of light and glare (same impact)

The environmental analysis of alternatives above indicates that, through a comparison of potential impacts from each of the alternatives and the proposed project, the **No Project Alternative** could be considered superior because no new environmental impacts would be introduced to the area and the project site. However, the existing conditions at the site are not superior to the proposed project. The site is a source of fugitive dust during Santa Ana winds. This will continue under the No Project Alternative. Also, retaining the site in its vacant condition would not promote development of the site, as planned under the Fontana General Plan Land Use Map. The proposed improvements on adjacent roadways would also not occur under this alternative, resulting in the permanent underdeveloped conditions of the site and roadway network within and adjacent to the site. This could lead to future traffic congestion on Duncan Canyon Road, Citrus Avenue, Casa Grande Avenue, Grapeland Street, and Sierra Avenue and would not be consistent with the City's Circulation Master Plan. This alternative would also not meet any of the project objectives for the comprehensive development of the site with a mix of housing types to create a synergistic community and integrated lifestyle community, with a regional arboretum.

Aside from the No Project Alternative, the **Lower Intensity Alternative** would also be considered environmentally superior. The Lower Intensity Alternative would result in less residential development on the site, with the same commercial activity center, schools, and parks. Thus, the Lower Density Alternative would result in less impact than the proposed project on the majority of the environmental issues: land use, population and housing, transportation, air quality, noise, hydrology, public services, utilities, and aesthetics. This alternative would have the same impacts as the proposed project as they relate to geology, biological resources, cultural resources, and hazards and human health. Thus, the environmental impacts of this alternative would generally be less than the impacts associated with the

Section 9.0: Alternatives Analysis

proposed project and the other alternatives. Aside from the No Project Alternative, it is also considered an environmentally superior alternative.

However, the proposed project would result in environmental impacts which could be avoided or reduced to less than significant levels by incorporation of the recommended mitigation measures, except for traffic and air quality. The Lower Intensity Alternative would reduce the impacts of the project through the reduction in dwelling units but would not reduce potential air quality impacts to below a level of insignificance. Also, traffic impacts would remain significant and adverse until off-site roadway and intersection improvements are implemented by the City and adjacent developments, similar to the proposed project. Thus, the Lower Intensity Alternative would not necessarily reduce the significant and adverse traffic and air quality impacts of the proposed project and does not offer any specific environmental benefit over the proposed *Arboretum Specific Plan*.

Section 10.0: Mitigation Monitoring and Reporting Program

The analysis in Section 4.0, *Environmental Impact Analysis*, of this EIR indicates that potentially significant adverse environmental impacts may occur with the proposed *Arboretum Specific Plan*. Future development under the proposed Specific Plan would need to comply with a number of standard conditions that are routinely imposed by the City and other regulatory agencies. In addition, a number of mitigation measures are recommended in Section 4.0 for the identified significant adverse impacts in terms of the different environmental issue areas under consideration. The mitigation measures for the project would be adopted by the City of Fontana, in conjunction with the certification of the Final EIR for the project.

Section 21081.6 of the Public Resources Code requires a public agency to adopt a monitoring and reporting program for assessing and ensuring the implementation of required mitigation measures applied to proposed developments. Specific reporting and/or monitoring requirements that will be enforced during project implementation shall be adopted coincidental to final approval of the project by the responsible decision maker(s). In addition, pursuant to Section 21081(a) of the Public Resources Code, findings must be adopted by the decision-maker regarding the adoption of the monitoring program, coincidental to certification of the EIR.

In accordance with Public Resources Code (PRC) Section 21081.6, this Mitigation Monitoring and Reporting Program (MMRP) has been developed for the proposed *Arboretum Specific Plan*. The purpose of the MMRP is to ensure that the future development allowed under the Specific Plan complies with all applicable environmental mitigation and permit requirements. The MMRP for the proposed *Arboretum Specific Plan* designates the developer as responsible for the implementation of mitigation measures and the City of Fontana as responsible for verification for mitigation compliance, review of all monitoring reports, enforcement actions, and document disposition.

This mitigation monitoring program shall be considered by the City of Fontana, prior to completion of the environmental review process, to enable the Fontana City Council to make an appropriate decision to the proposed project. In addition, the following language shall be incorporated as part of the Council's findings of fact, and in compliance with requirements of the Public Resources Code.

In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the City of Fontana makes the following additional findings:

- *That a mitigation monitoring and reporting program shall be implemented for future developments on the project site, as specified in the EIR for the Arboretum Specific Plan;*
- *That through covenant and agreement, prior to the recordation of the final map, certificate of occupancy, and/or building permit for future developments under the Arboretum Specific Plan, the City of Fontana shall identify an appropriate licensed professional to provide certification that compliance with the required mitigation measures has been effected;*
- *Site plans and/or building plans, submitted for approval by the responsible monitoring agency, shall include required mitigation measures/conditions; and*
- *That an accountable enforcement agency and monitoring agency shall be identified for mitigation measures/conditions adopted as part of the decision-maker's final determination.*

Section 10.0: Mitigation Monitoring and Reporting Program

10.1 STANDARD CONDITIONS

Table 10-1, *Standard Conditions*, lists the standard conditions which will be implemented as part of future developments that would be constructed on the project site, as allowed under the proposed *Arboretum Specific Plan*. While the City of Fontana and other regulatory agencies have other standard conditions, the ones identified in the table below are limited to those which were found to help prevent or reduce potential adverse impacts associated with the project. This does not excuse the project from other applicable standard conditions which may be required by the City or other regulatory agency with jurisdiction over the project and the site.

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
Land Use and Planning <i>Standard Condition 4.2.1:</i> Future developments on the project site shall comply with the development and design standards in the Arboretum Specific Plan and the City's Zoning and Development Code for requirements not superseded by the Specific Plan. <i>Standard Condition 4.2.2:</i> Future developments on the project site shall comply with the City's performance standards and the development policies for land use compatibility.	Developer/ Site Planner Developer/ Site Planner	Site Planning Site Planning	Site Plan Review by Planning Division Site Plan Review by Planning Division
Traffic and Circulation <i>Standard Condition 4.4.1:</i> The project shall pay development impact fees as set by the City to fund roadway maintenance and improvement projects in the area. <i>Standard Condition 4.4.2:</i> Future developments would be subject to plan check review to ensure that the necessary access, parking, and roadway improvements are provided as part of individual developments, in accordance with the City's traffic safety design criteria. <i>Standard Condition 4.4.3:</i> The proposed roundabout shall be constructed per FHWA standards and subject to review and approval by the City during plan check of the final roadway improvement plans.	Developer Developer Developer/ Contractor	Plan check Plan check Plan check/ Construction phase	Payment of fees as part of Plan Check by Building Department Plan Check by Building Department Plan Check and Site Inspections by Building Department
Air Quality <i>Standard Condition 4.5.1:</i> Future development under the proposed Arboretum Specific Plan shall comply with pertinent SCAQMD regulations in order to contribute to the incremental reduction in air pollution levels in the region.	Developer	Plan check	Plan check by Building Department
Noise <i>Standard Condition 4.6.1:</i> Construction activities on the project site shall comply with City regulations on time limits for construction activity. Construction activities would have to comply with the construction time limits (7 AM to 6 PM on weekdays, unless otherwise approved by the City and the Engineer or in case of an emergency); loading/unloading of boxes;	Developer/ Contractor	Construction phase	Site inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
transport of metal rails, pillars and columns; and the use of pile drivers, steam shovels, pneumatic hammers and other noisy construction equipment shall be conducted within allowable times (7 AM to 10 PM) as set by the Fontana Noise Ordinance.			
Geology and Soils <i>Standard Condition 4.7.1:</i> The project shall comply with seismic design criteria in the California Building Code, the City's building standards, and other pertinent building regulations.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.7.2:</i> Recommendations of the geotechnical investigation for the project site, as they pertain to structural design and construction recommendations for earthwork, grading, slopes, foundations, pavements, and other necessary geologic and seismic considerations would need to be implemented for building construction.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
Hydrology and Water Quality <i>Standard Condition 4.8.1:</i> The project shall comply with the NPDES General Permit for Construction Activity, which requires projects on one acre or more to notify the RWQCB and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. SWPPPs shall be prepared for each construction phase or construction area.	Developer/ Contractor	Filing of NOI prior to Construction and during construction	Plan Check and Site Inspections by Building Department
<i>Standard Condition 4.8.2:</i> The project shall comply with the NPDES regarding the implementation of source and treatment control measures and other best management practices for long-term stormwater pollutant mitigation, as contained in the project's Water Quality Management Plan (WQMP) and as approved by the City. WQMPs shall be prepared for each village or planning area, which provide specific locations, sizes, and calculations for BMPs to be implemented on-site.	Developer/ Project Engineer	Engineering Design	Plan Check of WQMP by Public Works/ Environmental Division
<i>Standard Condition 4.8.3:</i> The project shall construct the necessary on-site and off-site storm drain infrastructure to connect to the City of Fontana's storm drainage system, in order to prevent the creation of flood hazards on-site and in downstream areas, as approved by the Fontana City Engineer.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department and Land Development Engineering
<i>Standard Condition 4.8.4:</i> The project shall provide temporary detention basins on site to maintain runoff flows at 90 percent of existing volume and at existing rates, if downstream storm drain lines are not in place at the time of development, subject to approval of the City Engineer.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department and Land Development Engineering
Biological Resources <i>Standard Condition 4.9.1:</i> In accordance with the	Developer	Plan check	Plan Check by Building

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
City's Interim Program for the North Fontana MSHCP, the developer shall pay a fee for the future acquisition of preserved habitat for sensitive species. <i>Standard Condition 4.9.2:</i> The removal of trees on-site shall be subject to the City's Preservation of Heritage, Significant and Specimen Trees (Municipal Code Section 28-60) for the replacement of any Heritage, Significant and Specimen Trees that may be affected by the project.	Developer	Plan check	Department and Planning Division Plan Check by Building Department
Cultural Resources <i>Standard Condition 4.10.1:</i> If human remains are encountered during excavation activities at the site, all work shall halt and the County Coroner shall be notified (Section 5097.98 of the Public Resources Code). The Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved archaeologist, determines that the remains are prehistoric, he/she will contact the Native American Heritage Commission (NAHC). The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD will make his/her recommendation within 24 hours of their notification by the NAHC. The recommendation of the MLD shall be followed and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (Section 70580.5 of the Health and Safety Code).	Developer/ Contractor	During grading and excavation activities	Site Inspections by Building Department
Public Services <i>Standard Condition 4.11.1:</i> Future developments shall implement Building Security Specifications and shall be consistent with the principles of Crime Prevention through Environmental Design, as required by the Fontana Police Department. To ensure compliance, all developments shall be subject to building and site plan review and approval by the Fontana Police Department. <i>Standard Condition 4.11.2:</i> Future developments would be required to pay development impact fees for police services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site. <i>Standard Condition 4.11.3:</i> Future developments shall be subject to building and site plan review by the San Bernardino County Fire District, for compliance with pertinent fire safety and emergency access standards and to identify additional development features which	Developer/ Project Architect Developer Developer/ Project Engineer	Building Design Plan Check Building Design	Plan Check by Fontana Police Department Payment of fees as part of Plan Check by Building Department Plan Check by San Bernardino County Fire District

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
could reduce demand for fire services, prevent the creation of fire hazards, and facilitate emergency response to the project site.			
<i>Standard Condition 4.11.4:</i> Future developments would be required to pay development impact fees for fire services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the proposed developments on the site.	Developer	Plan Check	Payment of fees as part of Plan Check by Building Department
<i>Standard Condition 4.11.5:</i> Future developments would be required to pay school impact fees to the Fontana Unified School District, which would help fund the needed school facility expansion and service improvements to serve the proposed project.	Developer	Plan Check	Proof of payment of fees during Plan Check by Building Department
<i>Standard Condition 4.11.6:</i> As required under the City's Municipal Code (Chapter 21, Article IV), the proposed development shall pay Quimby fees for the development of parks and recreational facilities in North Fontana. The collected fees will be used for the development of neighborhood and community parks in the area, to serve the proposed project.	Developer	Plan Check	Payment of fees as part of Plan Check by Building Department
<i>Standard Condition 4.11.7:</i> Recreational facilities would be provided on-site as part of the proposed residential developments, in compliance with the City's Optional Density Standard Policy.	Developer/ Project Architect	Building Design	Plan Check by Planning Division
<i>Standard Condition 4.11.8:</i> Future developments would be required to pay development impact fees for library services. Payment of development impact fees would assist in funding the needed public facility expansion and service improvements needed to serve the project.	Developer	Plan Check	Payment of fees as part of Plan Check by Building Department
Utilities			
<i>Standard Condition 4.12.1:</i> The developer shall comply with the requirements of the West Valley Water District on water line extensions to serve individual developments on the site.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.2:</i> The developer shall comply with the requirements of the West Valley Water District, Fontana Water Company, San Gabriel Municipal Water District, and/or the Cucamonga Water District on excavation and construction near existing water lines on and near the site.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.3:</i> Future developments shall implement water conservation measures into the project design of the individual developments on the site to reduce water demand, in accordance with the Water Conservation Plan of the West Valley Water District.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
<i>Standard Condition 4.12.4:</i> The developer shall comply with the requirements of the Inland Empire Utilities Agency and the City of Fontana on sewer line extensions and service connections to serve individual parcels and building pads on the site.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.5:</i> The developer shall comply with the requirements of the City of Fontana on the construction of needed storm drain lines and facilities to prevent flood hazards in the area and to provide adequate storm drainage for the future developments under the proposed Arboretum Specific Plan.	Developer/ Project Engineer	Engineering Design	Plan Check by Land Development Engineering
<i>Standard Condition 4.12.6:</i> The developer shall comply with the requirements of Burrtec on the provision of solid waste collection services to individual developments on the project site.	Developer	Prior to Occupancy	Occupancy Permit Building Department
<i>Standard Condition 4.12.7:</i> Burrtec and the City shall promote the recycling of wastes through the provision of informational brochures, recycling bins, barrel service, and recycled waste collection services to future residential and commercial developments on the site. Information on hazardous waste collection facilities would also be provided to allow for convenient and proper disposal of hazardous wastes.	Burrtec and City	Public Information Program	City's Recycling Program Coordinator
<i>Standard Condition 4.12.8:</i> The developer shall comply with the requirements of SCE on line extensions to serve individual parcels and building pads on the site.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.9:</i> Future developments shall incorporate energy conservation measures into the project design of the individual developments, in compliance with the California Energy Efficiency Standards and as mandated under Title 24 of the California Code of Regulations (California Building Standards Code).	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.10:</i> The developer shall comply with the requirements of SCG on gas line extensions to serve individual parcels and building pads on the site, as well as for construction in or near the SCG right-of-way.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
<i>Standard Condition 4.12.11:</i> The developer shall comply with the requirements of AT&T and Time Warner on telephone and cable line extensions to serve individual parcels and building pads on the site.	Developer/ Project Engineer	Engineering Design	Plan Check by Building Department
Hazards and Human Health <i>Standard Condition 4.13.1:</i> Construction activities,	Developer/	Construction	Site Inspections by Building

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-1
STANDARD CONDITIONS

Standard Conditions	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
school maintenance, and commercial uses that utilize hazardous materials shall comply with applicable regulations regarding hazardous materials use, handling, storage, transport, and disposal.	Contractor/Operator	Phase and Building Operation	Department and San Bernardino County Fire Department
<i>Standard Condition 4.13.2:</i> As needed, future commercial uses and schools shall obtain a hazardous materials handler permit from the San Bernardino County Fire Department, prior to the issuance of a Certificate of Occupancy, which would include the development of a business emergency/contingency plan for hazardous materials and wastes that would be stored, generated, or treated at these facilities.	Developer/Project Engineer	Prior to Occupancy	Plan Check by Building Department and San Bernardino County Fire Department
Aesthetics <i>Standard Condition 4.14.1:</i> Future development on the project site shall be subject to site plan and design review for compliance with the development regulations and design guidelines in the adopted Specific Plan and applicable regulations in the City's Zoning and Development Code.	Developer/Project Architect	Site Planning and Building Design	Site Plan Review by Planning Division and Plan Check by Building Department

10.2 MITIGATION MEASURES

The mitigation measures that have been recommended to reduce or avoid the potentially significant adverse impacts of the project are listed in Table 10-2, *Mitigation Monitoring Program*. Responsible parties, the time frame for implementation, and the monitoring parties are also identified for each measure. The mitigation measures are primarily the responsibility of the developer. In order to determine if the developer has implemented these measures, the method of verification is also identified, along with the City department or agency responsible for monitoring/verifying that the developer has completed each mitigation measure.

TABLE 10-2
MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
Traffic and Circulation <i>Mitigation Measure 4.4.1a:</i> In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share contribution to the City of Fontana for the implementation of the following improvements: <u>Sierra Avenue and I-15 Southbound Ramp:</u> Install a traffic signal. <u>Sierra Avenue and I-15 Northbound Ramp:</u> Install traffic signal. <u>Sierra Avenue and Riverside Avenue:</u> Add a northbound through lane, a southbound through lane and a southbound right turn lane. Convert the southbound shared right-through lane into a through lane	Developer/Contractor	Plan check	Payment of fees as part of Plan Check by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
<i>Mitigation Measure 4.4.1b:</i> In order to maintain acceptable LOS in 2010 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements: • <u>Project Access 4 and Duncan Canyon Road:</u> Install a traffic signal. • <u>Project Access 5 and Duncan Canyon Road:</u> Add a dedicated southbound left turn lane.	Developer/ Contractor	Plan check	Plan Check and Field Inspections by Building Department
<i>Mitigation Measure 4.4.2:</i> The proposed project shall pay its fair share contribution for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2010. These improvements include: • <u>I-15 Freeway:</u> Add a lane in for the southbound segment from Glen Helen Parkway to Sierra Avenue • <u>I-15 Freeway:</u> Add a lane in for the southbound segment from Baseline Road to Foothill Boulevard • <u>I-15 Freeway:</u> Add a lane in for the northbound segment from Foothill Boulevard to Baseline Road • <u>I-15 Freeway:</u> Add a lane in for the northbound segment from Sierra Avenue to Glen Helen Parkway	Developer/ Contractor	Plan check	Payment of fees as part of Plan Check by Building Department
<i>Mitigation Measure 4.4.3a:</i> In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall pay its fair share contribution to the City of Fontana for the implementation of the following improvements: • <u>Sierra Avenue and Riverside Avenue:</u> Add a second northbound left-turn lane and two northbound through lanes. Add a second southbound left turn lane and a two southbound through lanes. Convert the shared southbound through-right lane into a dedicated right-turn lane. Add a westbound left turn lane and convert the existing shared left-through into a through lane. • <u>Sierra Avenue and Grapeland Street:</u> Add a second northbound left turn lane and a dedicated northbound right turn lane. Add a second southbound left turn lane and a dedicated southbound right turn lane. Add a westbound left turn lane and an eastbound left turn lane. • <u>Lytle Creek Road (E) and Duncan Canyon Road:</u> Convert one northbound through lane to a dedicated right turn lane. Provide overlap phasing for the eastbound right turn and the northbound right turn. Add an additional eastbound through lane.	Developer/ Contractor	Plan check	Payment of fees as part of Plan Check by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
• <u>Citrus Avenue and Duncan Canyon Road</u>: Add a second left turn lane and a dedicated right turn lane on each approach. Provide overlap phasing for the eastbound and southbound right turn. Add a second westbound left turn lane. • <u>Citrus Avenue and Casa Grande Avenue</u>: Add a second eastbound and westbound left turn lane. • <u>I-15 Southbound Ramps and Beech Avenue</u>: Add a second eastbound left turn lane. • <u>I-15 Northbound Ramps and Beech Avenue</u>: Add a second southbound left turn lane and a dedicated westbound right turn lane. Provide overlap phasing for the westbound right turn. • <u>Citrus Avenue and SR-210 Westbound Ramps</u>: Add a second westbound left turn lane and a southbound shared through/right turn lane. • <u>Citrus Avenue and SR-210 Eastbound Ramps</u>: Reconfigure the off-ramp to include one left turn lane, one shared through/left turn lane, and a free right turn lane. • <u>Citrus Avenue and Highland Avenue</u>: Provide overlap phasing for the westbound right turn. • <u>Sierra Avenue and Sierra Lakes Parkway</u>: Provide overlap phasing for the eastbound right turn. • <u>Sierra Avenue and SR-210 Eastbound Ramps</u>: Convert the eastbound left turn lane into a shared left through lane. Convert the eastbound shared left-right lane into an exclusive right-turn lane. • <u>Sierra Avenue and Highland Avenue</u>: Convert the existing northbound right turn lane into a shared through/right turn lane. Provide overlap phasing for the eastbound right turn and the westbound right turn. • <u>Sierra Avenue and Casa Grande Avenue</u>: Add a second northbound left turn lane and a second southbound left turn lane. Convert the shared through/right turn lane at each approach to a through lane. Add a right turn lane to each approach. • <u>Sierra Avenue and Duncan Canyon Road</u>: Add dual left turn lanes and a dedicated right turn lane at the northbound and southbound approaches. <i>Mitigation Measure 4.4.3b</i>: In order to maintain acceptable LOS in 2030 during the AM and PM peak hours at local roadway intersections, the project shall implement the following improvements: • <u>Project Access 1 and Grapeland Street</u>: Provide exclusive left and right turning lanes at the northbound approach and provide a westbound left-turn lane. • <u>Project Access 4 and Duncan Canyon Road</u>:	Developer/ Contractor	Plan check	Plan Check and Field Inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
Install a traffic signal. • <u>Project Access 5 and Duncan Canyon Road</u>: Install a traffic signal and add a dedicated southbound and northbound left turn lane. • <u>Project Access 6 and Cypress Avenue</u>: Install a traffic signal. • <u>Project Access 10 and Citrus Avenue</u>: Install a traffic signal. • <u>Cypress Avenue and Duncan Canyon Road</u>: Convert the eastbound shared through/right turn lane into a through lane and add a right turn lane. <i>Mitigation Measure 4.4.4:</i> The proposed project shall pay its fair share costs for the improvement of freeway segments and interchanges that would operate at degraded LOS in 2030. These improvements include: • <u>I-15 Freeway</u>: Construction of additional lane to provide a total of seven travel lanes in each direction. • <u>SR-210 Westbound from Citrus Avenue to I-15</u>: Construction of one additional travel lane. • <u>SR-210 Westbound from I-15 to Day Creek Boulevard</u>: Construction of one additional travel lane. • <u>SR-210 Eastbound from Day Creek Boulevard to I-15</u>: Construction of one additional travel lane. • <u>SR-210 Eastbound from Riverside Avenue to Pepper Avenue</u>: Construction of one additional travel lane.	Developer/ Contractor	Plan check	Payment of fees as part of Plan Check by Building Department
Air Quality <i>Mitigation Measure 4.5.1:</i> Dust control during grading activities on the site shall implement best available control measures (BACMs) exceeding the minimum dust control requirements of SCAQMD Rule 403. Recommended construction activity mitigation includes: ◆ Disturb, grade or clear no more than 75 acres per day. ◆ Apply soil stabilizers to inactive areas. ◆ Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 miles per hour. ◆ Limit the simultaneous disturbance area to as small an area as practical when winds exceed 25 mph. ◆ Stabilize previously disturbed areas if subsequent construction is delayed. ◆ Water exposed surfaces and haul roads 3 times per day. ◆ Cover all stock piles with tarps. ◆ Replace ground cover in disturbed areas quickly. ◆ Reduce speeds on unpaved roads to less than	Developer/ Contractor	Construction Phase	Site inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
15 miles per hour.			
<i>Mitigation Measure 4.5.2:</i> Grading, excavation, and ground disturbance activities within 100 feet of an existing residence, school or park shall implement enhanced dust control procedures such as continual soil wetting, use of supplemental binders or chemical stabilizers, early paving of roadways, driveways and other paved surfaces, early landscaping of exposed areas, and use of sand fences.	Developer/ Contractor	Construction Phase	Site inspections by Building Department
<i>Mitigation Measure 4.5.3a:</i> The following measures shall be implemented to reduce exhaust emissions during construction: ◆ Construction and paving shall be segregated into at least 5 non-overlapping phases. ◆ Require 90-day low-NOx tune-ups for off-road equipment. Such controls are expected to reduce daily NOx emissions from all off- and on-road equipment, but not to less-than-significant levels. ◆ Limit allowable idling to 5 minutes for trucks and heavy equipment before shutting the equipment down. ◆ Require use of Tier 3-rated engines for all equipment exceeding 100 horsepower, during site grading. ◆ Use aqueous diesel fuel for construction equipment. ◆ Utilize diesel particulate filter for construction equipment. ◆ Give preference to contractors using equipment with oxidation catalysts, soot traps or other modern emissions control technology. ◆ Use low emission mobile construction equipment. The property owner/developer shall comply with CARB requirements for heavy construction equipment. ◆ Maintain construction equipment engines by keeping them tuned. ◆ Avoid unnecessary idling by shutting of engines that are expected to idle for more than five minutes ◆ Use low sulfur fuel for all diesel powered construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. ◆ Utilize existing power sources (i.e., power poles) when available. ◆ Configure construction parking to minimize traffic interference ◆ Minimize obstruction of through-traffic lanes. Construction shall be planned so that lane closures on existing streets are kept to a minimum. ◆ Schedule construction operations affecting traffic for off-peak hours to the best extent, when	Developer/ Contractor	Construction Phase	Site inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
possible. ◆ Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service. <i>Mitigation Measure 4.5.3b:</i> The following measures shall be implemented to reduce ROG pollutant emissions during construction: ◆ Minimize the amount of paint used by using pre-coated, pre-colored and naturally colored building materials. ◆ Use high transfer efficiency painting methods such as High Volume Low Pressure (HVLP) sprayers and brushes/rollers where possible. ◆ Use SCAQMD-required low-VOC coatings where practical. <i>Mitigation Measure 4.5.3c:</i> The following measures shall be implemented to reduce off-site emissions during construction: ◆ Encourage car pooling for construction workers. ◆ Limit lane closures to off-peak travel periods. ◆ Park construction vehicles off traveled roadways. ◆ Wet down or cover dirt hauled off-site. ◆ Wash or sweep access points daily. ◆ Encourage receipt of construction materials during non-peak traffic hours. ◆ Sandbag construction sites for erosion control. ◆ Erect dust control fencing around individual construction area perimeters. <i>Mitigation Measure 4.5.4:</i> The proposed project shall implement transportation control measures (TCMs) to reduce vehicle emissions generated by the project, which may include the following: Non-Motorized Strategies 1. Bicycle Lanes and Storage Facilities – Bicycle paths and bike racks shall be provided at scattered locations on-site, including bicycle lanes on project arterial roads and bike racks at schools and commercial uses. 2. Pedestrian Improvements – Sidewalks and pedestrian walkways shall be provided throughout the site for land use interconnections. Telecommunications 1. Adequate and modern system connections in all homes – Telecommunication systems shall be provided in residential villages. 2. Wi-Fi "hot spots" within the community - High-speed wireless local area network shall be provided at select locations on-site. <i>Mitigation Measure 4.5.5:</i> Prior to issuance of	Developer/ Project Designer/ Contractor Developer/ Contractor Developer/ Project Designer Developer/	Site Planning, Plan Check and Construction Phase Construction Phase Site Planning and Plan Check Site Planning,	Plan approval by Planning Division and Building Department and Site inspections by Building Department Site inspections by Building Department Plan approval by Planning Division and Building Department Plan approval by Planning

TABLE 10-2
MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
building permits, the property owner/developer shall demonstrate compliance with the following measures to reduce criteria pollutant emissions from stationary sources directly related to the project: ◆ Install low-emission water heaters. ◆ Use built-in, energy-efficient appliances. ◆ Incorporate bus turnouts into roadway design and construction. ◆ Ensure that sidewalks and pedestrian paths are installed throughout the project area.	Project Designer	Plan Check	Division and Building Department
<i>Mitigation Measure 4.5.6:</i> The following measures shall be implemented to reduce greenhouse gas emissions from project construction and operation: ◆ Utilize high efficiency HVAC equipment. ◆ Install Energy Star labeled roof materials. ◆ Wire homes to facilitate installation of roof-top solar panels. ◆ Exceed Title 24 energy conservation design by 20%. ◆ Incorporate solar orientation into site planning. ◆ Hardwire buildings to incorporate current telecommunication technologies. ◆ Install 220-volt electric vehicle charging system in garages. ◆ Utilize light-colored hardscape in common areas. ◆ Use highly reflective “cool roofs” in commercial uses. ◆ Utilize recycled building materials, where feasible. ◆ Install energy-reducing day lighting (skylights). Use low-water use appliances.	Developer/ Project Designer	Site Planning, Plan Check	Plan check by Building Department
Noise <i>Mitigation Measure 4.6.1a:</i> During construction, the following measures shall be implemented to reduce noise on sensitive receptors: ◆ All off-road construction equipment shall have properly operating and maintained mufflers. ◆ Stockpiling and equipment/vehicle staging shall be conducted as far as practicable from occupied dwelling units or other nearby noise-sensitive land uses. ◆ Idling of construction equipment shall be limited to 5 minutes, as required by law. Equipment shall be turned off when not in use. ◆ Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, during the late morning and early afternoon hours near residences, or temporary barriers shall be erected, if necessary. ◆ Schedule noisy activities and impulsive noise generation, such as pile driving or jack-hammers, near schools when schools are not in session or temporary barriers shall be erected, if necessary.	Developer/ Contractor	During construction	Site inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
♦ Inform abutting residents and schools of the construction schedule for areas under construction. <i>Mitigation Measure 4.6.1b:</i> A noise impact mitigation plan shall be submitted and implemented for major construction within 500 feet of any occupied residence that incorporates temporary barriers, maximum setbacks and upgraded equipment as necessary. <i>Mitigation Measure 4.6.2a:</i> Perimeter walls shall be provided along residential areas to meet the City's exterior noise standard of 65 dBA CNEL, as follows: Citrus Avenue – 6 feet Sierra Avenue – 6 feet Grapeland Street – 5 feet Duncan Canyon Road – 6 feet Casa Grande Avenue – 5 feet <i>Mitigation Measure 4.6.2b:</i> Increased setbacks from the roadway centerline shall be provided if noise wall heights are less than those listed above, which are capable of achieving an exterior noise level of 65 dBA CNEL or less. Setback requirements are as follows: Citrus Avenue – 260 feet Cypress Avenue – 50 feet Sierra Avenue – 275 feet Grapeland Street – 115 feet Duncan Canyon Road – 200 feet Casa Grande Avenue – 110 feet <i>Mitigation Measure 4.6.3:</i> The proposed commercial retail center shall be required to provide supplemental noise analysis to show that indoor commercial areas would meet the interior standard of 55 dBA CNEL and outdoor use areas (such as patio dining areas) would meet the exterior standard of 70 dBA CNEL. <i>Mitigation Measure 4.6.4:</i> A supplemental acoustical analysis shall be submitted in conjunction with the issuance of building permits to verify that adequate structural noise protection will be provided in residences adjoining arterial roadways to meet the 45 dBA CNEL interior standard. This includes the provision of closed dual-paned windows with supplemental ventilation for residences along Duncan Canyon Road, Cypress Avenue, and Casa Grande Avenue. The use of upgraded dual-paned windows, with supplemental ventilation, baffles in vents, and absorbers in ducts shall be provided for residences along Citrus Avenue. Dual layer drywall, triple-paned windows, steel doors and other custom upgrades shall be provided for residences along Sierra Avenue. <i>Mitigation Measure 4.6.5:</i> Design and planning of the	Developer/ Contractor Developer/ Project Designer Developer/ Project Designer Developer/ Project Designer Developer/ Project Designer	Plan check and during construction Site Planning and Plan Check Plan Check Site Planning and Plan Check Site Planning and Plan Check Site Planning	Plan check by Building Department and Planning Division and Site inspections by Building Department Plan approval by Building Department and Planning Division Plan check by Building Department and Planning Division Plan approval by Planning Division and Building Department Plan approval by Planning Division and Building Department Plan approval by Planning

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
schools shall implement structural noise protection as necessary to meet the 45 dBA CNEL interior standard.	Project Designer	and Plan Check	Division and Building Department
<i>Mitigation Measure 4.6.6:</i> Conditional use permits for proposed commercial uses shall contain measures that control noise generation from goods deliveries, facility maintenance, and mechanical equipment to meet the City's interior and exterior noise standards at adjacent land uses. These may include: ◆ Location of commercial HVAC equipment away from residences or shielding of HVAC equipment ◆ Location of loading docks and trash compactors away from residences ◆ Time restrictions on deliveries to commercial uses ◆ Orientation of fast-food restaurant sound boards away from nearby residences; sound walls around the order boards; or time restrictions on sound board use ◆ Time restrictions on refuse collection or parking lot sweeping, or stacking or retrieval of temporary outdoor storage <i>Mitigation Measure 4.6.7:</i> Design and planning of the schools shall install or implement the following provisions, as necessary, to keep noise levels within the City's interior and exterior noise standards at adjacent land uses: sound walls, setbacks between abutting residences and the schools' outdoor fields; location of HVAC equipment away from residences or provision of shielding around HVAC equipment; location of loading docks and trash compactors away from residences; and time restrictions on truck deliveries, trash pick-ups, and parking lot sweeping.	Developer/ Project Designer	Site Planning and Plan Check	Plan approval by Planning Division and Building Department
Geology and Soils <i>Mitigation Measure 4.7.1:</i> Excavations shall be constructed in accordance with the recommendations of the geotechnical investigation for the site, including the following: ◆ Temporary excavations may be constructed to a vertical depth of five feet without rigorous lateral supports. ◆ Excavated surfaces shall be wetted during construction in order to minimize potential surface soil raveling. ◆ No surcharge loading (from, vehicles, materials, or workmen on the surface adjacent to the trench excavation) shall be allowed within an imaginary 1:1 line drawn upward from the toe of temporary excavations. ◆ Should excavations exceed five feet, those shall be made using cantilevered or braced shoring to support side walls.	Developer/ Contractor	Construction Phase	Site inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
♦ Temporary excavations in excess of five feet shall be made at a slope of 2 :1 (H:V) or flatter, and as per the construction guidelines provided by the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act and current amendments, and the Construction Safety Act.			
Water and Hydrology <i>Mitigation Measure 4.8.1:</i> The existing septic tank shall be abandoned and removed prior to redevelopment of the parcel occupied by the former residence, in accordance with San Bernardino County Environmental Health Department permits and procedures. <i>Mitigation Measure 4.8.2a:</i> Future developments on the southern section of the site would need to prepare and implement a WQMP that provides hydrologic and hydraulic calculations showing there is capacity at Sierra Lakes to handle additional stormwater pollutants from the site and other tributary areas of the lake and that no adverse impacts on downstream water bodies and other hydrologic conditions of concern would occur, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana. <i>Mitigation Measure 4.8.2b:</i> Improvements needed to allow the existing risers, drainage pipes, and Sierra Lake to serve the stormwater treatment needs of future developments on the southern section of the site would need to be provided prior to the connection of on-site storm drain lines to the Sierra Lake system and as part of the development, subject to approval by the Sierra Lakes Golf Course Management Company and the City of Fontana.	Developer/ Contractor Developer/ Project Engineer Developer/ Project Engineer	Prior to grading Site Planning and Plan Check Site Planning and Plan Check	Site inspections by Building Department Plan approval by Planning Division, Building Department, and Public Works/ Environmental Division Plan approval by Planning Division, Building Department, and Public Works/ Environmental Division
Biological Resources <i>Mitigation Measure 4.9.1a:</i> Focused surveys for the burrowing owl shall be conducted during the nesting season (March to August) and no more than 30 days prior to the onset of construction to ensure avoidance of this species. If no occupied burrows are found, a report shall be submitted to the City and construction may begin without further actions. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by CDFG verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation, or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. <i>Mitigation Measure 4.9.1b:</i> Mitigation for loss of burrowing owl habitat shall include passive relocation of resident animals on the project site to the	Developer/ Project Biologist Developer/ Project Biologist	Grading Permit Grading Permit	Site inspections during surveys and prior to issuance of grading permit by Building Department and Planning Division Site inspections during surveys and prior to issuance of grading

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2
MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
approved replacement habitat location. The Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC, 1993) shall be utilized for current methods for passive relocation of any owls found during the survey. A qualified biologist shall conduct the relocation activities and provide construction monitoring during construction activities near the burrows.			permit by Building Department and Planning Division
<i>Mitigation Measure 4.9.1c:</i> If burrowing owls are found on-site, off-site relocation shall be provided in conformance with the 1995 (CDFG) Staff Report on Burrowing Owl Mitigation, which requires the acquisition and permanent protection of a minimum of 6.5 acres of off-site foraging habitat (based on providing a 100-yard foraging radius around the burrow) per pair or unpaired resident bird. The protected lands should be within the vicinity of the project site in suitable habitat and at a location approved by the CDFG. Any occupied burrows within the project site that will be destroyed by implementation of the project shall be mitigated through enhancement of existing unsuitable burrows or creation of artificial burrows at a ratio of 2:1 on the protected site.	Developer/ Project Biologist	Grading Permit	Prior to issuance of grading permit by Building Department and Planning Division
<i>Mitigation Measure 4.9.1d:</i> The developer shall pay the adopted mitigation fee for the loss of burrowing owl habitat from the project area. Fees shall be as set forth in the interim program for the North Fontana MSHCP.	Developer	Grading Permit	Prior to issuance of grading permit by Building Department and Planning Division
<i>Mitigation Measure 4.9.2:</i> Removal of vegetation or other potential nesting bird habitat shall be conducted outside of the avian nesting season (February through August). If removal of vegetation must occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted within 7 days prior to any ground disturbing activities. If at any time, birds are found to be nesting inside or within 250 feet (500 feet for raptors) of the proposed construction disturbance area, construction activities within 250 feet (500 feet for raptors) of the nest must cease and the area flagged and protected from any ground disturbing activities until it is determined by a qualified biologist that the nest is no longer active.	Developer/ Project Biologist	Grading Permit	Site inspections during surveys and prior to issuance of grading permit by Building Department and Planning Division
Cultural Resources <i>Mitigation Measure 4.10.1:</i> Prior to removal of the foundation remains at the SCE/SCG easements, a formal evaluation of the area shall be completed, to determine eligibility to the California Register of Historic Places. Initial evaluation of significance for this site will focus on archival research, including a title search to identify former property owners,	Developer/ Archaeologist	Prior to grading and excavation activities at SCE/SCG easement	Plan approval by Planning Division and Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
historical research at the Fontana Historical Society and the San Bernardino Historical Society to identify historical maps, aerial photographs and photographs of the building. Oral interviews with local residents and Historical Society members shall also be conducted. This initial evaluation will seek to determine when the building was constructed, its function and history of use, and whether it was associated at any time with important people or events in the past. This initial evaluation will not include subsurface testing. However, if the evaluation determines that the site has archaeological or historical research potential, subsurface testing may be recommended to identify subsurface features and deposits, and to evaluate such deposits under criterion D of the CEQA Guidelines Section 15064.5.a3. If the foundation is determined to be significant, then a mitigation plan shall be developed, in accordance with Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines, to ensure mitigation below a level of significance. Mitigation shall include photograph, recordation, collection, and archival of collected materials. In the event that significant cultural resources cannot be mitigated, avoidance shall be required. <i>Mitigation Measure 4.10.2:</i> Monitoring shall be conducted for excavation activities extending to estimated depths of 10 feet or more below the existing ground surface. If required, the paleontologic monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially-fossiliferous units are not present in the subsurface, or if present, are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. Also, the following measures shall be made during the monitoring of excavation activities on undisturbed subsurface Pleistocene sediments. ◆ During monitoring, preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates shall occur. ◆ During monitoring, identification and curation of specimens into a museum repository with permanent retrievable storage shall occur. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. ◆ During monitoring, preparation of a report of	Developer/ Archaeological Monitor	During grading and excavation activities	Site Inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
findings with an itemized inventory of specimens shall occur. The report and inventory, when submitted to the City of Fontana (as the Lead Agency), will signify completion of the program to mitigate impacts to paleontologic resources.			
Utilities <i>Mitigation Measure 4.12.1a:</i> The City of Fontana shall submit a letter of intent to the MWD for their approval to use the MWD right-of-way as a public street right-of-way. <i>Mitigation Measure 4.12.1b:</i> Any grading, excavation, or construction work near the MWD right-of-way or the MWD pipelines shall follow the MWD's guidelines, with plans submitted for review and approval by the MWD prior to the start of work. <i>Mitigation Measure 4.12.2:</i> Improvements proposed within the SCE easement shall be subject to review and approval by SCE to ensure no adverse impacts to the high-voltage transmission lines and for compliance with SCE's development guidelines. <i>Mitigation Measure 4.12.3:</i> Improvements proposed within the SCG easement and near the gas pumping facility shall be subject to review and approval by SCG to ensure no adverse impacts to the natural gas lines and facilities and for compliance with SCG's development guidelines.	City Engineering Division Project Engineer/ Contractor Developer/ Project Engineer Developer/ Project Engineer	Roadway design Engineering Design and during construction Engineering Design Engineering Design	Plan approval by Planning Division and Building Department Plan Check and Field Inspections by Building Department Plan check by Building Department Plan check by Building Department
Hazards and Human Health <i>Mitigation Measure 4.13.1:</i> Waste oil drums, television, and other illegally dumped hazardous wastes on the site shall be disposed at a facility licensed to accept such hazardous wastes, prior to grading and excavation activities at the site. <i>Mitigation Measure 4.13.2:</i> Prior to the development of the eastern central section of the site (APN 0239-131-045), shallow soil sampling shall be made at areas which were formerly utilized for agricultural purposes, to determine if residues from pesticide applications remain in the soil. If the results of the soil testing show chemical levels are below regulatory levels, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above regulatory standards. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established maximum contaminant levels.	Developer/ Contractor Developer/ Contractor	Prior to grading activities Prior to grading activities at eastern central section	Field Inspections by Building Department Plan Check and Field Inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
<i>Mitigation Measure 4.13.3:</i> Prior to the demolition of the existing buildings, bulk material sampling for asbestos and lead-based paint shall be performed. Any identified asbestos-containing materials shall be removed and disposed in accordance with applicable regulations (including South Coast Air Quality Management District (SCAQMD) regulations and Cal-OSHA guidelines) by a state-licensed abatement contractor, with abatement oversight performed by an independent asbestos consultant.	Developer/ Contractor	Prior to demolition of existing structures	Plan Check and Field Inspections by Building Department
<i>Mitigation Measure 4.13.4:</i> Demolition wastes containing lead-based paint shall be removed and disposed by a licensed contractor as hazardous waste, in accordance with existing regulations.	Developer/ Contractor	During demolition	Field Inspections by Building Department
<i>Mitigation Measure 4.13.5:</i> In order to protect the gas pipelines and pumping facility, the developer shall coordinate and obtain approval from the Southern California Gas Company for grading and construction activities and any improvements and structures on or near the 100-foot wide gas line easement along the northwestern boundary of the site and the pumping facility at the western section of the site. Specifically, the following measures shall be followed: • No structures shall be built over the 100-foot wide gas line easement although parking areas, driveways and landscaped areas may be developed over the easement. • Structures and uses that would preclude or obstruct access to the aboveground or underground gas lines, through an approximately 50-foot wide trench along the gas lines, are not allowed. • Deep-rooting trees and shrubs that would need to be pulled out to obtain access to the gas lines are not allowed over the easement. • Mechanical equipment are not allowed within three horizontal feet of the gas lines, in order to prevent damage to the lines during construction and grading activities. Any closer work would have to be done by hand. • At least seven feet of fill is needed over the gas lines where heavy construction equipment will be crossing over the easement during construction activities. • Approval by the Southern California Gas Company would be needed for any plans over the easement. • A representative of the Southern California Gas Company must observe excavation work around and near the facilities to insure protection of the gas lines.	Developer/ Project Engineer/ Contractor	Plan check and during construction	Plan Check and Field Inspections by Building Department and Land Development Engineering
<i>Mitigation Measure 4.13.4:</i> A perimeter wall and/or security fence shall be provided around the gas pumping facility, along with a secured gate to	Developer/ SCG	Plan check and during construction	Plan Check and Field Inspections by Building Department

Section 10.0: Mitigation Monitoring and Reporting Program

TABLE 10-2

MITIGATION MONITORING PROGRAM

Mitigation Measures	Responsible Party	Time Frame for Implementation	Department or Agency Responsible for Monitoring
prevent unauthorized entry and damage to the facility. <i>Mitigation Measure 4.13.5:</i> The applicant shall provide information on the presence of high-voltage power transmission lines to all potential home buyers.	Developer	During home sales	Field Inspections by Building Department

Section 11.0: References and Preparers

11.1 REFERENCES

The following references were used in the preparation of the EIR and are available for review by the public at the offices of the City of Fontana, located at 8353 Sierra Avenue, Fontana, California 92335 or at the offices of David Evans and Associates at 4200 Concourses, Suite 200, Ontario, California 91764 during normal business hours.

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Regional Transportation Plan

State of California
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