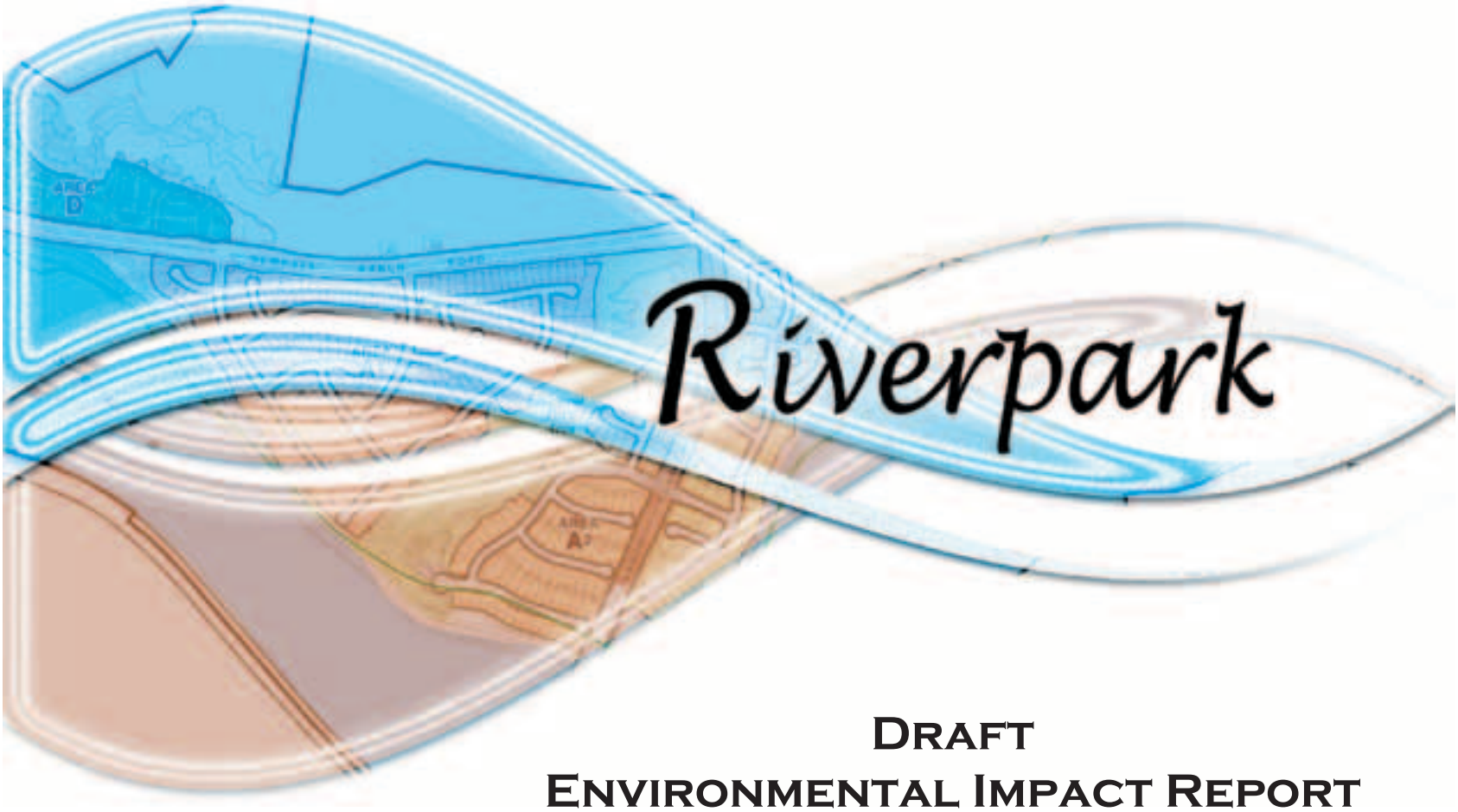

Draft
Environmental Impact Report

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Volume I

Prepared for:

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Table of Contents

Volume I: Environmental Impact Report

Section			Page
		Introduction	I-1
		Executive Summary	ES-1
1.0		Project Description	1.0-1
2.0		Environmental and Regulatory Setting	2.0-1
3.0		Cumulative Impact Analysis Methodology	3.0-1
4.0		Environmental Impact Analyses	4.0-1
	4.1	Geotechnical Hazards	4.1-1
	4.2	Flood	4.2-1
	4.3	Traffic/Access	4.3-1
	4.4	Air Quality	4.4-1
	4.5	Noise	4.5-1
	4.6	Biological Resources	4.6-1
	4.7	Land Use	4.7-1
	4.8	Water Services	4.8-1
		4.8.1 Water Quality	4.8.1-1
	4.9	Solid Waste Disposal	4.9-1
	4.10	Education	4.10-1
	4.11	Library Services	4.11-1
	4.12	Parks and Recreation	4.12-1
	4.13	Fire Services	4.13-1
	4.14	Sheriff Services	4.14-1
	4.15	Human Made Hazards	4.15-1
	4.16	Visual Resources	4.16-1
	4.17	Population/Housing/Employment	4.17-1
	4.18	Cultural Resources	4.18-1
	4.19	Agricultural Resources	4.19-1
	4.20	Floodplain Modifications	4.20-1
	4.21	Wastewater Disposal	4.21-1
5.0		Unavoidable Significant Impacts	5.0-1
6.0		Project Alternatives	6.0-1
7.0		Growth-Inducing Impacts	7.0-1
8.0		Any Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Actions Should They be Implemented	8.0-1
9.0		Effects Not Found to Be Significant	9.0-1
10.0		Organizations/Persons Consulted	10.0-1
11.0		References	11.0-1

Table of Contents (continued)

Volumes II through IV: Appendices

Appendix I – Notice of Preparation and Initial Study; Responses to Notice of Preparation
Appendix 1.0 – Resolution
Appendix 3.0 – Development Monitoring System Database
Appendix 4.1 – Geotechnical Report(s)
Appendix 4.2 – Flood
Appendix 4.3 – Traffic and Circulation Report
Appendix 4.4 – Air Quality Data
Appendix 4.5 – Noise Data
Appendix 4.6 – Biological Data and Reports
Appendix 4.8 – Water Service Data
Appendix 4.9 – Solid Waste Disposal Data
Appendix 4.10 – Student Generation Calculations
Appendix 4.11 – Libraries Data and Correspondence
Appendix 4.13 – Fire Data and Correspondence
Appendix 4.14 – Sheriff's Data and Correspondence
Appendix 4.15 – Phase I Site Assessment
Appendix 4.18 – Cultural Resources Report
Appendix 4.19 – Agricultural Resources Storie Index
Appendix 4.20 – Floodplain Modifications
Appendix 4.21 – Wastewater Data
Appendix 6.0 – Alternatives Data

List of Figures

Figure		Page
1.0-1	Regional Location	1.0-5
1.0-2	Project Vicinity	1.0-6
1.0-3	Surrounding Land Uses	1.0-7
1.0-4	Area A[1] Single Family Residential Detail	1.0-20
1.0-5	Area A[2] Single Family Residential Detail	1.0-21
1.0-6	Area B Single Family Residential Detail	1.0-22
1.0-7	Area C Multi-Family Residential Detail	1.0-23
1.0-8	Area D Multi-Family Residential Detail	1.0-24
1.0-9	Area E Commercial Detail	1.0-25
1.0-10	Vesting Tentative Tract Map (Map Box, Map #s 1–5)	1.0-26
1.0-11	Analyzed Roadway Improvements on Major Thoroughfares	1.0-32
1.0-12	Bank Stabilization	1.0-35
1.0-13	Examples of Bank Stabilization Techniques	1.0-36
1.0-14	Potential Water Tank Locations	1.0-37
2.0-1	Surrounding Land Uses	2.0-7
2.0-2	City of Santa Clarita Significant Ecological Area (SEA)	2.0-8
2.0-3	Disturbed Areas of the Site	2.0-9
2.0-4	Site Characteristics	2.0-12
2.0-5	Slope Analysis for TTM 53425 (Map Box, Map # 6)	2.0-13
2.0-6	Approximate Oak Tree Locations	2.0-15
2.0-7	Major On-Site Encumbrances	2.0-18
2.0-8	City of Santa Clarita General Plan Land Use Designations	2.0-19
3.0-1	Cumulative Impact Analysis Methodology	3.0-9
4.1-1	Geologic/Geotechnical Map (Map Box, Map #s 7–10)	4.1-3
4.1-2	Regional Fault Locations	4.1-13
4.2-1	Drainage Locations	4.21
4.2-2	Santa Clara River Existing Conditions 2-Year Flood Event	4.2-24
4.2-3	Santa Clara River Existing Conditions 5-Year Flood Event	4.2-25
4.2-4	Santa Clara River Existing Conditions 10-Year Flood Event	4.2-26
4.2-5	Santa Clara River Existing Conditions 20-Year Flood Event	4.2-27
4.2-6	Santa Clara River Existing Conditions 50-Year Flood Event	4.2-28
4.2-7	Santa Clara River Existing Conditions 100-Year Flood Event	4.2-29
4.2-8	Santa Clara River Existing Conditions 50-Year Capital Flood Event	4.2-30
4.2-9	Drainage Concept Map (Map Box, Map #s 11–15)	4.2-31
4.2-10	Riverpark Bank Lining	4.2-35
4.3-1	Project Study Area	4.3-5
4.3-2	Existing Roadway Network	4.3-12
4.3-3	Existing Average Daily Traffic	4.3-13
4.3-4	AM Peak Hour Turning Movement Volumes – Existing Conditions	4.3-14
4.3-5	PM Peak Hour Turning Movement Volumes – Existing Conditions	4.3-15
4.3-6	Future Transportation System – Interim Year and Long-Range	4.3-20
4.3-7	Average Daily Traffic Volumes – Project Residential Trips Only	4.3-27
4.3-8	Average Daily Traffic Volumes – Project Commercial Trips Only	4.3-30
4.3-9	Average Daily Traffic Volumes – Interim Year without Project	4.3-35
4.3-10	Average Daily Traffic Volumes – Interim Year with Project	4.3-36
4.3-11	Average Daily Traffic Volumes – Alternative Interim Year without Project	4.3-41
4.3-12	Average Daily Traffic Volumes – Alternative Interim Year with Project	4.3-44
4.3-13	Average Daily Traffic Volumes – Santa Clarita Valley Buildout without Project	4.3-59

List of Figures (continued)

Figure		Page
4.3-14	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario without Project and without Santa Clarita Parkway	4.3-60
4.3-15	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario with Project	4.3-63
4.3-16	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario with Project and without Santa Clarita Parkway	4.3-64
4.4-1	South Coast Air Basin	4.4-3
4.4-2	Dominant Wind Patterns in the Basin	4.4-43
4.5-1	Noise Attenuation by Barriers	4.5-5
4.5-2	Noise and Land Use Compatibility Guidelines	4.5-12
4.5-3	Noise Levels of Typical Construction Equipment	4.5-21
4.5-4	Proposed Sound Walls	4.5-24
4.6-1	Regional Location	4.6-7
4.6-2	Project Vicinity	4.6-8
4.6-3	VTTM 52325	(Map Box, Map # 16) 4.6-11
4.6-4	Drainage Locations	4.6-43
4.6-5	Wildlife Movement Corridors	4.6-46
4.6-6	City of Santa Clarita Ecological Area (SEA)	4.6-49
4.6-7	Riverpark Bank Lining	4.6-82
4.7-1	Existing General Plan Land Use	4.7-5
4.7-2	Surrounding Land Uses	4.7-10
4.7-3	Proposed General Plan Land Use	4.7-13
4.7-4	Existing Zoning	4.7-125
4.7-5	Proposed Zoning	4.7-126
4.8-1	Existing Water Reclamation Plants and Sanitation Districts	4.8-3
4.8-2	Rainfall in the Santa Clarita Valley	4.8-4
4.8-3	Historical and Projected Number of Service Connections	4.8-4
4.8-4	Location of the Alluvial and Saugus Formation	4.8-6
4.8-5	Geological and Hydrologic Cycle – Santa Clarita Valley	4.8-9
4.8-6	Groundwater Basins in the Santa Clara River Drainage	4.8-10
4.8-7	Groundwater Production Well Locations – Santa Clarita Valley	4.8-11
4.8-8	Castaic Lake Water Agency Service Area	4.8-18
4.8-9	Castaic Lake Water Agency Water Delivery System	4.8-21
4.8-10	Valencia Water Company Service Area	4.8-24
4.8-11	Groundwater Basins in the Santa Clarita River Drainage	4.8-25
4.8-12	Existing Water Reclamation Plants and Sanitation Districts	4.8-30
4.8-13	Typical Well Configuration	4.8-34
4.8-14	Historical Groundwater Production – Alluvial Aquifer	4.8-36
4.8-15	Cross Section of the Groundwater Basin	4.8-39
4.8-16	Historical Groundwater Production from the Saugus Formation from 1947 to 2002	4.8-41
4.8-17	Active and Inactive Groundwater Well Locations – Santa Clarita Valley	4.8-45
4.8-18	Principal State Water Program Facilities	4.8-68
4.8-19	State Water Program Contractor Service Areas	4.8-69
4.8-20	Projected State Water Deliveries	4.8-74
4.8-21	Historical and Projected Number of Service Locations	4.8-98
4.8-22	Proposed On-Site Potable Water System	4.8-101
4.8.1-1	Surrounding Site Conditions	4.8.1-15
4.8.1-2	Drainage Concept Map	4.8.1-32
4.9-1	Locations of Major Los Angeles County Landfill Sites	4.9-11

List of Figures (continued)

Figure		Page
4.11-1	Library Locations	4.11-3
4.12-1	Existing and Proposed City of Santa Clarita Parks	4.12-5
4.12-2	County and State Park Facilities	4.12-6
4.12-3	City of Santa Clarita Trails	4.12-13
4.12-4	Recreation and Trails Plan	4.12-18
4.12-5	Active/Passive Park	4.12-19
4.12-6	Proposed Trails in Relation to the City of Santa Clarita SEA Boundaries	4.12-22
4.12-7	Typical Trail Sections	4.12-23
4.12-8	Bicycle Trail Rights-of-Way	4.12-24
4.13-1	Fire Station Locations	4.13-3
4.14-1	Sheriff Station Location	4.14-3
4.15-1	Oil Well Locations	4.15-7
4.16-1A	Disturbed Areas of the Site	4.16-5
4.16-1B	Viewing Locations	4.16-8
4.16-2	Viewing Location No. 1 – Looking Northwest into the Project Site	4.16-9
4.16-3	Viewing Location No. 2 – Looking Northeast into the Project Site	4.16-10
4.16-4	Viewing Location No. 3 – From Soledad Canyon Road Looking Northeast	4.16-13
4.16-5	Viewing Location No. 4 – From Soledad Canyon Road Looking Northeast into the Project Site	4.16-14
4.16-6	Viewing Location No. 5 – Junction of Soledad Canyon and the Terminus of Newhall Ranch Road	4.16-15
4.16-7	Viewing Location No. 6 – Looking South into the Project Site from the Emblem Tract	4.16-18
4.16-8	Typical Building Elevations – Planning Area C-Upper Pad	4.16-23
4.16-9	Typical Building Elevations – Planning Area C-Lower Pad	4.16-24
4.16-10	Typical Building Elevations – Planning Area D	4.16-25
4.16-11	Typical Water Tank Elevations	4.16-26
4.19-1	Soil Types on the Project Site	4.19-9
4.19-2	Site Suitability for Farming	4.19-12
4.19-3	Farmlands of Importance on the Project Site	4.19-13
4.20-1	Project Study Area	4.20-5
4.20-2	Standing Water Locations	4.20-8
4.20-3a	Santa Clara River Existing Conditions – 2 Year Flood Event	4.20-11
4.20-3b	Santa Clara River Existing Conditions – 5 Year Flood Event	4.20-12
4.20-3c	Santa Clara River Existing Conditions – 10 Year Flood Event	4.20-13
4.20-3d	Santa Clara River Existing Conditions – 20 Year Flood Event	4.20-14
4.20-3e	Santa Clara River Existing Conditions – 50 Year Flood Event	4.20-15
4.20-3f	Santa Clara River Existing Conditions – 100 Year Flood Event	4.20-16
4.20-3g	Santa Clara River Existing Conditions – Capital Flood Event	4.20-17
4.20-4a	Santa Clara River Existing Velocities – 2 Year Flood Event	4.20-20
4.20-4b	Santa Clara River Existing Velocities – 5 Year Flood Event	4.20-21
4.20-4c	Santa Clara River Existing Velocities – 10 Year Flood Event	4.20-22
4.20-4d	Santa Clara River Existing Velocities – 20 Year Flood Event	4.20-23
4.20-4e	Santa Clara River Existing Velocities – 50 Year Flood Event	4.20-24
4.20-4f	Santa Clara River Existing Velocities – 100 Year Flood Event	4.20-25
4.20-5	River Habitat	4.20-28
4.20-6	Typical Cross-Section for Buried Bank Stabilization	4.20-39
4.20-7	Bank Stabilization and Bridge Locations	4.20-40
4.20-8a	Santa Clara River Proposed Conditions – 2 Year Flood Event	4.20-43
4.20-8b	Santa Clara River Proposed Conditions – 5 Year Flood Event	4.20-44

List of Figures (continued)

Figure		Page
4.20-8c	Santa Clara River Proposed Conditions – 10 Year Flood Event	4.20-45
4.20-8d	Santa Clara River Proposed Conditions – 20 Year Flood Event	4.20-46
4.20-8e	Santa Clara River Proposed Conditions – 50 Year Flood Event	4.20-47
4.20-8f	Santa Clara River Proposed Conditions – 100 Year Flood Event	4.20-48
4.20-8g	Santa Clara River Proposed Conditions – Capital Flood Event	4.20-49
4.20-9	Key Locations	4.20-50
4.20-10a	Santa Clara River Proposed Velocities – 2 Year Flood Event	4.20-53
4.20-10b	Santa Clara River Proposed Velocities – 5 Year Flood Event	4.20-54
4.20-10c	Santa Clara River Proposed Velocities – 10 Year Flood Event	4.20-55
4.20-10d	Santa Clara River Proposed Velocities – 20 Year Flood Event	4.20-56
4.20-10e	Santa Clara River Proposed Velocities – 50 Year Flood Event	4.20-57
4.20-10f	Santa Clara River Proposed Velocities – 100 Year Flood Event	4.20-58
4.20-11a	Santa Clara River Cumulative Velocities – 2 Year Flood Event	4.20-71
4.20-11b	Santa Clara River Cumulative Velocities – 5 Year Flood Event	4.20-72
4.20-11c	Santa Clara River Cumulative Velocities – 10 Year Flood Event	4.20-73
4.20-11d	Santa Clara River Cumulative Velocities – 20 Year Flood Event	4.20-74
4.20-11e	Santa Clara River Cumulative Velocities – 50 Year Flood Event	4.20-75
4.20-11f	Santa Clara River Cumulative Velocities – 100 Year Flood Event	4.20-76
4.20-12a	Santa Clara River Cumulative Conditions – 2 Year Flood Event	4.20-77
4.20-12b	Santa Clara River Cumulative Conditions – 5 Year Flood Event	4.20-78
4.20-12c	Santa Clara River Cumulative Conditions – 10 Year Flood Event	4.20-79
4.20-12d	Santa Clara River Cumulative Conditions – 20 Year Flood Event	4.20-80
4.20-12e	Santa Clara River Cumulative Conditions – 50 Year Flood Event	4.20-81
4.20-12f	Santa Clara River Cumulative Conditions – 100 Year Flood Event	4.20-82
4.20-12g	Santa Clara River Cumulative Conditions – Capital Flood Event	4.20-83
4.21-1	Existing Water Reclamation Plants and Sanitation Districts	4.21-3
6.0-1	No Project, Buildout According to City of Santa Clarita General Plan	6.0-5
6.0-2	Santa Clara River Reduced Bank Stabilization Alternative	6.0-6
6.0-3	Ridgeline Protection Alternative	6.0-15
6.0-4	Alternative 4 – Noise/Development Standards	6.0-22
6.0-5	Deletion of Santa Clarita Parkway Alternative	6.0-31

List of Tables

Table		Page
ES-1	Summary of Project Impacts and Recommended Mitigation Measures	ES-11
1.0-1	Riverpark Development Statistical Summary	1.0-4
1.0-2	Current Zoning at the Riverpark Project Site	1.0-9
1.0-3	Riverpark Project Detailed Land Use Summary	1.0-17
1.0-4	Known Responsible Agency Actions	1.0-39
3.0-1	DMS Build-Out Scenario - Santa Clarita Valley Planning Area with Project	3.0-3
3.0-2	DMS Implementation	3.0-4
3.0-3	Cumulative Development Activity - Santa Clarita Valley Cumulative Build-Out Scenario with Project	3.0-7
4.1-1	Shrinkage, Bulking and Subsidence Factors	4.1-18
4.2-1	Percent Imperviousness for Selected Land Uses	4.2-10
4.2-2	Existing Drainages and Runoff Quantities	4.2-19
4.2-3	Existing River Flows at Bouquet Canyon	4.2-19
4.2-4	Existing Floodplain/Stream Area Within the Project Tributary Watershed	4.2-22
4.2-5	Summary of Water Surface Elevations	4.2-39
4.2-6	Post-Development Runoff Quantities	4.2-40
4.2-7	Pre- and Post-Development Floodplain/Stream Area	4.2-42
4.2-8	Pre- and Post-Development River Velocities	4.2-44
4.2-9	Pre-, Post-Development, and Cumulative Floodplain/Stream Area	4.2-51
4.2-10	Water Surface Elevation at Selected River Locations from Upstream to Downstream	4.2-52
4.2-11	Cumulative Impacts on Erosion	4.2-53
4.3-1	Level of Service of Urban Streets	4.3-7
4.3-2	Level of Service of Signalized Intersections	4.3-8
4.3-3	Level of Service Descriptions – Freeways	4.3-9
4.3-4	ICU Summary – Existing (2002) Condition	4.3-11
4.3-5	Volume/Capacity Ratio Level of Service Ranges	4.3-21
4.3-6	Freeway Mainline Performance Criteria	4.3-23
4.3-7	Arterial Intersection Performance Criteria	4.3-24
4.3-8	Freeway Ramp Performance Criteria	4.3-25
4.3-9	Project Land Use and Trip Generation Summary	4.3-26
4.3-10	Trip Generation Summary for 500 Dwelling Units	4.3-28
4.3-11	ICU and LOS Summary – Pre-Interim Year Conditions	4.3-29
4.3-12	Proposed Mitigation – Pre-Interim Year With Project Conditions	4.3-32
4.3-13	ICU and LOS Summary – Existing and Interim Year Without Project	4.3-33
4.3-14	ICU and LOS Summary – Interim Year With and Without Project	4.3-37
4.3-15	Proposed Mitigation – Interim Year With Project Conditions	4.3-38
4.3-16	ICU and LOS Summary – Existing and Alternative Interim Year Without Project	4.3-42
4.3-17	ICU and LOS Summary – Alternative Interim Year With and Without Project	4.3-43
4.3-18	Proposed Mitigation – Alternative Interim Year With Project Conditions	4.3-45
4.3-19	Freeway Level of Service Summary – Interim Year Conditions	4.3-48
4.3-20	Freeway Level of Service Summary – Alternative Interim Year Conditions	4.3-49
4.3-21	ICU and LOS Summary – CMP Monitoring Intersections	4.3-51
4.3-22	CMP Debit and Credit Summary	4.3-53
4.3-23	Trip Generation Comparison – General Plan vs. Proposed Project	4.3-58
4.3-24	Trip Generation Comparison – Long-Range Cumulative vs. Proposed Project	4.3-58

List of Tables (continued)

Table		Page
4.4-1	Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961-1990	4.4-15
4.4-2	Ambient Air Quality Standards	4.4-19
4.4-3	2001 Maximum 1-Hour Ozone Concentrations by Basin and County	4.4-22
4.4-4	2001 Maximum 8-Hour Ozone Concentrations by Basin and County	4.4-23
4.4-5	2001 Maximum Carbon Monoxide Concentrations by Basin and County	4.4-24
4.4-6	2001 Maximum 24-hour Average PM_{10} Concentrations by Basin and County	4.4-26
4.4-7	2001 Maximum Annual Average PM_{10} Concentrations by Basin and County	4.4-27
4.4-8	2001 Maximum 24-hour Average $PM_{2.5}$ Concentrations by Basin and County	4.4-27
4.4-9	2001 Maximum Annual Average $PM_{2.5}$ Concentrations by Basin and County	4.4-28
4.4-10	2001 Maximum Nitrogen Dioxide Concentrations by Basin and County	4.4-29
4.4-11	2001 Maximum Sulfur Dioxide Concentrations by Basin and County	4.4-31
4.4-12	2001 Maximum Sulfate Concentrations by Basin and County	4.4-32
4.4-13	2001 Maximum Lead Concentrations by Basin and County	4.4-34
4.4-14	Annual Average Emissions by Major Source Type for Baseline Year 1997	4.4-37
4.4-15	1998 Annual Average Day Toxic Emissions for the South Coast Air Basin	4.4-40
4.4-16	Ambient Pollutant Concentrations Registered in SRA 13	4.4-44
4.4-17	Existing Carbon Monoxide Concentrations at Nearby Sensitive Receptors	4.4-46
4.4-18	Construction Subphases	4.4-50
4.4-19	Estimated Unmitigated Construction Emissions	4.4-54
4.4-20	Estimated Operational Emissions Without Mitigation	4.4-59
4.4-21	Carbon Monoxide Concentrations with Project Traffic	4.4-63
4.4-22	Estimated Mitigated Construction Emissions	4.4-68
4.4-23	Operational Emissions Reductions	4.4-73
4.5-1	Outside to Inside Noise Attenuation	4.5-4
4.5-2	City Ordinance Noise Limits	4.5-13
4.5-3	Existing Off-Site Roadway Noise Levels at Noise Sensitive Locations	4.5-16
4.5-4	On-Site Noise Levels Under Proposed Plan with Roadways Operating at LOS C and at Realistic Speeds	4.5-25
4.5-5	Predicted Off-Site Roadway Noise Levels at Noise Sensitive Locations at Project Buildout	4.5-29
4.5-6	Predicted Cumulative Roadway Noise Levels at Noise Sensitive Locations	4.5-37
4.6-1	Special-Status Plant Species Known to Occur in the Riverpark Area	4.6-21
4.6-2	Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area	4.6-27
4.6-3	Riverpark Habitat Acreages and Impacts	4.6-61
4.6-4	Riverpark Habitat Acreages and Impacts of the Project Plus Santa Clarita Parkway Bridge to Soledad Canyon Road	4.6-110
4.7-1	Industrial Commercial (IC) Development Standards	4.7-4
4.7-2	Commercial Office (CO) Development Standards	4.7-4
4.7-3	Community Commercial (CC) Development Standards	4.7-4
4.7-4	Residential Medium (RM) Development Standards	4.7-6
4.7-5	Mobile Home Park (MHP) Development Standards	4.7-7
4.7-6	Comparison of Project Development Standards to Residential Medium (RM) Standards	4.7-127
4.8-1	Historical Number of Service Connections	4.8-2
4.8-2	Santa Clarita Valley Retail Water Purveyors	4.8-23
4.8-3	Existing and Planned Groundwater Supplies	4.8-53
4.8-4	Reclaimed Water Demand	4.8-55
4.8-5	Reclaimed Water Supplies	4.8-56

List of Tables (continued)

Table		Page
4.8-6	Castaic Lake Water Agency Annual SWP Water Supply Information from Department of Water Resources	4.8-64
4.8-7	Major SWP Reservoirs	4.8-67
4.8-8	Examples of SWP Transportation System Capacity	4.8-71
4.8-9	Projected State Water Project Supplies	4.8-74
4.8-10	Large-Scale Conveyance Facilities Constructed Since the Last Drought	4.8-77
4.8-11	Examples of Groundwater Storage Projects	4.8-78
4.8-12	Projected Groundwater Banking and Conjunctive-Use Supplies – CLWA (2020)	4.8-81
4.8-13	Planned Local Supplies	4.8-90
4.8-14	Planned Imported Supplies	4.8-91
4.8-15	Total Supplies	4.8-91
4.8-16	Historical Number of Service Connections	4.8-92
4.8-17	Cumulative Development Activity - DMS Build-Out Scenario – Santa Clarita Valley Planning Area	4.8-94
4.8-18	Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley – 2015	4.8-94
4.8-19	Projected Normal/Average Year Water Demand	4.8-95
4.8-20	Projected Dry Year and Multi-Dry Year Demand	4.8-96
4.8-21	Projected Dry-Year Water Demand	4.8-97
4.8-22	Estimated Water Demand	4.8-100
4.8-23	Existing Plus Project Demand for the Santa Clarita Valley	4.8-103
4.8-24	Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley – 2015	4.8-105
4.8-25	Scenario 3: Santa Clarita Valley 2025 Build-Out Scenario Water Demand	4.8-107
4.8-26	Existing Plus Project Demand and Supply for the Santa Clarita Valley	4.8-109
4.8-27	Average/Normal Water Year Supply and Demand Assessment	4.8-111
4.8-28	Dry-Year and Multi-Dry Year Water Supply and Demand Assessment	4.8-113
4.8-29	Scenario 1: DMS Build-Out Scenario Demand and Supply for the Santa Clarita Valley	4.8-115
4.8-30	Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Supplies	4.8-118
4.8-31	Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Demand and Supply	4.8-118
4.8.1-1	2002 CWA Section 303(d) Listing and TMDL Priority Scheduling1 For EPA Reach 9	4.8.1-17
4.8.1-2	2002 CWA Section 303(d) Listing and TMDL Priority Scheduling1 For EPA Reaches 7 and 8	4.8.1-18
4.8.1-3	Hydrologic and Surface Water Quality Objectives (Basin Plan and CTR Objectives)	4.8.1-20
4.8.1-4	CRT Criteria and Associated Trace Metal Water Quality Parameters	4.8.1-23
4.8.1-5	Dominant Land Uses Under Existing Conditions	4.8.1-36
4.8.1-6	Basin Plan Surface Water Quality Standards and Beneficial Uses and CTR Criteria for Reach 7 of the Santa Clara River Between Lang Gauging Station and Bouquet Canyon Road Bridge	4.8.1-37
4.8.1-7	Land Use Representative Event Mean Concentrations (EMCs) Used to Characterize Existing and Developed Storm Water Quality Conditions	4.8.1-49
4.8.1-8	Dominant Land Uses Under Existing and Proposed Conditions	4.8.1-51
4.8.1-9	Pollutant Concentration Results for Riverpark Development Based On Assumption of Existing Land Uses	4.8.1-52
4.8.1-10	Pollutant Concentration Results for Riverpark Development Based On Assumption of Existing Land Uses	4.8.1-52
4.8.1-11	Average Storm Runoff Volumes for Water Quality Modeling	4.8.1-71

List of Tables (continued)

Table		Page
4.8.1-12	Annual Average Storm Water TSS, Nutrient & Mineral/Salt Loads Comparison to Existing Scenario (lbs/yr)	4.8.1-72
4.8.1-13	Annual Average Storm Water TSS, Nutrient & Mineral/Salt Loads Comparison to Existing Scenario (mg/L)	4.8.1-72
4.8.1-14	Average Annual Storm Water Trace Metal Comparison to Existing Scenario (lbs/yr)	4.8.1-74
4.8.1-15	Average Annual Storm Water Trace Metal Comparison to Existing Scenario (mg/L)	4.8.1-74
4.8.1-16	Comparison with CTR Acute Criteria for Copper, Lead, and Zinc	4.8.1-75
4.8.1-17	Basin Plan Standards for Nutrients	4.8.1-78
4.9-1	Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County	4.9-12
4.9-2	Proposed Major Landfill Expansion Plans in Los Angeles County	4.9-13
4.9-3	Daily Project Solid Waste Generation for Project (No Recycling)	4.9-15
4.9-4	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.9-18
4.10-1	Student Generation Rates	4.10-7
4.10-2	Summary of Cumulative Projects by School District – DMS Build-Out Scenario A (Pending, Approved, and Recorded Projects)	4.10-10
4.10-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.10-12
4.10-4	Student Generation as a Result of Cumulative Projects – Cumulative Build-Out Scenario B	4.10-13
4.11-1	DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project	4.11-8
4.11-2	Cumulative Library Impacts – DMS Build-Out Scenario	4.11-9
4.11-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario with Project	4.11-10
4.12-1	Existing and Proposed City of Santa Clarita Parks	4.12-7
4.12-2	Existing and Proposed County Parks and Recreation Facilities in the City of Santa Clarita Planning Area	4.12-8
4.12-3	Existing and Proposed City Trails	4.12-11
4.12-4	Existing and Proposed County Trails	4.12-14
4.12-5	Parkland Dedication Requirements for the Riverpark Project	4.12-25
4.12-6	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.12-30
4.14-1	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.14-14
4.15-1	Magnetic Field Levels for Common Household Appliances	4.15-9
4.15-2	Typical Magnetic Field Levels for Electrical Power Lines	4.15-10
4.15-3	Pesticides Used on the Project Site	4.15-13
4.17-1	Population Forecasts – 2000 to 2020	4.17-2
4.17-2	Citywide Housing Needs – Year 2000 to 2005	4.17-4
4.17-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.17-9
4.17-4	Employment Generation Profile – Santa Clarita Valley Cumulative Build-Out Scenario	4.17-10
4.17-5	Comparison of Adopted Santa Clarita Valley Growth Projections	4.17-11
4.19-1	Soil Capability Classification	4.19-2
4.19-2	Storie Index Rating System	4.19-3
4.19-3	Los Angeles County Agricultural Production 1965 through 2001	4.19-6

List of Tables (continued)

Table		Page
4.19-4	On-Site USDA Soil Suitability	4.19-10
4.19-5	Storie Index Rating for Soils on the Project Site	4.19-10
4.19-6	Conversion of Important Farmlands – Los Angeles County (1998 to 2000)	4.19-11
4.20-1	Existing Discharges, Santa Clara River at the Project Site	4.20-10
4.20-2	Floodplain Area for Different Discharges – Existing Conditions	4.20-10
4.20-3	Example of Increasing Depth and Velocity with Discharge – Existing Conditions at Bouquet Canyon Road Bridge	4.20-18
4.20-4	Summary of Dominant Wetland and Riparian Habitat Types in the River at the Project Site	4.20-26
4.20-5	Summary of Flood Disturbance Frequencies for Dominant Wetland and Riparian Habitat Types in the River	4.20-27
4.20-6	Summary of Aquatic Habitats in the Santa Clara River at the Project Site	4.20-29
4.20-7	Flows at Bouquet Canyon Santa Clara River (Downstream of the Project)	4.20-38
4.20-8	Floodplain Area for Different Discharges – Existing and Proposed Conditions	4.20-41
4.20-9	Acreage Inundated by Habitat Type During Different Return Events	4.20-42
4.21-1	Project Wastewater Generation	4.21-6
4.21-2	Scenario 1: DMS Build-Out Scenario Wastewater Generation for Districts 26 and 32	4.21-9
4.21-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario (Project Option)	4.21-10
4.21-4	Wastewater Generation Impact Analysis – SCV Cumulative Build-Out Scenario	4.21-11
6.0-1	Estimated Alternative 2 Operational Emissions	6.0-7
6.0-2	Estimated Alternative 3 Operational Emissions	6.0-14
6.0-3	Estimated Alternative 4 Operational Emissions	6.0-24
6.0-4	Estimated Alternative 5 Operational Emissions	6.0-30
6.0-5	Alternatives Impact Comparison Matrix	6.0-38

List of Charts

Chart		Page
4.20-1a	Comparison of Average Channel Velocities at Key Locations 2 Year Storm	4.20-51
4.20-1b	Comparison of Average Channel Velocities at Key Locations 5 Year Storm	4.20-51
4.20-1c	Comparison of Average Channel Velocities at Key Locations 10 Year Storm	4.20-51
4.20-1d	Comparison of Average Channel Velocities at Key Locations 20 Year Storm	4.20-52
4.20-1e	Comparison of Average Channel Velocities at Key Locations 50 Year Storm	4.20-52
4.20-1f	Comparison of Average Channel Velocities at Key Locations 100 Year Storm	4.20-52
4.20-2a	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 2 Year Storm	4.20-61
4.20-2b	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 5 Year Storm	4.20-61
4.20-2c	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 10 Year Storm	4.20-61
4.20-2d	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 20 Year Storm	4.20-62
4.20-2e	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 50 Year Storm	4.20-62
4.20-2f	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 100 Year Storm	4.20-62
4.20-3a	Comparison of Velocity Distribution, Riverpark Specific Plan Site 2 Year Storm	4.20-65
4.20-3b	Comparison of Velocity Distribution, Riverpark Specific Plan Site 5 Year Storm	4.20-65
4.20-3c	Comparison of Velocity Distribution, Riverpark Specific Plan Site 10 Year Storm	4.20-65
4.20-3d	Comparison of Velocity Distribution, Riverpark Specific Plan Site 20 Year Storm	4.20-66
4.20-3e	Comparison of Velocity Distribution, Riverpark Specific Plan Site 50 Year Storm	4.20-66
4.20-3f	Comparison of Velocity Distribution, Riverpark Specific Plan Site 100 Year Storm	4.20-66

INTRODUCTION

1. PURPOSE

This introduction is intended to provide the reader with general information regarding: (1) the purpose of an Environmental Impact Report (EIR); (2) standards for EIR adequacy; (3) an introduction to the format and content of this EIR; and, (4) the EIR processing requirements for the proposed project. Environmental documents can be confusing; therefore, the purpose of this section is to educate the reader regarding the intent, format, and content of this EIR so that it can be more useful.

2. PROJECT BACKGROUND

The project applicant, The Newhall Land and Farming Company, proposes to develop the Riverpark (Panhandle) project on a 695.4-acre site in the City of Santa Clarita in Los Angeles County. The project site is located in central part of the City at the eastern terminus of Newhall Ranch Road, east of Bouquet Canyon Road between the Castaic Lake Water Agency property and Soledad Canyon Road.

The project includes the development of 695.4 acres of land for single- and multi-family uses and commercial uses. The entitlement applications for the proposed project request approvals to construct a residential community with 1,183 dwelling units (439 single-family and 744 multi-family units), a maximum of 40,000 square feet of commercial uses, a trail system (Santa Clara River Trail, Newhall Ranch Road and Santa Clarita Parkway Class I trails, and trail connections from the interior planning areas), and a 29-acre active/passive park along the Santa Clara River. The project would also provide for utility easements (electric, water, wastewater, etc.), public street rights-of-way, and roughly 442 acres of open space area, which includes most of the Santa Clara River. Buildout of the project necessitates the extension of Newhall Ranch Road, (full grading, 4-6 lanes) including the Newhall Ranch Road/Golden Valley Road Bridge over the Santa Clara River, to the Golden Valley Road/Soledad Canyon Road flyover.[1] A portion of Newhall Ranch Road is located off-site on property owned by Castaic Lake Water Agency. The project would include the construction of a portion of Santa Clarita Parkway (full grading, 4 vehicle lanes, Class I trail) from Newhall Ranch Road south for approximately 1,500 feet. (The project will not include construction of the Santa Clarita Parkway Bridge over the Santa Clara River or its connection to Soledad Canyon Road.) The project may also necessitate the construction of one water tank to serve the project at one of two possible locations.

[1] The extension of Golden Valley Road (the "flyover"), from Soledad Canyon Road to a point approximately 900 feet north of Soledad Canyon Road is covered under a separate approval issued by the City with construction anticipated to commence in the next six to nine months.

Alternatively, the water service provider (CLWA/Santa Clarita Water Division) has indicated that they may collect a "water storage fee" from the project and provide water service from their existing infrastructure. Consequently, for purposes of environmental analysis both water tank sites are included in the project description. Water quality improvements/Best Management Practices (BMPs) have been incorporated into the project design to prevent operational pollutants from entering storm and non-storm runoff. Structural BMPs include water quality detention basins, a grassy swale and hydrodynamic separator systems, such as a continuous deflective separator. As an example, the grassy swale has a continuous deflective separator at the upstream inlet and flows discharge from the swale to the detention basin.

In order to allow for the proposed development to occur, the project applicant is requesting approval of Vesting Tentative Tract Map (VTTM) 53425, General Plan Amendment 02-002, Zone Change 02-002, Conditional Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010.

Preliminary environmental review of the proposed project was conducted by the City of Santa Clarita, Department of Planning & Building Services. An Initial Study was prepared as part of this review and it was determined by City staff that preparation of an EIR would be required. The Initial Study determined that the following issues should be addressed in this EIR: land use and planning, population and housing, geology, water, air quality, transportation/circulation, biological resources, hazards, noise, public services, utilities and service systems, recreation, aesthetics, and cultural resources. On September 16, 2002 a Notice of Preparation (NOP) was circulated for a 30-day review period, pursuant to the requirements of the California Environmental Quality Act (CEQA) Guidelines, in order to solicit input from interested public agencies regarding the content of the EIR. Since that time, the project description was revised by the project Applicant and the City of Santa Clarita determined that a recirculation of the NOP was appropriate and a Revised NOP was recirculated on October 13, 2003.

3. PURPOSE OF AN ENVIRONMENTAL IMPACT REPORT

Subsequent to the passage of CEQA[2] in 1970, a process was established that would: (1) inform the public and decision-makers of the potential environmental impacts of a proposed project; (2) identify methods (i.e., mitigation measures) that could reduce the impact potential of a project; and (3) identify

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2 State of California CEQA Guidelines, as amended December 1, 2002, Section 15002(a) of the California Administrative Code, Title 14, Chapter 3.

alternatives to the proposed project that could reduce environmental impacts. This information is the basis of any EIR.

4. EIR ADEQUACY

The principal use of an EIR is to provide input and information to the comprehensive planning analysis. The staff reports prepared by City staff synthesize pertinent environmental and planning information for presentation to the City of Santa Clarita Planning Commission and City Council. Given the important role of the EIR in this planning and decision-making process, it is imperative that the information presented in the EIR be factual, adequate, and complete. The standards for adequacy of an EIR, defined in Section 15151 of the CEQA Guidelines, are as follows:

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

This EIR has been prepared by the City of Santa Clarita in accordance with the CEQA Guidelines and City guidelines for the implementation of CEQA.

a. Type of EIR and Level of Analysis Detail

This EIR examines the environmental effects of the Riverpark project. This type of EIR is referred to as a "Project EIR," which is defined in Section 15161 of the CEQA Guidelines. As indicated in the CEQA Guidelines, this type of EIR "should focus primarily on the changes in the environment that would result from the development project." The EIR shall also "examine all phases of the project, including planning, construction, and operation."

The level of detail a Project EIR should go to in analyzing the environmental effects of a development program is directly linked to the number and depth of project details, that are known at the time of the analysis.

5. EIR FORMAT AND CONTENT

a. Report Format

This EIR has been prepared in accordance with the environmental review requirements established under CEQA (1970, as amended), the Guidelines for implementation of the California Environmental Quality Act as prepared by the State Office of Planning and Research and adopted by the Secretary for Resources, and City of Santa Clarita Guidelines for implementation of CEQA. Among the principal objectives of CEQA are that the environmental review process be a public one, and that the EIR be an information document that will inform members of the general public, City decision-makers, and technical reviewers of the physical impacts associated with a proposed project.

The environmental impact analysis presented in this EIR is divided into 21 major sections. The first impact analysis section titled, **4.0, Environmental Impact Analyses**, describes the existing conditions present in the area surrounding the project site; predicts the potential individual and cumulative impacts attributable to the proposed project; presents mitigation measures that are intended to minimize or avoid significant impacts caused by the proposed project; and identifies the significant impacts which would occur after implementation of mitigation measures.

To facilitate review of this EIR, and to meet the requirements and objectives of CEQA, specific features have been incorporated into this EIR to make it more understandable for non-technical reviewers, while at the same time providing the technical input necessary for agency personnel. Specific features are briefly described below.

- Each major section of the EIR includes a brief explanation of the purpose of that section.
- In each technical section, an attempt has been made to present information in a manner that is understandable to the layperson. More technical information is incorporated in the Appendices of this EIR for review by agencies with technically-oriented staff and/or interested individuals.
- Identification of ways to mitigate potential impacts.

b. Report Content

To determine which environmental topics should be addressed in this EIR, the City of Santa Clarita prepared an Initial Study, and circulated it along with the NOP circulated in September 2002 and October 2003 in order to receive input from interested public agencies and private parties. A copy of these preliminary planning documents is presented in **Appendix I** of this EIR. Input from interested

public agencies and private parties were received in written form, copies of which are presented in **Appendix I** of this EIR. The Initial Studies and NOPs resulted in the following topics being addressed in this document:

- Geotechnical Resources
- Flood/Water Quality
- Traffic/Access
- Air Quality
- Noise
- Biological Resources
- Land Use
- Water Service
- Solid Waste Disposal
- Education
- Libraries
- Parks and Recreation
- Fire Services
- Sheriff Services
- Human Made Hazards
- Visual Resources
- Population, Housing and Employment
- Cultural Resources
- Agricultural Resources
- Floodplain Modifications
- Wastewater Disposal.

In addition to these technical sections, other important information is incorporated as part of this EIR. As required by CEQA, this EIR also includes: (1) description of the existing environmental and regulatory setting that exists in the project site's vicinity; (2) description of the ultimate buildout of the proposed project (i.e., the **Project Description** section); (3) a description and analysis of alternatives that can reduce the proposed project's impact potential (i.e., the **Alternatives** section); and, (4) sections that summarize cumulative, long-term, and irreversible effects associated with the proposed project.

Documents referred to, referenced or cited, are incorporated by reference and are available for review at the City of Santa Clarita, Department of Planning & Building Services, 23920 Valencia Boulevard, Suite 302, Santa Clarita, CA 91355.

6. EIR PROCESSING REQUIREMENTS

The City of Santa Clarita Department of Planning & Building Services directed and supervised the preparation of the Draft EIR. During the Draft EIR's preparation, many informal documentation reviews were held with City staff. The Draft EIR will also be circulated for a 60-day public review period as mandated by CEQA. During the 60-day review period, written comments concerning the adequacy of the document may be submitted by all interested public agencies and private parties to the City of Santa Clarita, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California 91355; Attention: Mr. Jeff Hogan/Ms. Wendy Deats, Planning & Building Services (Riverpark).

Throughout and at the conclusion of the 60-day public review and comment period, public hearings will be held before the City of Santa Clarita Planning Commission regarding the proposed Vesting Tentative Tract Map (VTTM) 53425, General Plan Amendment 02-002, Zone Change 02-002, Conditional

Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010, other requested changes or actions, and the adequacy of the Draft EIR, at which time public comments will be heard. Following the public hearing(s), written responses to all written comments will be compiled into a Final EIR. As required by CEQA, responses to comments submitted by responsible public agencies will be distributed to those agencies for review 10 days prior to consideration of the Final EIR. At the conclusion of the EIR public hearing process, the Planning Commission will vote on whether to recommend certification of the adequacy of the EIR to the City of Santa Clarita City Council and to recommend approval of the proposed Riverpark project, Vesting Tentative Tract Map (VTTM) 53425, General Plan Amendment 02-002, Zone Change 02-002, Conditional Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010, other requested changes or actions. If a recommendation for certification is made by the Planning Commission, the matter will then be presented to the City Council who will decide what action to take with respect to the EIR and the proposed project which could include outright approval, conditional approval, or denial of the proposed Riverpark project, Vesting Tentative Tract Map (VTTM) 53425, General Plan Amendment 02-002, Zone Change 02-002, Conditional Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010, and other requested changes or actions.

EXECUTIVE SUMMARY

1. PURPOSE

It is the intent of the Summary to provide the reader with a clear and simple description of the proposed project and potential environmental impacts. Section 15123 of the CEQA Guidelines requires that the Summary identify each significant effect, recommended mitigation measures, and alternatives that would reduce or avoid potential significant impacts. The Summary must also identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved including the choice among alternatives and whether or how to mitigate significant effects. This section focuses on the major areas of importance to decision-makers and utilizes non-technical language to promote understanding.

2. INTRODUCTION

The project includes the development of 695.4 acres of land for single- and multi-family uses and commercial uses. The entitlement applications for the proposed project request approvals to construct a residential community with 1,183 dwelling units (439 single-family and 744 multi-family units), a maximum of 40,000 square feet of commercial uses, a trail system (Santa Clara River Trail, Newhall Ranch Road and Santa Clarita Parkway Class I trails, and trail connections from the interior planning areas), and a 29-acre active/passive park along the Santa Clara River.

3. SITE LOCATION

The project applicant, The Newhall Land and Farming Company, proposes to develop the Riverpark (Panhandle) project on a 695.4-acre site in the City of Santa Clarita in Los Angeles County. The project site is located in the central part of the City at the eastern terminus of Newhall Ranch Road, east of Bouquet Canyon Road between the Castaic Lake Water Agency property and Soledad Canyon Road.

4. PROJECT DESCRIPTION

a. Description of the Proposed Project Site

The project site is bounded on the north by single-family residential, open space, and CLWA property used for administrative offices and a water treatment facility. To the south of the project site (across

the Santa Clara River) is a mobile home park, a business park, retail commercial uses, the Saugus Speedway facility, Soledad Canyon Road and the Metrolink Station. East of the project site is a business park and open space, residential, and retail commercial uses. Open space and retail commercial uses are located to the west along Bouquet Canyon Road.

Section 2.0, Environmental and Regulatory Setting, provides additional detail regarding existing site conditions, and the surrounding land uses that occur in the vicinity of the project site.

b. Description of the Proposed Project

The project includes the development of 695.4 acres of land for single- and multi-family uses and commercial uses. The entitlement applications for the proposed project request approvals to construct a residential community with 1,183 dwelling units (439 single-family and 744 multi-family units), a maximum of 40,000 square feet of commercial uses, a trail system (Santa Clara River Trail, Newhall Ranch Road and Santa Clarita Parkway Class I trails, and trail connections from the interior planning areas), and a 29-acre active/passive park along the Santa Clara River. The project would also provide for utility easements (electric, water, wastewater, etc.), public street rights-of-way, and roughly 442 acres of open space area, which includes most of the Santa Clara River. Buildout of the project necessitates the extension of Newhall Ranch Road, (full grading, 4-6 lanes) including the Newhall Ranch Road/Golden Valley Road Bridge over the Santa Clara River, to the Golden Valley Road/Soledad Canyon Road flyover.[1] A portion of Newhall Ranch Road is located off-site on property owned by Castaic Lake Water Agency. The project would include the construction of a portion of Santa Clarita Parkway (full grading, 4 vehicle lanes, Class I trail) from Newhall Ranch Road south for approximately 1,500 feet. (The project will not include construction of the Santa Clarita Parkway Bridge over the Santa Clara River or its connection to Soledad Canyon Road.) The project may also necessitate the construction of one water tank to serve the project at one of two possible locations. Alternatively, the water service provider (CLWA/Santa Clarita Water Division) has indicated that they may collect a "water storage fee" from the project and provide water service from their existing infrastructure. Consequently, for purposes of environmental analysis both water tank sites are included in the project description. Water quality improvements/Best Management Practices (BMPs) have been incorporated into the project design to prevent operational pollutants from entering storm and non-storm runoff. Structural BMPs include: water quality detention basins; a grassy swale and hydrodynamic separator systems, such as a continuous deflective separator. As an example, the grassy swale has a

[1] The extension of Golden Valley Road (the "flyover"), from Soledad Canyon Road to a point approximately 900 feet north of Soledad Canyon Road is covered under a separate approval issued by the City with construction anticipated to commence in the next six to nine months.

continuous deflective separator at the upstream inlet and flows discharge from the swale to the detention basin.

The project applicant is requesting approval of General Plan Amendment 02-002, Zone Change 02-002, Vesting Tentative Tract Map (VTTM) 53425, Conditional Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010.

5. TOPICS OF KNOWN CONCERN

Issues were identified by the City of Santa Clarita Department of Planning & Building Services (via the Initial Study/Environmental Checklist), by state and local agencies, and private organizations (via responses to the Notice of Preparation). The environmental factors addressed in this EIR are listed below:

- Geotechnical Hazards
- Flood
- Traffic/Access
- Air Quality
- Noise
- Biological Resources
- Cultural Resources
- Visual Resources
- Water Service
- Wastewater Disposal
- Solid Waste Disposal
- Education
- Libraries Services
- Parks and Recreation
- Fire Services
- Sheriff Services
- Population, Housing and Employment
- Agricultural Resources
- Human Made Hazards
- Floodplain Modification

6. IMPACTS, MITIGATION MEASURES, AND UNAVOIDABLE SIGNIFICANT IMPACTS

This EIR has been prepared to assess potentially significant impacts to the environment that could result from implementation of the proposed project. For a detailed discussion regarding potential impacts, refer to **Section 4.0** of this EIR. In accordance with CEQA, a summary of the project's impacts is provided in the following Summary Table (**Table ES-1**). Also provided in the Summary Table is a list of the proposed mitigation measures that are recommended in response to project impacts identified in this EIR, as well as a determination of the level of significance of the impact after implementation of the recommended mitigation measures.

7. ALTERNATIVES

This EIR discusses five alternatives to the proposed project, which were selected in order to reduce potentially significant environmental impacts created by the proposed project (Please see Section 6.0, Project Alternatives for a complete discussion of alternatives). Specific alternatives include: Alternative 1, the No Project Alternative; Alternative 2, Santa Clara River Reduced Bank Stabilization Alternative; Alternative 3, Secondary Ridgeline Preservation Alternative; and Alternative 4, Noise/Development Standards Alternative and Alternative 5, Deletion of Santa Clarita Parkway Alternative.

Alternative 1, the No Project Alternative. The No Project Alternative would maintain the existing amounts of sedimentation/erosion. The No Project Alternative would allow the project site to remain in its current state, thereby, allowing continued sedimentation/erosion of the site. Also, in it's the project's current state there is no flood protection, except in limited areas, such as adjacent to Bouquet Canyon Road, which would result in greater impacts when compared to the proposed project.

Because of the limited agricultural activities, the project site presently has little true "upland" habitat; the proposed project includes an area, termed the "upland preserve zone," to provide for such habitat. In relation to the proposed project, this alternative would have less demand on public services and utilities (i.e., water service, wastewater, solid waste, education, libraries, parks and recreation, fire and police protection, gas and electricity). Project viewsheds would remain the same as the existing condition. The alternative would not generate the traffic, air emissions and noise emissions associated with the proposed project. This alternative would, however, result in the same amount of storm runoff and sedimentation that is occurring today. It would continue the use of fertilizers, herbicides, and pesticides for the limited agricultural activities, which would be carried, into riparian areas through sedimentation/runoff. On balance, the No Project Alternative is considered to be the "environmentally superior" alternative since most of the environmental effects of the project will not occur, although this alternative is less desirable in terms of sedimentation/runoff and effects of agricultural operations, and does not provide the upland habitat, which the proposed project includes.

A subsection of this alternative includes a project that would be allowed under the City's General Plan land use designations. All development would be constructed to the standards allowed by the City of Santa Clarita General Plan and applicable codes and regulations, including but not limited to street and bridge widths. Development of the project area under the City of Santa Clarita would allow a range of 3,247,903-13,686,552 square feet of commercial uses and between 3,030-15,735 dwelling units.

Like the proposed project, development of the City General Plan land use designations would reduce the amount of sedimentation/erosion below existing levels as a result of covering the site with landscaping and impervious surfaces. This subset alternative would require flood protection similar to the proposed project.

Given the amount of commercial square footage and residential units allowed under the City's General Plan, it is doubtful whether an "upland preserve zone" could be accommodated. In relation to the proposed project, this subset alternative would have more demand on public services and utilities (i.e., water service, wastewater, solid waste, education, libraries, parks and recreation, fire and police protection, gas and electricity). Project viewsheds would be more intensively developed given the large amount of commercial development allowed on the site. This alternative would generate more traffic (81,089 trips compared to 13,274 project trips) and consequently more air and noise impacts.

As discussed above, the purpose of the alternatives section within the EIR is to provide for alternatives, which would lessen any of the significant impacts of the project. Implementation of a project allowed under the City's General Plan would increase significant impacts in all of the areas discussed above and is not preferred environmentally over the proposed project.

Alternative 2, Santa Clara River Reduced Bank Stabilization Alternative. This alternative would implement a setback of the Qcap-50 year line or the upland preserve/buffer setback from the resource line—whichever is more restrictive in order to preserve the river corridor.

Under this alternative, Planning Area A1 would lose 54 single-family dwelling units, Planning Area A2 would lose 24 units, Planning Area E would lose 1 acre of commercial (approximately 13,000 square feet of commercial use), 4 acres of active parkland would be lost and one additional oak tree would be removed.

The number of dwelling units would be reduced (by 78 units), a loss of 13,000 square feet of commercial use, 4 acres of parkland would be lost and one additional oak tree would be removed. This alternative would meet the project objectives of a balanced community providing for residential, commercial and recreational opportunities, although it would provide somewhat fewer housing opportunities. To meet the anticipated demand for housing expected for the area there would have to be greater or more dense development in other areas, which would likely create the same impacts as meeting such development on the project. Although Alternative 2 would be environmentally superior to the proposed project, this alternative has been rejected in favor of the proposed project because this alternative would limit the

number of housing opportunities and not implement the project objectives, and thus it would not reflect the housing opportunities demand under which the project site could be developed.

Alternative 3, Ridgeline Preservation Alternative. This alternative would preserve the ridgelines designated by the City as secondary. Implementation of this alternative would remove 76 dwelling units in Area B, 55 units in Area C and 27 units in Area D. All other planning areas remain the same as the proposed project and the only encroachment allowed would be for the construction of Newhall Ranch Road.

The alternative would still provide varied residential, commercial and recreational opportunities. However the ridgelines under protection in this alternative are not prominent and/or have been previously compromised by other development activities. This alternative would be environmentally superior to the proposed project. However, this alternative has been rejected in favor of the proposed project because this alternative would limit housing opportunities and not implement the project objectives, and thus would not accommodate the housing demands of the regional area under which the project site could be developed and, therefore, does not meet project objectives.

Alternative 4, Noise/Development Standards Alternative. This alternative would remove 109 units from Area A1, 75 units from Area A2, and all of the 117 single-family units proposed by the project in Area B would be removed by complying with the City/State of California Guidelines for Noise and Land Use Compatibility. The alternative also includes compliance with all of the Residential Medium (RM) standards. The project proposes to vary from these standards to allow for a maximum 20 percent reduction in the minimum lot size and lot width for lots within Planning Area A1. The project modification request would also allow for a 16-foot front yard setback on a traditional garage-facing street within a minimum driveway length of 18-feet and to increase the proposed maximum height of sound walls to seven feet. Neither the apartment uses nor the commercial site would be affected with implementation of this alternative. The City's General Plan envisions higher density dwelling units in the project area. This Alternative does not meet the project objectives of providing a mix of residential opportunities as it reduces the number of housing units available. The reduction of housing units does not meet the project objectives of responding to economic conditions by providing as great a variety of housing types. This alternative would be the environmentally superior alternative to the proposed project and the other previously noted alternatives. However, this alternative would limit the amount of housing opportunities, and thus would not accommodate the housing or employment demands of the regional area under which the project site could be developed and, therefore, does not meet project objectives. As discussed above in the Alternative 4 analysis, this alternative does not meet the following objectives: Provide a substantial number of new housing units to accommodate projected

regional growth in a location, which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas. Develop the site to include housing of varying types, accommodating a range of incomes, and commercial opportunities for the residents of the project as well as the local area; and provide a range of active/passive recreational opportunities. In order to meet the anticipated demand for housing and jobs expected for the area there would have to be greater or more dense development in other areas, which would likely create the same impacts as meeting such development in the project. Because this alternative produces fewer impacts than the proposed project, this alternative can be considered to be environmentally superior.

Alternative 5, Deletion of Santa Clarita Parkway Alternative. This alternative would remove Santa Clarita Parkway from the site plan and would add an additional nine single-family units to the development plan. This alternative does meet the project objectives of providing a mix of residential and commercial activities. However the deletion of Santa Clarita Parkway would delete a major north/south connection route from Soledad Canyon Road to Newhall Ranch Road, which would cause greater traffic impacts when compared to the proposed project. This alternative is not environmentally superior to the proposed project and is rejected as it eliminated a major north/south connector roadway.

a. Alternative Sites

The proposed project is being proposed to meet the expected demands for increased housing opportunities in the City of Santa Clarita and northern Los Angeles County. Individual alternative sites to the project site could be found and developed in order to meet expected demands for growth, or this amount of demand could be met by developing many smaller parcels of land that are spread out over the area. Consequently, there could literally be hundreds, if not thousands, of land parcels that could be developed in place of the proposed project. However, given the population growth expected in the Santa Clarita Valley, and statewide, a need may exist to develop all available parcels suitable for housing, including the proposed project site and all other sites. For this reason, these other sites may actually not be "alternative" sites at all; rather, to meet expected demand, there may be a need in the future to develop them all.

Alternate sites within or directly adjacent to the City do not exist or are the subject of other development proposals. The proposed project would involve buildout of an area that is characterized by existing and pending urban development, and associated infrastructure improvements (i.e., roadways, water mains, sewer lines, and natural gas and electrical service). The City of Santa Clarita General Plan designates the project site for urban density development. Potential alternative project sites in the local vicinity which are similar in acreage and are close to existing or planned

infrastructure improvements are also currently also proposed for development. Alternative sites, which are located beyond existing urbanized areas, would induce growth in these non-urban areas, thereby expanding urban development. For all of the reasons indicated above, no alternative sites were analyzed for this project.

A topic-by-topic analysis of potential environmental impacts associated with the project alternatives is provided in **Section 6.0** of this EIR. CEQA states that a statement must be made in the EIR as to which is the environmentally preferred alternative. CEQA (Section 15126.6 [e], [2]) goes on to state that: "…if the environmentally superior alternative is the 'no project' alternative, an EIR shall also identify an environmentally superior alternative among the other alternatives." The alternatives analysis conducted in **Section 6.0** of this EIR determined that Alternative 4, Noise/Development Standards Alternative, would be preferred from an environmental perspective.

8. ISSUES TO BE RESOLVED/AREAS OF CONTROVERSY

During the circulation of the Notice of Preparation and Initial Study to public agencies, several issues were raised which are addressed in the EIR. These issues include the following:

- Development in the vicinity of a designated Alquist-Priolo Earthquake Special Study Fault zone;
- Impacts on biological resources within the Santa Clara River and oak tree impacts;
- Potential for bank stabilization impacts;
- Traffic effects on local roadways and intersections and in particular to the Emblem tract;
- Viewshed impacts;
- Landform alteration;
- Storm drainage/increased runoff;
- Infrastructure impacts;
- Increase in air emissions from project traffic;
- Increase in noise from project land uses and traffic;
- Water availability;
- Water recharge;
- Additional demands on schools;
- Increase in calls for sheriff and fire services; and

- Cumulative development in Santa Clarita Valley.

Discretionary approvals required in association with the proposed project include the following:

City of Santa Clarita:

- Approval of a General Plan Amendment to provide General Plan consistency;
- Approval of a Zone Change to provide the zoning consistency for the site;
- Approval of Vesting Tentative Tract Maps 53425;
- Approval of a Conditional Use Permit for implementation of the PD Overlay District, heights in excess of two-stories and a maximum of 50-feet, approval of the Hillside Innovative Application, and vehicular gating in Planning Area C;
- Approval of an Adjustment to allow for a maximum reduction in the minimum lot size and width for some lots in Planning Area A1, walls adjacent to roadway to allow a height of 7-feet and front-yard setbacks for garages facing streets;
- Approval of an Oak Tree Permit; and
- Approval of Hillside Development Application.

Other Agencies:

Jurisdictional drainages outside of those addressed in the NRMP will be addressed by the California Department of Fish & Game and the U.S. Army Corps of Engineers. A National Pollution Discharge Elimination System (NPDES) Permit would be required from the Regional Water Quality Control Board, Los Angeles Region, for stormwater runoff discharge from the project site to the Santa Clara River.

Permits would also be sought from the U.S. Army Corps of Engineers, and State Department of Fish & Game per the NRMP for construction of the proposed 9,000 linear feet of bank stabilization and 1,500 linear feet of toe protection required for the project and evaluated as part of this EIR. The bank stabilization would be done in conjunction with the already approved Santa Clara River Natural River Management Plan, but is also analyzed as part of this project.

The information presented in this EIR would be used as part of any permitting activity undertaken by responsible agencies.

Known Responsible Agency Actions

Responsible Agency	Action Required
California Department of Fish & Game	Permits of the State Fish and Game Code
U.S. Army Corps of Engineers	Permit for the Federal Clean Water Act
Regional Water Quality Control Board	National Pollution Discharge Elimination System (NPDES) Permit and Section 401 Permit of the Federal Clean Water Act

Table ES-1
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES		
Much of the elevated portion of the project site is underlain by accumulations of ancient river channel deposits that were deposited on a series of successively lower benches cut in the underlying Saugus Formation bedrock by the ancestral Santa Clara River. These depositional Terrace Deposits exhibit crude horizontal stratification. Quaternary Alluvium covers the valley floors.	**a. General**	
	4.1-1 All project site development shall be performed according to the recommendations identified in Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, and in Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.	Not Significant
	4.1-2 Mitigation measures for geotechnical resources shall be implemented so as not to conflict with mitigation measures as section forth in **Section 4.6, Biological Resources**, of this EIR.	
	b. Earth Materials	
	4.1-3 All grading shall be accomplished under the observation and testing of the Project Soils Engineer, Engineering Geologist and/or their authorized representatives in accordance with the recommendations contained herein, the current Unified Building Code requirements and "Recommended Earthwork Specifications" as presented in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.	
	4.1-4 During site preparation, the site shall be cleared and stripped of organics (vegetation), topsoil, roots, undocumented artificial fill, rubble, construction debris and other unsuitable materials, as applicable, and the site shall be graded to provide a firm base for compacted fill. All organics shall be removed from the site for proper disposal. The Geotechnical Engineer and/or his representatives shall observe the excavated areas prior to placing compacted fill.	
	4.1-5 In order to provide a uniform firm bottom prior to placing fill, all unconsolidated Alluvium, slopewash, colluvial soils and severely weathered Terrace Deposits and bedrock shall be removed from areas to receive fill. The estimated depths of removals (excluding landslides) are 5 to 23 feet as shown on **Figure 4.1-1**. The exact depth and extent of necessary removals will be determined in the field during the grading operations when observations and more location-specific evaluations can be performed.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-6 All existing artificial fill (af) shall be removed and replaced with compacted fill. Removals at the locations of exploratory trenches shall be extended to the bottom of the trench backfill if the adjacent removal depths are shallower than the trench.	
	4.1-7 In areas to receive compacted fill where the surface gradient is steeper than 5:1 (h:v), the soil mantle, colluvium and unsuitable material shall be removed and such areas benched horizontally into competent material prior to or in conjunction with fill placement (See Appendix E, Fill Over Natural Slope, Figure E2 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).	
	4.1-8 After the ground surface to receive fill has been exposed, it shall be ripped to a minimum depth of 6 inches, brought to optimum moisture content or above, thoroughly mixed to obtain a near uniform moisture condition and uniform blend of materials, and then compacted to the required relative compaction per the latest ASTM D 1557 laboratory maximum density.	
	4.1-9 Where recommended removals encounter ground water, water levels shall be controlled by providing an adequate excavation bottom slope and sumps for pumping water out as the excavation proceeds, or ground water may be lowered by installing shallow dewatering well points prior to grading. Partial removals of soils above the water table and soil improvement below the water table (e.g., shallow compaction grouting) may be another option. The determination as to which measures are to be used shall be made by the project Civil Engineer. Dewatering may be needed depending on the season when the removals are performed. All discharges from dewatering operations, if any, shall comply with the National Pollutant Discharge Elimination System permit requirements of project construction.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-10 A minimum 5-foot thick over-excavation shall be performed on all cut-lots, transitional lots (transitions between bedrock, fill, Terrace Deposits and Alluvium), and streets. This over-excavation will provide attenuation of potential differential settlements or differential material response to seismic events and provide a uniform base for structural support of buildings. If the maximum depth of fill exceeds 15 feet on a cut/fill transition lot, then the thickness of the fill cap shall be one-third of the deepest fill thickness below any proposed structure (See Appendix E, Cut Lot and Cut Fill Lot (Transitional), Figure E3, of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). If excavation of the native soils (i.e., bedrock) exposes expansive materials, then the lot over-excavation shall be deepened to 8 feet.	
	4.1-11 On-site soils that are free of debris, over-size rocks, topsoil, and organic matter may be used as sources for compacted fills. Rock or similar irreducible material with a maximum dimension greater than 8 inches may not be placed in the fill. Rocks or hard fragments larger than 4 inches shall not compose more than 25 percent of the fill and/or lift. Any large rock fragments over 8 inches in size, may be incorporated into the fill as rockfill in windrows after being reduced to the specific maximum rock fill size (See Figure E4, Rock Disposal, in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). Where fill depths are too shallow to allow large rock disposal, special handling, or removal may be required depending upon on-site field decisions made during grading operations by the project Geologist/Geotechnical Consultant (See "Recommended Earthwork Specifications," Appendix E of the Seward report.)	
	4.1-12 All fill material shall be placed in uniform lifts not exceeding 8 inches in its loose state and compacted to a minimum of 90 percent relative compaction as determined based on the latest ASTM Test Designation D-1557. Additional field compaction requirements are presented in Appendix E, "Recommended Earthwork Specifications" of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Appendix E also includes recommended specifications for placement of trench backfill.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-13 For fills deeper than 40 feet, the portion of fill below 40 feet depth shall be compacted to a minimum of 93 percent relative compaction. These areas shall be delineated at the Grading Plan stage.	
	4.1-14 Fill slope inclination shall not be steeper than 2:1 (h:v). The fill material within approximately one equipment width (typically 15 feet) of the slope face shall be constructed with cohesive material obtained from on-site soils. The finished fill-slope face shall be constructed by over-building the slope and cutting back to the compacted fill material. Stability Fills are recommended where cut-slope faces will expose fill-over bedrock, Alluvium-over-bedrock or Quaternary Terrace Deposits over bedrock conditions. These fills shall be constructed with a keyway at the toe of the fill slope with a minimum equipment width, but not less than 15 feet, and a minimum depth of 3 feet into the firm undisturbed earth. Following completion of the keyway excavations, the Project Engineering Geologist shall observe and approve the keyway bottom prior to backfilling with certified engineered fill.	
	4.1-15 Where fill slopes are constructed above natural ground with a gradient of 5:1 (h:v) or steeper, all topsoil, colluvium, and unsuitable material shall be removed and a keyway shall be constructed at the toe of the fill slope with a minimum width of 15 feet, and a minimum depth of 3 feet into firm undisturbed earth (See Appendix E, Fill Slope Over Natural Slope diagram, Figure E5 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). Following completion of the keyway excavations, the project Engineering Geologist/Geotechnical Engineer or designated representative shall observe and approve the keyway bottom prior to backfilling with compacted fill.	
	4.1-16 Where fill slopes toe out on relatively level natural ground, the removals shall be performed to a minimum 1:1 projection from the toe of slope to the recommended removal depth, (See Appendix E, Fill Slope Toeing Out on Flat Alluviated Canyon, Figure E6 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-17 Where sliver fill-slopes are proposed, the slope shall be constructed with a minimum 15-foot width Stability Fill throughout, which is keyed in at the toe of slope (See Appendix E, Stability/Buttress Fill and Backdrains Detail, Figure E7 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).	
	4.1-18 Fourteen landslides are located within or in the vicinity of the proposed development area of the project. These landslides shall be mitigated as recommended in Table 1 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.	
	4.1-19 Nineteen proposed cut-slopes that would be 25± feet or higher have been identified on the subject site and are designated them as CS-1 through CS-19. Recommended mitigation, if necessary, for each slope as presented in Cut-Slope Summary (Table 2 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003 shall be followed. This determination shall be made by the Geologist/Geotechnical Consultant prior to grading activities. It has been conservatively assumed for the purposes of stability analysis that weak bedding planes may occur anywhere in the proposed cut-slopes. If any of the smaller proposed cut-slopes (less than 25± feet in height) have adverse geologic grading configurations (fill over cut), they shall be mitigated, if necessary, with a standard 15- to 20-foot wide key (depending on the proposed cut-slope height) and benching similar to a Stability Fill. A "Typical Fill above Cut-Slope" detail is shown on Figure E8 within Appendix E of the Seward report. This determination shall be made by the project Geologist/Geotechnical Consultant prior to grading activities.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-20 All permanent cut-slopes shall be constructed at a slope ratio not steeper than 2:1 (horizontal to vertical). All permanent cut-slopes exposing Terrace Deposits or Alluvium shall be constructed as a stability fill. Temporary cut slopes in competent rock may be constructed as steep as 1.5:1 (h:v). Potential unstable subsurface conditions exposed during construction, such as adverse bedding, joint planes, zones of weakness or exposed seepage, may require either flatter slopes than specified above or construction of benches. An Engineering Geologist shall observe all backcuts during the grading operations and provide appropriate recommendations, if necessary.	
	4.1-21 For the south and southwest facing natural ridge slope located above Planned Area D in the vicinity of Lot No. 526, groundwater levels shall be permanently limited to those found to be necessary for stability of the affected slopes through surface water control as specified in **Mitigation Measures 4.1-27** through **4.1-30**. No piped water shall be allowed above elevation 1,250 feet above msl on the existing natural ridge north and northeast of Lot No. 526, and the area of the existing natural ridge above elevation 1,250 feet above msl shall be recorded as a Restricted Use Area (RUA) on the Final Map. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements. This recommended RUA is hatch marked on **Figure 4.1-1**. See the slope stability analysis in Appendix F of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003 for details.	
	4.1-22 Proposed cut-slope CS-10 shall be constructed as a stability fill due to Quaternary Terrace Deposits anticipated to be exposed within the proposed slope face. A 20-foot building setback shall be constructed from the top of proposed cut-slope CS-10 for Lot Nos. 386 through 391 due to the steep gradient of the natural slope located below the proposed cut slope. This setback is based on geologic/geotechnical judgment and shall be designated on the Final Map as a Restricted Use Area; the setback line is hatch marked on **Figure 4.1-1**. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements.	

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Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-23 The recommended building setback from the top of proposed cut-slope CS-10 at the rear of Lot Nos. 386 through 391 located on **Figure 4.1-1** shall be delineated on the Final Map as a Restricted Use Area. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements. The RUA determination is made by the Geologist/Geotechnical Consultant and is made prior to recordation of the Final Map. The standard setbacks from ascending and descending slopes provided in the California Code/Unified Building Code shall be followed, unless superseded by specific geologic and/or soils engineering evaluations.	
	4.1-24 All of the exploratory trenches and borings previously excavated for this project shall be over-excavated and backfilled with compacted fill in accordance with the earthworks recommendations of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.	
	c. Drainage Control	
	4.1-25 Whenever groundwater seepage is observed, the condition shall be evaluated by the Engineering Geologist and Geotechnical Engineer prior to covering with fill material.	
	4.1-26 Surface drainage control design shall include provisions for positive surface gradients to ensure that surface runoff is not permitted to pond, particularly above slopes or adjacent to building foundations or slabs. Surface runoff shall be directed away from slopes and foundations and collected in lined ditches or drainage swales via non-erodible drainage devices, which shall discharge to paved roadways or existing watercourses. If these facilities discharge onto natural ground, means shall be provided, as directed by the project Civil Engineer, to control erosion and to create sheet flow.	
	4.1-27 Site grading shall be inspected, particularly after heavy, prolonged rainfall, by the City of Santa Clarita to identify erosion areas at an early stage. Maintenance work shall be done as soon as practical to repair these areas and prevent their enlargement.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-28 Planting and irrigation standards within the City of Santa Clarita Grading Code shall be adhered to in order to prevent soil erosion.	
	4.1-29 Fill slopes and stability fills, as applicable, shall be provided with subsurface drainage as necessary for stability as determined by the project Geologist/Geotechnical Consultant. A typical backdrain detail is shown on Figure E7, Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Also, subdrains along the bottom of canyon fills shall be constructed. A typical canyon subdrain detail is presented on Figure E9 of the Seward report. The existing subdrains constructed during the grading for the Rio Vista water treatment facility shall be extended to daylight out of the future planned grading or connected to the future storm drains.	
	4.1-30 All final grades shall be sloped away from the building foundations to allow rapid removal of surface water runoff. No ponding of water shall be allowed adjacent to the foundations. Plants and other landscaped vegetation requiring excessive watering shall be avoided adjacent to the building foundations. Should landscaping be constructed, an effective water-tight barrier shall be provided to prevent water from affecting the building foundations.	
	d. Shrinkage, Bulking, and Subsidence	
	4.1-31 The Project Engineer shall design pad grades with sufficient flexibility to accommodate a possible shortage of fill of up to 10 percent of the total yardage graded due to potential shrinkage of fill and potential subsidence due to dewatering.	
	e. Foundation and Settlement Considerations	
	4.1-32 The structural design shall include seismic geotechnical parameters in accordance with UBC requirements for Seismic Zone 4. These parameters will be provided at the Grading Plan stage.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-33 Shallow spread footings for foundation support of residential structures can adequately be placed on compacted engineered fill as stated in **Mitigation Measures 4.1-12** and **4.1-13**. Support for heavier structures, if applicable, shall be addressed at the Grading Plan stage. Minimum specifications for continuous (wall) foundation dimensions are 12 inches wide and 12 inches deep below lowest adjacent grade for single-story residential structures. Tentatively, an allowable bearing capacity of 1,800 pounds per square-foot can be used for (minimum-sized) shallow foundations constructed in certified compacted fill. This tentative allowable bearing value shall be confirmed by further field and laboratory testing by the Project Geologist of the site soils before use in design plans. Lateral resistance of footing walls shall be provided at the Grading Plan stage.	
	4.1-34 If, during grading operations, the resulting cut-fill transition is steep, as determined by the project Geologist/Geotechnical Consultant, at depth below the building area, the geometry of the transition shall be reviewed during grading operations by the Soils Engineer on a site specific basis to evaluate the need for additional over excavation removals and/or additional foundation reinforcement. As a general guideline, steep cut/fill transitions would include slope gradients steeper than 4:1 (h:v) and overall variations in fill thickness of greater than 15 feet that occur within 20 feet of final pad grade. The determination of need for over excavation of materials shall be guided by Figure E3 (Appendix E), "Cut Lot (Transitional)" and "Cut-Fill Lot (Transitional") of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, which provides a foundation grading detail for locations where foundations will straddle transition zones between cut and fill materials.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-35 To minimize significant settlements, the upper soils in areas to receive fills shall be removed and replaced with compacted fill. Some minor settlements will be expected due to loads from high fills (e.g., higher than 30 feet). Currently, locations of proposed high fills are: CPT-6, CPT-7, CPT-8, CPT-10, CPT-11, CPT-12, CPT-14, CPT-17, CPT-19, CPT-32 and CPT-33. Most of the settlements due to the load of added fill will occur during and shortly after rough grading is complete. However, since lenses of relatively compressible clayey soils exist below recommended removal depths, some of the fill settlements will not occur until the ground water table is lowered below the compressible clay lenses. Ground water table lowering is usually the result of pumping from water wells. (Note: the project would not directly withdraw groundwater.) Alternatively, the site may be temporarily surcharged with earth fill sufficient to simulate the load increase on the compressible clay lenses due to lowering of the ground water table, as determined by the project Geologist/Geotechnical Consultant.	
	4.1-36 At other alluvial removal areas, potential settlements in Alluvium shall be minimized by the removals and recompaction recommended in Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Also, potential effects from localized seismically-induced settlements will be attenuated by the recompacted upper layers and proposed additional fills (See of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).	
	f. Excavations, Shoring and Backfill Recommendations	
	4.1-37 Excavations deeper than 3 feet shall conform to safety requirements for excavations as set forth in the State Construction Safety Orders enforced by the State Division of Industrial Safety, CAL OSHA. Temporary excavations 12 feet or lower shall be no steeper than 1:1 (h:v). For excavations to 20 feet in height, the bottom 3.5 feet may be vertical and the upper portion between 3.5 and 20 feet shall be no steeper than 1.5:1 (h:v). Excavations not complying with these requirements shall be shored. The project Geologist/Geotechnical Consultant shall determine at the time of field inspection if excavation walls in sands and dry soils shall be kept moist, but not saturated at all times.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.1 GEOTECHNICAL RESOURCES (continued)		
	4.1-38 Parameters for design of cantilever and braced shoring shall be provided at the Grading Plan stage.	
	4.1-39 The bases of excavations or trenches shall be firm and unyielding prior to foundations or utility construction. On-site materials other than topsoil or soils with roots or deleterious materials may be used for backfilling excavations. Densification (compaction) by jetting may be used for on site clean sands or imported equivalent of coarser sand provided they have a Sand Equivalent greater than or equal to 30 as determined by ASTM D2419 test method. Specifications for placement of trench backfill shall be adhered to and are presented in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.	
	g. Expansive Soils Considerations	
	4.1-40 The measures presented in Table E1, Minimum Foundation and Slab Recommendations for Expansive Soils, in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, shall be implemented to minimize the effects of soil expansion potential. It is anticipated that compacted fill from the on-site materials will have a very low to medium expansion potential. The expansion potential of the site soils exposed at rough grade shall be tested again after site grading is complete and the final foundation design shall be based on those expansion test results.	
	h. Corrosivity and Chemical Attack Considerations	
	4.1-41 On-site soils classify as severely corrosive to corrosive to buried metals per County of Los Angeles classification. Pending additional testing, either Type I or II cement may be considered for use in concrete placed in contact with the ground. Mitigating measures for soil corrosivity shall be finalized by the Project Engineer based on additional confirmatory tests that shall be performed at the Grading Plan stage. Final recommendations for concrete shall be in accordance with the latest UBC requirements, and a corrosion specialist shall provide mitigating recommendations for potential corrosion of metals in contact with on-site soils prior to issuance of a Grading Permit.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts		Recommended Mitigation Measures	Residual Impact
4.2 FLOOD			
The project site is located within an unnamed approximately 835-acre tributary watershed of the 1,624 square mile Santa Clara River basin. The Santa Clara River traverses the southern portion of the site. Site clearing and grading operations have the potential to discharge sediment downstream during storm events. Temporary erosion control measures in disturbed areas of the site during the construction phase of the project are proposed to reduce this potential impact to less than significant. Once developed consistently with the proposed Drainage Concept, the Riverpark project would reduce post-development storm water flows from the approximately 835-acre tributary watershed compared to existing conditions during a 50-year Capital Storm event. Specifically, the amount of burned and bulked runoff from the watershed would decrease from 2,225 cubic feet per second (cfs) to 2,1121 cfs, while the amount of debris volume would be reduced from 31,770 cubic yards (cy) to 15,558 cy. This 51 percent reduction in debris volume would be due to upstream debris basins proposed within the site and to the reduction in erosive areas on the site that contribute sediment and debris to the runoff. Implementation of the proposed Drainage Concept would meet the flood control requirements of the City of Santa Clarita and the Flood Control and Watershed Management Divisions of the Los Angeles County Department of Public Works and would reduce impacts to less than significant. There would be no appreciable increases in eroded areas of the riverbed due to buildout of the study area during the 2- 5- and 10-year storm events, and there would be a decrease in eroded areas during the 20-year and greater storm events. Therefore no significant stream erosion and debris deposition impacts are anticipated due to the project.	**a.**	**Mitigation Measures Already Incorporated into the Project** 4.2-1 The on-site storm drains (pipes and reinforced concrete boxes) and open channels shall be designed and constructed for either the 25-year or 50-year Capital Storm. 4.2-2 Debris basins shall be constructed pursuant to Los Angeles County Department of Public Works requirements to intercept flows from undeveloped areas entering into the developed portions of the site. 4.2-3 Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed as required by LACDPW at outlet locations to reduce velocities of runoff into the channel where necessary to prevent erosion. 4.2-4 Approximately 6,000 linear feet of buried bank stabilization shall be constructed along the Santa Clara River for residential, park and commercial project development (not including approximately 1,500 feet of toe protection [e.g. A-Jacks™, soil cement or equivalent]), and approximately 3,000 linear feet to allow for the construction of Newhall Ranch Road. Additionally, bridge abutments and piers shall be constructed for the Newhall Ranch Road/Golden Valley Road Bridge.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.2 FLOOD (continued)		
	4.2-5 The project shall comply with applicable mitigation measures of the Natural River Management Plan.	
	4.2-6 The project is required to comply with the RWQCBLAR Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001), and with the State's General Construction Activity Storm Water Permit, California State Water Resources Control Board Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) No. CAS000002, reissued on April 17, 1997, as amended.	
	b. Mitigation for Construction Impacts	
	4.2-7 All on- and off-site flood control improvements necessary to serve the project are to be constructed to the satisfaction of the City of Santa Clarita and/or County of Los Angeles Department of Public Works Flood Control Division.	
	4.2-8 Prior to start of soil-disturbing activities at the site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in accordance with and in order to partially fulfill the California State Water Resources Control Board Order No. 99-08-DWQ, NPDES General Permit No. CAS000002 (General Construction Permit). The SWPPP shall meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP shall be certified the City of Santa Clarita in accordance with the signatory requirements of the General Construction Permit and implemented concurrently with commencement of the soil-disturbing activity.	
	4.2-9 Per the April 26, 2001 modification to the General Construction Permit, a contingency "Sampling and Analysis Plan" shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the storm events to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.2 FLOOD (continued)		
	4.2-10 Following the completion of the construction project and when the site has been stabilized, a Notice of Termination shall be filed with the RWQCBLAR. 4.2-11 During all construction phases, temporary erosion control to retain soil and sediment on the site shall be implemented, including: • re-vegetating exposed areas as quickly as possible; • minimizing disturbed areas; • diverting runoff from downstream drainages with earth dikes, temporary drains, slope drains, etc.; • velocity reduction through outlet protection, check dams, and slope roughening/terracing; • dust control measures, such as sand fences, watering, etc.; • stabilizing all disturbed areas with blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, and/or other erosion resistant soil coverings or treatments; • stabilizing the construction entrance/exist with aggregate underdrain with filter cloth or other comparable method; • placing sediment control BMPs at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season (sediment control BMPs may include filtration devices and barriers, such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters, and/or with settling devices, such as sediment traps or basins; and/or • eliminating or reducing, to the extent feasible, non-storm water discharges (e.g., pipe flushing, and fire hydrant flushing, over-watering during dust control, vehicle and equipment wash down) from the construction site through the use of appropriate sediment control BMPs. 4.2-12 All necessary permits, agreements, letters of exemption, or a Verification Request Letter from the ACOE and/or the CDFG for project-related development are to be obtained prior to issuance of grading permits. 4.2-13 By October 1st of each year, a separate erosion control plan for construction activities shall be submitted to the local municipality describing the erosion control measures that will be implemented during the rainy season (October 1 through April 15).	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.2 FLOOD (continued)		
	c. Mitigation Measures for Operational Impacts	
	4.2-14 A final developed condition hydrology analysis shall be prepared in conjunction with final project design when precise engineering occurs. This final analysis will be done to confirm that the final project design is consistent with this analysis. Those final calculations shall establish design features for the project that satisfy the criterion that post-development peak storm water runoff discharge rates, velocities, and duration in natural drainage systems mimic pre-development conditions. All elements of the storm drain system shall conform to the policies and standards of the Los Angeles County Department of Public Works, Flood Control Division, as applicable.	
	4.2-15 Ultimate project hydrology and debris production calculations shall be prepared by a project engineer to verify the requirements for debris basins and/or desilting inlets.	
	4.2-16 To reduce debris being discharged from the site, debris basins shall be designed and constructed pursuant to LACDPW Flood Control to intercept flows from undeveloped areas entering into the developed portions of the site.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.3 TRAFFIC/ACCESS At buildout, the proposed project development would generate 13,300 average daily trips. The Riverpark project is located within the Bouquet Canyon Bridge and Thoroughfare District (Bouquet B&T District). This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district. In summary, the District has been designed to accommodate the needs of future development anticipated by the City and County General Plans. Mitigation in the form of securing right-of-way for roadways improvements is proposed for four intersections and are considered currently infeasible: Pre-Interim Year (Occupancy of up to 500 units, without Newhall Ranch Road/Golden Valley Road Bridge) • Valencia Boulevard/Magic Mountain Parkway Interim Year (Full-Buildout of Project) • Valencia Boulevard/Magic Mountain Parkway • Bouquet Canyon Road/Soledad Canyon Road • Seco Canyon Road/Bouquet Canyon Road • Whites Canyon Road/Soledad Canyon Road	**a. On-Site Mitigation Measures** 4.3-1 The project applicant shall construct all on-site local roadways and intersections to City of Santa Clarita standards. 4.3-2 Two future major arterial roadways pass through the project site (Newhall Ranch Road and Santa Clarita Parkway) and are identified as traffic improvements in the Bouquet Bridge and Thoroughfare District. The project shall construct the portions of these arterials that are located within the site boundary to accommodate the project generated traffic; that is a total of two vehicular lanes (one in each direction) on both Newhall Ranch Road and Santa Clarita Parkway. Santa Clarita Parkway shall be extended from its intersection with Newhall Ranch Road, south approximately 1,500 linear feet. The applicant can occupy up to 500 units with the construction of an extension of Newhall Ranch Road easterly to the furthest access point needed for the 500 units. This extension of Newhall Ranch Road for the occupancy of 500 units shall include a total of two vehicular lanes (one in each direction). Prior to occupancy of the 501st unit, Newhall Ranch Road from Bouquet Canyon Road to the Soledad Canyon Road "flyover," including the Newhall Ranch Road/Golden Valley Bridge, shall be constructed and operational with a total of two vehicular lanes (one in each direction). **b. Off-Site Mitigation Measures** **Pre-Interim Year** 4.3-3 Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible). 4.3-4 Bouquet Canyon Road & Soledad Canyon Road: Temporary configuration to consist of 3 Southbound Left-Turn Lanes and 2 Southbound Through Lanes. Would revert to 2 Southbound Left-Turn Lanes and 3 Southbound Through Lanes (existing configuration) when Cross-Valley Connector is completed.	Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.3 TRAFFIC/ACCESS (continued)		
	4.3-5 Seco Canyon Road & Bouquet Canyon Road: Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn/Right-Turn Lane, 1 Right-Turn Lane). The improvements at the Bouquet Canyon Road/Soledad Canyon Road intersection consist of reconfiguring the southbound approach to include three left-turn lanes and two through lanes.	
	4.3-6 Bouquet Canyon Road/Newhall Ranch Road: Add 2nd Southbound Left-Turn Lane; Temporary configuration to consist of 3 Northbound Left-Turn Lanes, 3 Northbound Through Lanes and 2 Westbound Right-Turn Lanes. Will revert to 2 Northbound Left-Turn Lanes, 4 Northbound Through Lanes, and 1 Westbound Right-Turn Lane (existing configuration) when Cross-Valley Connector is completed.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts		Recommended Mitigation Measures	Residual Impact
4.3 TRAFFIC/ACCESS (continued)			
Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the above-identified four intersections for the following reasons. First, the identified mitigation requires the acquisition of additional property for right-of-way, property not controlled by the applicant. Eminent domain may reasonably be seen as necessary to make the necessary acquisitions. Second, the mitigation would require relocation of on-site improvements on properties at the affected intersections. Finally, the mitigation could force the relocation of existing businesses at the affected intersections. Affected intersections are illustrated with photographs depicting right-of-way encroachment in **Appendix 4.3, Traffic/Access**.			
The City has determined that the affected intersections are built-out and generally recognizes the infeasibility of additional improvements at such intersection, with the exception of the Bouquet Canyon Road/Soledad Canyon Road intersection. The Bouquet Canyon Road/Soledad Canyon Road intersection improvements are expected to occur in Spring 2004. Upon completion of these improvements, this intersection will be considered built out. The City of Santa Clarita General Plan Circulation Element states, "Existing street improvements are, in some cases, not able to be modified to accommodate additional traffic or circulation movements due to right-of-way limitations and existing development."			
		Interim Year	
	4.3-7	McBean Parkway & Newhall Ranch Road: Add 4th Eastbound Through Lane. Add 4th Westbound Through lane.	Significant
	4.3-8	Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible).	
	4.3-9	Seco Canyon Road & Bouquet Canyon Road: Add 1st Westbound Right-Turn Lane (requires right-of-way, presently infeasible). Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn Lane/Right-Turn Lane, 1 Right-Turn Lane).	
	4.3-10	Bouquet Canyon Road & Soledad Canyon Road: Add 4th Northbound Through Lane. (Requires right-of-way on Southeast Corner of Intersection along Bouquet Canyon Road, presently infeasible.)	
	4.3-11	Bouquet Canyon Road & Newhall Ranch Road: Add 4th Eastbound Through Lane and Add 4th Westbound Through Lane.	
	4.3-12	Whites Canyon & Soledad Canyon Road: Add 2nd dedicated Northbound Left-Turn Lane & convert shared Northbound Left-Turn/Through Lane to 3rd dedicated Through Lane (requires right-of-way on southeast side of intersection along Whites Canyon Road, presently infeasible) or Add 1st Eastbound Right-Turn Lane (requires right-of-way on southwest corner of intersection along Soledad Canyon Road, presently infeasible).	
		Alternative Interim Year (Not a Part of the Proposed Project)	
	4.3-13	McBean Parkway & Newhall Ranch Road: Add 4th Eastbound Through Lane. Add 4th Westbound Through Lane.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.3 TRAFFIC/ACCESS		
This language in the adopted General Plan acknowledges that the benefits of improvements at such intersections are not outweighed by a combination of the potential time and cost of actions that may necessary to acquire the property, the physical and economic costs to businesses at the affected intersections, and the social costs that could occur if businesses were forced to relocate in order to continue to operate. Consequently, these improvements will not be able to be made and impacts would be unavoidable and significant and a statement of overriding considerations would be necessary.	4.3-14 Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible).	
	4.3-15 Seco Canyon Road & Bouquet Canyon Road: Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn Lane/Right-Turn Lane, 1 Right-Turn Lane).	
	4.3-16 Bouquet Canyon Road & Soledad Canyon Road: Add 4th Northbound Through lane (requires right-of-way on Southeast Corner of Intersection along Bouquet Canyon Road, presently infeasible).	
	4.3-17 Bouquet Canyon Road and Newhall Ranch Road: Add 4th Eastbound Through Lane Add 4th Westbound Through Lane.	
	c. Other Mitigation	
	4.3-18 Applicable transit mitigation fees will be paid at the time of final map recordation.	
	4.3-19 If additional fixed route service will be needed near the project site in the future, as determined by the City of Santa Clarita, the project developer(s) shall coordinate with the transit provider to identify appropriate bus stop/turnout locations.	
	d. Cumulative Mitigation	
	4.3-20 The project shall fund its calculated fair share of improvements to augment the capacities of affected roadways.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY Construction-related emissions would be generated by on-site stationary sources, on- and off-road heavy-duty construction vehicles, and construction worker vehicles. Operation-related emissions would be generated by on-site and off-site stationary sources and by mobile sources. During the 51-month construction phase, emissions of carbon monoxide (CO), volatile organic compounds (VOC), oxides of nitrogen (NO_x) and particulate matter (10 micron) (PM_{10}) would exceed thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD) for approximately 13, 36, 26, and 12 months, respectively. At project buildout, operational emissions of CO, VOC, NO_x, and PM_{10} would exceed SCAQMD thresholds, primarily due to mobile source emissions in the summertime and, in the wintertime, to mobile source and fireplace/wood-burning stove emissions. Feasible mitigation measures would be implemented that would reduce construction-related and operational-related emissions to the maximum extent feasible. However, no feasible mitigation exists which would reduce the project's construction-related emissions of VOC, NO_x, or PM_{10} to below the SCAQMD's recommended thresholds of significance. No feasible mitigation exists to reduce the project's operational emissions of CO, VOC, or NO_x to less than significant. Therefore, the project's construction-related and operation-related emissions would be considered unavoidably significant.	The SCAQMD has also prepared a list of measures that could be implemented by new projects to reduce the impacts of operation-related emissions. Measures already incorporated in the project include retail services in close proximity to a residential subdivision; constructing off-site bicycle trails linking the project to designated bicycle routes; providing through paseos a safe, pedestrian-friendly environment; bus stops and providing shade trees to reduce building heating/cooling needs. **a. Mitigation for Construction Impacts** The SCAQMD has prepared a list of measures to reduce the impacts of construction-related emissions to the greatest extent possible. Those that could be feasibly implemented during the development of the project are as follows: 4.1-1 To the maximum extent feasible, develop and implement a construction management plan, as approved by the City, which includes the following measures recommended by the SCAQMD, or equivalently effective measures approved by the SCAQMD: a. Configure construction parking to minimize traffic interference. b. Provide temporary traffic controls during all phases of construction activities to maintain traffic flow (e.g., flag person). c. Schedule construction activities that affect traffic flow on the arterial system to off-peak hours. d. Re-route construction trucks away from congested streets.	Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts		Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY (continued)			
		e. Consolidate truck deliveries when possible. f. Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site. g. Maintain equipment and vehicle engines in good condition and in proper tune as per manufacturers' specifications and per SCAQMD rules, to minimize exhaust emissions. h. Suspend use of all construction equipment operations during second stage smog alerts. Contact the SCAQMD at 800/242-4022 for daily forecasts. i. Use electricity from power poles rather than temporary diesel- or gasoline-powered generators. j. Use methanol- or natural gas-powered mobile equipment and pile drivers instead of diesel if readily available at competitive prices. k. Use propane- or butane-powered on-site mobile equipment instead of gasoline if readily available at competitive prices.	
The SCAQMD's criteria of annual emission reductions of one percent for CO, VOC, NO_x, PM_{10}, and oxides of sulfur (SO_x), were used to assess cumulative air quality impacts. Through site planning, proposed design features, and with implementation of the mitigation measures recommended in this section, the project would reduce wintertime emissions for CO, VOC, NO_x, and PM_{10} by 75.3, 91.8, 29.5, and 85.3 percent, respectively. During the summer, these emissions would be reduced by 4.6, 17.7, 9.3, and 4.2 percent, respectively. Therefore, cumulative air quality impacts would not be significant given the cumulative project thresholds of significance of the SCAQMD's CEQA Air Quality Guidelines, and the fact that the project's population forecast is consistent with the SCAQMD's 2003 Air Quality Management Plan. However, because the project's operational-related CO, VOC, NO_x, and PM_{10} emissions would exceed the SCAQMD's project-specific thresholds of significance, even with all feasible mitigation, project implementation will result in a cumulatively significant and unavoidable air quality impact. This is considered a conservative and "worst-case" approach for estimating the project's cumulative air quality impacts.		4.4-2 To the maximum extent feasible, develop and implement a dust control plan, as approved by the City, which includes the following measures recommended by the SCAQMD, or equivalently effective measures approved by the SCAQMD: a. Apply approved non-toxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas inactive for four days or more). b. Replace ground cover in disturbed areas as quickly as possible. c. Enclose, cover, water twice daily, or apply approved soil binders to exposed piles (i.e., gravel, sand, dirt) according to manufacturers' specifications. d. Water active grading sites at least twice daily. e. Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph. f. Provide temporary wind fencing consisting of 3- to 5-foot barriers with 50 percent or less porosity along the perimeter of sites that have been cleared or are being graded. g. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY (continued)	h. Sweep streets at the end of the day if visible soil material is carried over to adjacent roads (recommend water sweepers using reclaimed water if readily available). i. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. j. Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces. k. Enforce traffic speed limits of 15 mph or less on all unpaved roads. l. Pave construction roads when the specific roadway path would be utilized for 120 days or more. 4.4-3 Comply with Title 24 of the UBC energy conservation requirements. 4.4-4 Restaurants with an under-fired charbroiler shall obtain a permit from the SCAQMD prior to an issuance of an occupancy permit. 4.4-5 Gas stations shall obtain a permit from the SCAQMD prior to issuance of an occupancy permit. 4.4-6 Any dry cleaners proposing to locate on site shall conduct cleaning operations at an off-site previously SCAQMD permitted location. No on-site dry cleaning operations will be permitted to occupy space in the commercial area. 4.4-7 Applicable transit mitigation fees shall be paid at the time of final map recordation. 4.4-8 All on- and off-road construction equipment shall to the extent feasible, as determined by the City of Santa Clarita use aqueous fuel. Aqueous fuel is a stable emulsion of up to 55 percent water and petroleum-based naphtha (a petroleum product from the earliest stages of the refinery process), with trace amounts of bonding and winterizing agents. It can be used to run both gasoline and diesel engines. Aqueous fuel is clean-burning and, based on information provided in the URBEMIS2002 model for its use in construction equipment, it can reduce NO_x emissions by 14 percent and PM_{10} emissions by 63 percent.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY (continued)		
	4.4-9 All on- and off-road construction equipment shall, to the extent feasible as determined by the City of Santa Clarita, employ cooled exhaust gas recirculation technology. Cooled exhaust gas recirculation (EGR) reduces CO, VOC, NO_x, and PM_{10} emissions as follows: Oxygen is required for fuel to be burnt in a combustion engine. The high temperatures found within combustion engines cause nitrogen in the surrounding air to react with any unused oxygen from the combustion process to form NO_x. EGR technology directs some of the exhaust gases that have already been used by the engine and no longer contain much oxygen back into the intake of the engine. By mixing the exhaust gases with fresh air, the amount of oxygen entering the engine is reduced. Since there is less oxygen to react with, fewer nitrogen oxides are formed, the amount of nitrogen oxides that a vehicle releases into the atmosphere is decreased. Based on information provided in the URBEMIS2002 model for its use in construction equipment, cooled exhaust gas recirculation technology can reduce CO and VOC emissions by 90 percent, NO_x emissions by 40 percent and PM_{10} emissions by 85 percent. Because **Mitigation Measures 4.4-8** and **4.4-9** are based on technology unproven on a large scale, these mitigation measures may be infeasible. **b. Mitigation for Operation Impacts** **Stationary Sources** The following are additional SCAQMD measures and others that may be feasibly implemented by the project. Other potential measures listed in the CEQA Air Quality Handbook were not applicable to the project due to the type or size of proposed development and were considered infeasible. These measures are identified in the Estimated Emissions Reductions Efficiencies spreadsheet in **Appendix 4.4** along with explanations of why they are infeasible and not applicable to the project. 4.4-10 Utilize low emission water heaters in residential and commercial uses to reduce natural gas consumption and emissions. 4.4-11 Residential uses are to utilize built-in energy-efficient appliances (e.g., stoves, ovens, refrigerators) to reduce energy consumption and emissions.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY (continued)		
	4.4-12 Residential uses are to utilize energy-efficient and automated controls for air conditioners to reduce energy consumption and emissions.	
	4.4-13 Wood-burning fireplaces and stoves shall be prohibited in all residential units. Use of wood in fireplaces and wood-burning stoves shall be prohibited through project CC&Rs. Permits shall not be issued by the City of Santa Clarita for wood-burning stoves.	
	4.4-14 Install special sunlight-filtering window coatings or double-paned windows in residential uses to reduce thermal gain or loss.	
	4.4-15 Utilize automatic lighting on/off controls and energy-efficient lighting in new residential common area construction (including parking areas) to reduce electricity consumption and associated emissions.	
	4.4-16 To the extent feasible, orient living spaces in residential structures so they face to the north.	
	4.4-17 Use light-colored roofing materials in new residential construction as opposed to dark roofing materials. These materials would reflect, rather than absorb, sunlight and minimize heat gains in buildings. This measure would lessen the overall demand for mechanical air conditioning systems.	
	4.4-18 Multi-family and commercial uses shall use central water heating systems.	
	Mobile Sources	
	4.4-19 If Santa Clarita Transit determines that additional fixed route service will be needed near the project site in the future, the project developer(s) shall coordinate with the transit provider to identify and provide for appropriate bus stop/turnout locations.	
	4.4-20 Synchronize traffic lights on streets impacted by project development.	
	4.4-21 The project applicant shall construct bicycle facility improvements, such as bike lanes in roadways and wider-than-required sidewalks with bike paths within and adjacent to residential subdivisions at the time the roads are constructed.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.4 AIR QUALITY (continued)		
	4.4-22 Kiosks with local transit and Metrolink information shall be constructed by the project applicant adjacent to selected future bus stops prior to initiation of bus service to the site.	
	4.4-23 The sellers of new residential units shall distribute brochures and other relevant information published by the SCAQMD or similar organization to new homeowners regarding the importance of reducing vehicle miles traveled, energy saving appliances, and related air quality impacts, as well as information on local opportunities for public transit and ridesharing.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts		Recommended Mitigation Measures	Residual Impact
4.5 NOISE			
Mitigation measures recommended to reduce construction-related noise impacts would reduce the magnitude of those impacts; however, the potential for construction-related noise levels to exceed normally acceptable noise levels in the Noise Element Guidelines would remain. Therefore, construction-related noise impacts are considered unavoidably significant. Even with construction of the sound walls as proposed and with implementation of the mitigation measures recommended in this section, the project would result in unavoidably significant long-term mobile source noise impacts both on and off the project site. In addition, should they occur, on-site noise levels in excess of 55 dB(A) CNEL from activities at Saugus Speedway would be unavoidably significant under Section 11.44.040 of the Noise Ordinance. Because noise levels at many sensitive receptors in the project study area already exceed normally acceptable levels under the Noise Element's Noise and Land Use Compatibility Guidelines, any noise increases as a result of cumulative projects would result in significant and unavoidable noise impacts at sensitive receptors along the following roadway segments: • Bouquet Canyon Road n/o Newhall Ranch Road, • Bouquet Canyon Road e/o Seco Canyon Road, • Bouquet Canyon Road e/o Santa Clarita Parkway, • Bouquet Canyon Road s/o Soledad Canyon Road, • Golden Valley Road w/o SR-14, • Magic Mountain Parkway w/o San Fernando Road, • Newhall Ranch Road w/o Hillsborough Way, • Newhall Ranch Road w/o Bouquet Canyon Road, • Rainbow Glen Drive s/o Soledad Canyon Road, • Seco Canyon Road n/o Bouquet Canyon Road, • Soledad Canyon Road e/o Santa Clarita Parkway, • Soledad Canyon Road e/o Rainbow Glen Drive, • Soledad Canyon Road w/o Whites Canyon, • Valencia Boulevard s/o Magic Mountain Parkway, • Via Princessa e/o Rainbow Glen Drive, • Via Princessa w/o Whites Canyon Road, and • Whites Canyon Road n/o Soledad Canyon Road.	**a.**	**Mitigation Measures Already Incorporated into the Project**	Significant
	4.5-1	Lots 1 and 2 (Area A1): A 6-foot high continuous solid masonry wall along the rear yard lot lines of Lots 1 and 2 and wrapping around Lot 1 to "C" Street.	
	4.5-2	Lots 56, 57, and 60 to 72 (Area A1): A 7-foot high masonry wall and 3-foot high continuous berm along the rear yards of Lots 56, 57, and 60 to 72, wrapping around the rear yard of Lot 56 as it backs on to "A" Street.	
	4.5-3	Lots 158 to 176 (Area A1): A 7-foot high masonry wall and 3-foot high continuous berm along Newhall Ranch Road and the western lot line of Lot 176.	
	4.5-4	Lot 132 (Area A1): A 6-foot high continuous solid masonry wall along Newhall Ranch Road extending approximately 200 feet easterly from the 10-foot wall/berm at the northeastern corner of Lot 158.	
	4.5-5	Lots 251 to 260 (Area A2): A 7-foot high masonry wall and 3-foot high continuous berm along the western edge of Santa Clarita Parkway from a point across from "Q" Street to the southeastern corner of Lot 251, wrapping continuously around the southern lot line of Lot 251.	
	4.5-6	Lots 294, 295, 313, 314, 337, and 338 (Area A2): A 6-foot high continuous solid masonry wall along the property lines of Lots 294, 295, 313, 314, 337, and 338 along Santa Clarita Parkway at the proposed pad elevations for each lot.	
	4.5-7	Lots 368, 375 to 378 (Area B): A 6-foot high continuous solid masonry wall along the side and rear of Lot 368, and the rear lot lines of Lots 375 to 378.	
	4.5-8	Lot 457 (Area B): A 6-foot high continuous solid wall along the southern rear yard of Lot 457 that backs onto "R" Street.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.5 NOISE (continued)		
	4.5-9 Lots 441, 442, 448, 449, 456, and 457 (Area B): A 7-foot high masonry wall and 3-foot high continuous berm along Santa Clarita Parkway along Lots 441, 442, 448, 449, 456, and 457. The berm/masonry wall also "wraps around" the northern boundary of Lot 441 as it backs onto "Q" Street.	
	4.5-10 Lot 434 (Area B): A 6-foot high continuous solid masonry wall along the southern boundary of Lot 4334 as it backs onto "Q" Street.	
	4.5-11 Lots 421 to 434 (Area B): A 7-foot high masonry wall and 3-foot high continuous berm along the rear lot lines of Lots 421 to 434 that back onto Santa Clarita Parkway and Newhall Ranch Road.	
	4.5-12 Area B: A 7-foot high masonry wall and 3-foot high continuous berm along Newhall Ranch Road from the northeastern corner of Lot 421 to the northwestern corner of Lot 513.	
	4.5-13 Lot 521 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 521 with Newhall Ranch Road and "wrapping around" the driveway entrance for a distance of approximately 150 feet.	
	4.5-14 Lot 519 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 519 with Newhall Ranch Road and Future Golden Valley Road, and "wrapping around" the driveway entrance for a distance of approximately 150 feet.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.5 NOISE (continued)		
	b. Construction Noise Mitigation	
	4.5-15 Pursuant to Section 11.44.080 of the City's Noise Ordinance, no construction work shall occur within 300 feet of occupied residences except between the hours of 7:00 AM and 7:00 PM Monday through Friday, and between 8:00 AM and 6:00 PM on Saturday. No construction work shall occur on Sundays, New Year's Day, Independence Day, Thanksgiving Day, Christmas Day, Memorial Day, and Labor Day.	
	4.5-16 When construction operations occur within 300 feet of on- or off-site occupied residences, and when it is determined by City staff during routine construction site inspections that the construction equipment could generate a noise level at those residences that would be in excess of normally acceptable noise levels of the City's Noise and Land Use Compatibility Guidelines, implement appropriate additional noise reduction measures. These measures shall include among other things changing the location of stationary construction equipment, shutting off idling equipment, notifying residents in advance of construction work, and installing temporary acoustic barriers around stationary construction noise sources.	
	4.5-17 Locate construction staging areas on site to maximize the distance between staging areas and occupied on- and off-site residences, including those within the adjacent mobile home park and the Emblem tract.	
	c. Operational Noise Mitigation	
	In addition to the traffic mitigation measures included in **Section 4.3, Traffic/Access**, the following measures are recommended to ensure that operational noise levels, experienced at buildout with future traffic volumes, do not exceed the normally acceptable noise levels set forth in the Noise Element Guidelines.	
	4.5-18 Lot 60 (Area A1): A 6-foot high continuous masonry wall shall be constructed along the western side yard of Lot 60.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.5 NOISE (continued)		
	4.5-19 Balconies are considered exterior living areas and must also meet the exterior noise standard. Therefore, balconies shall either be discouraged on residential units where they would be exposed to exterior noise levels greater than the 60 dB(A) CNEL standard for single family residences or the 65 dB(A) CNEL standard for multi-family residences through architectural or site design, or balconies in such areas shall be enclosed by solid noise barriers, such as 3/8-inch glass or 5/8-inch Plexiglas to a height specified by a qualified noise consultant.	
	4.5-20 Interior noise environments of all residential units within the project shall not exceed 45 dB(A).	
	4.5-21 Prior to issuance of building permits, a detailed acoustic analysis shall be performed for all residence in areas subject to noise levels in excess of normally acceptable noise levels for that use. The analysis shall be based upon final site grades, building orientation, and noise exposure, and shall specify all practical noise insulation features necessary to ensure interior residential noise environments do not exceed 45 dB(A). These noise insulation features may include, but are not limited to, the following: a. All windows, both fixed and operable, shall consist of either double-strength glass or double-paned glass. All windows facing sound waves generated from the mobile source noise shall be manufactured and installed to specifications that prevent any sound from window vibration caused by the noise source. b. Doors shall solid core and shall be acoustically designed with gasketed stops and integral drop seals. c. If necessitated by the architectural design of a structure, special insulation or design features shall be installed to meet the required interior ambient noise level. d. The exterior walls of living areas shall be of a special type construction and/or include special insulation, depending on the maximum ambient noise levels generated at any time in a particular area.	
	4.5-22 Air conditioning units shall be installed to serve all living areas of all residences with direct lines of sight to Newhall Ranch Road, Santa Clarita Parkway, Golden Valley Parkway, or Soledad Canyon Road.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.5 NOISE		
	4.5-23 Delivery Truck Noise Impacts on Lot 525 (Area D): A minimum 6-foot high solid masonry wall with a 2-foot berm shall be constructed along the western edge of Lot 525 (multi-family, Area D) between the off-site commercial use to the west and the apartment units.	
	4.5-24 Prior to final map approval, another noise impact analysis on the tract shall be performed by a qualified acoustical consultant to ensure noise levels within the project are consistent with this analysis and the City's Noise Element Guidelines.	
	4.5-25 Prior to sale of any single-family residential lot within Riverpark, future homeowners shall be informed via language in the disclosure documents the presence of the Saugus Speedway facility, the types of events that can potentially occur at the speedway, the expected frequency of their occurrence, and that noise from events at the speedway may be intermittently audible at their properties during daytime, evening, and late night hours.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES All impacts that are associated with the implementation of this proposed project can be mitigated to a level less than significant except the following: • The total net loss of 280 acres of wildlife habitat/natural open space as a result of conversion of undeveloped property to developed. Though over 400 acres of the site will remain as open space and some of the habitat can be restored and enhanced within remaining open space areas of the site, and measures exist to replace the loss of some habitat, there will still be a net loss of habitat for wildlife and open space that cannot be replaced. This net loss represents a significant unavoidable impact. • Impacts to riverine habitat (as identified by the resource line) and associated riverbed. While riparian vegetation can be planted and enhanced along preserved portions of the river, there will still be a net loss of 25.5 acres of riparian and riverbed habitat that ultimately cannot be replaced. This net loss represents a significant unavoidable impact. • Impacts to adjacent upland habitat within 100 feet of the riparian resource line. While the 100-foot setback threshold will be upheld in several areas along the river, this threshold will not be met along substantial portions of the project. Those portions of the project site that provide less than 100 feet of preserve upland habitat adjacent to the resource line represent a significant unavoidable impact.	**a. Mitigation Measures Incorporated into the Project** 4.6-1 To minimize significant impacts of the project on biological resources, the applicant has incorporated the following measures from the NRMP into this Draft EIR: a. Construction activities in the riverbed shall be restricted to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base of the rip-rap gunite or soil cement bank protection from where it intercepts the river bottom; (2) 100 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letter submitted to the ACOE and CDFG for individual project approval. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas. b. All native riparian trees in temporary construction areas with a 4-inch dbh or greater shall be replaced at a 3:1 ratio using 1 to 5 gallon container plants in the temporary construction areas in the winter following the construction disturbance. The growth and survival of the replacement trees shall meet the performance standards specified in later mitigation measures. In addition, the growth and survival of the planted trees shall be monitored for five years in accordance with the methods and reporting procedures specified in a later mitigation measure.	Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact

4.6 BIOLOGICAL RESOURCES (continued)

Indirect impacts associated with this cumulative project are not quantifiable but are reasonably foreseeable. Such impacts would come primarily through an increase in vehicular traffic across the bridge route itself and the increase light and glare cause by its use. Stormwater runoff from the bridge and roadway would also occur. Various pollutants related to vehicular traffic (e.g., rubber from tires, hydrocarbons from engine exhaust, etc.) would be expected to wash off the road surface into the river and degrade habitat if left unmitigated. Construction activities themselves would also be expected to temporarily and permanently impact habitat along the river corridor. As with the proposed project alone, impacts cause by this cumulative project would, in combination with the proposed project, result in significant indirect biological impacts. A total of 2.8 acres of habitat within Santa Clara River SEA will be disturbed or converted to urban use as a result of Santa Clarita Parkway Bridge construction. Approximately 0.5 acre will be temporarily disturbed as a result of proposed bank stabilization activities and will be replaced upon completion of the bank stabilization to protect the bridge structure. Within the SEA boundaries, a total of 1.5 acres of riverwash, 0.2 acre of southern riparian scrub, and 0.5 acres of disked field representing a total of 2.2 acres of SEA habitat will be permanently lost as a result of this cumulative project. The locations of these impacts are generally along the northern and southern bank of the Santa Clara in the central portion of the project site.

Because of the relatively small amount of each habitat type within the SEA to be removed, like with the proposed project, the permanent loss of an additional 2.2 acres of habitat within the SEA boundaries is not expected to detract from the overall integrity and value of the SEA, in and of itself. In particular, this loss of area will not adversely affect the unarmored three-spine stickleback, the state and federally listed Endangered fish species for which the SEA was originally designed to protect. However, because of the overall sensitivity of SEAs, and because any permanent loss of habitat within a SEA will effectively reduce the overall size of the SEA, any net loss of land within a SEA is considered a significant impact. Therefore, the permanent loss of an additional 2.2 acres of SEA habitat is considered a significant cumulative impact.

c. Native vegetation within temporary construction areas shall be mulched and spread over the temporary impact areas once construction is completed in order to facilitate revegetation. Areas temporarily disturbed by construction activities shall also be weeded annually, as needed, for up to five years following construction. These areas shall be annually monitored for five years after construction to document colonization by weeds and native plants. Weeds shall be removed by hand, an approved herbicide application, and/or by equipment. In the event that native plant cover does not reach 50 percent of the pre-construction native plant cover within three years, the applicant shall revegetate the temporary construction area in accordance with the methods specified in later mitigation measures. Annual monitoring reports on the status of the natural recovery of temporarily disturbed areas shall be submitted to the ACOE and CDFG as part of the Annual Mitigation Status Report and Mitigation Accounting Form to be submitted to the ACOE and CDFG by April 1st of each year.

d. Permanent removal of riparian habitats shall be replaced by creating riparian habitats of similar functions and values in the project area. Wetland restoration shall be in-kind and at a 1:1 replacement ratio (except as indicated in **Item f.**, below, for new habitat installed two years in advance of the removal of habitat at the construction site. If replacement habitat cannot be installed two years in advance of the project, the ratios listed below will apply. As described in **Item c**., lower replacement ratios may be appropriate if an ACOE-approved hydrogeomorphic method (HGM) of assessing replacement ratios indicates lower ratios would ensure replacement of habitat values and functions.

Timing Mitigation	Value of Habitat of Affected	Proposed Ratio Required for Revegetation
Habitat installation completed 2 years or more prior to construction impact	N/A	1:1
Habitat installation completed less than 2 years in advance of impact	Low	1:1
	Medium	2:1
	High	3:1

* High (NRMP EIS/EIR mapping units 1, 2, 3, 6), Medium (NRMP EIS/EIR mapping units 4, 7), Low (NRMP EIS/EIR mapping units 5, 8)

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued) Potentially significant cumulative impacts could occur to various environmental biological resources due to the combined impacts of the proposed project and following nearby projects: Santa Clarita Parkway extension, Tesoro del Valle, Newhall Ranch Specific Plan, West Creek, North Valencia II Specific Plan, Valencia Commerce Center, and Curtis Sand and Gravel Mine Expansion. These resources include upland habitats such as coastal sage scrub, oak trees, riparian habitat associated with Santa Clara River, wildlife movement corridors, special-status species (including unarmored three-spine stickleback and arroyo toad), resources within SEA 23, and increased use of sensitive riparian resources by human and domestic animals. Potentially significant cumulative impacts include loss of riparian habitat, disturbance of riparian wildlife habitat due to nearby urban development, and effects on habitat for the unarmored three-spine stickleback, least Bell's vireo, and the arroyo toad, when present. While most of these projects include the implementation of measures that will mitigate specific biological impacts, most will still result in a net loss of biological resources, particularly natural habitat areas. Because of the high biological value of riparian and wetland habitats and because of the continued loss of these habitats throughout the region, the proposed Riverpark project's contribution to this loss, although relatively small, is considered a significant cumulative impact, both to the vegetation community itself, as well as to its value to the riparian ecosystem. Because of the time it takes for oak trees to reach maturity and contribute biological values equal to that currently occurring on the site, and due to continued loss of these trees in the region, the project's contribution to this loss is considered a significant cumulative impact. Continued development in the area also cumulatively contributes to the increase of humans and domestic animals. Because of the substantial amount of disturbance to sensitive resource areas posed by this increase, the project's contribution to this increase is also considered cumulatively significant. Although the proposed project minimizes impacts to the biological resources within the SEA, the net loss of habitat within the SEA, combined with net losses of SEA habitats from other projects, effectively reduces the overall size of the SEA and is considered a significant cumulative impact.	e. Creation of new riparian habitats shall occur at suitable sites in or adjacent to the watercourses included in the NRMP. Habitat restoration sites in the riverbed shall only be located in areas where the predominant habitats present are dry open floodplain, weedy herbaceous, or their functional equivalent. The highest priority habitat restoration sites should be new riverbed areas created during the excavation of uplands for bank protection. Restoration sites may also occur at locations outside the riverbed where there is appropriate hydrologic conditions to create a self-sustaining riparian habitat and where upland and riparian habitat values are absent or very low. All sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian habitat. Candidate restoration sites shall be selected by the applicant described in the Annual Mitigation Status Report that will be submitted to the ACOE by April 1st of each year. Sites will be approved when restoration plans are submitted to the ACOE and CDFG as part of the Verification Request Letters submitted for individual projects, or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued) When the potential cumulative effects of the above mentioned projects are viewed from a regional wildlife movement perspective, the major movement corridors between the Santa Clara River Valley and the Santa Susana Mountains and Los Padres/Angeles National Forest lands would still be preserved. Therefore, no significant cumulative impacts would occur with respect to regional wildlife movement.	f. Replacement habitat shall be designed to replace the functions and values of the habitats being removed. At this time, the replacement habitat shall be restored in accordance with the acreage replacement ratios described in **Item a**. The replacement habitats shall have similar dominant trees and understory shrubs and herbs as the affected habitats. In addition, the replacement habitats shall be designed to replicate the density and structure of the affected habitats once the replacement habitats have reached mature status. Replacement ratios that are lower than those listed in **Item a**. may be used if an ACOE-approved hydrogeomorphic method (HGM) is applied in which habitat functions and values of both the affected habitat and the replacement habitat are quantified. g. Average plant spacing shall be determined based on an analysis of habitats to be replaced. Typical plant spacing is presented below for use in developing willow-cottonwood woodland habitat as an example only. The applicant shall develop similar tree spacing specifications for habitats to be restored. Plant spacing specifications shall be reviewed and approved by the ACOE and CDFG when restoration plans are submitted to the ACOE as part of the Verification Request Letters submitted to the ACOE and CDFG for individual projects or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.	

Species	Average Plant Spacing (feet)	Height (feet) After 3 years	Height (feet) After 5 years
Arroyo willow	8	10	15
Black willow	8-10	12	18
Sandbar willow	8	4	6
Red willow	8	9	15
Cottonwood	20	7	12

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	h. Each tree and shrub species used in restoration shall have a minimum of 80 percent survival after three years and 70 percent survivorship after five years. Key indicator tree species to be used in the riparian restoration program shall achieve a minimum growth at the end of three years and five years, as described above in **Item e**. Performance standards for cover shall be developed for each individual habitat type being created, based on the observed natural cover in undisturbed habitats in the project area. These standards shall be approved by the ACOE and CDFG after they have reviewed the Annual Mitigation Status Report and Mitigation Accounting Form Minimum growth, survivorship, and cover performance at the mitigation sites shall be measured based on random samples taken during years three and five at each individual mitigation site, or at other sampling intervals if the ACOE' hydrogeomorphic methodology is used by the applicant. i. If the minimum growth, survivorship, and/or cover are not achieved at the time of the three and five year evaluations, then the applicant shall be responsible for taking the appropriate corrective measures as to achieve the specified growth, survivorship, and/or cover criteria. The applicant shall be responsible for any costs incurred during the revegetation or in subsequent corrective measures. If acts of God (flood, fires, or drought) occur after the vegetation has met the three-year criteria for growth, survival, and cover, the applicant will not be responsible for replanting damaged areas. If these events occur prior to the plants meeting the three-year criteria, the applicant shall be responsible for replanting the area one time only. j. The applicant shall be responsible for weeding all restoration sites to prevent an infestation of non-native weeds for a period of five years after the initial habitat restoration, regardless of the success of the planted species. The cover of non-native plant species at the mitigation sites shall not exceed 10 percent at any time, within this five-year period.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	k. Temporary irrigation shall be installed, as necessary, for plant establishment. Irrigation shall continue as needed to meet the three and five-year performance criteria regarding survivorship and growth. Irrigation shall be terminated in the winter to provide the least stress to plants. Removal of the irrigation system shall occur in conjunction with an appropriate "weaning" procedures to minimize plant stress. Irrigation shall be terminated at the earliest opportunity after achieving the five-year criteria. l. As an alternative to the restoration of habitats to compensate for permanent removal of riparian habitats, the applicant (at the discretion of the ACOE and CDFG) may remove exotic plant species from the project area in locations: (1) where there is an infestation of exotics such as *Arundo donax* such that the natural habitat functions and values are substantially degraded and at risk, and where the cover of exotics is equal to or exceeds 25 percent of the ground; or (2) other areas where exotic removal would be strategic in a watershed approach to weed management, as determined by the ACOE and CDFG. The weed removal sites shall be selected in logical manner to ensure that the eradication of weeds from specific sites will contribute to the overall control of exotics in the NRMP watercourses. Removal areas shall be kept free of exotic plant species for five years after initial treatment. In addition, native riparian vegetation must become established through natural colonization and meet the revegetation plant cover goals established by the ACOE and CDFG under **Item f.** after five years. m The removal program shall utilize methods and procedures approved by the ACOE and CDFG to remove exotics, including but not limited to, mechanical equipment in specific areas, handcutting, and the application of herbicides to stumps. Exotic plant species removal credit will be given as shown below (except when weed removal is used to mitigate for loss of habitat for sensitive riparian bird species where the ACOE and CDFG may require higher ratios). Weed eradication plans shall be submitted to the ACOE and CDFG for approval as part of the Verification Request Letters submitted to the ACOE and CDFG. The plans shall describe the proposed methods and the conditions of the site to be treated. A monitoring program shall be implemented to document the effectiveness of the removal and the natural establishment of native vegetation in the weeded area.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact

4.6 BIOLOGICAL RESOURCES (continued)

Value of Riparian Habitat to be Removed	Mitigation Ratios for Exotic Removal: 2 Years in Advance	Mitigation Ratios for Exotic Removal: <2 Years in Advance
High (NRMP EIS/EIR mapping units 1, 2, 3, 6)	3:1	4:1
Medium (NRMP EIS/EIR mapping units 4, 7)	2:1	3:1
Low (NRMP EIS/EIR mapping units 5, 8)	1:1	2:1

n. Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, and/or bank protection, all construction sites and access roads within the riverbed, as well as all riverbed areas within 300 feet of the construction site and access road, shall be inspected by a qualified biologist for the presence of arroyo toads, unarmored three-spine stickleback and arroyo chub. The ACOE and the CDFG shall be notified of the inspection and shall have the option of attending. If either agency is not represented, the biologist shall file a written report of the inspection with the agency not in attendance within 14 days of the survey and no sooner than 30 days prior to any construction work in the riverbed.

o. Construction work areas and access roads shall be cleared of the species listed above immediately before the prescribed work is to be carried out, immediately before any equipment is moved into or through the stream or habitat areas, and immediately before diverting any stream water. The removal of such species shall be conducted by a qualified biologist using procedures approved by the ACOE and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas. A plan to relocate these species shall be submitted to the ACOE and CDFG for review and approval no later than 30 days prior to construction. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	p. All stream flows traversing a construction site or temporary access road shall be diverted around the site and under access roads (using a temporary culverts or crossings that allow fish passage). A temporary diversion channel shall be constructed using the least damaging method possible, such as blading a narrow pilot channel through an open sandy river bottom. The removal of wetland and riparian vegetation to construct the channel shall be avoided to the greatest extent feasible. The temporary channel shall be connected to a natural channel downstream of the construction site prior to diverting the stream. The integrity of the channel and diversion shall be maintained throughout the construction period. The original stream channel alignment shall be restored after construction, provided suitable conditions are present at the work site after construction. A temporary stream diversion plan shall be included in the Verification Request Letters submitted to the ACOE and CDFG. This procedure can only be implemented if: (1) there are assurances by the applicant that the fully protected unarmored three-spine stickleback will not be taken or possessed; or (2) USFWS personnel or their agents implement this measure. q. A qualified biologist shall be present when any stream diversion takes place, and shall patrol the areas both within, upstream, and downstream of the work area to rescue any species stranded by the diversion of the stream water. Species that are collected shall be relocated to suitable downstream of the work area. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	r. The removal of any riparian habitat suitable for breeding, nesting, foraging, and temporary usage during migration by special-status species from the project footprint (i.e., boundaries of temporary and permanent impacts) shall be mitigated through the creation or enhancement of similar riparian habitat at an approved mitigation site, or by the removal of exotic species from an area of existing similar habitat. The requirement for replacing suitable habitat by either creating new habitat or removing exotic species from existing habitat shall follow the replacement ratios and timing requirements in later mitigation measures. Habitat to be created to mitigate for the loss of riparian habitat shall be designed specifically to replicate the appropriate species mixture and vegetative structure for these species. Existing habitat to be weeded as mitigation for the loss of riparian habitat must be located adjacent to similar habitat that is to be replaced and infested with invasive weeds. The first priority for habitat mitigation for sensitive bird species will be the creation or restoration of habitat rather than weed removal. The final habitat replacement or exotic removal plans for impacts to these types of habitats shall be reviewed by the ACOE and CDFG. s. Beginning 30 or more days prior to the removal of any suitable riparian habitat that will occur during the riparian bird breeding and nesting season of March 15th through September 1st, the applicant shall arrange for weekly bird surveys to detect the above riparian bird species in the habitats to be removed, and any other such habitat within 300 feet of the construction work areas. The surveys shall be conducted by a qualified biologist using CDFG and/or USFWS survey protocols. The surveys shall continue on a weekly basis, with the last survey being conducted no more than 7 days prior to the initiation of construction work.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	t. In the event that a special-status species is observed in the habitats to be removed or in other habitats within 300 feet of the construction work areas, the applicant has the option of delaying all construction work in the suitable habitat or within 300 feet of the suitable habitat until after September 1st, or continuing the surveys in order to locate any nests. If an active nest is found, clearing and construction within 300 feet of the nest shall be postponed until the nest is vacated and juveniles have fledged, and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the ecological sensitivity of the area. u. Locating and determining the status of a nest shall be performed in accordance with approved procedures by the USSFWS and CDFG. The ACOE and CDFG shall be notified at least 14 days prior to the first scheduled survey and shall have the option of attending. Results of the surveys, including surveys to locate nests, shall be provided to the ACOE and CDFG no later than 5 days prior to construction. The results shall include a description of any nests located and measures to be implemented to avoid nest sites. No surveys will be necessary if the work is completed outside of the riparian bird breeding and nesting season, i.e., from September 1st through March 15th. v. Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to capture and relocate individual San Diego and California horned lizard, silvery legless lizard, coastal western whiptail, pallid bat, San Diego black-tailed jackrabbit, and San Diego desert woodrat in order to avoid or minimize take of these sensitive species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Pre-construction surveys shall only be conducted in areas dominated by Riversidian coastal sage scrub or coastal sage – chaparral scrub or if construction will occur within 300 feet of native upland habitat. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	w. Construction activities shall be limited to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base of the rip-rap or gunite bank protection where it intercepts the river bottom; (2) 60 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letters for individual projects that are submitted to the CDFG and ACOE. Any variation from these limits shall be noted, with a justification for a variation. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed, and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas. The boundaries of the construction site and any temporary access roads within the riverbed shall be marked in the field with stakes and flagging. No construction activities, vehicular access, equipment storage, stockpiling, or significant human intrusion shall occur outside the work area and access roads. x. Equipment shall not be operated in areas of ponded or flowing water unless there are no practicable alternative methods to accomplish the construction work, and only after prior approval by the CDFG and the ACOE. Approval shall be acquired by submitting a request to CDFG and ACOE no later than 30 days prior to construction. The request must contain a biological evaluation demonstrating that no sensitive fish, amphibians, and/or reptiles are currently present, or likely to be present during construction, at the construction site or along access roads.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	y. Temporary sediment retention ponds shall be constructed downstream of construction sites that are located in the riverbed under the following circumstances: (1) the construction site contains flowing or ponded water that drains off site into the undisturbed streamflow or ponds, as allowed for certain areas under **Item a.**, above; or (2) streamflow is diverted around the construction site, but the work is occurring in the period November 1st through April 15th when storm flows could inundate the construction site. The sediment ponds shall be constructed of riverbed material and shall prevent sediment-laden water from reaching undisturbed ponds or streamflows. To the extent feasible, ponds shall be located in barren or sandy river bottom areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-construction grades and substrate conditions within 30 days after construction has ended at that particular site. The location and design of sediment retention ponds shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared by the applicant for all construction activities that require a NPDES General Construction Activity Storm Water Permit. z. Installation of bridges, culverts, or other structures shall not impair movement of fish and aquatic life. Bottoms of temporary culverts shall be placed at or below channel grade. Bottoms of permanent culverts shall be placed below channel grade. aa. Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur. bb. Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 Permit or 1603 Agreement. cc. Silt settling basins, installed during the construction process, shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	dd. If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-project topographic conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice like area. The gradient of the streambed shall be returned to pre-project grade, to the extent practical, unless it is represents a wetland restoration area. ee. Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur. ff. Staging/storage areas for construction equipment and materials shall be located outside of the ordinary high water mark. gg. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. hh. Stationary equipment such as motors, pumps, generators, and welders which may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks shall be allowed in the riverbed. ii. The applicant shall use best efforts to ensure that no debris, bark, slash sawdust, rubbish, cement or concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature, shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the permit When construction operations are completed, any excess materials or debris shall be removed from the work area. jj. No equipment maintenance shall be done within or near any stream where petroleum products or other pollutants from the equipment may enter these areas with stream flow.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	kk. If water diversions are required to perform work within the Santa Clara River, the applicant shall utilize provisions for the protection of arroyo toad, unarmored three-spine stickleback, arroyo chub, Santa Ana sucker, southwestern pond turtle and two-striped garter snake, including securing appropriate Endangered species permits. Those provisions are as follows: • Prior to initiating construction, the site shall be inspected by a qualified biologist for the presence of the species listed above. The ACOE and the CDFG will be notified of the inspection and will have the option of attending. If either agency is not represented, the biologist will file a written report of the inspection with the agency not in attendance within ten days of completion of the survey. If any of the species listed above are present, the following conditions will apply: – The site shall be surveyed and cleared of the species listed above immediately before the work is to be carried out, immediately before any equipment is moved into or through the stream, and immediately before diverting any stream water. Any species found shall be moved out of the construction area and replaced in the stream in a manner or place to assure their survival. – Blocking nets, or fences with 1/4 inch square mesh, 18 inches high and buried 6 inches, shall be placed upstream and downstream of the work area to assure that none of the species move into the area. ll. A qualified biologist will be present at the moment any stream diversion takes place and will patrol the areas, both within and downstream of the work area, to rescue any species stranded by diversion of stream water. If the possibility exists that additional downstream sections of the stream will be dewatered, additional biologists will be available for downstream patrol. This rescue patrol will continue until all dewatered portions of the stream are determined to be cleared. mm Once the construction site or a portion of the site and work area boundary has been determined to contain none of the species listed above, the site shall be fenced with construction fencing along the riverside and construction personnel and equipment will not enter the river beyond the fence.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	nn. A water control system will be installed to intercept stream flow upstream of the site and carry it around the site. The system will be completed before turning water into it. The process of turning water into the bypass system shall be done so as to minimize sediment movement. • The Operator will use best efforts to insure that no debris, bark, slash, sawdust, rubbish, cement, concrete, or washings thereof, oil or petroleum products, or other organic material from construction or associated activity will be allowed to enter into or be placed where it may be washed by rainfall or runoff into the river. Sediment management best management practices shall be used during construction. • Impacts to Endangered species may require appropriate Endangered species permits. oo. Pilot channels constructed to divert flows around work areas shall be sized to maintain existing water velocities, with wide, shallow channels being utilized. The channel should be kept as small as possible, extending no more than 25 feet upstream and downstream of the work area. Construction of pilot channels should start downstream. Once water is diverted into the new channel, the original channel should be visually inspected and any stranded fish shall be removed and returned to the water downstream of the diversion. Once the diversion is no longer needed, the area shall be restored as closely as practical to its original configuration. pp. The use of a pump to divert flows around a work site is also acceptable. The pump must have at least a 1/4-inch screen. Water should be discharged downstream, within 25 feet of the work area. Any dams installed across flowing water for the diversion shall be removed upon completion of construction and the area shall be restored as closely as practical to its original configuration.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	qq. The Operator shall utilize a Maintenance Notification and Emergency Maintenance Notification forms (Exhibits 1 and 2 of the NRMP) to alert the ACOE and the CDFG of work to be performed. In non-emergency situations, the form should be filled out and faxed or mailed to the ACOE and the CDFG at least two weeks in advance of the work. If the work may adversely impact Endangered species, the ACOE, the CDFG and LACDPW shall meet in the field to resolve the issue. LACDPW may contact the ACOE and the CDFG to identify areas of potential Endangered species habitat. If the ACOE and the CDFG believe the work may adversely impact Endangered species or its habitat resources or the LACDPW wishes to consult with the ACOE and the CDFG, a field meeting will be scheduled. At the field meeting, the ACOE and the CDFG will provide information regarding Endangered or Threatened species that could be impacted by the project. If take of an Endangered species will occur, the appropriate Endangered species permits will be required. To the extent that a USFWS Section 7 and a CDFG Section 2081 Memorandum of Agreement have been completed for the species present, the mitigation measures shall be implemented and construction may proceed as outlined in these documents. rr. The notification is provided to demonstrate consistency with the policies of the NRMP. In non-emergency situations, the ACOE and the CDFG must respond to the notification within 20 working days if they believe that the work is inconsistent with the NRMP, at which time a field meeting will be scheduled to review the site and determine how the work may proceed. If the ACOE and the CDFG do not respond within 20 working days, the work shall proceed as described in the notification. However, appropriate Endangered species permits will be required for impacts to Endangered species.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	b. Mitigation Measures Recommended by this EIR	Not Significant
	Resource Management and Monitoring Plan	
	4.6-2 Prior to issuance of a Grading Permit for the project, the applicant shall obtain the services of a qualified biologist who must, at a minimum, have a degree in botany, biology, wildlife biology or ornithology and experience in developing management plans for the flora and fauna, plant community and wildlife habitats found in the Southern California area, to develop a RMMP to serve as a guideline for managing and monitoring mitigation areas for specific species, plant communities, jurisdictional resource areas, and habitats. The RMMP shall be submitted to the City of Santa Clarita Planning & Building Services at least 30 days prior to issuance of a grading permit for the project, and shall include the following: a. A **Planting Plan**, at a minimum, that lists all appropriate native plants to be included in all revegetation mitigation areas. The planting plan shall be developed by a qualified biologist as approved by the City. b. **Procedures** regarding the removal of non-native vegetation, planting of native vegetation, translocation of trees, planting of container stock, irrigation, and equipment use. c. **Maps** that illustrate the specific location of mitigation areas. d. **Procedures outlining monitoring and maintenance activities** including frequency and timing of monitoring visits, plant maintenance, and irrigation maintenance. e. **Specific criteria** that will specify what goals must be accomplished at each mitigation area before the mitigation is deemed a success. f. **Adaptive Management and Contingency actions** that will specify what actions will be taken in the event success criteria are not met. g. **The source of funding** that will be required to successfully carry out all procedures outlined in the RMMP.	
	4.6-3 Unless directed otherwise by a lead agency, responsible agency, or regulatory agency, the monitoring of results will be maintained for a period of five years. The frequency of monitoring visits may vary by task category, but generally quarterly visits are conducted for the first three years followed by two subsequent annual visits. An annual report shall be produced by the biologist conducting the monitoring activities and will be provided to the lead agency and appropriate regulatory agencies.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	ACOE Waters of the U.S. and CDFG Streambeds	Not Significant
	4.6-4 Newhall shall prepare an amendment or variance to the NRMP and mitigate in accordance with the above requirements.	
	Special-Status Plant Species	Not Significant
	Parry's larkspur, Slender and Plummer's mariposa lilies	
	4.6-5 To minimize direct loss of Parry's larkspur, slender and Plummer's mariposa lilies in areas subject to disturbance, additional field surveys to determine amount of area covered by these species and approximate densities shall be conducted during the appropriate blooming period for these species prior to site preparation and/or grading activities in areas potentially supporting this species. Locations of individual plants or plant populations shall be appropriately flagged and (1) seeds from a representative mix of individual plants shall be collected and sown in appropriate habitats, or on cut slopes, and (2) the bulbs shall be harvested and transplanted to areas of appropriate habitat which are not subject to further disturbance. The goal will be to produce replacement populations of in-kind plants reaching maturity, at a ratio of 1:1 with respect to the number and density of plants (estimated) to be lost. The areas to be preserved and maintained as open space within the Riverpark project site contain habitat suitable to support these species. All seed collecting, planting, and transplanting procedures shall be identified in the RMMP and appropriate management, monitoring, success criteria, and adaptive management guidelines for the mitigation of impacts to these species shall also be identified.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	Oak Trees	
	4.6-6 While the majority of oak trees on the site will be retained in place, three live trees will be removed and 12 will be relocated. Appropriate approvals shall be obtained prior to oak trees being removed, subject to the Oak Tree Preservation Ordinance (Ordinance 89-1) and the City of Santa Clarita Oak Tree Preservation and Maintenance Guidelines. Prior to grading, oak trees near construction/grading areas that will not be removed will be protected during the grading and construction phases of the project by appropriate fencing that extends five feet beyond the tree canopy's dripline, or 15 feet from the trunk, whichever is greater.	Not Significant
	4.6-7 Additional specific mitigation measures are described in detail in the Oak Tree Report produced by Tree Life Concern, Inc. (**Appendix 4.6**) and listed below. The mitigation measures described in this report are supported by the City's Oak Tree Specialist and exceed the requirements of the City of Santa Clarita Tree Ordinance. • Equipment damage to the limbs, trunks and roots must be avoided. Even slight trunk injuries can result in long-term, life threatening pathogenic maladies. No storage of equipment or debris within the Protective Zone (dripline plus 5') will be allowed. No dumping of construction wastewater i.e., paint, stucco, concrete, clean-up, etc. within Protective Zones, Generally, fencing shall be placed at the Protective Zone of any oak or groups of oaks within 50' of proposed construction activity. Protective Fencing must remain in place during construction projects and shall not be moved or removed without prior written approval from the Department of Community Development under the direct supervision of the Project Consulting Arborist. • Protective Fencing shall be at least 4' in height with a visible sign attached at 50' intervals that reads: "WARNING - THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF SANTA CLARITA COMMUNITY DEVELOPMENT DEPARTMENT".	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	• If possible, complete pruning of the larger California Live or Valley oaks, is recommended for health and weight reduction (inspect for occupied woodpecker nests prior to removal of larger dead snags). Any cuts over 2' diameter would require a Pruning Permit from the City. After pruning, the installation of support cables to prevent future main crotch failures is recommended (refer to the Summary of Field Inspection for specific tree and cable numbers). All cables should be a minimum of 5/16" diameter EHS (Extra High Strength) and attached with 5/8" diameter, galvanized thru-bolts. Heavy-duty 3/8" thimbles are to be utilized at each attachment point. These recommendations are presented for consideration by the City, current and/or future property owners. • Care should be taken to avoid placing any sprinklers within watering distance to the trunk of an oak tree. Generally, sprinklers should not reach within 15' of a mature oak trunk. Grass or ground covers must never be planted next to the trunks. Too much moisture near the base of an oak is generally believed to be their leading cause of death in residential settings. Oak Root Fungus is the result of over-watering. Oak trees survive and thrive on annual rainfall alone and generally do not need supplemental irrigation except during periods of drought. Watering should take place at or near the dripline. Landscape plans should leave the area within the dripline of an oak tree in a native or natural setting. • Care must be taken to limit grade changes near the trunk areas. The grade should not be lowered or raised around the trunks of trees. This can lead to plant stress from oxygen deprivation or Oak Root Fungus at the root collar. • Mitigation for the tree removals/relocations includes the dedication of a 24-acre property with oak tree habitat. This property is directly adjacent to the 4.25-acre active neighborhood park and contains a majority of the oak trees on the project site. The proposed mitigation (dedication of 24 acres of oak habitat open space and the transplanting of oak trees on-site including the costs associated with the corresponding five-year maintenance plan of said trees) for oak tree impacts is consistent with the provisions of the City's Oak Tree Preservation Ordinance.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)	• Protective fencing shall be installed around all oaks not listed for removal. Place protective fencing at the PZ as shown on the TLM. The fencing can be re-positioned as needed to allow for grading near the oaks listed as "impacted". The project arborist must be present during the fence placement. Final fencing locations shall be inspected by the City prior to the commencement of development activities. Regular inspections of this fencing shall occur during site development. • An Oak Tree Information Packet including the City of Santa Clarita Oak Tree Protection and Preservation Guidelines must be available on-site during construction. The property owner and contractor should be familiar with the contents of these documents. • Vehicle travel along dirt roadways to and from the site may create a heavy coating of dust on the foliage of nearby oaks. These oaks should be hosed off periodically during construction activities. • All work performed within the Protective Zone (dripline plus 5') of any oak shall be accomplished by utilizing hand tools only and must be 'monitored' by the project's Oak Tree Consultant. • All roots over 1.5" diameter will be clean cut at a 45 degree angle and treated by the Consulting Arborist. • No oaks outside the property line are to be impacted by this construction project. • The leaf-litter build-up under the canopies of the oaks on this site is ideal for healthy tree growth and root development. Do not alter or remove if possible. A 3-inch layer of mulch may be advisable in settings where leaf-litter has been lost. • Do not remove the aluminum tags numbering each oak on this site • No construction materials are to be stored or discarded within the PZ of any oak. Rinse water, concrete residue, liquid contaminates (paint, thinners, gasoline, oils, etc.) of any type shall not be deposited in any form at the base of an oak. • No vehicles shall be parked within the PZ of an oak. No construction vehicles are to be parked under the shade (within the PZ) of an oak.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	Oak Transplantation The oak trees listed for transplanting shall be professionally "boxed" and relocated on-site to the designated "storage area" (see TLM). A qualified transplant company shall perform the relocations (it is anticipated that Valley Crest Tree Company will be performing the relocations). To enhance the success of each tree for long-term survival the relocations will be monitored by the Project Arborist. The size of box for each tree will be determined by the Arborist and Valley Crest representative (see chart below). Consideration will be given to the buttress spread, as well as the trunk diameter. Generally, the larger the box the greater the probability of success. In every case where a decision is to be made between a smaller size box and a larger box, i.e., I go" or 192" box, the box of choice will be the 192" box. Under the direction of the Project Arborist, side-boxing/root-pruning operations shall take place during the months of November through January. These trees will then be maintained in situ for a 90-day period prior to bottom-board installation and relocation to the "storage site". A "storage site" has been designated (see TLM) with a permanent water supply, which will be accessible to each boxed tree. The Project Arborist (in conjunction with the relocation company) will determine if and when fungicides, fertilizer or soil amendments are needed. Each tree will be monitored for any condition that may require a specific treatment to enhance survivability before, during and after relocation. Prior to side-boxing and root pruning the soil moisture content must be sufficient to maintain the rootball intact during this process. Each oak should be lightly pruned at this point to remove deadwood, stubs, broken limbs, crossing limbs or for clearance purposes. The pruning will be monitored. The excavation process will first begin with a back-hoe. As roots are encountered the back-hoe will be removed and roots 2" or larger will be hand excavated and clean-cut with a handsaw. The exposed cuts will be treated with a Bordeaux linseed oil solution to help prevent desiccation. All roots shall be clean cut with pruning shears or by handsaw. Root balls that are exposed to full sun will be tarped until the side-box wall is installed.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	After side-boxing/root-pruning operations the trees will remain in place for approximately 90 days before the bottom boards are installed. The boxed trees will be hoisted by the box itself (not by the trunk) and carried to the storage area. The orientation of each oak (north, south, east, west) will be carefully maintained during the storage process. The project arborist will mark each box for proper direction while in storage. This is important to prevent damage from sunburn. Valley Crest shall guy-wire each tree as needed into the box and/or into the ground as needed. The storage area is notoriously windy and extra attention will be paid to securing the trees until planting. The guy-wires will be placed through hose-sections where they are in contact with the tree. When planting the oaks, the planter-hole (pit) location will be partially filled with loosened native soil. The size of the hole will be 2' larger than the box size. If drainage is determined to be a concern, PVC drain tubes will be installed in a rectangular fashion with breather ports attached at four locations. The bottom of the pit will be filled with 8" of gravel and a layer of permeable soil-cloth will be placed over the gravel. An 8" layer of native soil will then be placed over the cloth and the tree install backfilled. This will allow for monitoring any possible water pooling at the base of each tree. Unamended native soil will be utilized for the backfill unless a soil analysis indicates that amendments will be required. A soil analysis will be performed at the planting site 30 days prior to relocation. The backfill soil will be compacted to normal (native-soil compaction). The height of the root ball is critically important in the long-term survival of a transplanted oak. Each rootball will be placed at least 6" above existing grade. This will allow for settling and ensure that water does pool at the root collar. Soil watering-basins will be constructed to properly irrigate the entire rootball of each tree. The trees will be monitored by relocation company and the Project Arborist on a weekly basis to determine current condition and maintenance requirements.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	4.6-8 All revegetation, restoration, and enhancement measures within mixed oak woodlands shall be documented in the Resource Management and Monitoring Plan and shall include, at a minimum, the following: (1) the location of the planting/revegetation areas (to be coordinated with the City; (2) the species of oaks and other plant species to be planted within the protected zone of the oaks; (3) planting procedures; (4) a schedule and action plan to maintain the plantings; and (5) a list of criteria by which to measure success of the plantings, as well as contingency measures if the plantings are not successful.	
Mitigation measures to avoid take of state- and federally-listed Threatened and/or Endangered species have been identified in the NRMP EIS/EIR and in the Section 1603 Streambed Alteration Agreement issued by CDFG for the NRMP. A detailed program of mitigation measures is set forth in the NRMP Section 1603 Streambed Alteration Agreement and a blanket Section 7 Endangered species permit has been issued in conjunction with the NRMP. In addition, compliance with the California Endangered Species Act will occur, as applicable.	**Special-Status Wildlife** Mitigation measures included in the NRMP EIS/EIR and Section 1603 authorization include the following: • Surveys and site inspections for the least Bell's vireo (vireo) and unarmored three-spine stickleback (UTS) by qualified biologists; • Installation of blocking nets as specified by FWS for the UTS; • Specific stream diversion practices utilizing qualified biologists for the UTS; and • Limitations on construction activities during the nesting season near occupied habitat for the vireo.	Not Significant
	Increased Human and Domestic Animal Presence 4.6-9 Pets and other domestic animals shall be prohibited with fencing and signage from the open space areas and in any revegetation areas on the project site unless restrained by leash and only in designated areas.	Not Significant
	4.6-10 Fencing of sufficient height and design (i.e., ranch-rail) shall be constructed between the edge of the fuel modification zone and the river corridor to deter humans and domestic animals from entering open space habitat areas.	
	4.6-11 Native shrubs such as laurel sumac, California coffeeberry, toyon, and coast prickly-pear shall be planted along the fence to further deter access. Final fence design shall be approved by and the City Planning and Building Services Department.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	4.6-12 Human access into the open space areas shall only occur in designated locations (i.e., existing and future trails). All motorized vehicles are prohibited from entering the preserved natural open space areas with the exception of emergency or maintenance vehicles. Applicant shall post signage reflecting the above requirement.	
	4.6-13 Prohibitions against human, domestic animal, and motorized vehicle use in preserved natural open space areas shall be established by the covenants conditions and restrictions (CC&Rs) recorded with the City Planning and Building Services Department.	
	4.6-14 Interpretative signs shall be constructed and placed in appropriate areas, as determined by the City Planning and Building Services Department that explain the sensitivity of natural habitats and the need to minimize impacts on these natural areas. The signs will state that they are entering a protected natural area and that all pedestrians must remain on designated trails, all pets are to be restrained on a leash, and that it is illegal to harm, remove, and/or collect native plants and animals. The project applicant shall be responsible for installation of interpretive signs and fencing.	
	Lighting and Glare	
	4.6-15 All street, residential, and parking lot lighting shall be downcast luminaries or directional lighting with light patterns directed away from natural areas. Covenants, Codes and Restrictions (CC&Rs) shall require the exterior lighting within the residential area be limited to low voltage.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	Construction-Related Activities	
	The following measures shall be implemented to minimize impacts on remaining biological resources on the site as a result of construction and grading activities and to ensure that potential impacts on these resources will remain less than significant.	Not Significant
	4.6-16 A qualified biologist, as determined by the City of Santa Clarita, shall be retained as a construction monitor to ensure that incidental construction impacts on biological resources are avoided, or minimized, and to conduct pre-grading field surveys for special-status plant and wildlife species that may be destroyed as a result of construction and/or site preparation activities. Responsibilities of the construction monitor include the following: • The construction monitor shall attend pre-grade meetings to ensure that timing/location of construction activities do not conflict with mitigation requirements (e.g., seasonal surveys for plants and wildlife). • Mark/flag the construction area in the field with the contractor in accordance with the final approved grading plan. Haul roads and access roads shall only be sited within the grading areas analyzed in the project EIR. • Supervise cordoning of preserved natural areas that lie outside grading areas identified in the project EIR (e.g., with temporary fence posts and colored rope). • Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity. Any construction activity areas immediately adjacent to riparian areas or other special-status resources should be flagged or temporarily fenced by the monitor, at his/her discretion. • Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. The monitor should also discuss procedures for minimizing harm/harassment of wildlife encountered during construction. • Periodically visit the site during construction to coordinate and monitor compliance with the above provisions.	
	4.6-17 Construction personnel shall be prohibited from entry into areas outside the designated construction area, except for necessary construction related activities, such as surveying. All such construction activities shall be coordinated with the construction monitor.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.6 BIOLOGICAL RESOURCES (continued)		
	4.6-18 Standard dust control measures shall be implemented to reduce impacts on nearby plants and wildlife. This includes replacing ground cover in disturbed areas as quickly as possible; water active sites at least twice daily; suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph; and restricting traffic speeds on all unpaved roads to 15 mph or less in areas within 200 feet of vegetation. 4.6-19 Upon completion of construction, the contractor shall be held responsible to restore any haul roads and access roads that are outside of approved grading limits. This restoration shall be done in consultation with the construction monitor. In addition, impacts to biological resources as a result of construction and grading activities will be mitigated by implementation of NRMP **Mitigation Measures 4.6-1w.** through **uu**., above.	
4.7 LAND USE		
The project applicant is requesting a General Plan Amendment and Zone Change to designate the 695.4-acre site as 692.4 acres of RM (PD) and 3.0 acres of CC (PD). The project applicant is requesting 439 single-family and 744 multi-family residential lots adjacent to and in close proximity to Newhall Ranch Road and Santa Clarita Parkway. Two ridgelines classified by the City as secondary traverse a portion of the project site. The project applicant is providing an innovative application to the Planning Commission/City Council for approval of uses on portions of these secondary ridgelines. It can be concluded that the project satisfies the intent of both the ridgeline protection and hillside development standards and will not result in a significant land use impact.	The proposed project is consistent with the applicable goals and policies of the General Plan, consequently there would be no impacts and no mitigation is required.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8 WATER SERVICES		
Using water demand factors provided by SCWD, the proposed project would consume approximately 697 AFY. Existing water demand in the Santa Clarita Valley is approximately 77,998 AFY in average years (this figure accounts for a dry year increase in water demand in 2002 of approximately 10 percent). Of this demand, approximately 68,023 acre feet is related to urban or developed areas and approximately 15,278 acre feet is related to other uses in the Santa Clarita Valley, including agricultural uses. When combined with the Riverpark water demand of 697 AFY, the total water demand in the Santa Clarita Valley would be approximately 77,998 acre feet if Riverpark were completely built out today. Existing supplies exceed the project demand, in conjunction with existing demand in the Santa Clarita Valley. Existing water supplies exceed demand by 2,283 to 10,553 AFY in dry years and by 25,775 AFY in an average/normal year after adding the proposed project to existing demands; therefore, no significant near-term water supply impacts are anticipated.	No mitigation is required as there are no significant impacts.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY The project is expected to have a less than significant impact on surface water quality, as discussed above, and accordingly, no water quality mitigation measures are required under CEQA. Nonetheless, the project proponent proposes to include the following measures to improve further the quality of storm water runoff from the project site. The project would generate pollutants typical of urban residential and small commercial areas both during construction, and after the site is built out and occupied. In addition, the existing condition of the Santa Clara River, and the current water quality standards applicable to it give rise to water quality concerns. Primary pollutants of concern include minerals/salts, total suspended solids, nutrients, trace metals, pathogens, hydrocarbons, pesticides, and other toxics. Constituents for which sufficient data was available were analyzed quantitatively using a water quality model created to address the project's features. Taking into account the project's non-structural and structural (treatment) best management practices (BMPs) design features, and evaluating the identified pollutants of concern, the following analysis concludes that project water quality impacts would be less than significant. The project would meet all applicable regional and local water quality requirements of the State Water Resources Control Board, the Regional Water Quality Control Board, Los Angeles Region, the National Pollutant Discharge Elimination System, the County of Los Angeles and the City of Santa Clarita during both construction and operation of the project.	**a. Mitigation Measures Already Incorporated Into the Project** 4.8.1-1 To reduce pollution from impacts from the "first flush" runoff, a series of pipes and outlets would be constructed pursuant to Los Angeles County Department of Public Works requirements to intercept first flush runoff from paved developed areas and channel it to above ground and/or subsurface water quality control basins. 4.8.1-2 The project is required to comply with the RWQCBLAR Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) to reduce the discharge of pollutants to the maximum extent practicable. 4.8.1-3 To treat storm water, two water quality detention basins, a grassy swale, and hydrodynamic separator systems would be constructed. 4.8.1-4 Post-construction structural or treatment control BMPs to minimize or prevent storm water pollutants from discharging into the Santa Clara River shall, at minimum, include: • water quality detention basins; • a grassy swale; and • hydrodynamic separator systems, such as Continuous Deflective Separator (CDS) units. Additional equivalent BMPs that could alternatively be implemented at the project site include: • catch basin inserts; • storm water filters; and • storm water clarifiers. The project is expected to have a less than significant impact on surface water quality, as discussed above, and accordingly, no water quality mitigation measures are required under CEQA. Nonetheless, the project proponent proposes to include the following measures to improve further the quality of storm water runoff from the project site.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY (continued)	**b. Mitigation Measures Proposed By This EIR** **Construction Impacts** 4.8.1-5 All necessary permits, agreements or letters of exemption from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, and/or the Regional Water Quality Control Board for project-related development are to be obtained prior to start of soil-disturbing activities. 4.8.1-6 Prior to start of soil-disturbing activities at the site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in accordance with and in order to partially fulfill the California State Water Resources Control Board Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit). The SWPPP shall meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP shall be certified the City of Santa Clarita in accordance with the signatory requirements of the General Construction Permit and implemented concurrently with commencement of the soil-disturbing activity. 4.8.1-7 Per the April 26, 2001 modification to the General Construction Permit, a contingency "Sampling and Analysis Plan" shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the storm events to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP. 4.8.1-8 Following the completion of the construction project and when the site has been stabilized, a Notice of Termination shall be filed with the RWQCBLAR. 4.8.1-9 During construction, delineate and flag the smallest site disturbance area possible to minimize soil compaction and restricting temporary storage of construction equipment in these areas, as appropriate.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY (continued)		
	Operational Impacts	
	4.8.1-10 For treatment efficiency, the biofiltration swale shall maximize length and minimize depths. Slopes of the swale shall also be kept to between 2 and 5 percent to prevent scouring.	
	4.8.1-11 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any detention basins on the site, which include: • Dispersion of alluvial sediment deposition at inlet structures, thus limiting the extended localized ponding of water. • Periodic sediment removal to ensure adequate storage and treatment volume. • Monitoring of the basin to ensure it is completely and properly drained. • Outlet riser cleaning. • Vegetation management to prevent marsh vegetation from taking hold, and to limit the growth of habitat for disease-carrying fauna. • Removal of graffiti, litter, vegetative and other debris. • Preventative maintenance on monitoring equipment. • Vegetative stabilization of eroding banks.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY (continued)		
	4.8.1-12 The homeowners' association or the City of Santa Clarita shall be responsible for the maintenance and monitoring of any biofiltration swales on the site, which include: • Vegetation management to maintain adequate hydraulic functioning and to limit habitat for disease-carrying animals. • Animal and vector control. • Periodic sediment removal to optimize performance. • Trash, debris, grass trimmings, tree prunings, and leaf collection and removal to prevent obstruction. • Removal of standing water, which may contribute to the development of aquatic plant communities or mosquito breeding areas. • Erosion and structural maintenance to prevent the loss of soil and maintain the performance of the swale. Although maintenance requirements vary greatly depending on the particular model and manufacturer, biofiltration swales shall be maintained quarterly to yearly for clean-outs. Cleaning after a storm event shall be required. Inspection will be required to make certain that the unit is operating correctly and to make any repairs.	
	4.8.1-13 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any storm water filters on the site, to include: • Providing adequate access for inspection and maintenance. • Removal of accumulated trash, paper and debris. • Corrective maintenance including removal and replacement of top layers of media. • Complete replacement of filter media every 3 to 5 years. • Periodic removal of vegetative growth.	
	4.8.1-14 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any storm water clarifiers on the site, which include: • Inspection prior to the beginning of the storm season. • Regular inspection following storm events. • Removal of accumulated sediment, trash and debris.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY (continued)		
	4.8.1-15 Monthly street sweeping shall occur in high traffic areas and annual or semi-annual street sweeping shall occur in areas with low rates of traffic and little pedestrian use. The homeowners' association or private property owner shall be responsible for sweeping the private streets.	
	4.8.1-16 "Low-impact" vegetation shall be planted in common areas. This vegetation requires minimal irrigation, fertilizing and pest control, and could include native and/or non-invasive plants.	
	4.8.1-17 An education program shall be developed and implemented for the residents and landscape contractors regarding activities and practices that could affect water quality, such as carpet and other cleaners that are not properly disposed of, residential car washing, and animal waste management, such as the importance of cleaning up after pets and not feeding wild animals, such as pigeons, seagulls, ducks and geese. Community car washes shall only take place in areas that are drained to the sanitary sewer system. Pet bags would be provided along trails.	
	4.8.1-18 On-site features that attract wild animals shall be kept to a minimum in order to minimize pathogens in the storm system.	
	4.8.1-19 Pesticide applications shall be managed through educational and other source control efforts, including the installation of efficient landscape irrigation systems in common areas and the development of guidance on applying these types of chemicals for contractors maintaining landscape areas. Examples of material which may be used for education may include educational pamphlets currently available through the City of Santa Clarita, LA County and/or other sources (i.e., http://www.americanoceans.org/runoff/epa-bro.htm). Because of the concerns regarding indicators of human pathogens, education programs shall emphasize animal waste management, such as the importance of cleaning up after pets and not feeding wild animals, such as pigeons, seagulls, ducks and geese. The project applicant shall create and distribute these pamphlets to landscape contractors prior to on-site planting.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.8.1 WATER QUALITY (continued)		
	4.8.1-20 The project applicant shall prepare an herbicide/pesticide program to be utilized by landscaping contractors on commonly owned landscaped areas. This program shall include requirements to minimize the use of herbicides and pesticides in these landscaped areas and shall be prepared and in place prior on-site planting.	
4.9 SOLID WASTE		
Upon project buildout and assuming no solid wastes from the proposed project would be recycled (a worst-case scenario), the project would generate a total of 10,203 pounds of solid waste per day. This is equivalent to approximately 1,862 tons per year. Although the project would generate approximately 1,862 tons of waste per year, it can be assumed that the project will meet the current recycling goals of the community and, therefore, generate 931 tons per year. This is based on the current City diversion rate of 50 percent of waste disposal. The project may also generate household-type hazardous wastes.	**a. Mitigation Measures Already Incorporated into the Project**	
	4.9-1 Solid waste collection/recycling areas are to be compatible with nearby structures, secure, protected against adverse environmental conditions, clearly marked, adequate in capacity, number and distribution, and contain a sufficient number of bins, to serve the recycling needs of the development. (Model Ordinance)	Significant
	4.9-2 Design and construct collection/recycling areas to accommodate front-loader packing trucks, including maneuvering room. (Model Ordinance)	
	4.9-3 Design and construct driveways and/or travel aisles with adequate width and maneuverability space for unobstructed garbage collection, trash container storage and vehicle access and clearance. (Model Ordinance)	
	4.9-4 Post signs at all access points of the recycling areas that clearly identify all recycling and solid waste collection and loading areas and the materials accepted therein. (Model Ordinance)	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.9 SOLID WASTE (continued) The project's 1,862 tons per year (without recycling) would represent 0.47 percent of this Valley-wide total. Land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory and political constraints. This is not to say, though, that alternative solid waste disposal technologies that could substantially reduce landfill disposal will not be developed and legislatively approved in the future; given the market forces that drive the solid waste industry, it seems reasonable to assume they will. However, until other disposal alternatives that will be adequate to serve existing and future uses for the foreseeable future are found and because landfill space is a finite resource project, the potential project and cumulative solid and hazardous waste impacts are considered unavoidably significant.	**b. Mitigation Measures proposed by This EIR** **General Provisions** 4.9-5 Locate recycling/separation areas in close proximity to dumpsters for non-recyclables, elevators, loading docks, and primary internal and external access points. 4.9-6 Locate recycling/separation areas to not be in conflict with any applicable Federal, State or local laws relating to fire, building, access, transportation, circulation, or safety. 4.9-7 Locate recycling/separation areas so they are convenient for those persons who deposit, collect, and load the recyclable materials. 4.9-8 Place recycling containers/bins so that they do not block access to each other. 4.9-9 Reduce yard waste on the project site through the use of xeriscape techniques and the use of drought-tolerant and native vegetation in common area landscaping wherever possible. 4.9-10 For commercial developments and residential buildings having five or more living units, no refuse collection or recycling areas are to be located between a street and the front of a building. 4.9-11 Install on-site trash compactors for non-recyclables in all restaurants/food services areas. 4.9-12 If possible, kitchen, garage or garden design shall accommodate trash and recyclable components to assist in the City's recycling efforts. This includes a design to accommodate a minimum of three 90-gallon containers in locations allowable under the CC&Rs. 4.9-13 First-time buyers shall receive educational material on the City's waste management efforts. Educational material shall be passed to consecutive buyers using the CC&Rs. 4.9-14 The applicant shall comply with all applicable state and Los Angeles County regulations and procedures for the use, collection and disposal of solid and hazardous wastes.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.9 SOLID WASTE (continued)		
	Construction Impacts	
	4.9-15 Place recycling bins for glass, metals, paper, wood, plastic, greenwastes, and cardboard on construction sites to ensure their use by construction workers to then be trucked to recycling/processing facilities.	
	4.9-16 In construction specification and bid packages, require building materials made of recycled materials, to the extent possible.	
4.10 EDUCATION		
It is estimated that the project would generate 288 new elementary students, 71 new junior high students and 115 new high school students in the Saugus and Hart districts at buildout. The Saugus District is operating within its total capacity. Student enrollment in the Hart District exceeds available capacity even with the use of portable classrooms. Project applicant compliance with the School Facilities Funding Agreement Between the Saugus Union School District and the Newhall Land and Farming Company (February 1997) and the School Facilities Funding Agreement Between the William S. Hart Union High School District and the Newhall Land and Farming Company (October 1998) was designed to mitigate all project impacts to these districts to less than significant levels. Because the school districts agree that compliance with the school district agreement will mitigate all project impacts on school facilities, the Riverpark project would result in no significant impact on these districts, and no additional project mitigation is required. Cumulative student generation under the DMS Build-Out Scenario and under the Santa Clarita Valley Build-Out Scenario cannot be accommodated by existing or planned facilities within the school facilities that serve the Valley and cumulative impacts on the districts would be significant. Compliance, as appropriate, with existing School Facilities Funding Agreements and/or other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements) would reduce cumulative development impacts on the school districts to below a level of significance and no unavoidable significant cumulative impacts to educational services are anticipated.	No mitigation required as agreements with school districts has already been reached.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.11 LIBRARY SERVICES		
Library services for the proposed project and the Santa Clarita Valley area are provided by the County of Los Angeles Public Library system. The City of Santa Clarita contracts with the County of Los Angeles for public library services. The Santa Clarita Valley area is served by three County libraries (Valencia, Newhall, and Canyon Country Jo Anne Darcy) and a mobile library service. Existing library space in the Santa Clarita Valley does not meet the County Public Libraries library planning standards. Development of the proposed project would result in increased demands on library facilities and would, according to County Library planning standards, create a demand for 1,789 gross square feet of library space and 7,152 items (books, periodicals, audio cassettes, videos, etc.). Recommended payment of the City adopted library impact fee, $640.00 per new residential dwelling unit as of November 2002, for new library construction and book purchases would reduce this impact to a less than significant level. In addition, revenues collected by the City of Santa Clarita over the course of buildout of the project would fund library service in the Santa Clarita Valley and also reduce impacts.	**a. Mitigation Measures Already Incorporated into the Project** 4.11-1 The applicant shall pay the current library fee ($640.00 per residential unit as of November 2002) to the City of Santa Clarita to offset the demand for library items and building square footage generated by the proposed project or whatever fee is established by either the City or County at the time of building permit issuance, whichever is higher. The library mitigation payment shall be made on a building permit by building permit basis. This current per unit mitigation fee of $640.00 would generate at least a total of $757,120.00 in library facility fees if all units proposed were built, and would fund new library space and materials which would be needed to serve the project.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.12 PARKS AND RECREATION		
The project incorporates a 29-acre active/passive park, which will have direct access to the City's Santa Clara River River Trail, a portion of which is proposed for construction as a part of this project. Except for intrusion by the future Santa Clarita Parkway Bridge, the alignment of Newhall Ranch Road (including the Newhall Ranch Road/Golden Valley Road Bridge) and a water quality basin, the entire 300 acres of river area within the project boundaries (defined by a 404/1603 jurisdictional delineation per the already approved Natural River Management Plan) will remain in a natural state (except for bank stabilization). Measured under the identified significance threshold, the Riverpark project is in compliance with Quimby Act parkland standards and would not result in significant unavoidable impacts to local parks and recreation facilities. Implementation of cumulative projects would incrementally increase demand for local active park facilities in an area where such facilities are already below locally adopted standards. However, the proposed project will meet and exceed the City and Quimby Act local parkland standards with a combination of a public park and private recreational facilities. Furthermore, future development projects would also be subject to the City and Quimby Act requirements, which would mitigate the demands associated with each future project. Given this, no significant cumulative parkland impacts are expected to occur.	**a. Mitigation Measures Already Incorporated into the Project** 4.12-1 Development of the Riverpark project will provide the following parks and open areas: • a 29-acre active/passive park including 4.5 acres of improved park area, which will be dedicated to the City; • three private recreation lots totaling 1.3 acres; and • 440-acres of dedicated open space, 330.8 acres of which include the Santa Clara River Area. 4.12-2 The applicant will meet City parkland requirements by providing either the dedication of land, payment of in-lieu fees, or construction of park amenities, or a combination of the three as approved by the Director of Parks, Recreation and Community Services, prior to issuance of building permits. **b. Mitigation Measures Recommended by the EIR** The provision of parks and open areas for credit pursuant to the City Standards and the Quimby Act will occur as individual subdivision maps are processed in accordance with standard City practice. 4.12-3 Developer shall construct all trails and shall be in accordance with the City of Santa Clarita Department of Parks and Recreation trail system standards. 4.12-4 The City of Santa Clarita shall receive ownership and/or easements of existing maintenance roads/trails and open space prior to easements provided to the Los Angeles County Flood Control District or others.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.13 FIRE SERVICES		
Project implementation would result in an increase in calls for fire protection services received by the County of Los Angeles Fire Station 111. As proposed, the project would have an impact on the current level of local fire protection services; however, proposed mitigation measures would reduce impacts to a level of insignificance.	**a. Mitigation Measures Already Incorporated into the Project**	
	4.13-1 All proposed development on the site must comply with applicable state, City and County code and ordinance requirements.	Not Significant
	b. Mitigation Measures Recommended by This EIR	
	4.13-2 Concurrent with the issuance of building permits, the applicant shall either participate in the Developer Fee Program or make an in-lieu donation to the satisfaction of the County of Los Angeles Fire Department.	
	4.13-3 The project shall prepare a Fuel Modification Plan, landscape plan and irrigation plan as required for projects located with a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the County Fire Department prior to final map clearance. The Fuel Modification Plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. The fuel modification plan shall not conflict with the revegetation plan as directed in **Section 4.6, Biological Resources**.	
	4.13-4 The project shall provide water mains, fire hydrants and fire flows as required by the County of Los Angeles Fire Department, for all land shown on the map that shall be recorded.	
	4.13-5 Brush clearance shall be conducted prior to initiation of construction activities in accordance with Fire Department requirements.	
	4.13-6 Additional access requirements may be needed during the building construction process.	
	4.13-7 Adequate water availability shall be provided to service construction activities.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.13 FIRE SERVICES (continued)		
	4.13-8 Installation of 79 public and 24 private on-street fire hydrants is required. The required fire flow for 20 public fire hydrants located on Newhall Ranch Road, adjacent to Area C and Area D, is 5,000 gpm at 20 psi for five hours with three fire hydrants flowing. 59 public fire hydrants are required to be installed on all other streets, including Newhall Ranch Road, as indicated on the Tract Map. The required fire flow is 1,250 gpm at 20 psi for two hours with one fire hydrant flowing. 24 on-site fire hydrants are required within Area C and Area D. The required fire flow is 2,500 gpm at 20 psi for two hours with two fire hydrants flowing simultaneously.	
	4.13-9 Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested and accepted or bonded prior to construction. All hydrants shall measure 6 inches by 4 inches x 2 1/2 inches brass or bronze, conforming to current AWWA standard C503 or approved equal. All on-site hydrants shall be installed a minimum of 25 feet from a structure or protected by a two-hour rated firewall. These hydrants shall be located as per the Vesting Tentative Tract Map on file with the Fire Department.	
	4.13-10 Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures.	
	4.13-11 Access shall comply with Section 902 of the Fire Code, which requires all weather access. All weather access may require paving.	
	4.13-12 All private gates shall comply with Regulation 5 of the Fire Code. Prior to approval of the Tentative Tract Map, the applicant shall receive approval of the gates from the Los Angeles County Fire Department.	
	4.13-13 All fire lanes must not be less than 26 feet paved width (clear to sky and unobstructed) and posted and red curbed "NO PARKING - FIRE LANE".	
	4.13-14 The trail system shall provide adequate access for emergency vehicles.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.13 FIRE SERVICES (continued)		
	4.13-15 Where driveways extend further than 300 feet and are of single access design, turnarounds suitable for fire protection equipment use shall be provided and shown on the final map. Turnarounds shall be designed, constructed, and maintained to insure their integrity for Fire Department use. Where topography dictates, turnarounds shall be provided for driveways that extend over 150 feet in length.	
	4.13-16 Private driveways shall be indicated on the final map as "Private Driveway and Fire Lane" with the widths clearly depicted and shall be maintained in accordance with the Fire Code.	
	4.13-17 Provide Fire Department or City approved street signs and building access numbers prior to occupancy.	
	4.13-18 Additional access requirements include: • A second means of access is required prior to the construction of the 501st dwelling unit. The number of dwelling units includes all single-family homes, and all units within the apartments and townhomes. • Temporary turnarounds are required for the end of Newhall Ranch Road and the end of Santa Clarita Parkway. The turnarounds shall be either a cul-de-sac bulb with a 32-foot centerline or a hammer-head design, which would be posted and red curbed "NO PARKING - FIRE LANE". These temporary turn-arounds are required to stay in place until the bridges have been completed and are opened to an existing street. • All streets with center medians shall have a minimum paved width of 20 feet on each side of the median, with street posted and red curbed "NO PARKING - FIRE LANE".	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.13 FIRE SERVICES (continued)		
	• Street widths for this project shall conform to the widths indicated on the cross-section on this Vesting Tentative Tract Map. All street widths shall be measured from the curb flow line to curb flow line. • The traffic circle at the end of "N" Street is approved. The area surrounding the traffic circle shall be posted and red curbed "NO PARKING - FIRE LANE". • Due to "N" Street extending greater than 700 feet in length, "N" Street shall have a minimum street width of 36 feet, curb-flow-line to curb-flow-line, not 34 feet as indicated on the map. Provide four revised copies of this page only of the Tract Map indicating this correction. This is required to be submitted to the Land Development Unity prior to any approvals of this Tract Map. • For on-site access in Area C and Area D, provide a minimum unobstructed driveway width of 28 feet, clear-to-sky posted and red curbed "NO PARKING - FIRE LANE". Each turning radius shall be 42 feet from the centerline.	
4.14 SHERIFF SERVICES Project implementation would impact the current level of Sheriff's Department protection services through a project-generated increase in service calls. Implementation of mitigation measures would reduce project impacts of Sheriff's protection services to less than significant levels.	**a. Mitigation Measures Already Incorporated into the Project**	
	4.14-1 During construction, private security patrols shall be utilized to protect the project site.	Not Significant
	b. Mitigation Measures Proposed by This EIR	
	4.14-2 As final building plans are submitted to the City for approval in the future, Sheriff's Department design requirements which reduce demands for service and ensure adequate public safety (such as those pertaining to site access, site security lighting, shall be incorporated into building designs.	
	4.14-3 Project design shall landscape the project site with low-growing groundcover and shade trees, rather than a predominance of shrubs which could conceal potential criminal activity around buildings and parking areas.	
	4.14-4 Project design shall provide lighting, to the satisfaction of the Sheriff's Department, around and throughout the development to enhance crime prevention and enforcement efforts.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.14 SHERIFF SERVICES (continued)		
	4.14-5 Project design shall provide clearly visible (during the day and night) address signs and/or building numbers for easy identification during emergencies. 4.14-6 Project design shall provide visibility of doors and windows from the street and between buildings. 4.14-7 Project site design shall include adequate parking spaces in the parking lots to accommodate shoppers, employees and residents.	
4.15 HUMAN MADE HAZARDS		
The proposed Riverpark project is not expected to include any uniquely hazardous land uses. Both residential and commercial proposed uses are expected to use and store chemicals and/or substances that are typically found in similar settings. There are several abandoned oil wells within the project site that were used for crude oil production. Based on the extremely limited productivity of these wells, they were ultimately abandoned. As crude oil is not considered to be a hazardous material, residential and non-residential development in areas previously occupied by the oil production facilities would not result in environmental safety hazards to future residents, employees, and/or visitors. Electrical transmission lines are located to the east of the project site.	There are no human made hazards located on the project site; therefore no mitigation measures are required.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.16 VISUAL RESOURCES		
Views of the existing open space areas from each of the view corridors would be altered due to development of proposed residential and commercial uses. The images of the project's residential and commercial development, bank stabilization, roadways, and other human activity along the Santa Clara River would, overall, be a significant change from the existing characteristics of the project site.	4.16-1 Taller growing trees and/or shrubs shall be planted along Newhall Ranch Road, the river trail and Santa Clarita Parkway borders of the project site in order to screen the project and minimize the potential for light and glare impacts. Shade trees shall be planted at the commercial site to provide visual relief and help to reduce ambient temperatures.	Significant
	4.16-2 All parking lot pole lights and streetlights shall be fully hooded and back shielded to reduce the light "spillage" and glare.	
	4.16-3 The project applicant shall consult with the City Department of Transportation and Engineering Services and Southern California Edison to develop a street lighting program that will allow for reduced streetlight to reduce lighting spillover into the Santa Clara River.	
	4.16-4 All trail and community park lighting shall provide optimum safety while at the same time reducing light "spillage" and glare.	
The project would result in grading of ridgelines classified by the City as secondary ridgelines (see discussion in **Section 4.7, Land Use**), bank stabilization and conversion of the site from vacant land to a man-made urban environment. The proposed project would be most visible from Bouquet Canyon Road, Soledad Canyon Road, the extension of Newhall Ranch Road, the proposed and future extension of Santa Clarita Parkway and the existing residential, commercial, and business parkland uses to the west, south and southeast of the project site. Incorporation of recommended mitigation measures would reduce project-level and cumulative visual impacts caused by converting the project site from an undeveloped to a developed urban area, but not to a level less than significant.	4.16-5 The colors of exposed bank stabilization structures shall be earth tones, which blend with the surrounding natural environment. Wall surfaces shall be variously textured to diffuse lighting and minimize reflectivity.	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.17 POPULATION/HOUSING/EMPLOYMENT		
The 1,183 residential units proposed for the project would house approximately 3,615 persons. Relative to the year 2010 City and Santa Clarita Valley population projections, population generated by the project is considered negligible (2.0 and 1.3 percent of the 2010 projections, respectively). The project would also create 94 jobs at the commercial retail use. Although the existing City's General Plan designations for the site are proposed to be changed, the proposed General Plan Amendment would reduce on-site density or intensity of residential use compared to that allowed under the existing General Plan, and it would generate less population than allowed on the site. Project population, housing, and employment would also be within growth projections for the City and the Santa Clarita Valley. Therefore, the proposed project would not exceed City or regional population, housing, and employment projections and would not result in a significant impact relative to population and housing.	No mitigation is required.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts		Recommended Mitigation Measures	Residual Impact
4.18 CULTURAL RESOURCES			
Phase I and II archaeological surveys of cultural resources in the proposed project area were undertaken. These surveys have resulted in the discovery and recording of three prehistoric and one historic archaeological sites. Phase II archaeological studies were conducted at two of the prehistoric archaeological sites. The second site contains a subsurface archeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. This site is culturally significant and the applicant has designed the project so as to preserve it in situ in perpetuity within the open space areas. Inadvertent direct and/or indirect disturbance during construction of the proposed project to any sensitive cultural resource found on the site would be considered a significant impact. Mitigation measures are proposed that reduce the magnitude of potential impacts to cultural resources to less than significant levels.	**a.**	**Mitigation Measures Incorporated into the Project**	
	4.18-1	CA-LAN-351 contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. This site shall be preserved in its current state in perpetuity as is demonstrated on VTTM 53425.	Not Significant
	b.	**Mitigation Proposed by the EIR**	
	4.18-2	Archaeological site CA-LAN-3043 contains an intact subsurface deposit and artifacts that hold the potential for contributing to our understanding of the prehistory of this portion of California. A Phase III data recovery (salvage excavation) program shall be conducted for CA-LAN-3043 prior to grading activities.	
	4.18-3	Although no other significant cultural resources were observed or recorded during the surface field survey, all grading activities and surface modifications must be confined to only those areas of absolute necessity to reduce any form of impact on unrecorded (buried) cultural resources that may exist within the confines of the project area. In the event that resources are found during construction, activity shall stop and a qualified archaeologist shall be contacted to evaluate the resources. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Construction on other parts of the project will be subject to Public Resources Code §21083.2(i).	

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.19 AGRICULTURAL RESOURCES		
The proposed project would convert 73 acres of prime agricultural land to urban uses. The conversion of prime agricultural land is irreversible, and is considered an unavoidable significant impact. However, in light of the continuing trend by the County to convert cultivated lands to urban uses to accommodate growth, and the fact that the site is surrounded by development, the project site is impaired (i.e., relatively difficult and less economical to farm). Although the site is generally of lower value than larger and better-situated parcels found to the west and the loss of agricultural productivity on prime agricultural land under such circumstances is t considered a significant and unavoidable project and cumulative impact. The conversion of prime agricultural land is irreversible and is, therefore, considered an unavoidable significant impact.	There is no feasible mitigation for the loss of agricultural land.	Significant
4.20 FLOODPLAIN MODIFICATION		
The proposed project would modify the floodplain by placing bank stabilization and erosion protection along selected portions of the river, developing the floodplain areas behind the bank stabilization, and installing a bridge across the river. These actions would alter flows in the river; however, the effects would only be observed during infrequent flood events that reach the buried banks (e.g., 50-year and 100-year flood events). The proposed project would cause an increase in flows and changes in water velocities and water depth; and changes in the flooded areas. However, these hydraulic effects would be localized and minor in magnitude and extent, would be limited to the project footprint, and would be insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream. Under the project, the river would still retain sufficient width to allow natural fluvial processes to continue. Hence, the mosaic of habitats in the river that support various sensitive species would be maintained, and the populations of the species within and adjacent to the river corridor would not be significantly affected.	No mitigation measures are required.	Not Significant

Table ES-1 (continued)
Summary of Project Impacts and Recommended Mitigation Measures

Project Impacts	Recommended Mitigation Measures	Residual Impact
4.21 WASTEWATER DISPOSAL		
The proposed project, located entirely within the service boundaries of the Saugus Water Reclamation Plant (District 26), would generate approximately 0.26 million gallons of wastewater on a daily basis. This effluent would be treated at both the Saugus Water Reclamation Plant (District 26) as well as the Valencia Water Reclamation Plant (County Sanitation District 32), which together, form the Santa Clarita Valley Joint Sewerage System. These two facilities have a combined permitted treatment capacity of 19.1 mgd with an average treatment volume of 17.3 mgd. Based on the impact analysis prepared for the proposed project, neither project nor cumulative wastewater impacts would be significant.	The proposed project would not result in any significant impacts. However, as is standard operating procedure for development projects in the City of Santa Clarita, the following measures are required to be incorporated into a project's approval process and design.	
	4.10-1 Applicant shall obtain will-serve letter from County Sanitation Districts of Los Angeles County prior to issuance of building permits in order to verify that there is sufficient capacity in the receiving trunk lines and the reclamation plant to serve the project.	Not Significant
	4.10-2 All local wastewater lines within the project boundaries are to be constructed by the applicant and dedicated to the City of Santa Clarita Transportation and Engineering Services Department.	
	4.10-3 Prior to issuance of building permits, the applicant shall pay wastewater connection fees.	

1.0 PROJECT DESCRIPTION

1. PURPOSE

The purpose of this Project Description is to describe the proposed project in a manner that will be meaningful to the public, reviewing agencies and decision-makers. CEQA Guidelines Section 15124 *requires that a complete Project Description contain the following information: (1) a detailed map showing the precise location and boundaries of the proposed project and a regional map showing the location of the project; (2) a statement of objectives sought by the proposed project, which should include the underlying purpose of the project; (3) a general description of the project's technical, economic, and environmental characteristics; and (4) a statement briefly describing the intended uses of the EIR, including a list of the agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, and local laws, regulations or policies. An adequate project description need not be exhaustive, but should supply the detail necessary for project evaluation.*

2. LEAD AGENCY

City of Santa Clarita
23920 Valencia Boulevard, Suite 300
Santa Clarita, California 91355
Contact: Mr. Jeff Hogan, Associate Planner, Planning & Building Services Department
Ms. Wendy Deats, Assistant Planner, Planning & Building Services Department
Telephone: (661) 255-4330
FAX: (661) 259-8125
E-Mail: jhogan@santa-clarita.com
wdeats@santa-clarita.com

3. POSSIBLE RESPONSIBLE AGENCIES

1. California Department of Transportation (Caltrans)
2. California Department of Fish and Game (CDFG)
3. Castaic Lake Water Agency (CLWA)
4. Metropolitan Transportation Authority
5. Regional Water Quality Control Board (RWQCB)
6. South Coast Air Quality Management District
7. U.S. Army Corps of Engineers (ACOE)
8. U.S. Fish and Wildlife Services
9. Los Angeles County Sanitation District No. 26.

4. PROJECT APPLICANT

The Newhall Land and Farming Company
23823 Valencia Boulevard
Valencia, California 91355-2194
Contact: Glenn Adamick
Telephone: (661) 255-4003

5. PROJECT SUMMARY

The project applicant, The Newhall Land and Farming Company, proposes to develop the Riverpark (Panhandle) project on a 695.4-acre site in the City of Santa Clarita in Los Angeles County. The project site is located in the central part of the City at the eastern terminus of Newhall Ranch Road, east of Bouquet Canyon Road between the CLWA property and Soledad Canyon Road (**Figure 1.0-1, Regional Location Map**).

The project includes the development of 695.4 acres of land for single- and multi-family uses and commercial uses. The entitlement applications for the proposed project request approvals to construct a residential community with 1,183 dwelling units (439 single-family and 744 multi-family units), a maximum of 40,000 square feet of commercial uses, a trail system (Santa Clara River Trail, Newhall Ranch Road and Santa Clarita Parkway Class I trails, and trail connections from the interior planning areas), and a 29-acre active/passive park along the Santa Clara River. The project would also provide for utility easements (electric, water, wastewater, etc.), public street rights-of-way, and roughly 442 acres of open space area, which includes most of the Santa Clara River. Buildout of the project necessitates the extension of Newhall Ranch Road, (full grading, 4-6 lanes) including the Newhall Ranch Road/Golden Valley Road Bridge over the Santa Clara River, to the Golden Valley Road/Soledad Canyon Road flyover.[1] A portion of Newhall Ranch Road is located off site on property owned by CLWA. The project would include the construction of a portion of Santa Clarita Parkway (full grading, 4 vehicle lanes, Class I trail) from Newhall Ranch Road south for approximately 1,500 feet. The project will not include construction of the Santa Clarita Parkway Bridge over the Santa Clara River or its connection to Soledad Canyon Road. The project may also necessitate the construction of one water tank to serve the project at one of two possible locations. Alternatively, the water service provider (CLWA/Santa Clarita Water

[1] The extension of Golden Valley Road (the "flyover"), from Soledad Canyon Road to a point approximately 900 feet north of Soledad Canyon Road is covered under a separate approval issued by the City with construction anticipated to commence in the next six to nine months.

Division) has indicated that they may collect a "water storage fee" from the project and provide water service from their existing infrastructure. Consequently, for purposes of environmental analysis both water tank sites are included in the project description. Details of the proposed tank development are discussed later in this section.

The project applicant is requesting approval of General Plan Amendment 02-002, Zone Change 02-002, Vesting Tentative Tract Map (VTTM) 53425, Conditional Use Permit 02-009, Hillside Development Application 02-003 including an Innovative Application, Oak Tree Permit 02-025 and Adjustment No. 02-010. These project approvals and entitlements are collectively referred to as "the project" and are discussed in detail later in this section and in **Section 4.7, Land Use**. Additional actions, such as grading and building plan review, would be required by the City to permit grading and construction activities on the site.

6. PROJECT LOCATION

Figure 1.0-1 illustrates the Riverpark project site location within a regional context. **Figure 1.0-2** shows that the project site is located in the central part of the City of Santa Clarita. The project site is approximately 695.4 acres in size, and is located east of Bouquet Canyon Road and north of Soledad Canyon Road. The Santa Clara River generally runs east-west within the project site adjacent to the southern boundary of the project site. **Figure 1.0-3, Surrounding Land Uses**, shows the entire project site (including the six general development areas) and land uses in close proximity to the site. The project site is bound to the north by undeveloped property, and CLWA property used for administrative offices and a water treatment facility and single-family housing to the northwest. To the southeast of the project site (across the Santa Clara River) are a mobile home park, a business park, retail commercial uses and a Metrolink Station. The Saugus Speedway facility lies to the south of the project site. East of the project site is a business park and undeveloped property (including utility easements). Retail commercial uses are located to the west of the site along Bouquet Canyon Road.

Five schools are located within two miles of the project site: Bridgeport Elementary is located to the west; Emblem Elementary to the northwest; and Continuation High School; Academy of the Canyon High School; and Passport High School to the southeast, located in what is commonly known as the Bowman School.

Table 1.0-1, Riverpark Development Statistical Summary, provides a summary breakdown of the project in terms of the number of dwelling units, square footage of commercial uses, acreage of open

space, etc. Please see **Table 1.0-2, Current Zoning at the Riverpark Project Site**, for a more detailed itemization of proposed land uses and acreage allotments.

Table 1.0-1
Riverpark Development Statistical Summary[1,2,3]

Land Use	Gross Acres	Maximum Dwelling Units (du) or Square Feet (sf)
• Residential		
Single Family	83.9	439 du
Multi-Family	66.3	744 du
Subtotals	**150.2**	**1,183 du**
• Non-Residential Uses		
Commercial	3.0	40,000
Subtotals	**3.0**	**40,000 sq. ft.**
• Recreation and Open Space		
- Active/Passive Park	27.4[5]	—
- Open Space	81.7	—
- Santa Clara River	330.8	—
- River Trail/Open Space	8.5	—
- City Maintained Slope Lots Adjacent to Public ROW	10.4	—
- Private Recreation	1.3	
- Upland Preserve Zone	8.4[4]	—
Subtotals	**468.5**	—
• Community Facilities		
- Roadways	70.1[6]	—
- Water Quality Basin	**3.6**	
Subtotals	**73.7**	—
TOTALS	**695.4**	**1,183 du and 40,000 sq. ft.**

Source: PSOMAS, VTTM53425, November 13, 2003.
[1] *Planning Areas A1, A2 and B incorporate an Upland Preserve zone of varying widths.*
[2] *Common landscaped areas are included in planning area, open space or major roadway acreage figures.*
[3] *Although a water tank is proposed for the site it is not included in the overall development summary as it is located off site.*
[4] *The Upland Preserve zone acreage includes any natural area between the trail and resource line (including bank stabilization, but not River Trail).*
[5] *Active park excludes 2 acres from water quality basin.*
[6] *Includes future bridge lots and private street in Area C.*

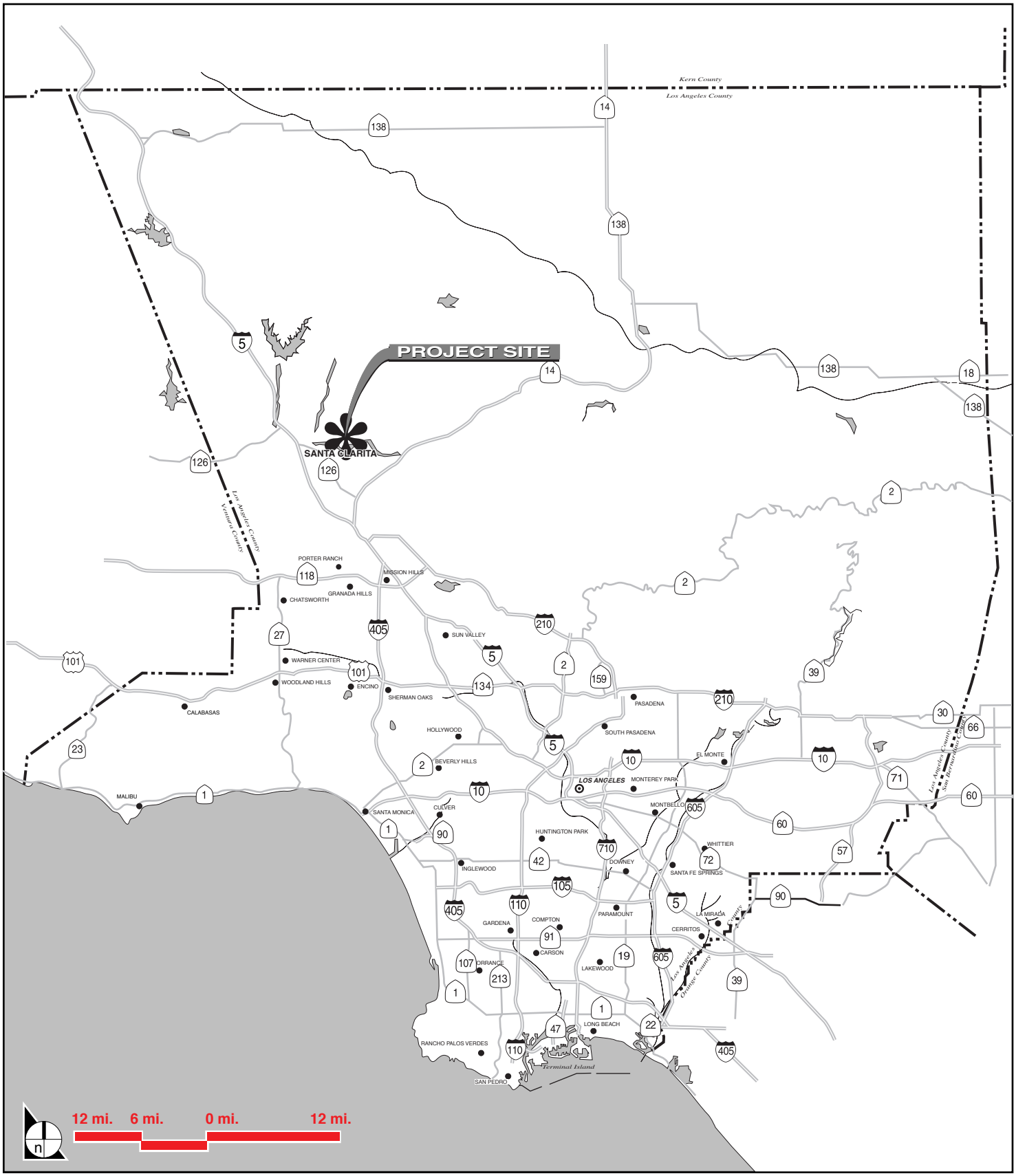
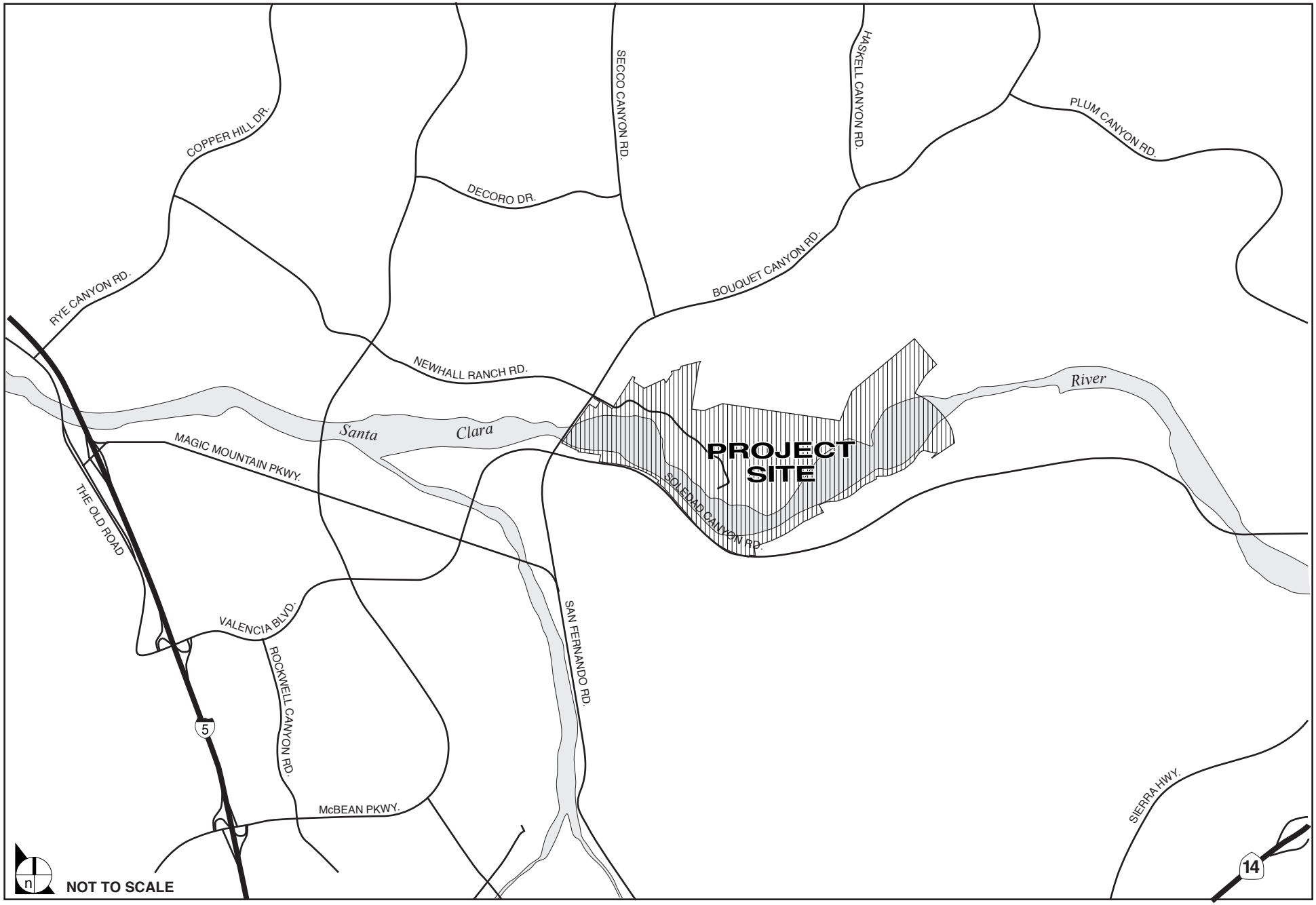


FIGURE **1.0-1**

Regional Location

32-73•04/03



SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **1.0-2**

Project Vicinity

112-16•08/03

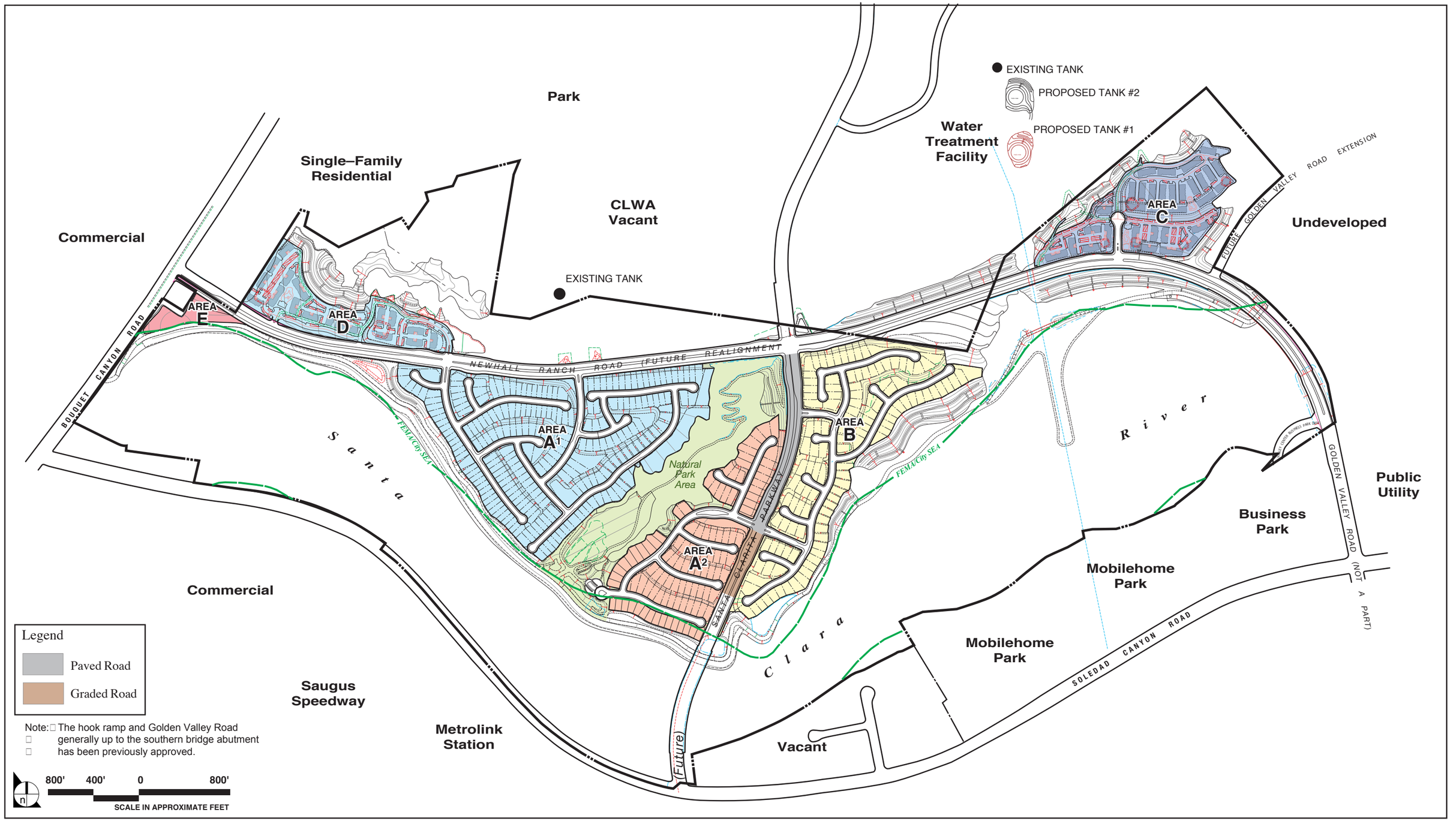


FIGURE **1.0-3**

Surrounding Land Uses

112-16•02/04

7. PROJECT APPROVALS AND ENTITLEMENTS

The project applicant is requesting approval of the following entitlement applications, which govern the development activities on the project site as described above and in more detail later in this section:

1. **General Plan Amendment 02-002.** The current City General Plan land use designations for the project site include Residential Moderate, Industrial Commercial, Community Commercial and Commercial Office with Significant Ecological Area (SEA) Overlay and Valley Center Concept (VCC) designation and Community Commercial with the VCC designation. A General Plan Amendment has been requested by the project applicant to change the land use designation of the project site to the Residential Moderate (RM) and Community Commercial (CC) designations with SEA and VCC Overlays and to define the specific alignments for Santa Clarita Parkway and Newhall Ranch Road. The SEA Overlay would correspond to the top of bank stabilization or toe/erosion protection (where there is no bank stabilization) to the southernmost project boundary of the River Trail.

2. **Zone Change 02-002.** Various portions of the project site are zoned Residential Medium (RM), Industrial Commercial (IC), Commercial Office with a Planned Development Overlay (CO PD), Community Commercial with a Planned Development Overlay (CC PD), Community Commercial (CC) and Mobile Home Park (MHP). The proposed project includes a request to revise the areas zoned IC, CO PD, CC, CC PD, and MPH, to Residential Medium Planned Development (RM PD) and Community Commercial Planned Development (CC PD). The Planned Development Designation would encompass all of the zoning designations on the project site.

3. **Vesting Tentative Tract Map (VTTM) 53425.** Approval of the Vesting Tentative Tract Map is required to subdivide the site into 439 single-family lots, five multi-family lots (for 744 multi-family units), and lots for recreation/parks, utilities, roadways and open space. The proposed Vesting TTM would subdivide the site into 545 lots.

4. **Conditional Use Permit 02-009.** The proposed project requires approval of a Conditional Use Permit to allow the implementation of the Planned Development (PD) Overlay, to allow residential building heights in excess of two-stories and 35 feet tall (up to a maximum of 50 feet), approval of the Hillside Innovative Application, and vehicular gating of Planning Area C.

5. **Hillside Development Application 02-003.** A hillside development review is necessary for proposed development on slopes with an average cross slope of greater than 10 percent and development on ridgelines classified as secondary. The intent of the hillside ordinance is to "regulate the development and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development and to provide for the safety and welfare of the City of Santa Clarita while allowing for the reasonable development of hillside areas." (UDC Section 17.80.010) An Innovative Application is required to develop on City identified ridgelines classified as secondary.

6. **Oak Tree Permit 02-025.** An Oak Tree Permit is required for the removal of 15 of the 87 oak trees located on the project site. Twelve of the 15 oak trees will be relocated on site. Of the 87 oak trees, 10 are Heritage oaks and three are proposed for relocation and two will be removed because they are dead. Encroachments are proposed for three of the oak trees. (UDC Section 17.17.090)

7. **Adjustment 02-010.** An adjustment to allow for a maximum 20 percent reduction in the minimum lot size and lot width for lots within Planning Area A1. The adjustment also includes a request to allow for a 16-foot front yard setback on a traditional garage facing street design with a minimum driveway length of 18 feet and to increase the proposed maximum height of the sound walls to seven feet.

On May 10, 2002, the project applicant filed Master Case #02-175, which includes the above project entitlements and approvals. A list of all known responsible agency discretionary approvals is provided at the end of this section.

The 1993 Land Use Map of the City of Santa Clarita General Plan designates the project site as Residential Moderate, Industrial Commercial, Community Commercial and Commercial Office with SEA Overlay and VCC designation and Community Commercial with the VCC designation. The project site is zoned Industrial Commercial (IC), Commercial Office with a Planned Development Overlay (CO PD), Community Commercial (CC), Community Commercial with a Planned Development Overlay (CC PD), Mobile Home Park (MHP), and Residential Medium (RM), as shown in **Table 1.0-2**. Given the 692.4-acre size of the proposed RM designated area, and using the mid-range density of 11 dwelling units per gross acre, a maximum of 7,616.4 dwelling units would be allowed on the project site.

Table 1.0-2
Current Zoning at the Riverpark Project Site

Zoning Designation	Acreage
Residential Medium (RM)	277.3
Mobile Home Park (MHP)	37.4
Community Commercial Planned Development (CC PD)	150.4
Commercial Office Planned Development (CO PD)	199.9
Community Commercial (CC)	6.7
Industrial Commercial (IC)	23.7
Total	**695.4**

The City of Santa Clarita General Plan VCC Overlay category is used to designate a central portion of the City, which has the potential for creating a Valley-wide focal point. The entire Riverpark site is covered by the VCC Overlay. The purpose of the VCC Overlay is to permit and encourage master planning at a more detailed level than the General Plan, providing for a wide variety of Valley-wide activities, including higher intensity commercial uses, higher density residential uses, recreational opportunities and regional community centers. On this basis, the project is consistent with the goals of the VCC Overlay. Consistency with General Plan land use designations is discussed in more detail in **Section 4.7**, **Land Use**.

The SEA Overlay is used to designate areas of prime biological importance to the City and the Santa Clarita Valley for protection and continued preservation and to ensure the continued viability of the

biological resources contained in a designated SEA. With respect to the project site, the SEA is the Santa Clara River (see **Figure 1.0-3**). The Santa Clara River would be maintained predominantly in a natural state and consistent with the Santa Clara River Natural River Management Plan already approved by the ACOE and CDFG.

a. Natural River Management Plan

(1) Background

On November 30, 1998, the ACOE, CDFG and the California Regional Water Quality Control Board approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP is a long-term, master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and portions of two of its tributaries. More specifically, the NRMP governs a portion of the main-stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and portions of San Francisquito Creek and the Santa Clara River South Fork, Los Angeles County, California. The project site is located within the portion of the river now governed by the NRMP.

In connection with this approval, the following permits were issued by the following agencies:

- Army Corps of Engineers (ACOE) – Permit No. 94-00504-BAH under Section 404 of the Federal Clean Water Act. Section 404 of the Federal Clean Water Act allows for certain activities that result in the discharge of fill or dredged materials into "Waters of the United States" or in this case the Santa Clara River. Prior to issuing this permit, the Army Corps had completed an endangered species consultation (pursuant to Section 7 of the Federal Endangered Species Act) with the United States Fish and Wildlife Service.
- California Department of Fish and Game (CDFG) - 1603 Streambed Alteration Agreement No. 5-502-97 and Incidental Take Permit No. 2081-1998-49-5. In summary, the Streambed Alteration Agreement allows for activities that alter the "… natural flow or change the bed, channel or bank of the river…." The Incidental Take Permit applies to all state listed species pursuant to Fish and Game Code Section 2081(b).
- California Regional Water Quality Control Board (Los Angeles Region) (RWQCB) – Order No. 99-104 related to waste discharge associated with the improvements included in the NRMP.

The NRMP was prepared in response to an ACOE request to prepare a long-range management plan for projects and activities potentially affecting the Santa Clara River and San Francisquito Creek. More specifically, the NRMP, and its certified EIS/EIR (NRMP EIS/EIR), analyze impacts associated with the implementation of various infrastructure improvements (bank stabilization, bridges, utility crossings, storm drain outlets, etc.) along and within portions of the Santa Clara River adjacent to Newhall Land properties, including the Riverpark project site. The NRMP, and its EIR/EIS, are available at the City of

Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California, and are incorporated in this EIR by reference.

Due to the discovery in 2001 of a southwestern arroyo toad (*Bufo californicus*) within the NRMP boundaries (in a location west of the confluence of San Francisquito Creek and the Santa Clara River, approximately 1.5 miles west of the Riverpark project site), additional Section 7 (of the Endangered Species Act) consultation between the ACOE and the U.S. Fish and Wildlife Service was initiated. Prior to initiating this consultation, the ACOE and CDFG had removed certain stretches of the Santa Clara River and San Francisquito Creek from the consultation area as these areas lacked the necessary habitat requirements for the arroyo toad. The areas covered by the NRMP but designated as "no may effect" included the Santa Clara River 1,000 feet upstream of the Bouquet Canyon Road Bridge (including most of the Riverpark site), San Francisquito Creek north of the Newhall Ranch Road Bridge and the South Fork of the Santa Clara River south of the Valencia Boulevard Bridge. This consultation, along with the preparation of a Biological Opinion (dated November 15, 2002) (**Appendix 4.6**), resulted in the issuance of a modification to the 1998 Corps Section 404 Permit (issued June 23, 2003) (**Appendix 4.6**) that includes provisions for the protection of the arroyo toad in the affected NRMP area. (The Biological Opinion and the Section 404 modification are incorporated in this EIR and are also available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California.)

b. Implementation of the NRMP

The permits issued by the affected agencies (ACOE, CDFG, RWQCB) allow Newhall Land or its designee to engage in construction and maintenance activities for the various infrastructure improvements included within the NRMP. Within the Riverpark site, those improvements include the bank stabilization, toe or erosion protection, various outlet structures, and the Newhall Ranch Road/Golden Valley Road Bridge. The NRMP, through its permits and EIR/EIS, includes certain requirements/conditions and mitigation measures associated with the implementation of the approved improvements.

Prior to initiating an individual project under the NRMP, such as the Riverpark bank stabilization or the Newhall Ranch Road/Golden Valley Road Bridge, Newhall Land (or its designee) must submit to the ACOE and CDFG a Verification Request Letter (VRL), VRL Variance or Request for Amendment and accessory documentation (maps, exhibits, photographs, etc.) showing that the particular planned improvement is consistent with the NRMP and the accessory agency permits.

Upon submittal of the VRL, the ACOE and CDFG have 45 days in which to make their determination on the individual project's consistency with the NRMP and accessory agency permits. The ACOE and CDFG approvals of the request constitute the final approvals from ACOE, CDFG and RWQCB to initiate construction of the project.

c. Application of the NRMP to the Riverpark Project

As indicated above, various infrastructure improvements and subsequent maintenance activities are governed by and permitted through the approved NRMP and accessory agency permits. Those improvements addressed by the NRMP, and its EIS/EIR, that are located on the Riverpark project site include:

Bridges –

1. Newhall Ranch Road/Golden Valley Bridge (6-lane), 550 feet long, 110 feet wide.
2. Santa Clarita Parkway Bridge (6-lane), 500-1,000 feet long, 110 feet wide.

Bank Stabilization (including accessory storm drain outlets) –

1. Approximately 2,500 feet of ungrouted rip-rap and tow protection from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.
2. Approximately 11,000 feet of buried bank protection from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.

The NRMP EIS/EIR reviewed and evaluated the biological context and impacts of these river-related improvements and imposed conditions to mitigate their potential impacts. The applicable improvements proposed by the Riverpark project will be finally permitted under the NRMP, via the VRL process described above, and will be subject to NRMP's conditions/mitigation. To the extent that the Riverpark project improvements differ from those approved in the NRMP, those differences will be discussed in the applicable EIR sections.

Most of the proposed development would occur outside of the SEA boundaries with the exception of the bank stabilization, trails, water quality basins, slopes adjacent to the trail, portions of lots within area A2 and a portion of the Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge. Please see **Figure 2.0-2, Significant Ecological Area (SEA) 23**. The Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge project, is also undergoing a separate environmental review and documentation by the City of Santa Clarita. However, the extension of Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge, is part of the

Riverpark project and is also being analyzed and discussed in this document (see heading **10., Cross Valley Connector**, of this section for a more in-depth discussion of this roadway).

8. PROJECT OBJECTIVES

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a statement of the objectives sought by a project applicant (Section 15124(b) of the CEQA Guidelines).

The Riverpark project (see **Figure 1.0-10**) is part of a private development plan proposed by The Newhall Land and Farming Company. The purpose of the development is to provide a predominately residential community with accessory commercial and recreational opportunities. The project site is comprised of six distinct areas. Areas A1, A2, and B include development of single-family residences, whereas Areas C and D include multi-family units (apartments and condominiums). The sixth community (Area E) includes the development of a maximum of 40,000 square feet of commercial use. Each of the planning areas includes open space areas, and all of the areas include recreational opportunities (open space, river trail, pocket parks, private recreation facilities, or neighborhood park). The project applicant's objectives for the project include the following items.

a. Land Use Planning

1. Create a new community that allows for residential, commercial and recreational development, while preserving significant natural resources and open area.

2. Provide a substantial number of new housing units to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.

3. Cluster development within the site to preserve regionally significant natural resource areas and sensitive habitat.

4. Provide development that is compatible with surrounding communities and land uses.

5. Construct all required on- and off-site infrastructure improvements in a timely manner in order to provide concurrence of infrastructure availability and to meet the service needs of the project. Provide a coordinated "pay as you go" development that is consistent with surrounding uses.

6. Provide for adequate flood protection, including bank stabilization where necessary, for the safety of the public and property.

7. Provide for the long-term maintenance of public and recreational facilities including parks, trails, landscaping, storm drains, etc., that serve the project site.

8. Ensure compatibility with the City's Standard Urban Stormwater Mitigation Plan Implementation Ordinance and FEMA requirements.

9. To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile.

b. Economic

1. Develop the site to include housing of varying types, accommodating a range of incomes, and commercial opportunities for the residents of the project as well as the local area.

2. Create an economically feasible project.

c. Mobility

1. Provide a safe, efficient, and aesthetically attractive street system, which includes pedestrian walkways (sidewalks) with connections to adjoining regional transportation routes.

2. Provide an efficient street circulation system that minimizes impacts on residential neighborhoods and environmentally sensitive areas.

3. Provide Class I bike facilities and landscaping on new roadways providing access to residential areas.

4. Provide connections to and construct portions of the Santa Clara River Trail, which provides equestrian, pedestrian, and bicycle access to the Valencia Town Center, Valencia Industrial Center, Central Park and commercial core of the Santa Clarita Valley.

d. Parks and Recreation

1. Provide for the recreational use of open space areas that are compatible with protection of significant natural resources.

2. Provide a neighborhood park and improvements, which satisfy park dedication requirements and meet the recreational needs of local residents including both active and passive parkland.

3. Provide a range of active/passive recreational opportunities.

4. Provide an extensive system of pedestrian, equestrian and bicycle trails consistent with the City's Santa Clara River Trail plans and the City's Circulation Element.

e. Resource Conservation Objectives

1. Retain major open areas that act as regional ecological preserves and migration corridors.

2. Retain major open areas and their natural vegetation as a wildlife or ecological preserve.

3. Provide a site specific evaluation of the biotic resources of the site in compliance with the provisions of the City's Unified Development Code and General Plan with regard to significant ecological areas

and encourage development that protects or enhances those resources, while allowing a reasonable use of the land.

4. Maintain and protect a majority of areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife.

5. Establish an adequate buffer and mitigation measures to maintain and enhance the habitat value of the area and preserve the river resources.

6. To provide a sensitive and protective interface with the Santa Clara River by utilizing appropriate setback, grading, landscape, bank stabilization, and water quality treatments.

7. To foster the design and integration of a mutually beneficial relationship between the natural and built environments, sensitive land use transition treatments, attractive streetscenes, and indigenous architectural and landscape design guidelines.

9. TECHNICAL, ECONOMIC, AND ENVIRONMENTAL CHARACTERISTICS

The CEQA Guidelines (Title 14, Cal. Code of Regulations Sec. 15000 et seq.) require an EIR to provide "[a] general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." (CEQA Guidelines Section 15124 (c))

The proposed project includes a mix of single-family, multi-family, recreational, commercial and open space uses. These uses provide land uses that support the local vicinity and region. New housing would be provided to support existing and new employment opportunities expected to occur in the region. The proposed trail system and neighborhood parks would provide local recreational support for new and existing residents. The commercial uses would support the proposed residential uses as well as the existing residents in the local area.

a. Proposed Land Uses

The following describes the types and amounts of new land uses proposed by the applicant and the infrastructure improvements necessary to construct the development. This description is intended to provide a sufficient level of detail from which an evaluation and review of the environmental impacts of the proposed Vesting Tentative Tract Map, General Plan Amendment, Zone Change, Conditional Use Permit, Hillside Development Application, Adjustment, and Oak Tree Permit can be made.

The project site includes six general development areas. **Figure 1.0-10** shows Areas A1, A2, B, C, D and E and the general outline of development that would occur in each of those areas. The project site is predominantly vacant, but includes several buildings and materials storage used for a general contracting

business, the City of Los Angeles Aqueduct, an abandoned water tank and various water wells and lines. Other utility structures, such as Southern California Edison or Department of Water & Power electrical transmission lines, are adjacent to or traverse portions of the site. The site is adjacent to Bouquet Canyon Road and commercial uses located to the west.

Figures 1.0-4 through **1.0-9** show detailed development in each of the six development areas. **Figure 1.0-10, Vesting Tentative Tract Map**, depicts the site plan for the proposed project. **Table 1.0-3** summarizes the proposed land uses and lot division by area. The project's technical characteristics are described below.

(1) Technical Characteristics

(a) Residential Component

The project includes the development of 1,183 dwelling units including 439 single-family dwellings and 744 multi-family units. Detached single-family housing would be located in Areas A1, A2 and B (see **Figures 1.0-4** though **1.0-6**). This housing type is characterized by traditional lot orientation and a gross density of 4.91 single-family dwelling units per acre. As shown in **Table 1.0-3**, single-family fee lots would range in size from 4,950 to 9,418 square feet and would include development on about 83.9 acres of the 695.4-acre site. The average single-family lot size would be 5,775 square feet.

The project applicant would also construct multi-family units on three lots in Area C and two lots in Area D. The apartment lot sizes would range from 8.3 to 23.3 acres and would include development on roughly 66.3 acres of the project site. **Figures 1.0-7** and **1.0-8** show the lot locations for these multi-family dwellings.

Per Title 17 of the City's Unified Development Code, the maximum height allowed for the proposed single-family and multi-family dwellings is two stories or 35 feet for residences located within the RM PD zoned area. The Unified Development Code provides a project applicant with the ability to exceed two-stories or 35 feet tall with the approval of a Conditional Use Permit. This request has been filed in conjunction with the project. Further, this zoning classification establishes a maximum of 11 dwelling units per acre.

Table 1.0-3
Riverpark Project Detailed Land Use Summary

Lot Numbers	Total # of Lots	Use	# of Units	Min. Lot Size (square feet)	Average Lot Size (square feet)	Range of Lot Sizes (square feet)	# of Acres
Area A1							
1-106	106	Single-Family Dwelling	106	4,950	7,659	4,950 – 27,780	18.64
107-220	114	Single-Family Dwelling	114	5,500	7,936	5,500 – 34,586	20.8
226	1	Private Recreation	--	--	38,802	38,802	0.9
221-225, 227-246, 248	26	Open Space (HOA maintained)	--	--	14,654	842 – 48,598	8.8
Subtotal Area A1:	**247**		**220**				**49.1**
Area A2							
251-352	102	Single-Family Dwelling	102	6,050	8,438	6,494 – 16,822	19.8
353-366	14	Open Space (HOA maintained)	--	--	12,607	1,069 – 28,145	5.3
Subtotal Area A2:	**112**		**102**				**25.1**
Area B							
368-484	117	Single-Family Dwelling	117	6,600	9,418	6,600 – 20,395	25.3
485, 510	2	Private Recreation	--	--	---	7,744 – 13,348	0.5
486-497, 499-509, 511-513	26	Open Space (HOA maintained)	--	--	28,985	794 – 136,720	16.7
Subtotal Area B:	**146**		**112**				**42.5**
Area C							
519-521	3	Apartments	420	--	616,420	362,500 – 1,014,167	42.5
Subtotal Area C:	**3**		**420**				**42.5**

Lot Numbers	Total # of Lots	Use	# of Units	Min. Lot Size (square feet)	Average Lot Size (square feet)	Range of Lot Sizes (square feet)	# of Acres
Area D							
524, 525	2	Apartments	324	--	N/A	381,121 – 659,349	23.9
Subtotal Area D:	**3**		**354**				**23.9**
Commercial/Area E							
527,528	2	Commercial		--	N/A	59,858 – 72,577	3.0
Subtotal Commercial/Area E:	**2**						**3.0**
Street (ROW)[1]	3						**70.1**
539, 540, 541[2]							
Subtotal	**3**						
Lots Dedicated to the City of Santa Clarita							
529-538	10	River Trail		--	37,224	2,346 – 116,529	8.5
247	1	Water Quality Basin		--	N/A	N/A	1.7
367	1	Active/Passive Park[2]		--	N/A	N/A	29.4
514-518, 522, 523	7	City Maintained Slope Lots Adjacent to Public ROWs		--	56,421	4,240 – 289,742	10.4
249, 250, 498, 526	3	Open Space		---	728,075	345,212 – 1,327,018	50.1
542-544	3	Santa Clara River		---	4,802,489	40,111 – 7,976,949	338.4
Subtotal Dedicated Lots	**28**						**438.5**
Lots not in a Planning Area or Dedicated to the City of Santa Clarita							
545	1	Open Space	0		N/A	N/A	0.7
Subtotal	**1**						**0.7**
TOTALS:	439	Single-Family Dwelling	439		8,363	4,950 – 34,586	83.9

Lot Numbers	Total # of Lots	Use	# of Units	Min. Lot Size (square feet)	Average Lot Size (square feet)	Range of Lot Sizes (square feet)	# of Acres
	5	Apartments	744		577,946	362,500 – 1,014,167	66.3
	2	Commercial			N/A	59,858 – 72,577	3.0
Total:	**545**		**1,183**				**695.4**

Source: PSOMAS.
[1] *Includes public streets and the private and future street in Area C and future bridge lots/ROW.*
[2] *Includes the two water quality basins within park lot.*

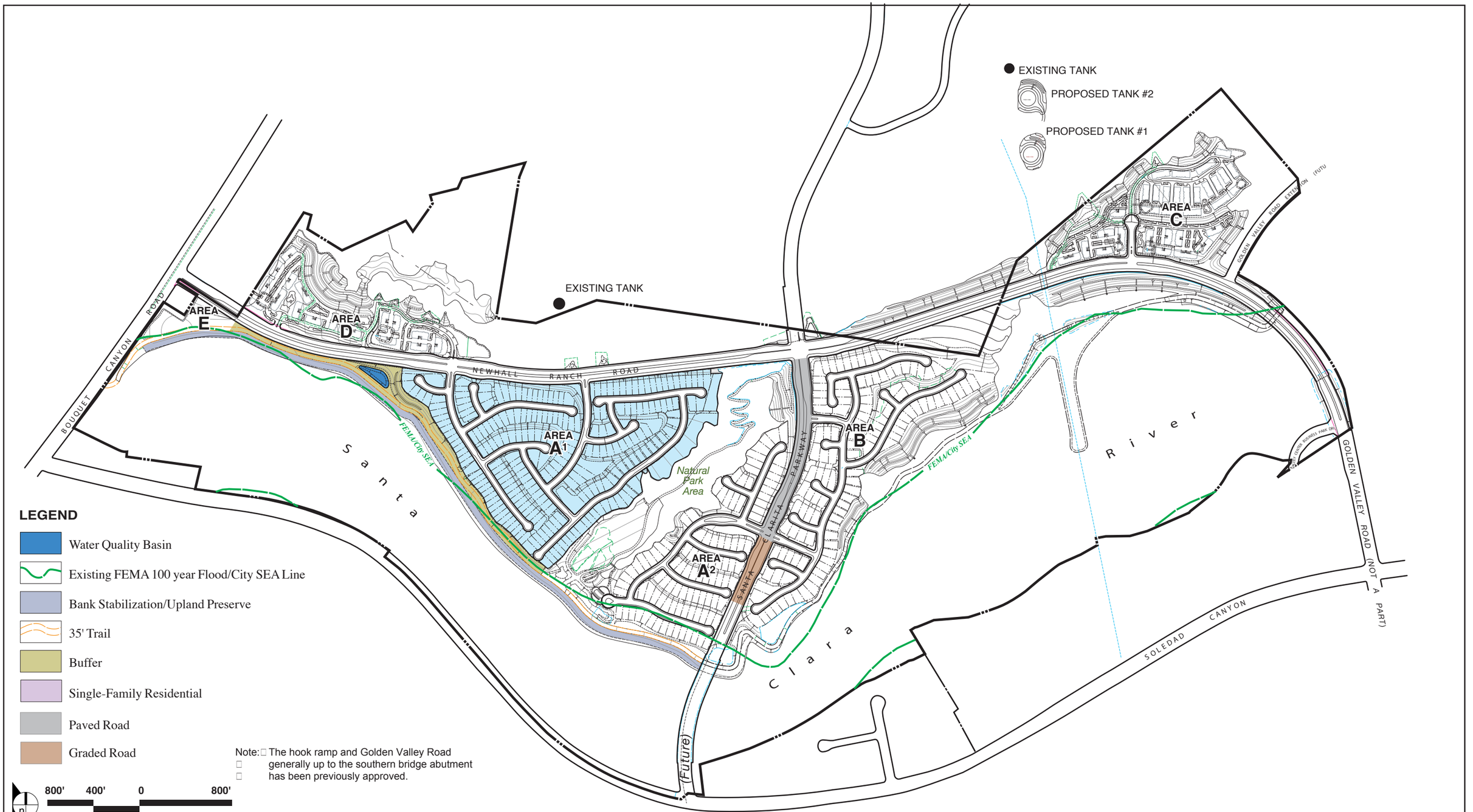


FIGURE **1.0-4**

Area A^1 Single Family Residential Detail

112-16•01/04

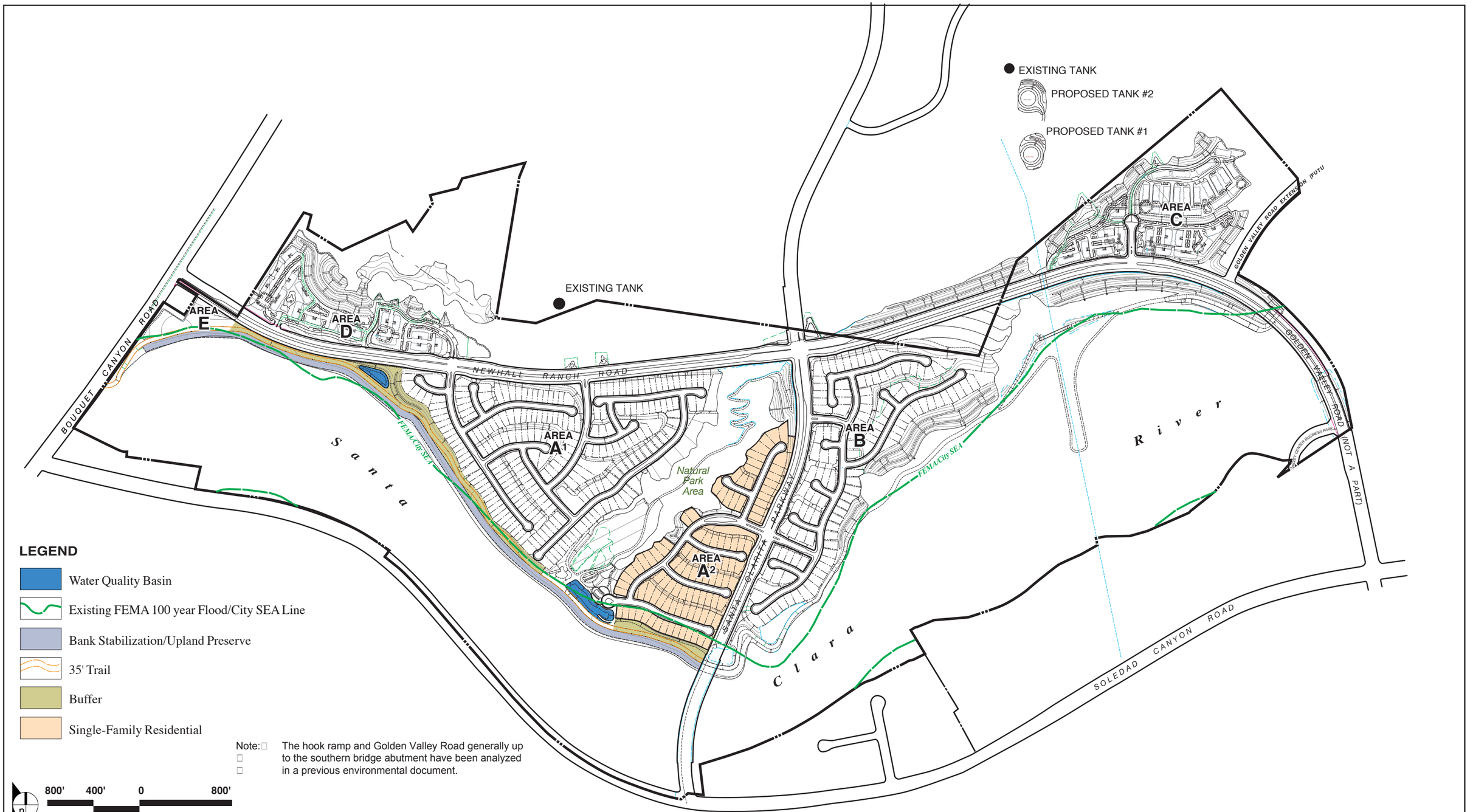


FIGURE **1.0-5**

Area A^2 Single Family Residential Detail

112-16•11/03

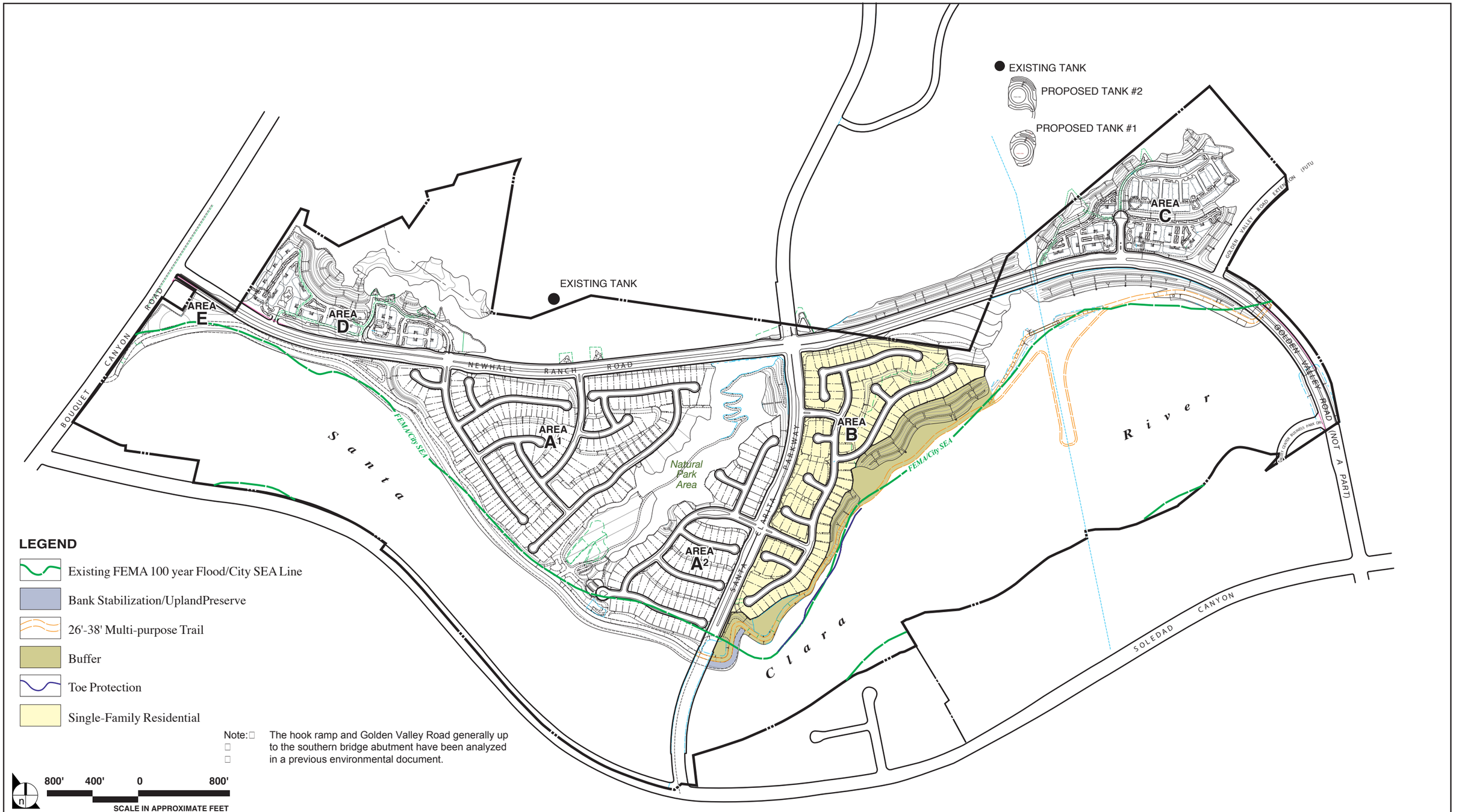


FIGURE **1.0-6**

Area B Single Family Residential Detail

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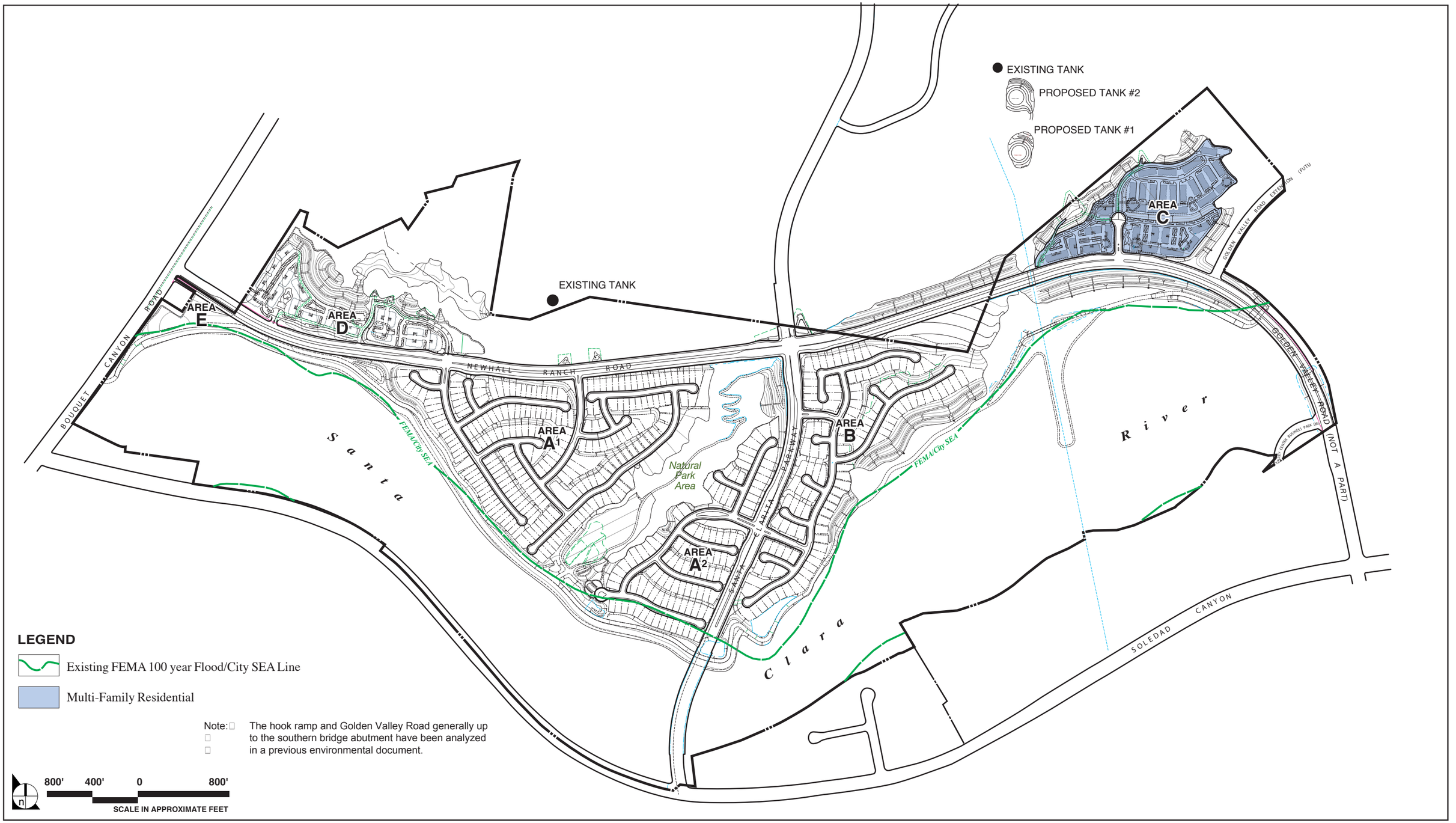

FIGURE **1.0-7**

Area C Multi–Family Residental Detail

112-16-09/03

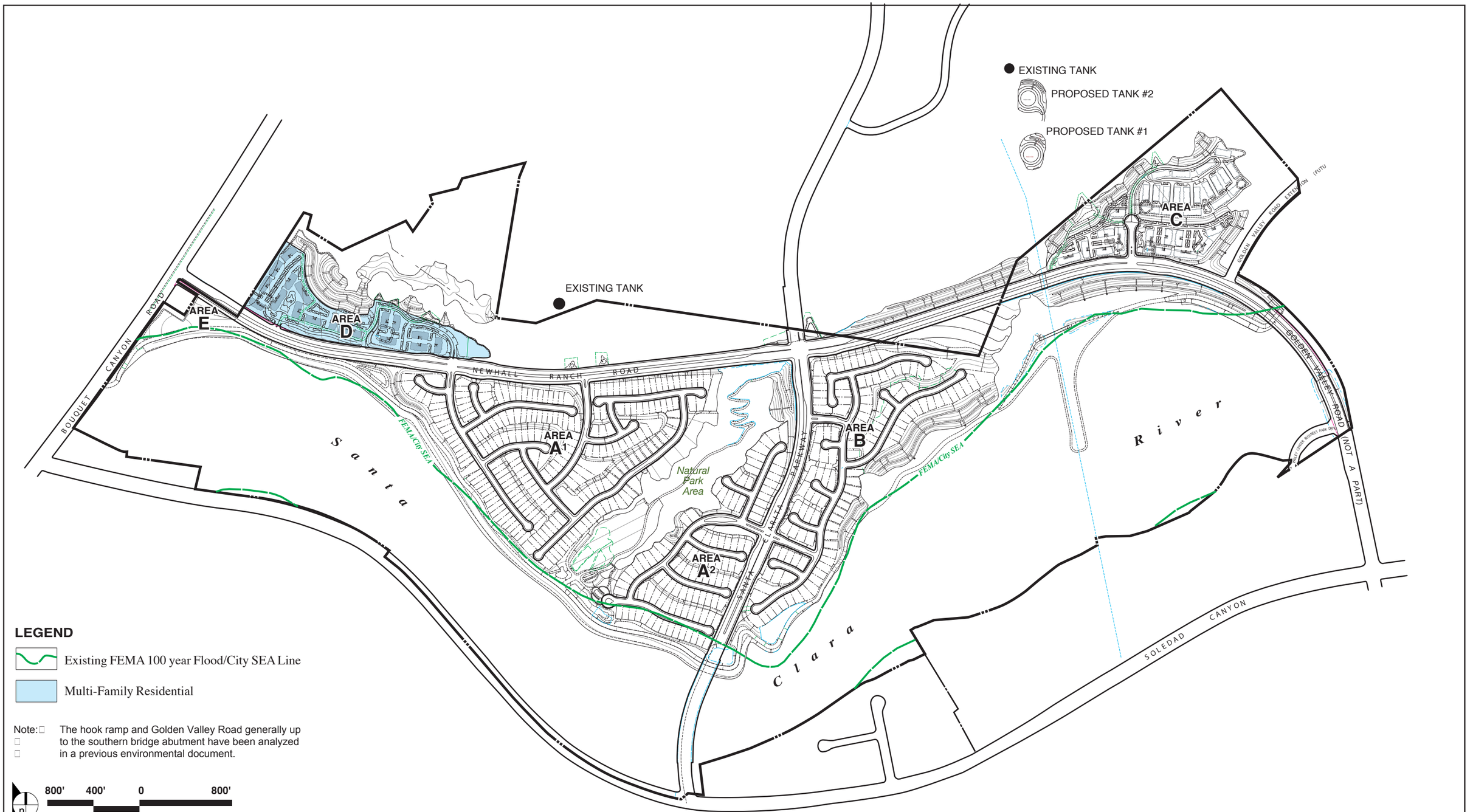

FIGURE **1.0-8**

Area D Multi–Family Residential Detail

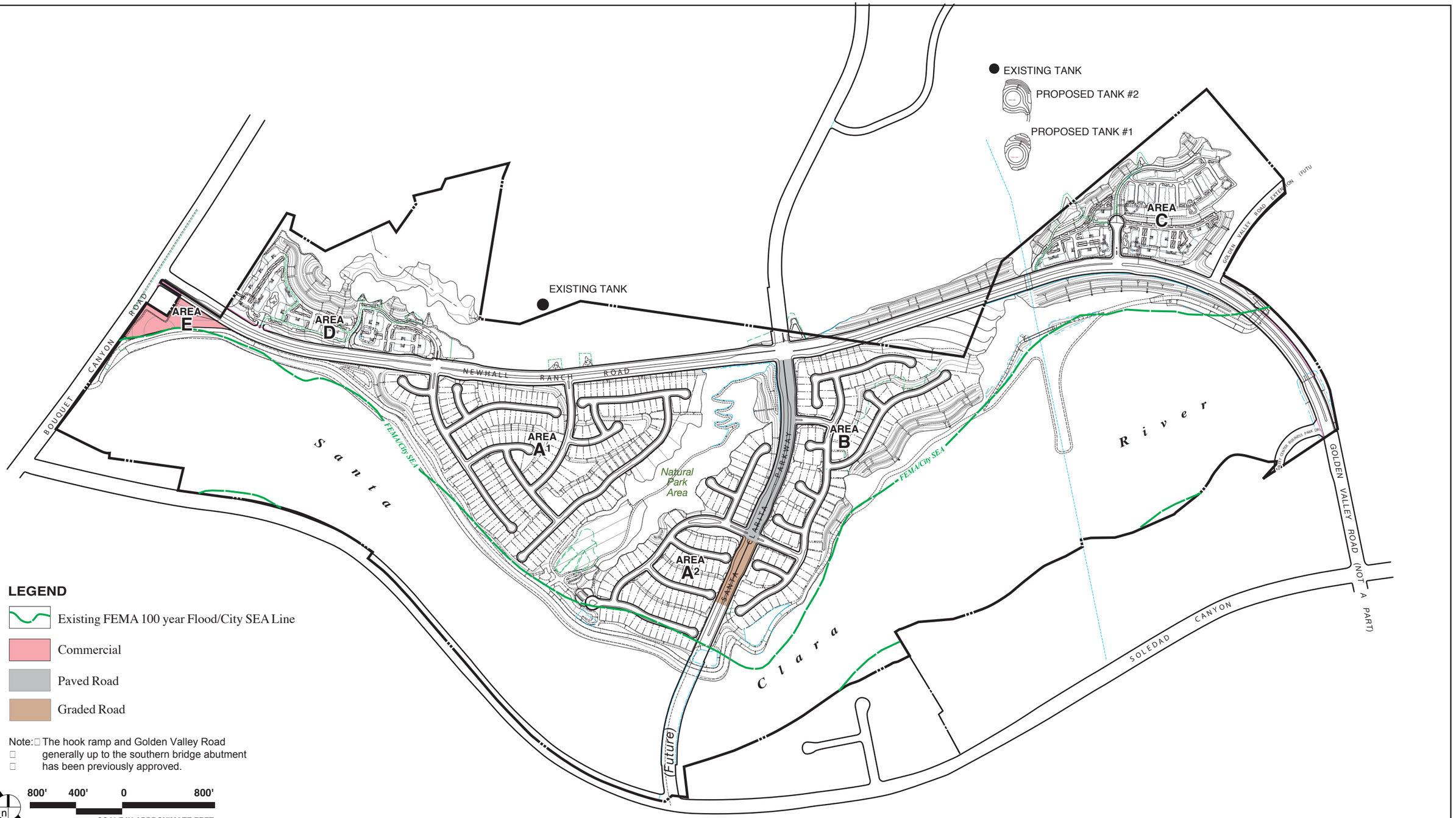

FIGURE **1.0-9**

Area E Commercial Detail

112-16-01/04

Figure 1.0-10

See Vesting Tentative Tract Map in Map Box

(DEIR Maps 1–5)

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The applicant also proposes to construct sound walls of varying heights (maximum of 7 feet) throughout Riverpark. The locations and heights of these walls are described below and are illustrated in **Section 4.5, Noise, Figure 4.5-4, Proposed Sound Walls**.

- Lots 1 and 2 (Area A1): A 6-foot high continuous solid masonry wall along the rear yard lot lines of Lots 1 and 2 and wrapping around Lot 1 to "C" Street.
- Lots 56, 57, and 60 to 72 (Area A1): A 7-foot high masonry wall, 3-foot continuous berm along the rear yards of Lots 56, 57, and 60 to 72, wrapping around the rear yard of Lot 56 as it backs on to "A" Street.
- Lots 158 to 176 (Area A1): A 7-foot high masonry wall, 3-foot continuous berm along Newhall Ranch Road and the western lot line of Lot 176.
- Lot 132 (Area A1): A 6-foot high continuous solid masonry wall along Newhall Ranch Road extending approximately 200 feet easterly from the 10-foot wall/berm at the northeastern corner of Lot 158.
- Lots 251 to 260 (Area A2): A 7-foot high masonry wall, 3-foot continuous berm along the western edge of Santa Clarita Parkway from a point across from "Q" Street to the southeastern corner of Lot 251, wrapping continuously around the southern lot line of Lot 251.
- Lots 294, 295, 313, 314, 337, and 338 (Area A2): A 6-foot high continuous solid masonry wall along the property lines of Lots 294, 295, 313, 314, 337, and 338 along Santa Clarita Parkway at the proposed pad elevations for each lot.
- Lots 368, 375 to 378 (Area B): A 6-foot high continuous solid masonry wall along the side and rear of Lot 368, and the rear lot lines of Lots 375 to 378.
- Lot 457 (Area B): A 6-foot high continuous solid wall along the southern rear yard of Lot 457 that backs onto "R" Street.
- Lots 441, 442, 448, 449, 456, and 457 (Area B): A 7-foot high masonry wall, 3-foot continuous berm along Santa Clarita Parkway along Lots 441, 442, 448, 449, 456, and 457. The berm/masonry wall also "wraps around" the northern boundary of Lot 441 as it backs onto "Q" Street.
- Lot 434 (Area B): A 6-foot high continuous solid masonry wall along the southern boundary of Lot 4334 as it backs onto "Q" Street.
- Lots 421 to 434 (Area B): A 7-foot high masonry wall, 3-foot continuous berm along the rear lot lines of Lots 421 to 434 that back onto Santa Clarita Parkway and Newhall Ranch Road.
- Area B: A 7-foot high masonry wall, 3-foot continuous berm along Newhall Ranch Road from the northeastern corner of Lot 421 to the northwestern corner of Lot 513.
- Lot 521 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 521 with Newhall Ranch Road and "wrapping around" the driveway entrance for a distance of approximately 150 feet.
- Lot 519 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 519 with Newhall Ranch Road and Future Golden Valley Road, and "wrapping around" the driveway entrance for a distance of approximately 150 feet.

(b) Commercial Component

The project proposes a 3.0-acre commercial site at the southeast corner of Newhall Ranch Road and Bouquet Canyon Road. It is expected that a maximum of 40,000 square feet of general commercial type uses (retail, eating establishments) could be situated on the site. The commercial site location is depicted on **Figure 1.0-9**.

(c) Recreational/Park Component

The proposed project includes lots dedicated to public park areas and development of a public trail system. An approximately 29-acre passive/active park would be located between Planning Areas A1 and A2 (see **Figure 1.0-5**). The park would abut the Santa Clara River and includes a public trail system that would connect to the proposed trail that would run the length of the Santa Clara River within the project site boundaries. The full extent of the trail system is shown in **Section 4.12, Parks and Recreation, Figure 4.12-4**. Trailhead parking and landscaping would be included in Area E, **Figure 1.0-9**. A typical trail section would include a 35-foot easement that contains a 12-foot equestrian trail, four-foot pedestrian trail, and 12-foot Class I bike lane with a minimum of 7 feet of landscaping. Lodge pole fencing would be provided for safety and to define trail areas. In addition, the project would include two lots (less than one acre in size) for neighborhood private recreational facilities, one each in Planning Areas A1 and B (see **Figures 1.0-4** and **1.0-6**), which would not be dedicated to the City but reserved for a Homeowners Association. Private recreational facilities are also included in Areas C and D. Open space lots in Planning Areas A1, A2 and B also provide connections to the City-wide trail system. As shown in **Table 1.0-3**, land dedicated to public parks would include approximately 29 acres of the 695.4-acre site.

(d) Open Space/Conservation Component

The Santa Clara River runs along the southern boundary of the project site. As indicated above, the General Plan has designated an SEA Overlay for portions of the project site that come in proximity or overlap with the Santa Clara River. The City of Santa Clarita has defined the boundaries of this SEA as those areas within the Federal Emergency Management Act (FEMA) 100-year flood boundary (see **Figure 1.0-3**). About 300 acres of the Santa Clara River area would be maintained predominantly in its natural state and in accordance with the Natural River Management Plan (NRMP). A majority of the project development would occur outside of the SEA boundaries with the exception of a portion of the lots with area A2, graded slopes within Planning Areas A1, A2 and B, as well as the bank stabilization, toe or erosion protection, proposed trails and a portion of the Newhall Ranch Road, including all of the Newhall Ranch Road/Golden Valley Road Bridge and associated piers and abutments. While the Newhall Ranch

Road extension, including the Newhall Ranch Road/Golden Valley Road Bridge, is undergoing separate environmental review and documentation by the City of Santa Clarita, the impacts of that project are also being analyzed in this document.

The project includes a lot within Area A1 to be used as a water quality basin (see **Figure 1.0-4**) and water quality basin easements within Areas A2 and B (see **Figures 1.0-4** and **1.0-5**) that would be used for water quality filtration. Water quality improvements would be implemented throughout the project to meet the requirements established by the Los Angeles County and RWQCB. See **Section 4.2, Flood**, for additional information on these improvements.

As shown in **Table 1.0-3**, about 471.4 acres of the 695.4-acre site would be dedicated to open space. Open space areas would generally be aligned with the Santa Clara River and hillsides in northern portions of the site, homeowner association recreation and landscape lots, as well as the prominent canyon which divides the site.

There are a total of 87 oak trees on the project site. An Oak Tree Permit is required for the removal of 15 of the 87 oak trees located on the project site. Twelve of the 15 oak trees will be relocated on site. Of the 87 oak trees, 10 are Heritage oaks and three are proposed for relocation and two will be removed because they are dead. Encroachments are proposed for three of the oak trees. The location of existing oak trees and those that are proposed for removal are discussed in detail in **Section 4.6, Biological Resources.**

(e) Site Access and Parking

As shown in **Table 1.0-3**, roadways would comprise about 70.1 acres of the project site. Primary vehicle access to the site would be via a major arterial: Newhall Ranch Road, which would run along the northern portion of the site and would include the Newhall Ranch Road/Golden Valley Road Bridge (**Figure 1.0-3**). The extension of Golden Valley Road (the "flyover"), from Soledad Canyon Road to a point approximately 900 feet north of Soledad Canyon Road is covered under a separate approval issued by the City with construction anticipated to commence in the next six to nine months.

Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge from the western boundary of the project site to a point approximately 900 feet north of Soledad Canyon Road will be analyzed in conjunction with this project.

The Newhall Ranch Road/Golden Valley Road Bridge will have a maximum width of 120 feet, a span from abutment to abutment of approximately 800 feet, a bridge clearance from the dry creekbed of 11 feet minimum to 22 feet maximum, and nine piers with 80-foot spacing between piers. The City of Santa Clarita is also addressing the extension of Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge, in a separate environmental document. This separate analysis is being done for several reasons. Primarily, the extension of this roadway is a regional connector identified in the City's General Plan and designated the City's Number 1 roadway priority. Additionally, the extension of this roadway is a significant east-west regional connector, part of the Cross Valley Connector, that is necessary today to alleviate congestion on the City's primary east-west roadway (Soledad Canyon Road). Though it would also provide access to the proposed project, this roadway is primarily necessary to alleviate existing traffic congestion and, therefore, is necessary with or without the Riverpark project.

Construction of Newhall Ranch Road analyzed as part of Riverpark would include full grading, the construction of 4 to 6 vehicle lanes, a landscaped median and a Class I trail. Construction of Santa Clarita Parkway from Newhall Ranch Road south for approximately 1,500 feet would include full grading, construction of 4 lanes, and a Class I trail. While a two-lane road and bridge would accommodate the project-generated traffic alone (approximately 3,000 average daily trips [ADT]), a minimum of four lanes are required to accommodate the additional non-project traffic that will use the road and bridge (an additional 29,000 ADT). Roadway details are depicted in **Figure 1.0-11, Analyzed Roadway Improvements on Major Thoroughfares**.

The project would also include construction of various public streets, including cul-de-sacs, as shown in **Figures 1.0-4** through **1.0-8**. The portions of Newhall Ranch Road and Santa Clarita Parkway that cross the project site would include landscaping (parkways and medians), Class I bike lanes, bus stops and turnouts and pedestrian sidewalks. Additional public streets would vary in size from 58 feet to 80 feet and would include sidewalks, parkways and in certain locations landscaped medians. Private driveways may be utilized for on-site access to the multi-family units.

(f) Grading and Bank Stabilization

Project site grading would require the movement of approximately 5.5 million cubic yards of earth, which would be balanced on site in terms of cut and fill. Additional remedial grading of 3.6 million cubic yards

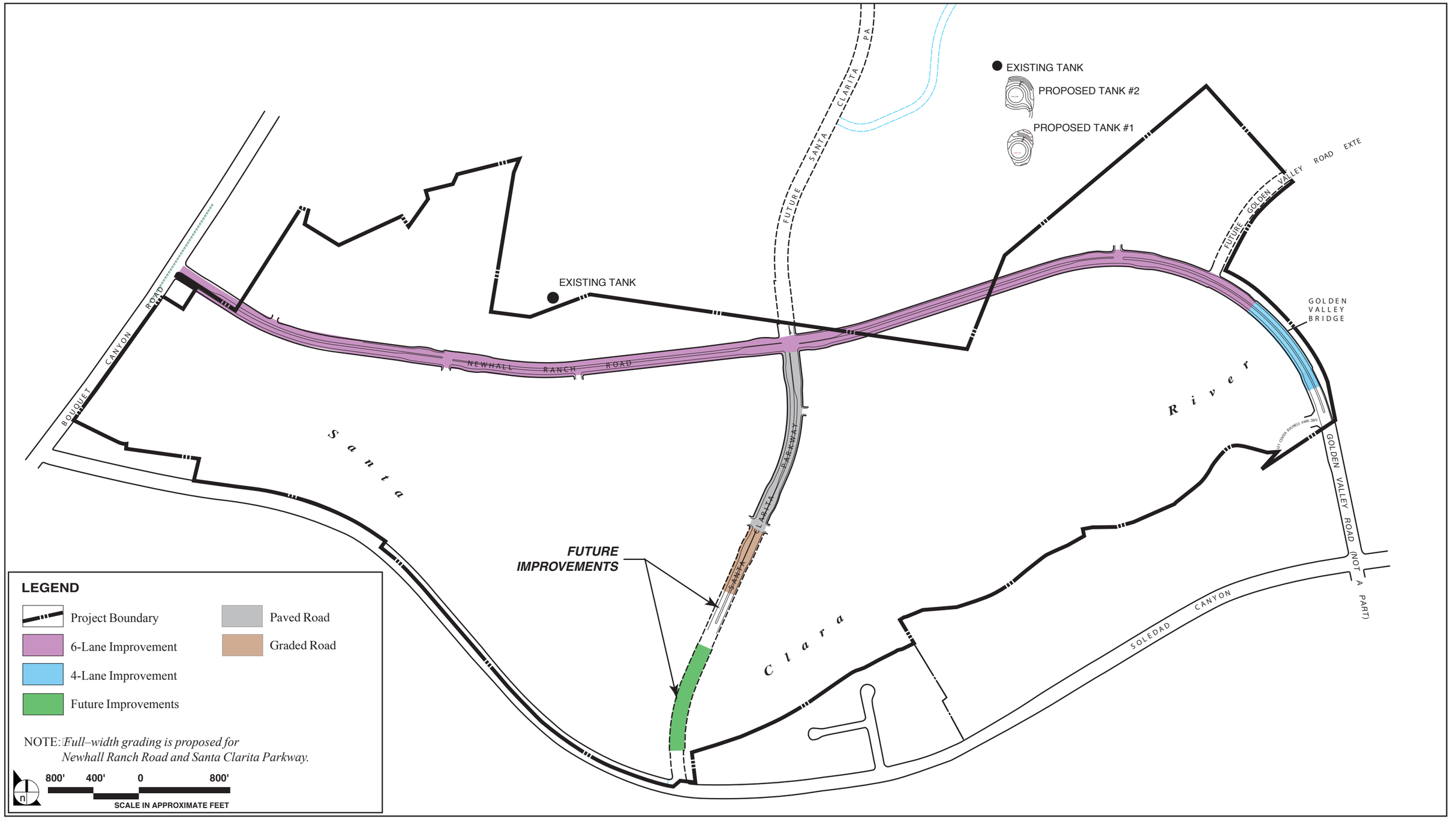


FIGURE **1.0-11**

Analyzed Roadway Improvements on Major Thoroughfares

is also proposed. Please see **Section 4.1, Geotechnical Hazards**, for a detailed discussion of potential grading impacts and **Section 4.7, Land Use**, for a discussion of grading and Innovative Application techniques. The project would require fill to level areas to create building pads on the site for development.

Bank stabilization and toe protection/erosion protection would be installed along the Santa Clara River, as shown in **Figures 1.0-12**. It is the intent of the project applicant to protect important biological resources present on the project site through the use of buried bank stabilization at the riverbank's edge, with the exception of the toe or erosion protection adjacent to Area B and the Newhall Ranch Road/Golden Valley Road Bridge abutment. It is also the intent of the project to minimize the amount of bank stabilization necessary to protect development and property from erosion. Except for bank stabilization and trails and encroachments in Planning Area A2 proposed development has largely been set back from the Santa Clara River. About 3,000 linear feet of bank stabilization would be necessary to protect Newhall Ranch Road, including Newhall Ranch Road/Golden Valley Road Bridge, and approximately 6,000 linear feet would be necessary to protect the residential and commercial development. Approximately 1,500 linear feet of toe or erosion protection would be installed adjacent to Area B. Environmental impacts associated with bank stabilization on this site was analyzed in the EIR/EIS prepared for the approved NRMP, but is further analyzed as part of this project. Buried bank stabilization would extend from the western tract boundary (adjacent to Area E) and terminate in the general area of the future Santa Clarita Parkway bridge adjacent to Areas A2 and B. Toe protection (AJacks or exposed soil cement) is being proposed at the base of the bluff (approximately 1,500 feet in length) below Planning Area B (please see **Figure 1.0-11, Analyzed Roadway Improvements on Major Thoroughfares**). A combination of buried bank stabilization and concrete gunite would be utilized in the area of Newhall Ranch Road/Golden Valley Road Bridge. The area between the end of the toe protection and the Newhall Ranch Road/Golden Valley Road Bridge abutment will not include bank stabilization. Most of the bank stabilization would be buried and generally made of soil cement. Please see **Figure 1.0-12, Bank Stabilization**, for an illustrative of bank stabilization techniques.

An illustration of exposed and buried bank stabilization is depicted in **Figure 1.0-13, Examples of Bank Stabilization Techniques**. Also shown in this figure is a depiction of the relationship between the Santa Clara River, Upland Preserve/Buried Bank Stabilization and a trail. All of the representatives photographs used in this figure are taken from previously constructed projects located in the City of Santa Clarita in which buried and exposed bank stabilization efforts were used.

(g) Utilities

All required utilities and services are currently available at locations adjacent to the project site and would likely serve the project without impacting the overall system capacity. Natural gas service would likely be supplied by the Southern California Gas Company (SCGC), electric service would likely be provided by Southern California Edison (SCE), and telephone service would likely be supplied by SBC/Pacific Bell and Comcast Cable.

As a water tank may be required on the project, two potential sites are being analyzed in this EIR. Please see **Figure 1.0-14, Potential Water Tank Locations**. Water Tank 1 is located adjacent to the City of Los Angeles Department of Water and Power Aqueduct approximately 960 feet north of the project site at an elevation of 1530 feet.

Water Tank 2 is located approximately 300 feet north of Water Tank 1 at an elevation of approximately 1580 feet and would likely require a pressure-reducing valve to regulate pressure from this elevation. Both sites are located on property owned by the CLWA.

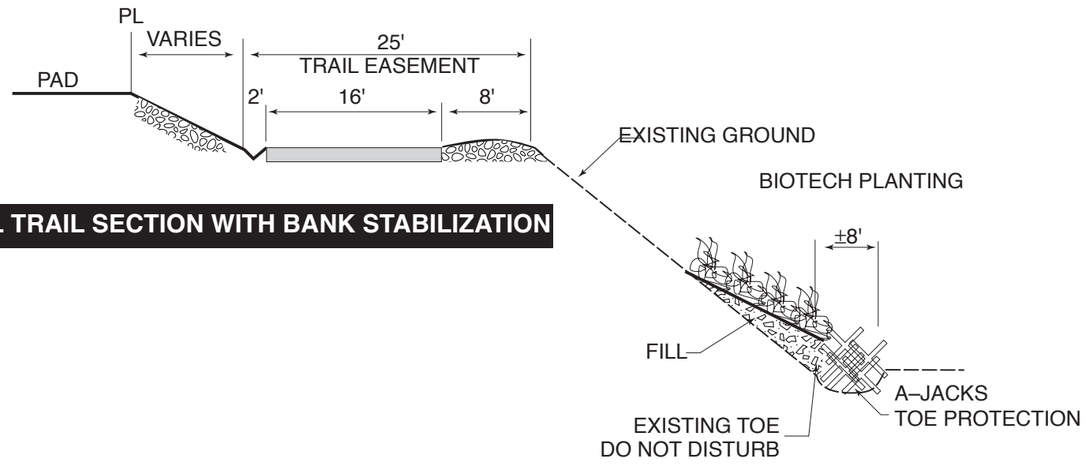
Existing Valencia Water Company water lines will be relocated in conjunction with the project. The existing CLWA Honby lateral will also be relocated, where necessary, to accommodate the project. The project also includes the construction of a bridge over the Los Angeles Department of Water Power Aqueduct.

Water service to the project site would be provided by the Santa Clarita Water Division of the CLWA. A Water Supply Assessment (WSA) has been prepared by CLWA verifying that it has sufficient water supplies to meet the projected demands of the project. The WSA is included in this document as **Appendix 4.8**. See **Section 4.8**, **Water Service**.

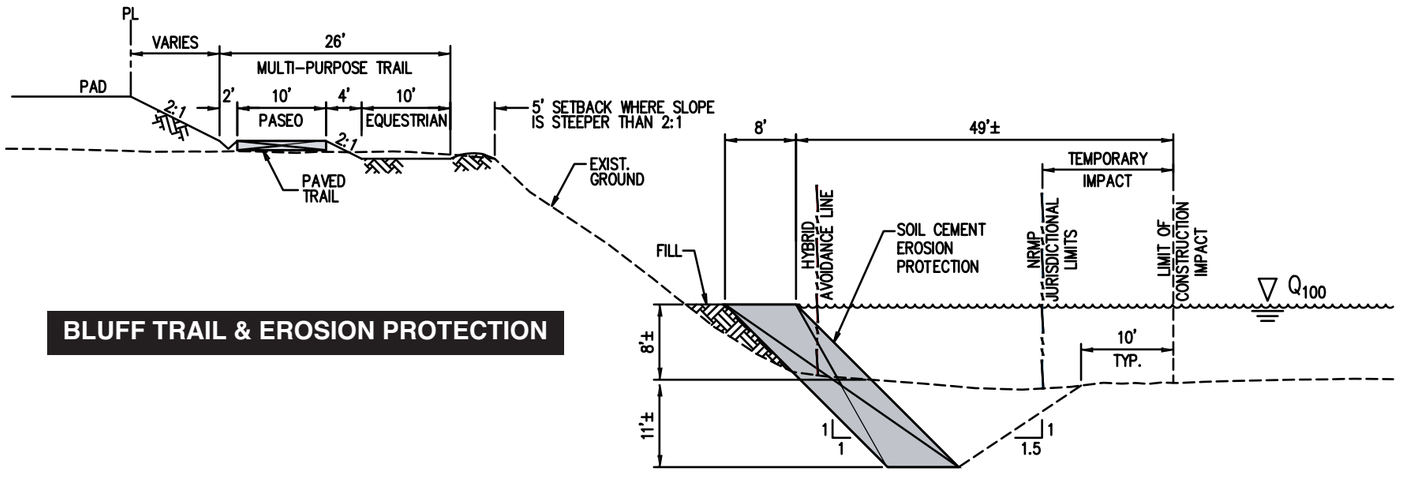
Wastewater for the site is treated primarily by the Saugus Water Reclamation Plant (WRP)--District 26 and together with the Valencia WMP District 32 provide for the wastewater treatment for most of the Santa Clarita Valley. Please see **Section 4.21**, **Wastewater Disposal**, for a more detailed discussion of wastewater service for the project.

(h) Water Quality Improvements

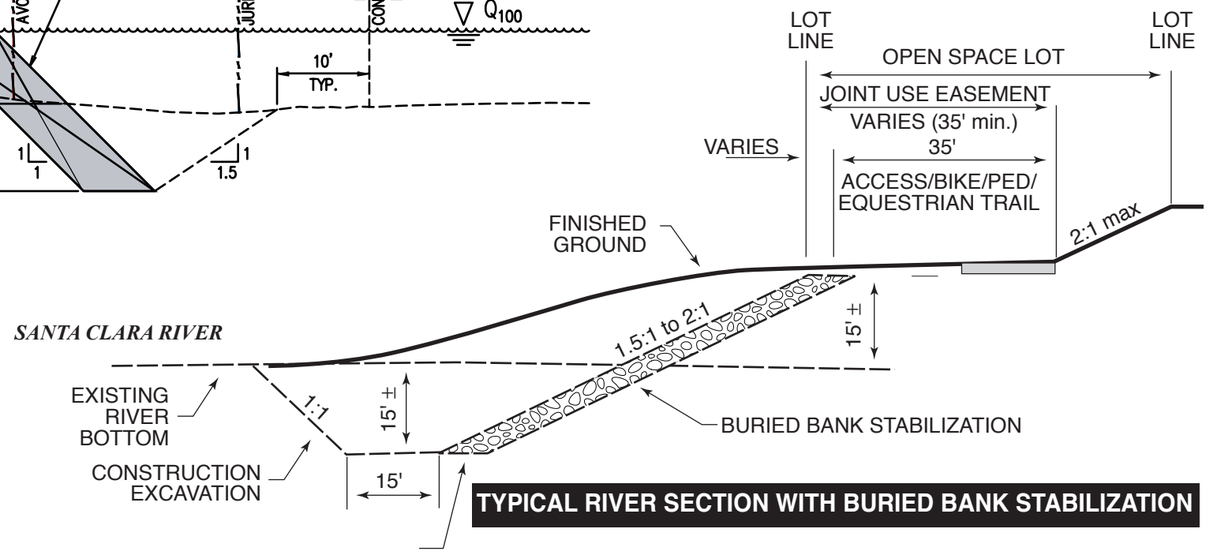
Water quality improvements/Best Management Practices (BMPs) have been incorporated into the project design to prevent operational pollutants from entering storm and non-storm runoff. Structural BMPs include water quality detention basins, a grassy swale and hydrodynamic separator system, such as a



TYPICAL TRAIL SECTION WITH BANK STABILIZATION



BLUFF TRAIL & EROSION PROTECTION



TYPICAL RIVER SECTION WITH BURIED BANK STABILIZATION

FIGURE **1.0-12**

Stabilization at San Francisqito Creek
at the West Bank
(This photo depicts exposed bridge abutment)

Stabilization at Bridgeport
(This photo depicts
Buried Bank stabilization)

Stabilization at East Bank from
Decoro Bridge
(This photo depicts River/Buried Bank
Stabilization, Upland Preserve and a Trail)

SOURCE: PSOMAS – 2003

FIGURE **1.0-13**

Examples of Bank Stabilization Techniques

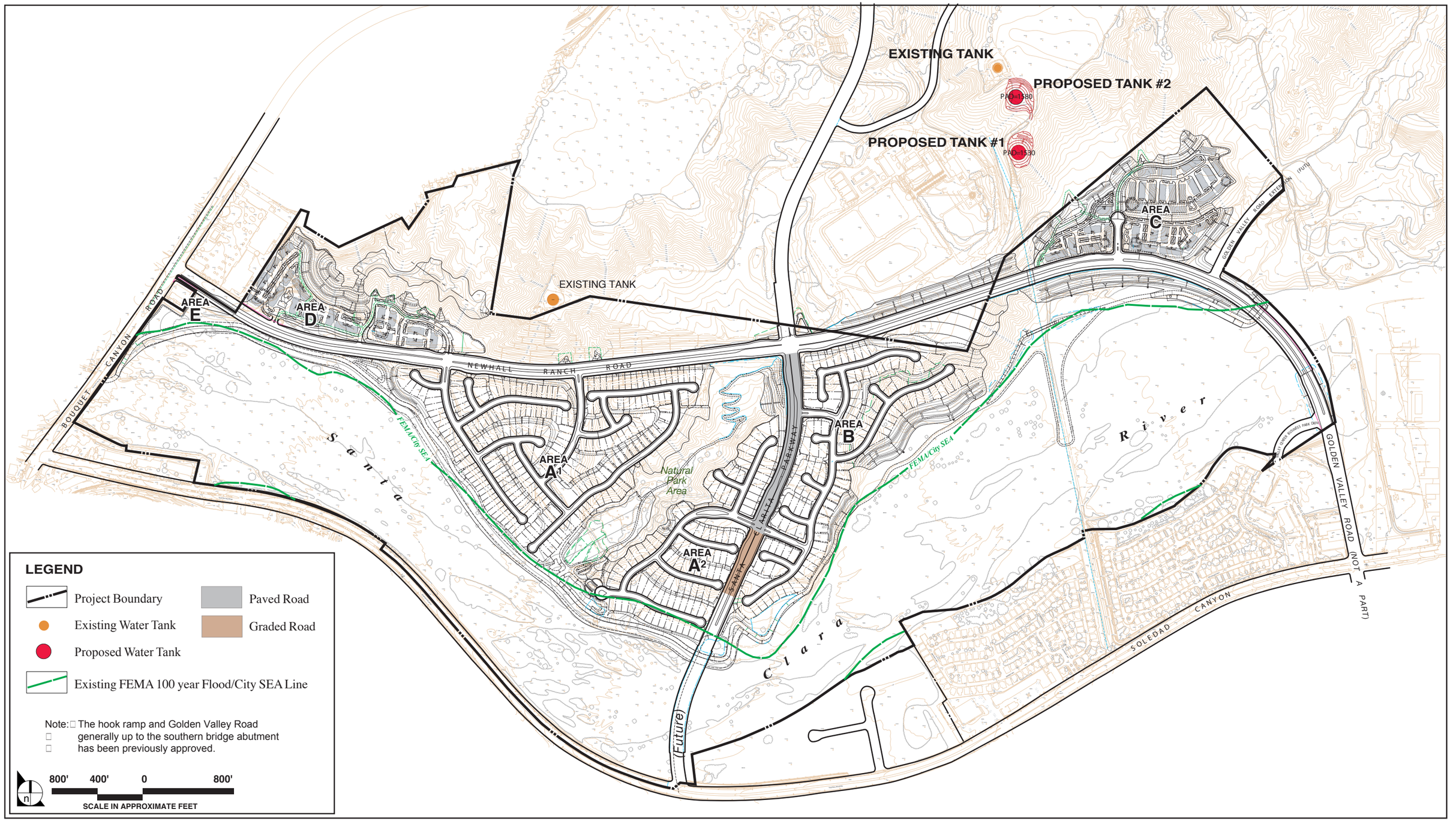


FIGURE **1.0-14**

Potential Water Tank Locations

112-16•02/04

continuous deflective separator. As an example, the grassy swale has a continuous deflective separator at the upstream inlet and flows discharge from the swale to the detention basin. Water quality improvements are discussed in more detail in **Section 4.8, Water Services**, and in **Section 4.2, Flood**, **Figure 4.2-9, Drainage Concept Map**.

b. Economic Characteristics

It is the intent of the project applicant to provide a mix of residential, commercial, recreational, and open space uses on the project site.

Using the latest data provided by the California Department of Finance, the average household size for the City of Santa Clarita is 3.023 persons per household.[2] Therefore, the residential component of the proposed project would result in a direct population increase of approximately 3,576 persons (1,183 households x 3.023 persons = 3,576 persons).

The City of Santa Clarita and Los Angeles County would provide public services to the project site. This would be accomplished primarily by LA County services, including, but not limited to, police and fire service, flood control, library service, and wastewater service. The project residents would generate revenue in the form of property taxes and fees, etc., which would be available to the City to fund public services to the site. Revenues for capital improvements would also be generated by the project directly through various forms of development fees, including, but not limited to, fire facilities fees, wastewater connection fees, library fees, water connection fees, bridge and thoroughfare fees, and school fees.

c. Environmental Characteristics

Environmental characteristics associated with the project and project site are discussed in detail in **Section 2.0**, **Environmental and Regulatory Setting**, and **Section 4.0**, **Environmental Impact Analyses**.

d. Project Implementation/Phasing

All planning areas within the project are intended to be developed at once.

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2 California Department of Finance, Official State Estimates of January 1, 2002, City/County Population and Housing Estimates, as released in May 2002.

The EIR may also be used by other agencies that are responsible for issuing approvals or permits that are required for the project. Those responsible agency actions that are known at this time are identified in **Table 1.0-4, Known Responsible Agency Actions.**

Table 1.0-4
Known Responsible Agency Actions

Responsible Agency	Action Required
California Department of Fish & Game	Permits of the State Fish and Game Code
U.S. Army Corps of Engineers	Permit for the Federal Clean Water Act
Regional Water Quality Control Board	National Pollution Discharge Elimination System (NPDES) Permit and Section 401 Permit of the Federal Clean Water Act

Jurisdictional drainages outside of those addressed in the NRMP will be addressed by the CDFG and the ACOE. A National Pollution Discharge Elimination System (NPDES) Permit would be required from the Regional Water Quality Control Board, Los Angeles Region, for stormwater runoff discharge from the project site to the Santa Clara River.

Permits would also be sought from the ACOE, and CDFG per the NRMP for construction of the proposed 9,000 linear feet of bank stabilization and 1,500 feet of linear erosion protection required for the project and evaluated as part of this EIR. The bank stabilization would be done in conjunction with the already approved Santa Clara River Natural River Management Plan, but is also analyzed as part of this project.

The information presented in this EIR would be used as part of any permitting activity undertaken by responsible agencies.

10. CROSS VALLEY CONNECTOR

As indicated above, the City of Santa Clarita is also addressing the extension of Newhall Ranch Road, including the construction of the Newhall Ranch Road/Golden Valley Road Bridge in a separate environmental document. The extension of Newhall Ranch Road (a segment of the Cross Valley Connector), including the Newhall Ranch Road/Golden Valley Road Bridge is a General Plan roadway [that links SR-14 to I-5 and has been identified as the City's Number 1 roadway priority (please see Resolution 00-143 in **Appendix 1.0**). This separate environmental document is being prepared for two reasons: (1) although Newhall Ranch Road would provide access to the proposed project, this roadway is

primarily necessary to alleviate existing traffic congestion and is necessary with or without the Riverpark project, and (2) the City has utilized state and federal funding sources on other portions of the Cross Valley Connector (Newhall Ranch Road) and will likely be utilizing them on this portion of the roadway as well. Given the potential use of federal and state funding sources and the time considerations associated with state/federal review, and the fact that the roadway projects are independently necessary regardless of the Riverpark project, it was determined that two separate environmental analyses will be conducted.

2.0 ENVIRONMENTAL AND REGULATORY SETTING

1. PURPOSE

The following discussion of the Environmental and Regulatory Setting addresses those physical and regulatory conditions that characterize not only the project site, but also the local and regional areas in the project vicinity. Applicable requirements of an Environmental Setting discussion of an EIR, as defined under Section 15125 of the CEQA Guidelines, include the following:

> *"(a) An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to [gain] an understanding of the significant effects of the proposed project and its alternatives.*
>
> *(b) Knowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project. The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context.*
>
> *(c) The EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan (or State Implementation Plan), area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, and regional land use plans for the protection of the coastal zone, Lake Tahoe Basin, San Francisco Bay, and Santa Monica Mountains.*
>
> *(d) Where a proposed project is compared with an adopted plan, the analysis shall examine the existing physical conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced as well as the potential future conditions discussed in the plan."*

The Notice of Preparation (NOP) for the Riverpark project was published and distributed on September 18, 2002 and October 13, 2003.

CEQA further requires that an EIR include a description of the physical environment that currently exists on, and in the vicinity of, the project site. Therefore, the purpose of this section is to generally describe the physical environment in which the project would be located. Emphasis is afforded to local and regional land uses and environmental conditions, such as geographic features, sources of noise, and significant structures and/or landmarks. This section also provides a consistency analysis of the proposed project in relation to applicable local

and regional plans. This approach allows the reader to formulate an understanding of the project site and the surrounding area, and to establish perspective on potential project impacts.

2. ENVIRONMENTAL SETTING

a. Regional Setting

The location of the Riverpark project site (project site) in its regional and local setting is illustrated in **Figures 1.0-1** and **1.0-2,** respectively (see **Section 1.0, Project Description**). As shown, the project site is situated in the central part of the City of Santa Clarita in Los Angeles County. The project site lies within a greater area referred to as the Santa Clarita Valley. This urbanizing region is characterized by a variety of land uses and physical features.

Vehicular access to the Santa Clarita Valley is primarily from Interstate 5 (I-5), which is the major north-south freeway corridor in the area, and from State Route 14 (SR-14), which runs along the eastern side of the Santa Clarita Valley and then northeasterly to the cities of Lancaster and Palmdale in the Antelope Valley. State Route 126 (SR-126) provides a connection between I-5 and SR-14. The closest major airport is the Burbank-Glendale-Pasadena Airport, located approximately 20 miles southeast of the project site.

A variety of topographic features contribute to the regional setting of the project site. The Santa Clarita Valley (Valley) is generally flat with some gently rolling hills that range in elevation from approximately 1,200 to 1,600 feet. It is bounded on the south by the Santa Susana Mountains, to the east by the San Gabriel Mountains, and to the north and west by the Angeles National Forest. The mountain ranges that surround the Valley can be viewed from great distances and from the other more dominant visual features in the area. Whitaker Peak to the north of the project site has an elevation of 4,148 feet, Oat Mountain to the south is 3,747 feet high, and Mt. Gleason to the east has an elevation of 6,502 feet. Several watercourses, the largest of which is the Santa Clara River, cross the Valley floor. The watercourses in this area are usually dry, maintaining surface water flow only during the rainy months. Other prominent topographic features of the Valley are the north-south trending canyons, which form the northern part of the area.

The Santa Clarita Valley has a Mediterranean-type climate characterized by warm, dry summers and mild winters. Most rainfall occurs between November and March, and usually totals approximately 15 to 18 inches annually. Santa Ana winds often sweep through the area in the fall and winter months, bringing periods of warm, dry weather.

The Southern California area has been divided into a number of geographical air basins. The Santa Clarita Valley is located within the South Coast Air Basin, which includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. This Air Basin consistently generates the highest levels of smog in the United States and is, therefore, considered to have the worst air quality in the nation. The topography and climate of the South Coast Air Basin combine to make it an area of high smog potential.

The Santa Clarita Valley is divided into two political regions: (1) the unincorporated areas of Los Angeles County, and (2) the City of Santa Clarita. The City of Santa Clarita is generally located in the more central portions of the Santa Clarita Valley with unincorporated County areas surrounding the City. The project site is located entirely within the limits of the City of Santa Clarita.

b. Public Services

The Santa Clarita Valley planning area is served by one wholesale water agency, the Castaic Lake Water Agency (CLWA), which serves four local retail water purveyors: Santa Clarita Water Division, Valencia Water Company, Newhall County Water District, and Los Angeles County Water District #36 (Val Verde Water District). Additional discussion with regard to the Santa Clarita Valley-wide planning area can be found in **Section 3.0, Cumulative Impact Analysis Methodology**. The Santa Clarita Water Company would serve the project site. Refer to **Section 4.8, Water Services**, for additional information regarding water.

The County Sanitation Districts of Los Angeles County operate two water reclamation plants (WRPs) that provide wastewater treatment service for the Santa Clarita Valley area: District No. 26, which operates and maintains the Saugus WRP, and District No. 32, which operates and maintains the Valencia WRP. The Saugus WRP provides primary, secondary, and tertiary treatment for approximately 7 million gallons per day (mgd) of wastewater. The plant serves a population of about 70,000 people and is located southeast of the intersection of Soledad Canyon Road and Bouquet Canyon Road, just south of the project site. The Valencia WRP provides the same level of water treatment as the Saugus WRP, but for approximately 11 mgd of wastewater and for a population of 110,000 people. The Valencia WRP is located approximately two miles west of the proposed project site and west of I-5, on The Old Road, north of Magic Mountain Parkway.

The two districts jointly operate a regional system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). This system consists of an interconnected network of trunk sewer lines and appurtenant facilities that link the treatment plants. The two County Sanitation Districts approved, at a

Board Hearing on January 29, 1998, the final 2015 Santa Clarita Valley Joint Sewerage System Facilities Plan. This plan addresses the need to expand and upgrade the SCVJSS in order to accommodate the projected population growth for the planning area through the year 2015. The proposed project would utilize facilities at District No. 26. Local jurisdictions are responsible for providing local sewers and laterals that would connect the site to the existing trunk sewer lines. Refer to **Section 4.21, Wastewater Disposal**, for additional information regarding wastewater.

Primary police protection service for the project site and the surrounding Santa Clarita Valley area is provided by the County of Los Angeles Sheriff's Department through a contract with the City of Santa Clarita. The area is served by the Santa Clarita Valley Sheriff's Station located at 23740 West Magic Mountain Parkway in Valencia. Additionally, the California Highway Patrol provides traffic regulation enforcement, emergency incident management, service and assistance on I-5, SR-126, SR-14, and other major roadways in the Santa Clarita Valley area. Fire protection and emergency medical response services for the project site and the surrounding area are provided by the Los Angeles County Fire Department through a contract with the City of Santa Clarita. Currently, 8 fire stations and 3 fire camps provide fire protection services for the Santa Clarita Valley area. Refer to **Section 4.13**, **Fire Services**, and **Section 4.14, Sheriff Services**, for additional information regarding these service areas.

The Saugus Union School District and William S. Hart Union High School District provide primary and secondary public education in the project area. Saugus Union School District provides elementary school service, while the William S. Hart Union High School District provides junior and high school service for the project site. Refer to **Section 4.10, Education**, for information regarding education.

Library services for the project site and the Santa Clarita Valley area are provided by the County of Los Angeles Public Library system. Three County libraries (Valencia, Newhall, and Canyon Country) and a mobile library service currently serve the Santa Clarita Valley area. Library services are discussed in **Section 4.11, Library Services**.

There are existing and proposed parks within close proximity to the project site. Such facilities include parks maintained by Los Angeles County, the City of Santa Clarita, the State of California, and the Federal Government. Additionally, the proposed project is planned to include the development of several park facilities and a public trail system on about 30 acres of the 695.4-acre project site. The public trail system will accommodate equestrian, pedestrian and bike uses. A roughly 29-acre public community park is proposed in Area A2 (see **Figure 1.0-5** in **Section 1.0**, **Project Description**). The park will abut the Santa Clara River and includes a public trail system that will connect to the proposed trail anticipated to run the length of the Santa Clara River within the project site boundaries. This park will be

dedicated to the City of Santa Clarita for future maintenance and operation. The project will also include the development of two private recreational facilities and other less formal private pocket parks which would be maintained by the future residential Homeowners Association (see **Figures 1.0-4** and **1.0-6**). Refer to **Section 4.12**, **Parks and Recreation,** for additional information regarding these recreational opportunities.

All required utilities and services are currently available at locations adjacent to the project site and would serve the project without impacting the overall system capacity. Natural gas service would be supplied by the Southern California Gas Company (SCGC), electric service would be provided by Southern California Edison (SCE), and telephone service would likely be supplied by SBC/Pacific Bell.

3. LOCAL SETTING

a. Surrounding Land Uses

As shown in **Figure 2.0-1, Surrounding Land Uses**, land uses surrounding the project site include residential, commercial, retail, industrial, as well as undeveloped lands. The project site is bounded on the north by single-family residential, open space, and CLWA property used for administrative offices and a water treatment facility. To the south of the project site (across the Santa Clara River) is a mobile home park, a business park, retail commercial uses, the Saugus Speedway facility, Soledad Canyon Road and the Metrolink Station. East of the project site is a business park and open space, residential, and retail commercial uses. Open space and retail commercial uses are located to the west along Bouquet Canyon Road.

As mentioned above, the Santa Clara River flows through the project site, which represents the last major unchannelized river in Los Angeles County. The Santa Clara River drains from the San Gabriel Mountains. Significant Ecological Area (SEA) 23 was established along the Santa Clara River by the City of Santa Clarita to protect the variety of habitat along its corridor. In general terms, the purpose of designating SEAs is to maintain and protect areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife. It extends along the River through the City of Santa Clarita. The County of Los Angeles has also designated the Santa Clara River as an SEA. County SEA 23 extends along the River in areas outside the City limits from the Los Angeles/Ventura County line to the west and into Soledad Canyon to the east.

SEA 23 supports a variety of natural habitats that include freshwater marsh, coastal sage scrub, oak woodland, and riparian woodlands. A large part of the river channel remains dry for most of the year,

but in scattered areas, the water table under the streambed is high, and lush riparian vegetation provides refuge for birds and wildlife. For example, the red-shouldered hawk is restricted to this community and is becoming increasingly less common in Southern California due to habitat destruction. SEA 23 also provides protection against the threat of loss of suitable habitat for three federally listed Endangered species (unarmored three-spine stickleback, least Bell's vireo, and arroyo Southwestern toad) and one Threatened species (Southwestern pond turtle) found in the Santa Clarita Valley. While critical habitat for the arroyo Southwestern toad (an Endangered species) does not occur along the portion of the river contained within the Riverpark project, critical habitat does occur west of the site. Refer to **Appendix 4.6, Biological Data and Reports,** for species reports pertinent to the project site. A few individual toads have been reported in the River near the I-5/Santa Clara River Bridge, near the McBean Parkway/Santa Clara River Bridge, and several miles upstream of the City in Soledad Canyon. The current boundary of SEA 23 is based on the limits of the Floodway/Floodplain land use designation shown on the Santa Clarita Valley Area Plan Land Use Map, which corresponds to the Federal Emergency Management Agency (FEMA) 100-year flood plain boundary. The boundary of SEA 23, in relation to the project site, is depicted in **Figure 2.0-2, City of Santa Clarita Significant Ecological Area (SEA)**. Refer to **Section 4.6, Biological Resources**, for additional information regarding SEA 23.

b. Site Characteristics

As indicated in EIR **Section 1.0, Project Description**, the project site is located on a 695.4-acre parcel located within the City of Santa Clarita. The project site is located in a predominantly vacant area, but includes several buildings used for a construction business. A modular building houses the office of the construction company. A metal shed (maintenance shop) and a red wooden building are the only permanent structures currently on the parcel. The project site also includes an easement for the Los Angeles Aqueduct, and an abandoned water tank. Other utility structures such as Southern California Edison electrical transmission lines traverse portions of the project site. Major easements that traverse the site include the Kern River Company easement and the City of Los Angeles Aqueduct easements. A portion of the project site is considered Prime Farmland. Portions of the site have been disturbed and are depicted on **Figure 2.0-3, Disturbed Areas of the Site**.

Infrastructure components (e.g., roads, water lines, wastewater lines, electricity, etc.) needed to support the proposed land uses are described below. There are two existing on-site Valencia Water Company water wells. These wells would be replaced during development activities by the Valencia Water Company in compliance with Los Angeles County Health Department regulations. Vehicular access to the wells would occur via the river trail. The project would be served by Santa Clarita Water Company. The well pad will accommodate the well, accessory equipment and access.

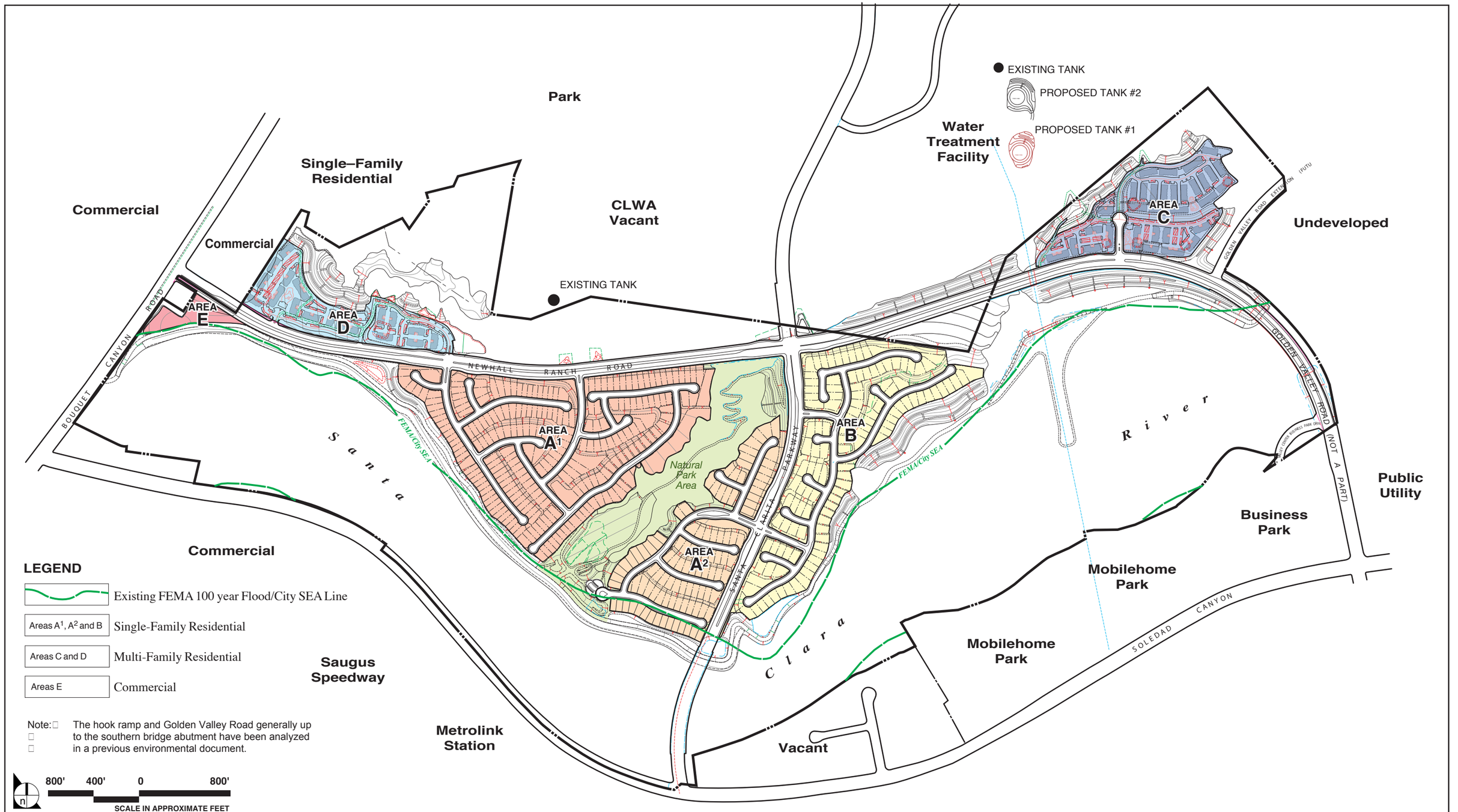

FIGURE **2.0-1**

Surrounding Land Uses

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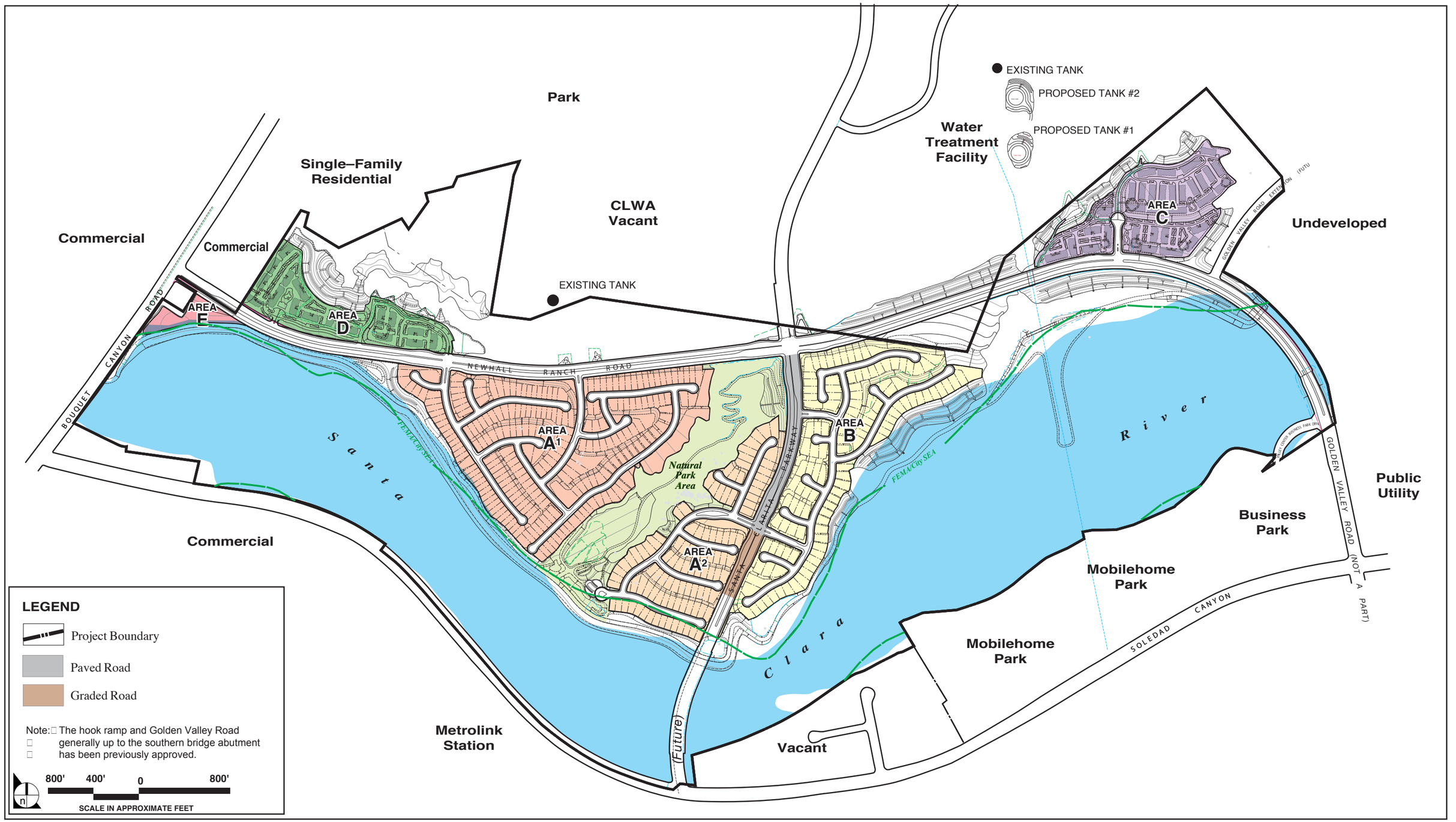

FIGURE **2.0-2**

City of Santa Clarita Significant Ecological Area (SEA)

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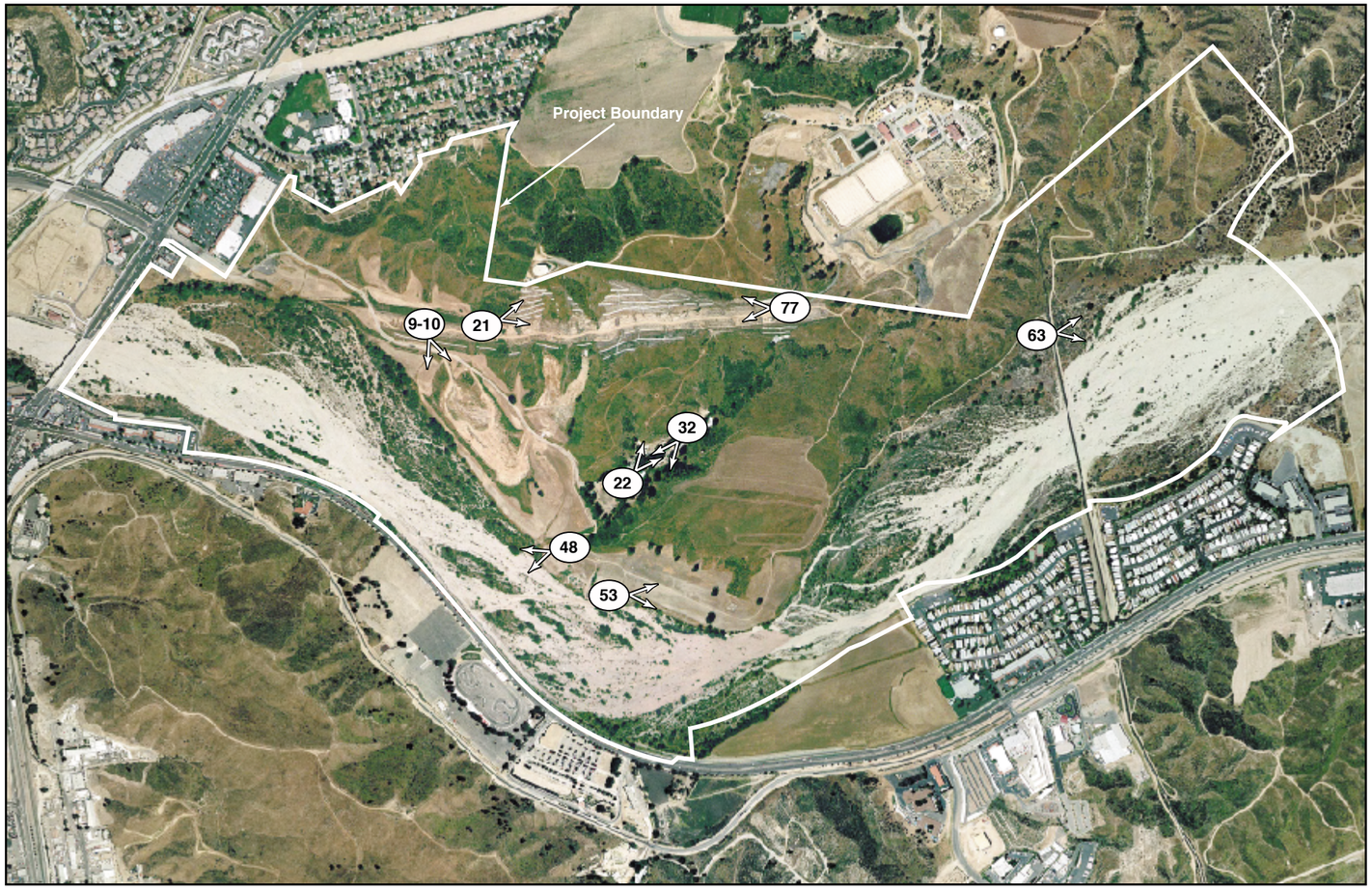

Photo 9

Photo 10

Photo 21

Photo 22

Photo 32

Photo 48

Photo 53

Photo 63

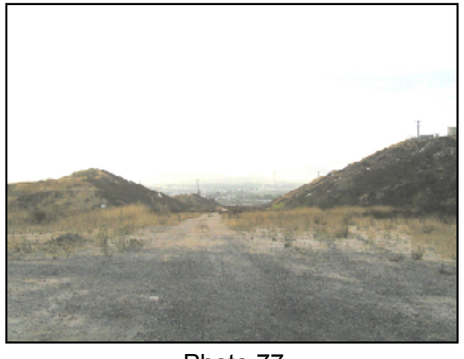

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FIGURE **2.0-3**

Disturbed Areas of the Site

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Specific site characteristics are shown in **Figure 2.0-4, Site Characteristics**. One of the more notable traits of the project site is the topography of the property. A slope map for the project site is illustrated in **Figures 2.0-5, Slope Analysis for TTM 53425**.

According to the City Ridgeline map, portions of two ridgelines classified as secondary are located on the project site and a third is generally located off site to the north on the CLWA property. These ridgelines are illustrated on **Figure 4.16-11, Ridgelines Classified by the City of Santa Clarita as Secondary Ridgelines**. One of the ridgelines classified as secondary traverses Planning Area B in a north-south direction, while the second secondary ridgeline crosses into the project site in Area C. The ridgelines in Planning Area B and C are affected. The ridgeline, within Planning Area B has been impacted by prior grading associated with the CLWA treatment facility and are fragmented. When viewed both on and off the site, these ridgelines are indistinguishable from other existing unidentified ridgelines. This EIR analyzes the impact of the proposed project based on the change in environmental conditions from the current condition of the two ridgelines. The third identified ridgeline is located just north of the open space area planned north of the proposed Newhall Ranch Road and north of Planning Area A1, east of Planning Area D and does not cross into the project site. The project proposes no alteration to this ridgeline. This ridgeline, designated as secondary by the City, adjacent to the open space area, is a prominent and distinguishable ridgeline when viewed both on and off the site.

On-site vegetation communities vary depending upon their location on the project site. In addition to disked fields, plant communities present include; (1) non-native grassland, (2) non-native grassland with scattered shrubs; (3) planted sage scrub; (4) Riversidian sage scrub, (5) chamise chaparral, (6) coastal sage – chaparral scrub, (7) holly-leaf cherry scrub; (8) mule fat scrub, (9) southern willow scrub; (10) southern riparian scrub; (11) riverwash; (12) mixed oak woodland, and (13) developed with mixed trees. A series of dirt roads are also present on the project site. Sensitive riparian resources are located in those areas adjacent to and within Santa Clara River. A total of 87 oak trees are found on the project site, including 10 Heritage oak trees, three of which are proposed for relocation.

An Oak Tree Permit is required for the removal of 15 of the 87 oak trees located on the project site. Twelve of the 15 oak trees will be relocated on site. Of the 87 oak trees, 10 are Heritage oaks. Three of the Heritage trees are proposed for relocation and two will be removed because they are dead. Encroachments are proposed for three of the oak trees. **Figure 2.0-6, Approximate Oak Tree Locations**, illustrates the general groupings of oak trees on the project site and highlights the locations of Heritage oaks and those proposed for removal. Please see **Section 4.6, Biological Resources**, for a complete discussion of biological resources.

Geologically, the project site is situated within the Soledad Basin, north of the Santa Susana Mountains and south of the Angeles National Forest, and is located within the tectonically active Transverse Ranges of Southern California. The active San Andreas Fault System is located approximately 20 miles northeast of the project site, while the San Gabriel Fault (Alquist-Priolo Study Zone) runs near the project site along Newhall Ranch Road and then south of the project site just south of Soledad Canyon Road. The major geologic hazard for project area residents is ground shaking related to earthquake activity originating along these faults. Landslides are present on the project site and typically represent a translational type of failure within the Saugus Formation and terrace deposits, which failed along a low strength clay bed. The landslides typically consist of highly fractured rock resting above a low strength slip surface. Much of the Santa Clarita Valley is within a zone of potential liquefaction hazard. Even though there was a Peak Ground Acceleration (PGA) in excess of 0.5g in many parts of the Valley during the 1994 Northridge Earthquake, liquefaction was not observed. There are numerous reasons for the absence of liquefaction-related stress at the ground surface. One reason is that the thickness of non-liquefiable soils is greater than the liquefiable layers and the effects of liquefaction of deep layers do not manifest themselves at the ground surface. Nonetheless, there is a potential for permanent deformation of the ground surface and liquefaction at the project site during a seismic event. Please see **Section 4.1, Geotechnical Hazards**, for a complete discussion of geological impacts at the project site.

With respect to air quality, the project site is located within the South Coast Air Basin, which includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. It is also located in the transitional microclimatic zone of the basin between two climatic types (termed valley marginal and high desert), and in Source Receptor Area (SRA) 13, which encompasses the Santa Clarita Valley. The station that monitors the air quality of this SRA, located at 12th Street and Placerita Canyon Road, has registered values above state and federal standards for ozone and the state standard for PM_{10} (particulates that are 10 microns or smaller in size). Concentrations of carbon monoxide and nitrogen dioxide have not been exceeded within the Santa Clarita Valley, and concentrations of two other criteria pollutants—sulfur dioxide and lead—have not been exceeded anywhere within the basin for several years. Please refer to **Section 4.4, Air Quality**, for additional information on ambient air quality on, and in the vicinity of, the project site.

The western portion of the project site is presently subject to vehicle trip noise sources generated at Bouquet Canyon Road and Newhall Ranch Road. The Santa Clara River is subject to noise generated by Soledad Canyon Road. Noise impacts are addressed in detail in **Section 4.5, Noise**.

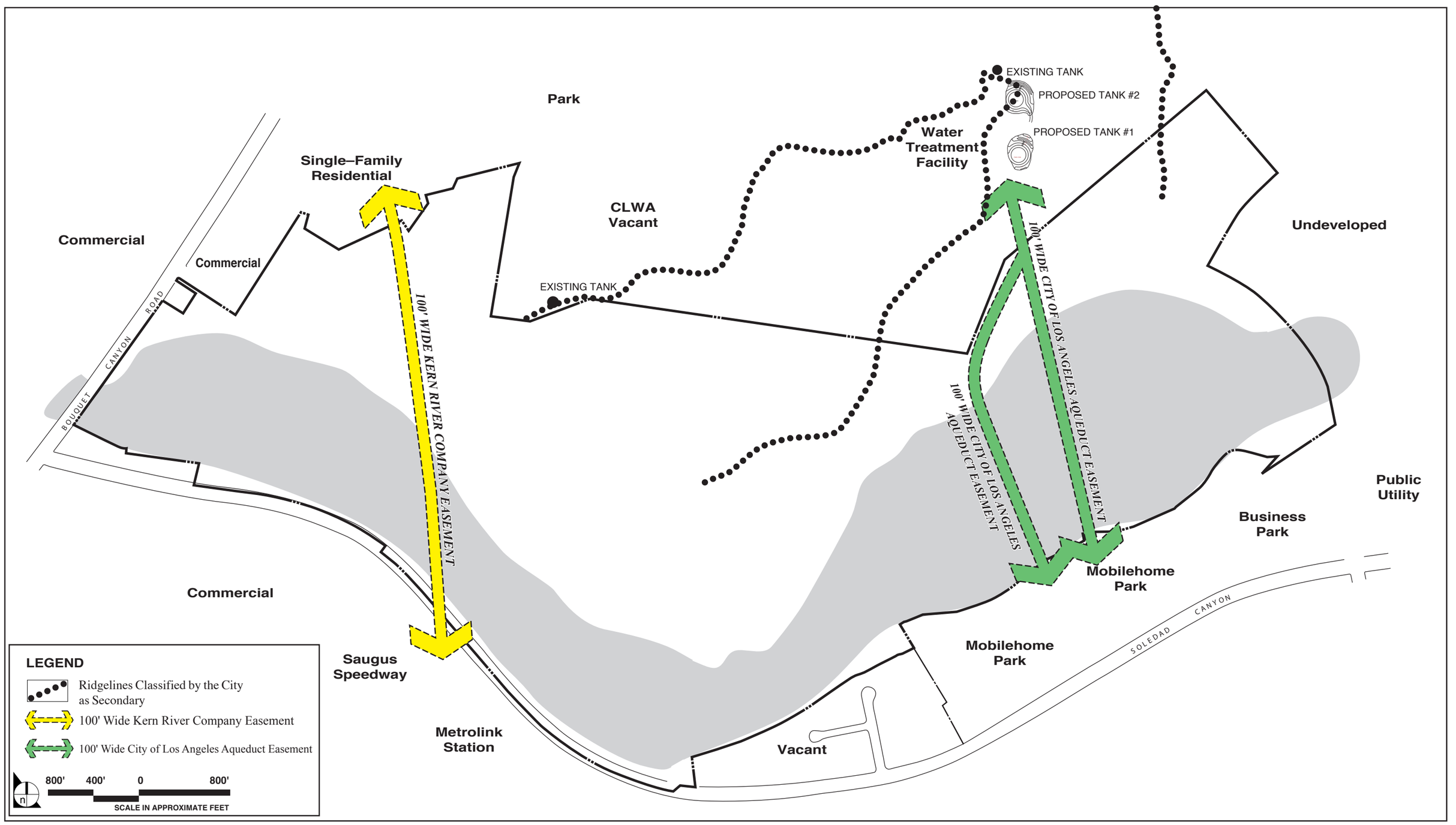

FIGURE **2.0-4**

Site Characteristics

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Figure 2.0-5

See Slope Analysis for TTM 53425 in Map Box

(DEIR Map 6)

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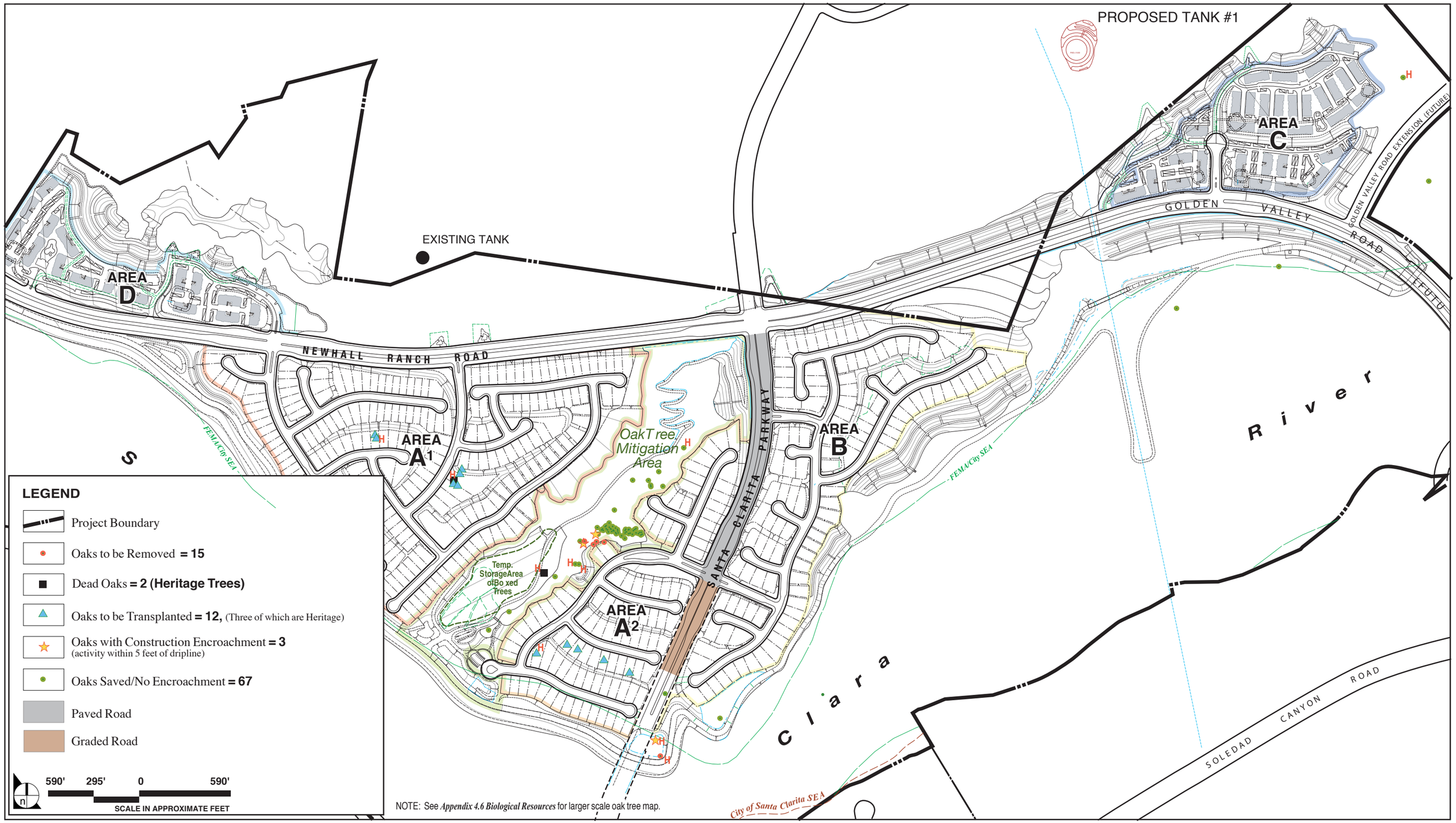

NOTE: See *Appendix 4.6 Biological Resources* for larger scale oak tree map.

SOURCE: Impact Sciences, Jan 2002; PSOMAS Jan 2002.

FIGURE **2.0-6**

Approximate Oak Tree Locations

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Major arterial streets near to the project site include Bouquet Canyon Road, Newhall Ranch Road, Soledad Canyon Road, Valencia Boulevard and Golden Valley Road. The SR-14 provides regional access to the site and is located approximately 3.5 miles to the south. The I-5 is located approximately 3.5 miles west of the project site. The site is currently accessed via a short extension of Newhall Ranch Road, which terminates at the project site's western boundary, approximately 600 feet east of Bouquet Canyon Road. Traffic/access impacts can be expected with buildout of the project and are addressed in detail in **Section 4.3, Traffic/Access**.

Numerous easements exist on the project site and in its vicinity. Notable on-site easements include those shown on **Figure 2.0-7, Major On-Site Encumbrances**.

4. REGULATORY SETTING

a. City of Santa Clarita General Plan

The City of Santa Clarita General Plan is the primary policy-planning document that guides land uses in the City. The current City General Plan land use designations for the project site include Residential Moderate, Industrial Commercial, Community Commercial and Commercial Office with Significant Ecological Area (SEA) Overlay and Valley Center Concept (VCC) designation and Community Commercial with the VCC designation. The General Plan sets forth two overlay districts on the project site that include the Valley Center Concept (VCC) and SEA Overlays. Land use designations are shown in **Figure 2.0-8**. The SEA Overlay district is described in further detail below. A General Plan Amendment has been requested by the project applicant to change the land use designation of the project site to the Residential Moderate (RM) and Community Commercial designations with SEA and VCC Overlays.

Consistency with City of Santa Clarita General Plan goals is included in **Section 4.7, Land Use**.

b. Overlays

(1) VCC Overlay

The Valley Center Concept (VCC) Overlay category is used to designate the central portion of the City that has the potential for creating a Valley-wide focal point. The purpose of the overlay is to permit and encourage master planning at a more detailed level than the General Plan, providing for a wide range of Valley-wide activities including higher density residential uses, recreational opportunities and regional

community centers. The portion of the project site covered by the VCC Overlay District is shown on **Figure 2.0-8**.

(2) SEA Overlay

The Significant Ecological Area (SEA) Overlay category is used to designate areas that may be of prime importance to the City and the Valley for protection and preservation of areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife. The area within an SEA is intended to be studied more specifically before any development to determine if such resources are actually present. As described earlier in this section, SEA 23 was established along the Santa Clara River to protect the variety of habitat along its corridor; the project site is located adjacent to the Santa Clarita River and SEA 23 covers a portion of the project site. The existing boundary of SEA 23 in relation to the project site is depicted in **Figure 2.0-2, City of Santa Clarita Significant Ecological Area (SEA)**.

This SEA was designated because it may support a variety of natural habitats that include freshwater marsh, coastal sage scrub, oak woodland, and riparian woodlands and also may provide protection against the threat of loss of suitable habitat for three federally listed Endangered species (unarmored three-spine stickleback, least Bell's vireo, and arroyo Southwestern toad) and one Threatened species (Southwestern pond turtle) in the Santa Clarita Valley, as described earlier in this section. The current boundary of SEA 23 is based on the limits of the Floodway/Floodplain land use designation shown on the Santa Clarita Valley Area Plan Land Use Map, which corresponds to the Federal Emergency Management Agency (FEMA) 100-year flood plain boundary. Refer to **Section 4.6**, **Biological Resources,** for additional information regarding SEA 23, and the interplay between it and the project site.

c. Zoning

Various portions of the project site are zoned Residential Medium (RM), Industrial Commercial (IC), Commercial Office with a Planned Development Overlay (CO PD), Community Commercial with a Planned Development Overlay (CC PD), Community Commercial (CC), and Mobile Home Park (MHP). The proposed project includes a request to revise the areas zoned IC, CO PD, CC PD, and MPH, to Residential Medium Planned Development (RM PD) and Community Commercial Planned Development (CC PD).

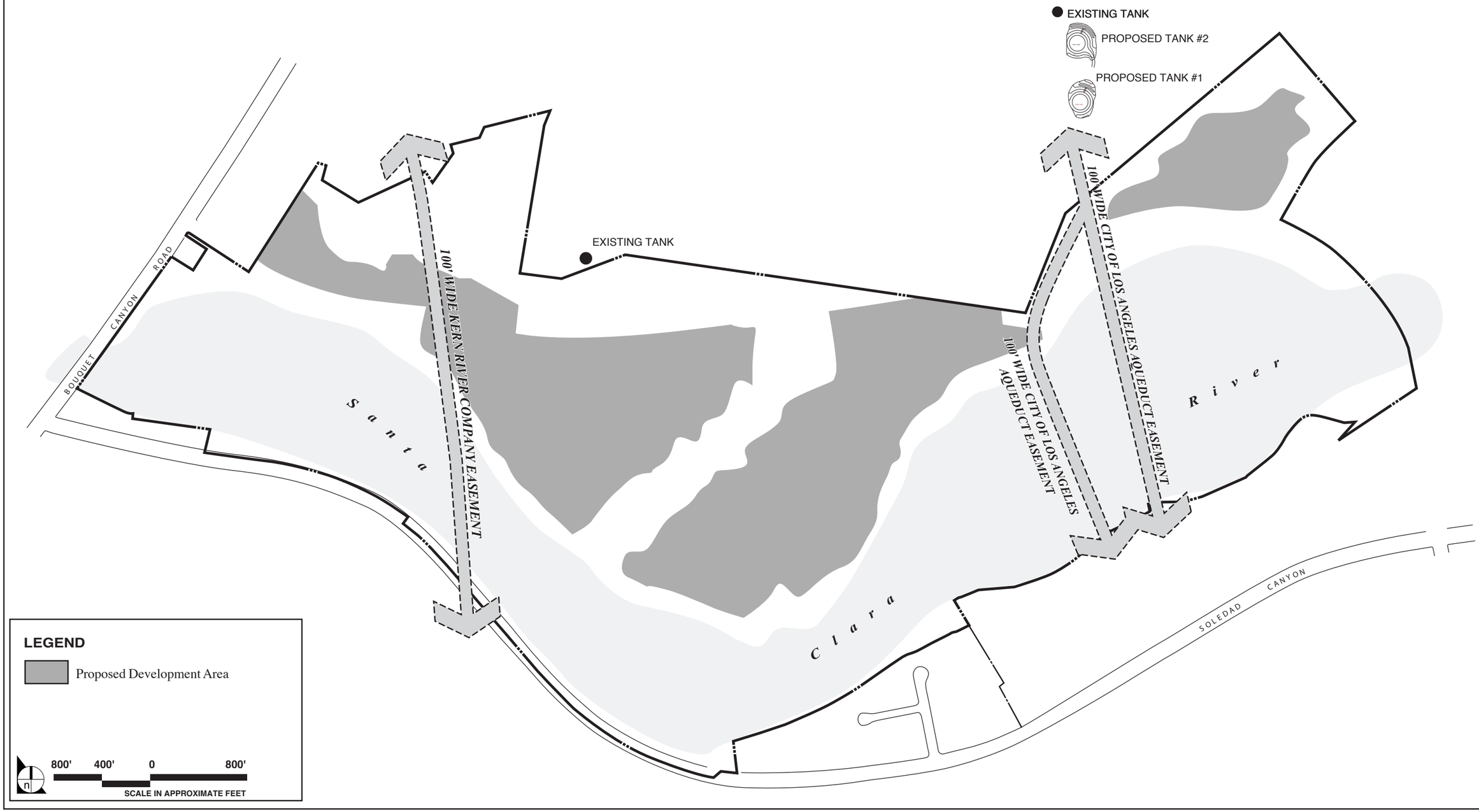

FIGURE **2.0-7**

Major On–Site Encumbrances

112-16•01/04

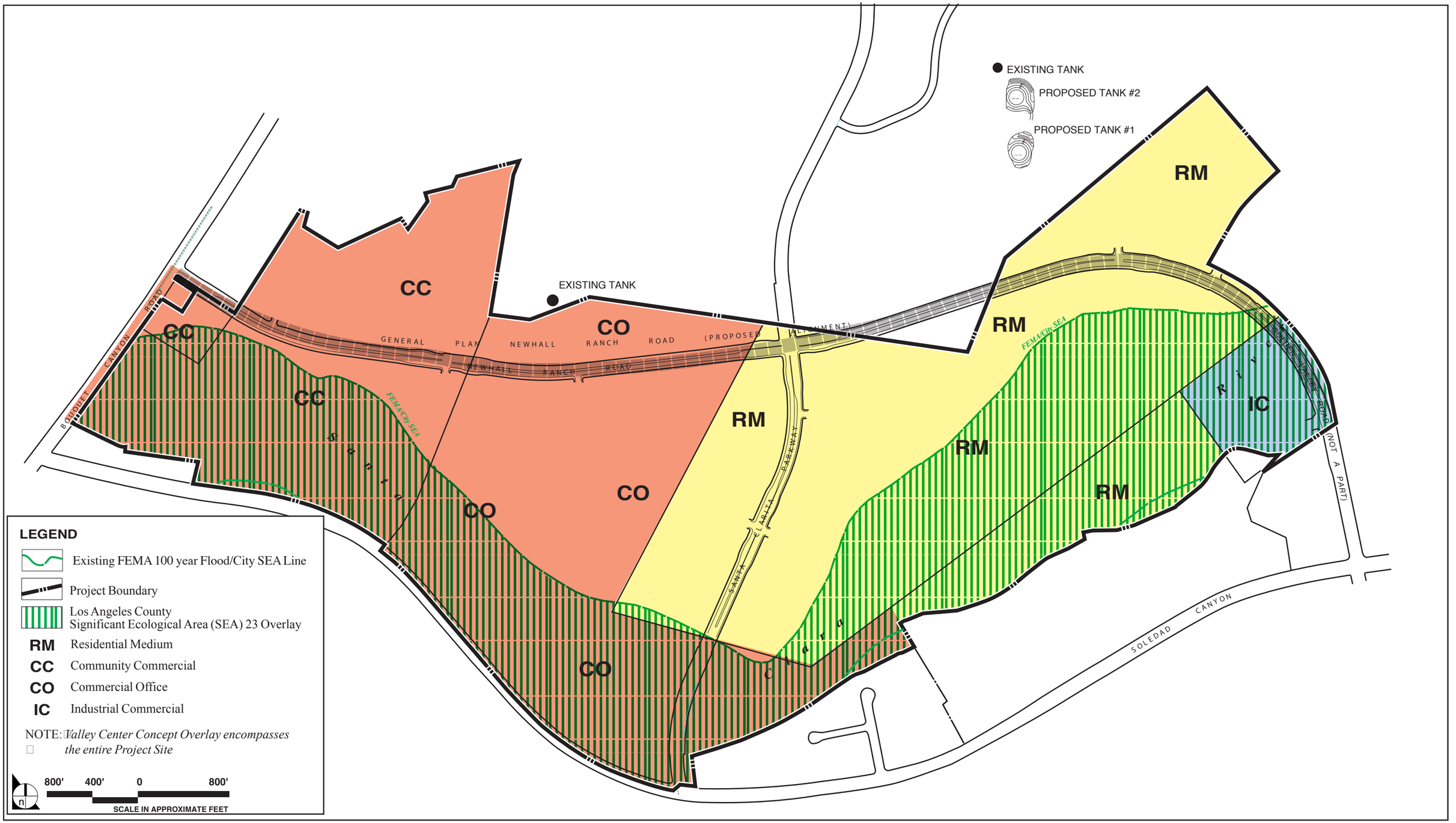

FIGURE **2.0-8**

City of Santa Clarita General Plan Land Use Designations

112-16•11/03

d. Regional Plans and Policies

Regional planning considerations and federal air and water quality laws have increased the relative importance of land use planning in a regional context. Acting as an area-wide clearinghouse for regionally significant projects, the Southern California Association of Government (SCAG) reviews the consistency of local plans, projects, and programs with regional plans. The guidance provided by SCAG is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

Policies contained in SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP) apply to the proposed project. The RCPG includes a Growth Management chapter that provides the demographic forecasts used in the South Coast Air Quality Management District's (SCAQMD's) 2003 Air Quality Management Plan (AQMP) and provides a flexible framework to resolve growth-related issues expected during the next 20 years. The SCAQMD's 1997 AQMP predicts the attainment of clean air in the Los Angeles Basin by the year 2010.

In addition to these plans, the project area is subject to the Water Quality Control Plan (Basin Plan) [for the] Los Angeles Region 4) of the California Regional Water Quality Control Board (RWQCB), Los Angeles Region and the Congestion Management Program (CMP) of the Metropolitan Transportation Authority.

Under the California Environmental Quality Act (CEQA), local governments must determine the consistency of proposed projects to applicable regional plans. The RCPG, RTP, AQMP, Basin Plan, and CMP, and the project's consistency with the goals and policies of these plans and program are discussed below.

(1) Regional Comprehensive Plan and Guide (RCPG)

The RCPG consists of 13 chapters, five of which are Core Chapters. The Core Chapters include Growth Management, Regional Mobility, Air Quality, Water Quality and Hazardous Waste Management. These chapters are intended to respond directly to federal and state requirements placed on the Southern California Association of Governments (SCAG), and they contain mandatory requirements for cities and counties, and are also applicable for projects of regional significance. SCAG's most recent population, household and employment forecasts for the North Los Angeles County Council of Governments (NLACOG) subregion and the City of Santa Clarita are contained in the 2001 RTP (published in April 2001).

The following is a brief discussion of the mandatory sections of the Core Chapters that apply to the proposed project. The Hazardous Waste Management Core Chapter is designed to assist the region's counties and cities in their efforts to plan for current and future hazardous waste management requirements, and it is not applicable at the individual project level; therefore, it is not discussed below. In addition to the Core Chapters, applicable policies of the Open Space Chapter are discussed below.

(a) Growth Management Chapter

There are a number of policies in this chapter that refer to SCAG's mandates in the review of regionally significant projects. As described in a letter responding to the Notice of Preparation (NOP), those that SCAG considers applicable to the Riverpark project are discussed below:

Policy 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.

Analysis: Based on SCAG's most recent forecasts, by the year 2025, the Los Angeles region is expected to grow to approximately 22.6 million people, representing 7.4 million households units and 9.9 million jobs. This growth represents a population increase of 34.5 percent, an increase in housing of 37.9 percent, and an increase in employment of 34.2 percent between the years 2000 and 2025. SCAG's distribution of regional growth was developed through the subregional planning process. Development of the proposed project will accommodate an increase in population of about 3,576 persons and 1,183 housing units. The resultant increase in region-wide population is considered negligible. While the proposed project would not create new significant or permanent employment opportunities, it would provide new housing in support of existing and new employment opportunities expected to occur in the Santa Clarita Valley. A detailed analysis of the project's consistency with the population and housing forecasts for the North Los Angeles County Council of Governments (NLACCOG) subregion and City of Santa Clarita is provided in **Section 4.17, Population/Housing/Employment**, of this EIR. SCAG forecasts contained in the 2001 RTP were used for all population and housing analyses contained in this EIR.

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.

Analysis: The proposed project will be developed over three to five years as part of Vesting Tentative Tract Map (VTTM) 53425. Given that the proposed project is located adjacent to existing infrastructure, it would represent an orderly progression of development that would aid in implementing the region's growth policies. The proposed project would use various techniques currently available for financing and maintenance of public facilities, streets, and utilities. The exact financing method is not known; however, the City and the property owner/developer must mutually agree to the method and enter into an agreement reflecting the selected financing and maintenance method. As proposed, the project would be consistent with the region's growth policies.

In addition to the mandatory goals of the Growth Management Chapter of the RCPG, listed below are a number of non-mandatory goals used by SCAG. For example, the Growth Management Chapter includes a goal to improve the regional standard of living by developing urban forms that: (1) enable individuals to spend less income on housing costs, (2) minimize public and private development costs, (3) enable firms to be more competitive, and (4) and strengthen the regional strategic goal to stimulate the regional economy. Applicable policies related to this RCPG goal include:

Policy 3.05: SCAG shall encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities.

Policy 3.09: SCAG shall 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.

Policy 3.10: SCAG shall support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

Analysis: The project site is located adjacent to existing urban uses that are supported by a full complement of roadways, water, sewer, electricity, natural gas, communications links, cable, and other urban infrastructure. In addition, existing development in the area is served by local law enforcement and fire protection services. As a result, extension of these services to proposed on-site uses would make use of existing facilities. Project residents would generate revenue in the form of property taxes, fees, etc., which would be available to the City to fund public services on the site, such as fire and police service, flood control, library service, street maintenance, and wastewater treatment. Revenues for

capital improvements would also be generated by the project directly through various forms of development fees, including, but not limited to, bridge and thoroughfare fees, fire facilities fees, sewer annexation and connection fees, and school fees. In addition, the project would build all on-site roadways, potable water, sewer, energy, and communications systems, as well as share in the upgrade of all affected roadways. Financing mechanisms for needed on-site infrastructure improvements and supporting public service facilities could possibly include, but are not limited to, private financing, assessment districts, fee districts, and Mello-Roos districts. As such, the project is consistent with these RCPG policies.

The Growth Management Chapter also includes a goal to improve the regional quality of life by developing urban forms that: (1) enhance quality of life, (2) accommodate a diversity of life styles, (3) preserve open space and natural resources, (3) are aesthetically pleasing and preserve the character of communities, and (4) enhance the regional strategic goal of maintaining the regional quality of life. Applicable policies related to this RCPG goal include:

Policy 3.12: SCAG shall 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.

Policy 3.14: SCAG shall support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.

Analysis: The City of Santa Clarita bus system primarily serves local travel in the Santa Clarita Valley. The project site is served by bus routes operated by Santa Clarita Transit (SCT), which includes primary routes along Bouquet Canyon Road and Soledad Canyon Road. SCT commuter buses provide regional service to downtown Los Angeles, the San Fernando Valley and the Antelope Valley. Existing fixed-route bus service within a quarter mile radius of the proposed project consists of Santa Clarita Transit Routes 3, 4, 502, 503, 504 and 507. A Metrolink commuter rail service station is located just south of the site at 22122 Soledad Canyon Road. The project is also consistent with these transit policies because of its extensive pedestrian and bicycle trails network, which are linked to adjacent uses and roadways. This network would provide project residents with a combination of transportation modes, including, bicycles, walking and automobiles.

Furthermore, because the project has been designed to provide housing that would support existing and new employment opportunities that are projected to occur in the Santa Clarita Valley, it could reduce travel distances and could create opportunities for employees to walk and bike to work.

Policy 3.17: SCAG shall support and encourage settlement patterns, which contain a range of urban densities.

Policy 3.18: Encourage planned development in locations least likely to cause environmental impact.

Policy 3.19: SCAG shall support policies and actions that preserve open space areas identified in local, state and federal plans.

Analysis: The project includes a range of proposed residential uses including single-family residences, and multi-family units (apartments). A portion of the project site is located within SEA 23 (see **Figure 2.0-2**). The project design was developed with the objective of maintaining an adequate buffer area between these sensitive resources to enhance the habitat value of the area and preserve the river resources. Roughly 470 acres of the 695.4-acre project site would be dedicated to open space. Development would occur in areas least likely to cause environmental impact, as open space areas would generally be aligned with the Santa Clara River and hillside ridges in northern parts of the site. For these reasons, the project is consistent with these RCPG policies.

Policy 3.20: SCAG shall support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.

Analysis: As described above, a portion of the project site is located within SEA 23. SEA 23 was established along the Santa Clara River to protect the variety of habitat along its corridor. In general terms, the purpose of designating SEAs is to maintain and protect areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife. More specifically, SEA 23 was established to conserve habitat for four federally listed Endangered species: 1) unarmored three-spine stickleback, 2) least Bell's vireo, 3) Southwestern pond turtle, and 4) arroyo Southwestern toad) in the Santa Clarita Valley. The site also includes 87 oak trees, including 10 Heritage oak trees.

The project is designed to minimize direct and indirect impacts to the sensitive resources found within the site boundaries. The site plan incorporates a setback that separates natural resources in the SEA from developed uses associated with the project in most areas of the project site; however, the project proposes to develop several residences and trails that crossover portions of the SEA; thereby, people and animals will be introduced to this resource area. Bank stabilization work would also occur on those portions of the Santa Clara River, which passes through the project site and is located within SEA 23. Excavations have been designed to minimize disturbance in sensitive areas. Of the 17 oak trees to be removed as part of the project, 10 would be Heritage oak trees, three of which are being relocated. Two Heritage oaks are dead and will be removed concurrent with development activities.

The project also includes three water quality basins that will be used for water quality filtration to improve the quality of water draining from the project site to the Santa Clara River. The project would also dedicate 439.3 acres (339.2 acres are Santa Clara River) of the 695.4-acre site to open space and would develop a 29-acre park along the Santa Clara River. The preservation of roughly 68 percent of the project site as open space for conservation is considered a public benefit. Because the project includes features that will protect sensitive resources and would dedicate lands to conservation, it would be partially consistent with this RCPG policy. Development within SEA 23 would be inconsistent with this RCPG policy. Given the above, the project should be considered only partially consistent with this policy. Refer to **Section 4.6, Biological Resources**, for additional information regarding SEA 23.

Policy 3.21: SCAG shall encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.

Analysis: Archaeological surveys of the Riverpark project site show that the site contains three prehistoric and one historic archaeological site. Phase II archaeological studies were conducted at two of the prehistoric archaeological sites. One site contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. Development at this locale has the potential to result in adverse impacts. This site is culturally significant and as part of the project design, this site would be preserved in situ in perpetuity within the 470 acres of proposed open space. Another site was found to be a small low-density campsite, which includes a low-density subsurface deposit. The site appears to represent a

terminal early Millingstone/Early Intermediate Period settlement dating from c. 4000 to 2000 years before present. It further appears to have been seasonally occupied by a small group of people, whose subsistence practices emphasized plant foods, probably hard seeds. Adverse impacts to this site can be mitigated through salvaging of materials found at the site. Measures to preserve and protect cultural resources and archaeological sites will be incorporated into the project as part of the environmental review process. In summary, one site would be maintained, one site would be salvaged. In the event that previously undiscovered cultural materials are encountered during the course of construction, all development will cease in these areas until the cultural resources are properly assessed and subsequent recommendations are determined. The remaining two sites were determined not to be significant and do not require preservation or salvaging methods pursuant to the CEQA Guidelines. Refer to **Section 4.18, Cultural Resources**, for additional information on cultural and archaeological resources on the project site and measures that will be taken to protect them. Therefore, the proposed project is consistent with Goal 3.21.

Policy 3.22: SCAG shall discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood and seismic hazards.

Analysis: The project generally includes open space areas that align hillside ridges in northern parts of the site, but also includes proposed residential development that will occur on slopes with an average cross slope of 10 percent or greater. As such, the project is subject to a hillside development review in accordance with the City of Santa Clarita's Ridgeline Preservation and Hillside Development Ordinance. The primary flood hazard areas in the Santa Clarita Valley occur in and along natural drainage channels. The project site is located adjacent to the Santa Clara River and portions of the site are within the Federal Emergency Management Act (FEMA) 100-year flood boundary. Proposed bank stabilization would minimize potential flood hazards in such areas. In addition, the Los Angeles County Fire Department designates the project site as Zone 4, High Fire Hazard, and finally, like other locations in Southern California, the site would be subject to hazards associated with seismic activity in the region. Through compliance with the Santa Clarita Ridgeline Preservation and Hillside Development Ordinance and the Building and Fire Codes as required by the City of Santa Clarita, hazards to the project associated with development on slopes greater than 10 percent, wildfires, flooding and seismic events would be reduced to less than significant levels, making the Riverpark project consistent with this policy.

Policy 3.23: SCAG shall 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.

Analysis: Mitigation measures have been incorporated into the EIR that will minimize noise impacts to those residential units closest to Newhall Ranch Road and Santa Clarita Parkway (**Section 4.5, Noise**). Mitigation measures have also been proposed which will reduce impacts to biological and ecological resources to the extent feasible (**Section 4.6, Biological Resources**). **Section 4.1, Geotechnical Hazards**, of this EIR incorporates mitigation measures that will minimize exposure to earthquake and seismic hazards. The City of Santa Clarita currently has emergency response and recovery plans in place to react to City-wide emergencies. Consequently, the proposed project is consistent with Policy 3.23.

The Growth Management Chapter also includes a goal to provide social, political, and cultural equity. This goal avoids economic and social polarization by promoting a regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended to guide direction of this goal, and does not, however, infer regional mandates and interference with local land use powers. Applicable policies related to this RCPG goal include:

Policy 3.24: Encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluating in the Regional Housing Needs Assessment.

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 services, law enforcement, and fire protection.

Analysis: The project proposes a total of 1,183 dwelling units. Of these units, 439 will be single family and 744 will be multi-family units. The variety of housing types proposed for the project site will serve a variety of housing needs. Typically multi-family units serve as more affordable housing opportunities within the community.

The project site is served by bus routes operated by SCT, which includes primary routes along Bouquet Canyon Road and Soledad Canyon Road. SCT commuter buses provide regional service to downtown Los Angeles, the San Fernando Valley and the Antelope Valley. Existing fixed-route bus service within a quarter mile radius of the proposed project consists of SCT Routes 3, 4, 502, 503, 504 and 507. A Metrolink commuter rail service station is located just south of the site at 22122 Soledad Canyon Road. The project is also consistent with these transit policies because of its extensive pedestrian and bicycle trails network, which are linked to adjacent uses and roadways. This network would provide project residents with a combination of transportation modes, including, bicycles, walking and automobiles. Close proximity of the project site to regional transportation modes provides greater opportunity for all members of society access to public education, housing, health care, social and recreational services (provided within and outside of the project), law enforcement and fire services.

(b) Regional Mobility Chapter/Regional Transportation Plan

The Regional Mobility Chapter is a summary of another SCAG document entitled, Regional Mobility Element (RME). The RME, originally adopted in 1994, is the principal transportation policy, strategy and objective statement of SCAG, proposing a comprehensive strategy for achieving mobility and air quality mandates. The RME is also referred to as the Regional Transportation Plan (RTP), and it serves as both the federal- and state-required regional long-range transportation plan for the SCAG region. The RTP was most recently updated in 2001. The RTP is the guide for developing the federal and state Regional Transportation Improvement Program (RTIP), which is a seven-year program for regional transportation improvements for highways, transit, and aviation. The RTIP is aimed at improving the overall efficiency and people-moving capabilities of the existing transportation system.

The Regional Mobility Chapter links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations.

In order to foster these broad goals, SCAG outlined specific goals, objectives and policies of the RTP applicable to the project. Goals relevant to the Riverpark project are listed below along with an analysis of the project's consistency with them.

Goals:

- Transportation investments shall be based on SCAG's adopted Regional Performance Indicators:

Mobility – Transportation Systems should meet the public need for improved access, and for safe, comfortable, convenient, faster and economical movement of people and goods.

- Average Work Trip Travel Time in Minutes – 25 minutes (Auto)
- PM Peak Freeway Travel Speed – 45 minutes (Transit)
- PM Peak Non-Freeway Travel Speed
- Percent of PM Peak Travel in Delay (Freeway)
- Percent of PM Peak Travel in Delay (Non-Freeway)

Accessibility – Transportation system should ensure the ease with which opportunities are reached. Transportation and land use measures should be employed to ensure minimal time and cost.

- Work Opportunities within 45 minutes door to door travel time (Mode Neutral)
- Average transit access time

Environment – Transportation system should sustain development and preservation of the existing system and the environment. (All Trips)

- CO, ROG, NO_x, PM_{10}, and $PM_{2.5}$ – Meet the applicable SIP Emission Budget and the Transportation Conformity requirements.

Reliability – Transportation system should have reasonable and dependable levels of service by mode. (All Trips)

- Transit – 63%
- Highway – 76%

Safety – Transportation systems should provide minimal accident, death and injury. (All Trips)

- Fatalities Per Million Passenger Miles – 0
- Injury Accidents – 0

Equity/Environmental Justice – The benefits of transportation investments should be equitably distributed among all ethnic, age, and income groups. (All Trips)

- By Income Groups Share of Net Benefits – Equitable Distribution of Benefits among all Income Quintiles

Cost-Effectiveness – Maximize return on transportation investments. (All Trips) Air Quality, Mobility, Accessibility and Safety.

- Return on Total Investment – Optimize return on Transportation Investments
- Transportation investments shall mitigate environmental impacts to an acceptable level.

Analysis: The project is proposed to accommodate projected regional growth in a location that is adjacent to existing and planned infrastructure, urban services, transportation corridors, and major employment centers. Because the project has been designed to provide housing that would support existing and new employment opportunities that are projected to

occur in the Santa Clarita Valley, it could reduce travel distances and could create opportunities for employees to walk and bike to work, thereby reducing vehicle miles traveled. The project also includes a mobility system that includes alternatives to automobile use, such as an extensive pedestrian, equestrian and bicycle trail system. Newhall Ranch Road and Santa Clarita Parkway will include a Class I bike lane that will be separated from vehicle traffic by a 5-foot sidewalk and parkway. The bike lanes provide linkages from homes at the site to important destination within the community, such as the five schools within two miles of the site, the Metrolink station on Soledad Canyon Road, recreation centers, and nearby commercial developments. The project would provide safe and convenient access to the local bus system and to the Metrolink commuter train station at 22122 Soledad Canyon Road. By providing for convenient access to public transit opportunities, the project would help to minimize travel time to work.

The project would preserve the environment by providing for needed housing and opportunities to work closer to home. The shorter travel distances will reduce vehicle miles traveled and associated emissions by shortening the distance between home and work and providing safe and convenient access to public transit opportunities. Refer to **Section 4.3, Traffic/Access**, and **Section 4.4, Air Quality**, for a further discussion of traffic and air quality impacts associated with project-related traffic.

A traffic study for the Riverpark project has been prepared and is discussed fully in **Section 4.3, Traffic/Access**. The study evaluates project-related, as well as long-term, Santa Clarita Valley buildout traffic impacts on local and regional road networks.

The project includes a number of on- and off-site transportation system management actions, such as traffic signals and intersection improvements to speed the flow of traffic. Mitigation measures are proposed for traffic improvements and traffic signals, and comply with the requirements of the County's Congestion Management Program (discussed below). As a result, the project is consistent with these RTP policies.

Goal 4.04: Transportation Control Measures shall be a priority.

Goal 4.16: Maintaining and operating the existing transportation system will be a priority over expanding capacity.

Analysis: Transportation Control Measures outlined in the 2002 Regional Transportation Improvement Program are being implemented according to approved time schedules. The existing transportation system at Newhall Ranch Road and Bouquet Canyon Road is operating below capacity at a LOS D.

(c) Air Quality Chapter

The Air Quality Chapter of the RCPG is intended to facilitate an improved standard of living by encouraging sustained economic growth along with an improvement in air quality through the creation of new industries and products required to achieve cleaner air and by providing adequate transportation for all residents while meeting clean air goals.

The project's consistency with the requirements of the South Coast AQMP is discussed later in this section. As stated in the Air Quality Chapter, SCAG is responsible for preparing and approving the portions of the AQMP which relate to the following: regional demographic projections and integrated regional land use; housing, employment, and transportation programs; control measures; and strategies.

The RCPG Air Quality Chapter core actions related to the proposed project include:

Goal 5.07: Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emissions fees) so that options to command and control regulations can be assessed.

Goal 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.

Analysis: The project is proposing to construct its own arterial street/infrastructure system and a network of pedestrian and bicycle trails that would provide for local travel by a combination of transportation modes, including bicycles, walking, bus transit, commuter rail service and automobiles. The project also incorporates bus pull-ins, as necessary, to accommodate bus-related transit and proposes to fund its fair share of infrastructure improvements required off site through the payment of fees. As indicated in EIR **Section 4.3, Traffic/Access**, funding and construction of main-line freeway capacity (i.e., I-

5 and SR-14) and interchanges with other regional highways (i.e., I-5 at SR-126) is provided by existing sources of tax revenue and by CalTrans through allocations made by the Metropolitan Transportation Authority (MTA). Existing funding sources include state and federal gas taxes and Los Angeles County Proposition A and C sales taxes. As transportation improvements are constructed over the life of the project, the desire to improve air quality while providing adequate transportation infrastructure can be facilitated. Consequently, the project favorably addresses this issue.

As indicated above, the project proposes a pattern of development that includes a wide range of housing unit types and job-creating uses. These uses would be linked by an arterial street system and a pedestrian and bicycle trails network that provide for local travel by a combination of transportation modes, including bicycles, walking, bus transit, and automobiles. Because the project has been designed to provide future residents of the site with employment opportunities and services (with the inclusion of the commercial site) within close proximity to the project, and an on-site park and access to the community wide trail system, is promoting an efficient means of access to these uses, vehicle miles traveled (VMT) and air pollutant emissions can be minimized. Furthermore, the project is located in close proximity and adjacent to existing job centers (e.g., Valencia Commerce Center, Industrial Center, Town Center and Corporate Center) which would help to reduce the need for long commutes from the site to more distant employment centers in Ventura County, the San Fernando Valley and beyond. As a result, VMT and, consequently, air pollution emissions would be minimized. Based on this information, the proposed project favorably addresses the above noted air quality core actions.

The intent of the AQMP is to establish a comprehensive program that will result in the achievement of federal and state air quality standards. The project site is located in the South Coast Air Basin which currently fails to meet federal and state air quality standards for ozone, carbon monoxide, nitrogen dioxide and particulate matter. The AQMP for the SCAQMD is incorporated into the State Implementation Plan (SIP). The SIP constitutes all AQMPs prepared by all AQMDs in the state. The SIP represents the state's effort to comply with federal air quality standards.

For detailed discussion of this project's AQMP consistency, refer to **Section 4.4, Air Quality**, of this EIR. A brief summarization of this section is presented below.

The AQMP suggests that a determination of a project's consistency with the goals and policies of the AQMP can be measured against the "Population Number and Location"[1] projected for a given area. As indicated in **Section 4.17, Population/Housing/ Employment**, of this EIR, SCAG projects that the City of Santa Clarita population (including the proposed project site) will increase to approximately 203,000 persons by the year 2020. As mandated by the Federal Clean Air Act (§ 176[c]), SCAG is the responsible agency for providing current population estimates. Based on this measurement criteria, the proposed project is consistent with the AQMP.

Where a specific project is consistent with regional population projections, another measurement tool in determining AQMP consistency is to determine how a project accommodates the expected increase in population. Generally, if a project is planned in a way that results in the minimization of VMT, and consequently air pollutant emissions, that project is consistent with the AQMP.[2]

The project is proposed to contain a range of housing unit types and some limited job creating uses. Such uses would occur adjacent to Newhall Ranch Road and Bouquet Canyon Road, which are linked by an arterial street system and a pedestrian and bicycle trails network that promote efficient local travel by a combination of transportation modes including bicycles, walking, bus transit, and automobiles. Because the project has been designed to provide future residents of the site with parkland, open space, access to trails VMT and air pollutant emissions can be minimized. Furthermore, because the project is located near existing job centers (e.g., Valencia Commerce Center, Industrial Center, Town Center and Corporate Center), which helps preclude longer commutes from the site to more distant employment centers in Ventura County, the San Fernando Valley and beyond, VMT, and consequently air pollutant emissions, are again minimized. Based on this information, the proposed project is considered consistent with the AQMP.

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1 South Coast Air Quality Management District. CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), Table 12-2, p. 12-5.

2 South Coast Air Quality Management District. CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 12-5.

(d) Water Quality Chapter

The stated purpose of this chapter is to provide a regional perspective on current water quality issues and the plans and programs for addressing these issues. In addition, the chapter identifies the current water quality goals and objectives for the region under existing law and provides a framework for ensuring that growth in wastewater treatment capacity is consistent with regional growth projections.

The two primary goals are:

1. To restore and maintain the chemical, physical, and biological integrity of the nation's water (Federal Clean Water Act); and
2. To achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters (State Porter-Cologne Water Quality Act).

The specific objectives for water quality in the region are identified in the various Regional Water Quality Control Board (RWQCB) Water Quality Control Plans (Basin Plans). The Los Angeles Region Water Quality Control Plan including the Santa Clara River Basin Plan Amendment can be found at the City of Santa Clarita, Department of Planning and Building Services, 23920 Valencia Boulevard, Suite 300, Santa Clarita, California. These plans provide specific objectives for the various water bodies. Since each water body may have a different set of beneficial uses, water quality objectives vary by Basin Plan. The project site is located within, and is subject to, the objectives of the Santa Clara River Basin Plan.

The Water Quality Chapter contains the following policy that is pertinent to the proposed project:

Policy 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.

Analysis: Potential exists for the use of reclaimed water on the project site from the Santa Clarita Valley joint Sewerage System for non-potable uses. In July 1996, the CLWA signed an agreement with the County Sanitation Districts to purchase 1,600 acre-feet of reclaimed water annually (with a maximum of 1.4 million gallons per day) under Phase I of CLWA's master plan to provide reclaimed water service in Santa Clarita Valley. While the applicant currently does not anticipate utilizing reclaimed water on the project, it is feasible that such a resource could be used in the future to provide on-site irrigation for the recreation areas, paseos, major slopes, parkways, and medians.

(e) Hazardous Waste Chapter

The Hazardous Waste Management Core Chapter is designed to assist the region's counties and cities in their efforts to plan for current and future hazardous waste management requirements and, as such; it is not applicable at the individual project level. If hazardous wastes are generated during the construction process, compliance with applicable codes and NPDES requirements will mitigate potential hazards and, therefore, the project would be consistent with this Chapter.

(f) Open Space Chapter

The following discusses the proposed project's relationship to outdoor recreation, public health and safety, and resource protection policies identified in the Open Space Chapter of the RCPG.

Outdoor Recreation

Policy 9.01: 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.

Policy 9.02: Increase the accessibility to open space lands for outdoor recreation.

Policy 9.03: Promote self-sustaining regional recreation resources and facilities.

Analysis: In July 1996, the CLWA signed an agreement with the County Sanitation Districts to purchase 1,600 acre-feet of reclaimed water annually (with a maximum of 1.4 million gallons per day) under Phase I of CLWA's master plan to provide reclaimed water service in Santa Clarita Valley. While the applicant currently does not anticipate utilizing reclaimed water on the project, it is feasible that such a resource could be used to provide on-site irrigation for the recreation areas, paseos, major slopes, parkways, and medians.

However, it is neither the responsibility of the project, nor is it feasible for the project to encourage water reclamation on a regional basis. The City of Santa Clarita does not prohibit nor does it mandate the use of reclaimed water. Consequently, there are no administrative impediments to the use of reclaimed water.

The project provides access from Newhall Ranch Road through the project site to a proposed trail along the Santa Clara River; thereby, the opportunity for passive outdoor recreational experiences is increased. The proposed project provides for on-site recreational opportunities that will, in-turn, not place a burden on regional recreational facilities. The proposed project can, therefore, be considered consistent with outdoor recreation, public health and safety, policies identified in the Open Space Chapter of the RCPG.

Public Health and Safety

Policy 9.04: Maintain open space for adequate protection of lives and properties against natural and man-made hazards.

Policy 9.05: Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipment.

Analysis: Open spaces proposed within the project site will be maintained and owned by a Homeowners Association's or the City of Santa Clarita to ensure that open space areas protect both persons and properties against natural and manmade hazards. Implementation of geotechnical reports and review of plans by the Los Angeles County Sheriff and Fire Departments will ensure that development located in hillside and canyon areas susceptible to flooding, earthquakes and wildfire hazards are constructed and situated so as to minimize and avoid potential hazards. Subsequently, the project can be considered consistent with Policies 9.04 and 9.05 of the Open Space Chapter of the RCPG.

Resource Protection

Policy 9.07: Maintain adequate viable resource production land, particularly lands devoted to commercial agriculture and mining operations.

Policy 9.08: Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.

Analysis: There are no viable commercial agricultural activities on the project site. Limited dry farming has occurred on the project site; however, this land is not contiguous to other

productive agricultural lands. Mitigation measures have been incorporated into the proposed project (**Section 4.6, Biological Resources**) to minimize impacts on the endangered species, which reside in the Santa Clara River. Consequently, the project can be considered consistent with Policies 9.07 and 9.08 of the Open Space Chapter of the RCPG.

(g) Water Quality Control Plan (Basin Plan)

The Basin Plan, which includes the Santa Clara River and its watershed in the Los Angeles Region, is designed to preserve and enhance water quality and to protect the beneficial uses of all regional waters. Specifically, the Basin Plan designates beneficial uses for surface and ground waters; sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and to conform to the state's anti-degradation policy; and describes implementation programs to protect all waters in the region. In general, the Basin Plan regulates the following two pollutant sources:

- **Point Sources**: Pollutants from point sources are transported to water bodies in controlled flows at well-defined locations, and include discharges from industrial uses and municipal wastewater treatment facilities.
- **Non-point Sources**: Pollutants from non-point sources are transported to water bodies from large, diffuse areas in the form of runoff. Pollutants from non-point sources enter waters in sudden pulses and large quantities. Non-point pollutants include: lawn and garden chemicals that are transported by storm water and irrigation; household and automotive care products that are dumped and drained onto streets and into storm drains; fertilizers and pesticides that drain from agricultural fields and urban uses; sediment erosion from construction sites; and pollutants deposited by atmospheric conditions.

The Basin Plan implements a number of state and federal laws, the most important of which are the California Porter-Cologne Water Quality Control Act, and the Federal Clean Water Act (CWA). The U.S. Environmental Protection Agency (U.S. EPA) has delegated responsibility for implementing portions of the Clean Water Act to the State and Regional Water Quality Control Boards, including water quality planning and control board programs, such as the National Pollutant Discharge Elimination System (NPDES).

Section 402 of the CWA contains the NPDES program that is administered by the U.S. EPA and, in 1987, adding Section 402(p) that established regulations for municipal and industrial storm water discharges under the NPDES program amended the CWA. In 1990, the U.S. EPA published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations require that discharges of storm water associated with construction activity (storm water discharges) from soil disturbance of five acres or more are regulated as an industrial activity and are

covered by a NPDES Permit. CWA Section 301 prohibits the discharge of any pollutant without a permit. The State Water Resources Control Board has given the responsibility to regulate these discharges to the Regional Water Quality Control Board (RWQCB).

Two types of NPDES Permits have been put forth by the RWQCB. They are:

1. Municipal permits for separate storm sewer systems located in urban areas with populations of 100,000 or more.
2. Statewide general permits for:
   a) All construction projects impacting 1 acres or more, or smaller areas that are part of a larger common plan, including excavation, demolition, grading and clearing; and
   b) Industrial activities, excluding construction.

Analysis: The 695.4-acre Riverpark project site is part of the Santa Clara River Basin and associated watershed and is, therefore, subject to the Basin Plan. The project includes a Drainage Concept Plan, shown in **Figure 4.2-9** of **Section 4.2, Flood**, which would comply with each of the identified regulations and which would provide drainage and flood protection to the project. The Drainage Concept Plan delineates the conceptual NPDES system for the project, which would include the necessary accessory facilities, such as catch basins, manholes, inlet and outlet structures, a water quality basin and water quality base easements to accommodate the proposed development. The proposed project would have construction activity that disturbs more than 5 acres; therefore, it would require a NPDES Permit. All necessary NPDES Permits would be obtained for both the construction and ultimate development stages. Best Management Practices (BMPs)[3] would be incorporated into the development and final specific design of drainage facilities (see **Section 4.2, Flood**, for more detailed discussion of how the project would comply with the Basin Plan's water quality requirements). The proposed project would be consistent with the Basin Plan.

(h) Congestion Management Program (CMP)

The Congestion Management Program (CMP) was enacted by the State Legislature to address traffic congestion in California's urbanized counties. The Legislature noted that the existing transportation

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3 In water pollution control, BMPs are the best means available to control pollution of waterways from non-point sources, as opposed to best available technology, which applies to pollution control for point sources. Examples of BMPs include public education, materials management, spill prevention and cleanup, illegal dumping controls, street and storm drain maintenance, and good housekeeping practices.

system relies upon an overcrowded street and highway system that impacts the economic vitality of the state and diminishes the quality of life in many communities. The current CMP for Los Angeles County was adopted in 2002, and it is required by law to be updated biennially.

The CMP was created for the purposes of linking land use, transportation and air quality decisions; developing a partnership among transportation decision-makers on devising appropriate transportation solutions that include all modes of travel; and proposing transportation projects eligible to compete for state gas tax funds.

The requirements for the CMP became effective with voter approval of Proposition 111 in June 1990. Proposition 111 provided for a nine-cent increase in the state gas tax over a five-year period to generate revenues to fund transportation investment statewide. In order to receive these funds, jurisdictions must comply with CMP requirements.

By, statute, the CMP has five elements: (1) a system of highways and roadways with minimum level of service performance standards designated for highway segments and key roadway intersections on the system; (2) transit standards for frequency and routing of transit service and coordination between transit operators; (3) a trip reduction and travel demand management element promoting alternative transportation methods; (4) a land use impact analysis program; and (5) a seven-year capital improvement program of projects.

Local jurisdictions are responsible for assessing the impacts of new development on the CMP highway system when preparing project EIRs and for selecting appropriate measures to mitigate such impacts from a "toolbox" of strategies. To be classified as a CMP roadway, the roadway must meet the following criteria:

- it must be an existing State Highway (both freeways and arterials), and
- it must be a principal arterial, defined as:
  - routes that complete gaps in the State Highway system,
  - routes providing connections with the CMP systems in adjacent counties, or
  - routes along major inter-jurisdictional travel corridors, providing primary, high volume or multi-modal transportation.

Several CMP roadways exist within the vicinity of project site, including SR-126 and I-5. State Route 126 is designated by the CMP as a State Highway (Arterial) and I-5 is designated as a State Freeway. For a detailed discussion of project impacts on CMP roadways and consistency with the CMP, refer to

Section 4.3, Traffic/Access, of this EIR. As indicated in **Section 4.3**, the proposed project is consistent with the CMP.

(i) Air Quality Management Plan (AQMP)

The intent of the Air Quality Management Plan (AQMP) is to establish a comprehensive program that will result in the achievement of federal and state air quality standards. The Riverpark project site is located in the South Coast Air Basin, which, at the time of this writing, fails to meet the National Ambient Air Quality Standards (NAAQS), and State Ambient Air Quality Standards (SAAQS) established under the Federal Clean Air Act and the California Clean Air Act, respectively. Specifically, the South Coast Air Basin is classified by the U.S. EPA as an extreme non-attainment area for ozone (the only area in the nation to be classified as such), a serious non-attainment area for CO and PM_{10}, and a non-attainment area for NO_2. The U.S. EPA designates the Basin as attainment for SO_2 and lead. The South Coast Basin is classified by the California Air Resources Board as an extreme non-attainment area for ozone, a serious non-attainment area for CO, and a non-attainment area for NO_2 and PM_{10}. The ARB designates the Basin as attainment for SO_2 and lead. The AQMP for the South Coast Air Quality Management District is incorporated into the State Implementation Plan (SIP). The SIP constitutes all AQMPs prepared by all Air Quality Management Districts in the state. The SIP is the state's effort to comply with state air quality standards.

For detailed discussion of the project's consistency with the AQMP, refer to **Section 4.4, Air Quality**, of this EIR.

3.0 CUMULATIVE IMPACT ANALYSIS METHODOLOGY

1. PURPOSE

The purpose of this section is to explain the methodology for the cumulative project analysis presented in this EIR. This section is important because, in many cases, the impact of a single project may not be significant, while when combined with other projects the "cumulative" impact may be greater. Section 15355 of the state CEQA Guidelines defines "cumulative impacts" as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The Guidelines [Section 15130(b)] states, "the discussion [of cumulative impacts] need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness."

Substantial cumulative impacts often result from the combined effect of past, present, and future projects that are located in proximity to the project under review. For example, the waste water demand generated by a proposed project may not be significant when analyzed alone; however, when analyzed in combination with waste water demand of other approved or proposed projects, the waste water demands may exceed the resource capabilities of the waste water agency, resulting in a significant cumulative impact. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments which may have impacts that might compound or interrelate with those of the project under review. Furthermore, the cumulative impact analysis is an important part of an EIR as it allows the environmental analysis to provide a more complete forecast of the future environmental conditions and by showing the impacts of all known projects.

2. CUMULATIVE GROWTH FORECASTING METHODOLOGY

In order to analyze the cumulative impacts of the project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the proposed project must be predicted. Section 15130(b) of the CEQA Guidelines allows two methods of prediction as described below: "(A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency, or (B) a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or areawide conditions." In order to analyze a worst-case condition, this EIR uses a combination of both methods to provide a reasonable and comprehensive estimate of cumulative impacts.

For this EIR, some impact analysis sections present two separate cumulative development scenarios:

- Development Monitoring System (DMS) Build-Out Scenario, and
- Santa Clarita Valley (SCV) Cumulative Build-Out Scenario (a summary of projections and DMS).

Inclusion of both scenarios in applicable sections not only exceeds CEQA requirements, but also meets the City of Santa Clarita desire that the project under review be assessed under the development monitoring system wherever applicable. The City uses the County's DMS while the City's infrastructure master plan is under development. The Economic Development and Community Revitalization Element of the City of Santa Clarita General Plan recommends policy that requires monitoring of development on an on-going basis (annually) to the extent and location of development and changes occurring within the planning area in order to measure the degree to which needed balance between land uses allocated within the General Plan is maintained. The DMS Build-Out Scenario addresses this policy within the General Plan. The environmental issue areas addressed with the DMS analysis include Water Services, Wastewater Disposal, Education, Fire, Traffic and Library Services. These scenarios are discussed further under **Subsections a.** and **b.** below.

It should be noted that the list of cumulative projects (please see **Appendix 3.0, Development Monitoring System Database**) used in this EIR to assess cumulative impacts is an ever-changing dynamic list. From time to time the list of cumulative projects is increased or decreased as specific development proposals are applied for, changed, withdrawn, approved, or denied by the City of Santa Clarita and the County of Los Angeles. An attempt has been made as part of this EIR to be as current as possible while compiling cumulative projects lists; however, it is possible that the lists maintained by the City of Santa Clarita and County of Los Angeles will change even further while this EIR is being reviewed by the public. To account for possible changes in City/County project filings which might occur prior to or during this EIR's public circulation, the cumulative analysis used in this EIR incorporates an additional unfiled 400 dwelling units. The unfiled units have been agreed to and accommodated by their inclusion into the City of Santa Clarita and the County of Los Angeles SCV Consolidated Traffic Model.

a. DMS Build-Out Scenario

Added to housing units already existing in the Santa Clarita Valley, the first scenario (herein referred to as the "DMS Build-Out Scenario") entails buildout of subdivision projects listed in the County's DMS plus the proposed project. DMS data used for this analysis include all pending, recorded and approved projects for which land divisions have been filed within the City of Santa Clarita and within County unincorporated lands as of October 1, 2003. The City plus County unincorporated area together constitute the County's Santa Clarita Valley Planning Area, the area for which DMS is run. A build-

out scenario of the Valley Planning Area based on existing development and on DMS data is presented in **Table 3.0-1, DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project** (refer to **Appendix 3.0, Development Monitoring System Database**, for detailed calculations). The listings presented in **Table 3.0-1** are not comprehensive estimates of future development activity in the Valley in that they do not include General Plan Amendment requests (the Santa Clarita Valley Cumulative Build-Out Scenario, which follows, is considered comprehensive). **Table 3.0-2, DMS Implementation**, is a comparative analysis of County implementation of DMS with mechanisms employed by City of Santa Clarita used to monitor not only DMS, but other environmental issues as well.

Table 3.0-1
DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project

Land Use Types	DMS Buildout w/o Riverpark[1]	Riverpark	DMS Buildout w/ Riverpark[1]
Single Family	62,472 du	439 du	62,911 du
Multi-Family	29,037 du	744 du	29,781 du
Mobile Home	1,818 du		1,818 du
Commercial Retail	9,545,009 sq. ft.	40,000 sq. ft.	9,585,009 sq. ft.
Hotel	670 rooms		670 rooms
Sit-Down Restaurant	146,340 sq. ft.		146,340 sq. ft.
Fast Food Restaurant	15,100 sq. ft.		15,100 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	300,000 sq. ft.		300,000 sq. ft.
Hospital	222,800 sq. ft.		222,800 sq. ft.
Library	129,110 sq. ft.		129,110 sq. ft.
Church	323,190 sq. ft.		323,190 sq. ft.
Industrial Park	19,042,611 sq. ft.		19,042,611 sq. ft.
Business Park	3,100,321 sq. ft.		3,100,321 sq. ft.
Manufact./Warehouse	3,006,821 sq. ft.		3,006,821 sq. ft.
Utilities	1,037,240 sq. ft.		1,037,240 sq. ft.
Commercial Office	3,388,869 sq. ft.		3,388,869 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	345.0 ac		345.0 ac
Developed Parkland	110.0 ac	29 ac	139.0 ac
Special Generator[2]	296.0 sg		296.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Los Angeles County Department of Regional Planning, Service Provider Report (October 12, 2003) using data for the William S. Hart Union High School District, which encompasses the Santa Clarita Valley Planning Area. Includes existing development as contained in Santa Clarita Valley Consolidated Traffic Model, (November 2002).*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

Table 3.0-2
DMS Implementation

DMS Issues	County Review/ Implementation	City Review/ Implementation
Geotechnical Hazards/Grading	Not identified by DMS. Geotechnical Studies/Conditions of Approval, Building Permit	Geotechnical Study/Conditions of Approval, Building Permit
Flood/Drainage	Not identified by DMS. Hydrology Study/Conditions of Approval, Building Permit, NPDES Permit	Hydrology Study/Conditions of Approval, Building Permit, NPDES Permit (includes annexation into City Stormwater District)
Traffic/Access	Project must meet criteria and if necessary implement one or more of the mitigation measures identified. Traffic Study, Joint City/County Bridge/ Thoroughfare District, General Plan/ Conditions of Approval, Building & Improvement Permits	Traffic Study, Joint City/County Bridge/Thoroughfare District, General Plan/Conditions of Approval, Building & Improvement Permits
Air Quality	Not identified by DMS. Air Quality Report/Conditions of Approval	Air Quality Report/Conditions of Approval
Noise	Not identified by DMS. Noise Study, Conditions of Approval	Noise Study, Unified Development Code/Conditions of Approval, Conditions of Approval
Biota/SEA/River	Not identified by DMS. SEATAC, Biological Study, EIR (if appropriate), Mapped Line	General Plan Conformance, Biological Study (UDC), Consultant preparing independent environmental documentation/Conditions of Approval
Cultural Resources	Not identified by DMS. Cultural Resources Report/Conditions of Approval and Monitoring during grading	Cultural Resources Report/Conditions of Approval and Monitoring during grading
Visual Resources	Not identified by DMS. Specific Plan/Conditions of Approval	Specific Plan/Conditions of Approval
Water Services	DMS Analysis (Determination of adequate water supply). Conditions of Approval	Utilization of County DMS Figures/Availability of water verified prior to issuance of Building Permit
Wastewater	DMS Analysis (Annexation into Sanitation District service area, pay sewage connection fee as a Condition of Approval)	Utilization of DMS Figures, Annexation into Sanitation District, payment of sewage connection fee as Conditions of Approval

DMS Issues	County Review/ Implementation	City Review/ Implementation
Solid Waste	Not identified by DMS. SRRE, HHWE/Conditions of Approval	SRRE, HHWE, City UDC/ Conditions of Approval
Utilities: Energy Resources	Not identified by DMS. Building plan review	Conditions of Approval, Building plan review
Education	DMS Analysis Fees per SB 50 or other applicable state fees/Conditions of Approval	Utilization of DMS Figures/Saugus School District Funding Agreement/Hart School District Funding Agreement/ Conditions of Approval
Library Services	DMS Analysis ($640.00/dwelling unit County Library fee/Conditions of Approval	Utilization of DMS Figures, County Library Fees Adopted by Ordinance/Fees Collected Prior to Issuance of a Building Permit, Conditions of Approval
Fire Protection	Meet service criteria, pay Fire Facilities Fee Program/Conditions of Approval	Agreement with the County for Fire Services/Conditions of Approval, Building Permit
Parks and Recreation	Not identified by DMS.	City Ordinance/Conditions of Approval
Population/Housing/ Employment	Not identified by DMS. SCV Areawide Plan/ Conditions of Approval	General Plan
Agricultural Resources	Not identified by DMS. SCV Area-wide Plan	General Plan
Sheriff Services	Not identified by DMS. Conditions of Approval	City Agreement with County for Sheriff Services/Conditions of Approval
Human-Made Hazards	Not identified by DMS. Conditions of Approval	Conditions of Approval
Oak Trees	Not identified by DMS. County Forester, Oak Tree Ordinance and Guidelines, Oak Tree Report/Conditions of Approval	Oak Tree Ordinance and Guidelines, Oak Tree Report-Review by City Oak Tree Consultant/Identification of ISA values/Conditions of Approval

b. Santa Clarita Valley Cumulative Build-Out Scenario

The second scenario [herein referred to as the "Santa Clarita Valley (SCV) Cumulative Build-Out Scenario"]—which also adds to existing development—entails buildout of all lands under the current land use designations indicated in the City of Santa Clarita General Plan, Los Angeles County Santa Clarita Valley Area Plan, the proposed project, plus all known active pending General Plan Amendment requests for additional urban development in the City of Santa Clarita and County unincorporated area. Because this scenario combines both of the CEQA future development prediction methods [i.e., (A) the listing of known projects plus (B) a summary of development projections from an adopted general plan], the Santa Clarita Valley Cumulative Build-Out Scenario is considered a worst-case projection of future development activity. It also allows a comprehensive analysis of the infrastructure, services, and other impacts of the region's buildout. The source of data for the Santa Clarita Valley Cumulative Build-Out Scenario is the November 2002 Santa Clarita Valley Consolidated Traffic Model, 2002 Update and Validation (SCVCTM) which was used in the traffic analysis. The SCVCTM was developed jointly by the City of Santa Clarita and the County of Los Angeles Department of Public Works and amended as necessary to include general plan amendment applications as they are submitted to the City and County. The modeled area extends easterly from the Ventura County line to where the Antelope Valley Freeway (SR-14) passes out of the Santa Clarita Valley near Vasquez Rocks Park; northerly to the Grapevine area north of Castaic; and southerly to the confluence of the I-5 and SR-14 freeways south of Newhall Pass (this is the area that is the subject of the County's Santa Clarita Valley Area Plan). In this EIR, the SCVCTM area is often referred to as the "Valley." A list of the future development activity expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented in **Table 3.0-3, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario with Project** (refer to **Appendix 3.0** for detailed calculations). The City of Santa Clarita General Plan can be reviewed at the City of Santa Clarita, Planning & Building Services Department (Planning Division Public Counter), 23920 Valencia Boulevard, Suite 300, Santa Clarita, California and the Los Angeles County Santa Clarita Valley Area Plan can be reviewed at the County of Los Angeles Department of Regional Planning, 320 West Temple Street, Los Angeles, California.

Table 3.0-3
Cumulative Development Activity - Santa Clarita Valley
Cumulative Build-Out Scenario with Project

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	279,340 students		279,340 students
High School	12,958 students		12,958 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	464.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

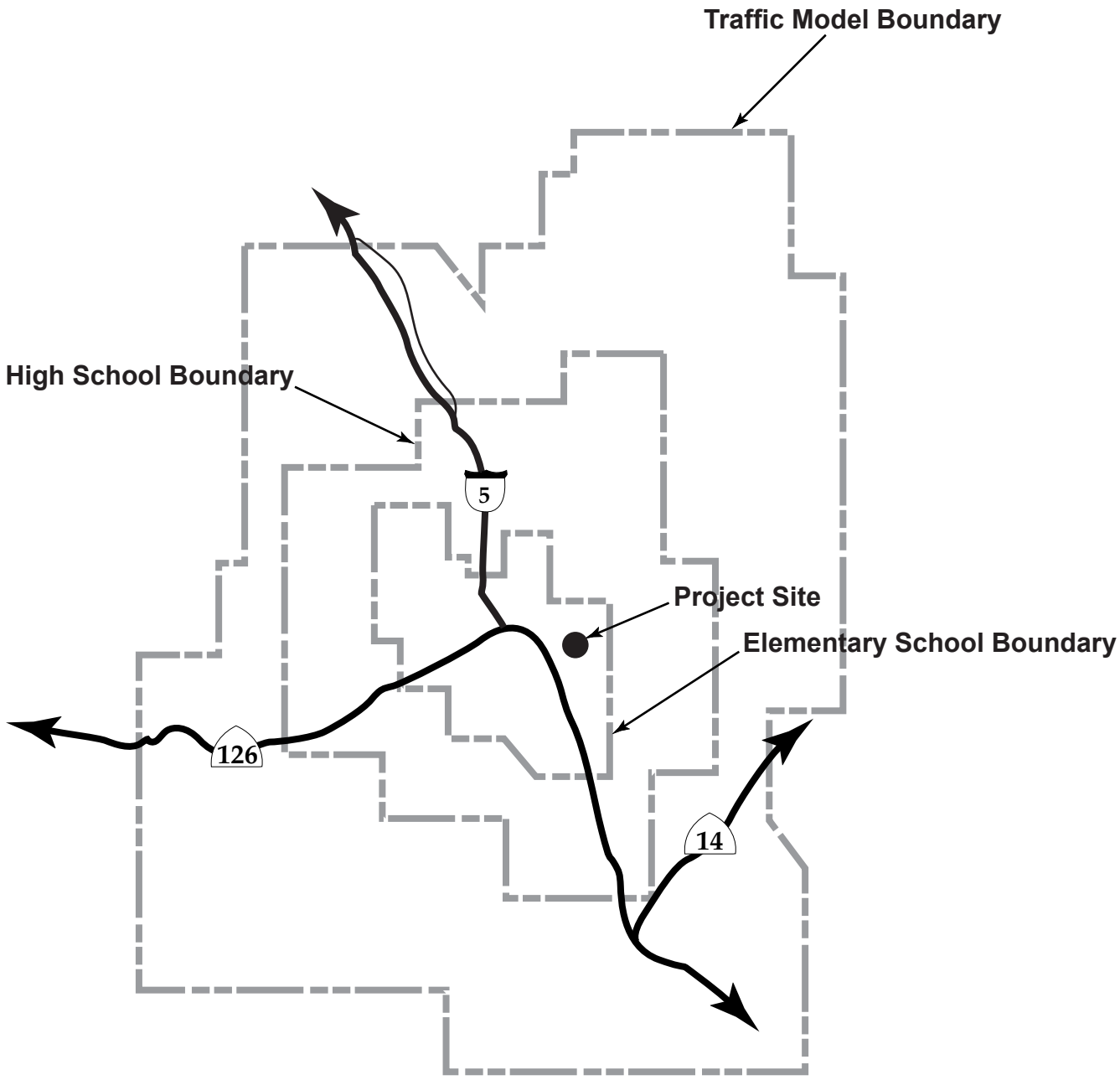
[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

3. CUMULATIVE IMPACT ANALYSIS METHODOLOGY

The specific group of projects that interact to produce cumulative impacts can differ from environmental topic to environmental topic. For example, the William S. Hart Union High School District serves the project site, but also serves a large area of unincorporated County land. The potential for cumulative high school impacts would be analyzed for that large area to account for a worse case analysis. On the other hand, the Saugus Union School District also serves the project site, but provides elementary school education to only a portion of the City of Santa Clarita and a smaller amount of unincorporated County land. Thus, a smaller geographical area (and, therefore, a smaller amount of future growth) is analyzed for cumulative elementary school impacts in the Saugus Union School District. **Figure 3.0-1, Cumulative Impact Analysis Methodology**, illustrates this concept. The topics in this EIR which fit this type of service boundary-driven cumulative impact analysis methodology include water resources, wastewater disposal, education, and libraries.

Other environmental impacts do not confine themselves to specific service boundaries. The relevant geographical area is subject to certain variables such as the current structure of the regional and local roadway system, variables in driving behavior, future modifications to the circulation system, and uncertainty with respect to the pace of buildout of other development projects that would affect the same elements of the circulation system. In this case a conservative approach was taken and a wide study area was utilized. In these cases, the broad geographical area used is the Santa Clarita Valley Consolidated Traffic Model, 2002 Update and Validation (SCVCTM) Planning Area described above for the Santa Clarita Valley Cumulative Build-Out Scenario. The topics in this EIR which fit this type of cumulative impact analysis methodology include: transportation/circulation; noise (because it relies on traffic data from the SCVCTM); population, housing and employment; solid waste; and parks and recreation.

The potential cumulative effects relating to another group of environmental topics can be felt beyond the SCVCTM Planning Area referred to in the previous paragraph. For example, cumulative impacts on biological resources can occur regionally, particularly when sensitive resources that occur over a large regional context are involved. For instance, a freeway may be proposed in a way that cuts off the regional movement of animals from one large open area to another, thereby having a regional impact that is not restricted to a planning area, but likely affecting the biological environment in topographically-related areas. The topics in this EIR which fit this type of cumulative impact analysis methodology include flood, agricultural resources, and biota. As an example, biota cumulative impacts will be addressed in relation to not only the project site, but also to the creek system. This discussion can be found in **Section 4.6, Biological Resources**.



Note: The boundary lines indicated are conceptual in nature as geographical parameters are continually modified and updated as a result of development agreements and the like.

NOT TO SCALE

SOURCE: Impact Sciences, Inc., November 2003

FIGURE **3.0-1**

Cumulative Impact Analysis Methodology

The assessment of cumulative air quality impacts relies on project-specific methods suggested by South Coast Air Quality Management District rather than the aforementioned growth predictions. The Air Quality Management District's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the Air Quality Management Plan (AQMP). The 1994 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the South Coast Air Basin, to meet state and federal air quality standards, and to minimize the fiscal impact pollution control measures have on the local economy. If the analysis shows that a project does not comply with the standards, then cumulative impacts are considered to be significant unless there is other pertinent information available to the contrary.

Lastly, some cumulative impacts confine themselves to the project site. An example would be geotechnical impacts. For these, the effects of two or more projects which occur at different locations are not affected by, and would not impact, the same piece of land. The topics in this EIR which fit this type of cumulative impact analysis methodology include geotechnical resources, cultural/ paleontological resources, and risk of upset/human-made hazards.

The first step in evaluating cumulative impact potential is to predict the amount of future cumulative growth that is expected to occur. As indicated previously in this EIR section, such predictions have been completed under two growth scenarios, the DMS Build-Out Scenario and the Santa Clarita Valley Cumulative Build-Out Scenario. Where the boundaries of an affected service district are precisely defined, the growth prediction was adjusted to estimate future growth on a district-by-district basis. Where boundaries are not as narrowly defined, the total cumulative growth prediction for the SCVCTM is utilized. For those impacts that are isolated to just the project site, the prediction of future growth beyond that proposed for the site or the expected tributary area is not needed. The database (growth predictions) used to assess cumulative impacts is provided in **Appendix 3.0** of this EIR.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section provides more detailed information on the project's existing conditions relative to each topic addressed in this section, its impact potential, pertinent mitigation measures, and cumulative issues. The existing conditions component defines the environmental conditions that currently exist on and near the project site, while project impacts are defined as the project's effect on the existing environment. Wherever a project impact is identified as being significant, mitigation measures are recommended that would reduce the level of impact. Technical topics addressed in this EIR section were defined by the City of Santa Clarita through the project Initial Study and from comments received from the project's Notice of Preparation (see ***Appendix I*** *for copies of these documents and the comments received). The purpose of this section is to inform readers of the type and magnitude of the project's environmental impact and how such impacts would affect the existing environment.*

Documents referred to, referenced or cited are incorporated by reference and are available for review at the City of Santa Clarita, Department of Planning & Building Services, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California 91355.

4.1 GEOTECHNICAL HAZARDS

1. SUMMARY

No active earthquake faults exist on the project site; nonetheless, possible unstable, fractured conditions may exist along an old fault zone on the site, which could result in a significant geotechnical impact unless mitigated through buttressing/stabilization fill. Approximately 2.5 acres of the southwestern corner of the site are within an Alquist-Priolo Special Studies Zone for the San Gabriel Fault; however, no development is proposed within this location and no significant impacts related to the fault zone are anticipated.

Project activities, including earth grading, construction, and those associated with project operations, if not properly mitigated, could affect the geologic stability of the site, consequently resulting in significant environmental impacts. Existing geologic instability also poses significant hazards to proposed structures and residents, if unmitigated. Unless mitigated, specific project-related geotechnical impacts could occur if project development occurs:

- *on existing artificial fill;*
- *on soils subject to compressibility, consolidation, and subsidence;*
- *on a designated landslide or in an area of debris flow hazard;*
- *in an area with potential for permanent deformation of the ground surface and liquefaction;*
- *on a transition lot;*
- *in areas of high alluvial or perched groundwater;*
- *over an existing known or undocumented well;*
- *within corrosive soils; and/or*
- *on slopes with greater than 25 percent natural grade.*

In compliance with Section 18.02.030f of the City of Santa Clarita Building Code and the California Building Code, and according to the Project Geotechnical Engineer, Vesting Tentative Tract 53425 is feasible for development from the standpoint of geology/geotechnical conditions provided the mitigation measures identified in this section are followed and implemented during construction. With implementation of these measures, geologic impacts would be mitigated to below a level of significance and no unavoidable significant geologic impacts would occur.

2. INTRODUCTION

This section summarizes the following soils and geologic reports that were prepared for the proposed project, including Area E, Commercial Use parcel. The reader is encouraged to review the actual reports contained in **Appendix 4.1**, for specific details.

- Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, and
- Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.

The report summarizes findings regarding existing geology, existing surficial deposits, possible geologic and surficial impacts, and recommended mitigation measures for these impacts.

Previous engineering geology and geotechnical investigations on the site were performed by Huntingdon Engineering & Environmental, Inc./Schaefer Dixon Associates and Southwest Engineering Geology. Huntingdon/Schaefer Dixon provided the geologic and geotechnical observation and testing for the grading and construction of the Rio Vista Water Treatment Facility, which included grading for the raw and treated water lines located within the Newhall Ranch Road alignment. Southwest Engineering Geology prepared a general feasibility report evaluating the site geologic conditions. These reports are incorporated by reference, and can be found at the City of Santa Clarita, Department of Planning and Building Services, 23920 Valencia Boulevard, Suite 300, Santa Clarita, California. Where appropriate, their data were incorporated into the Allan E. Seward Engineering Geology, Inc. report.

3. EXISTING CONDITIONS

a. Topography and Other Site Conditions

The northern portion of the 695.4-acre property is characterized by southwest to southeast trending spur ridges that descend from plateaus elevated up to about 350 feet above the Santa Clara River. Elevations on the site range from approximately 1,155 feet above mean sea level (msl) along the river to 1,490 feet above msl along the northeastern corner of the site. Slopes range from gentle to moderately steep with the steepest slopes in the side canyons and swale areas. Details of the site topography are illustrated on **Figure 4.1-1, Geologic/Geotechnical Map**.

Figure 4.1-1

See Geologic/Geotechnical Maps in Map Box

(DEIR Maps 7 through 10)

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Although much of the property appears to remain in a natural state, it is traversed by a number of large utilities, including the Los Angeles Aqueduct (Los Angeles Department of Water and Power), large water lines of the Castaic Lake Water Agency (CLWA) that lead to the Rio Vista Water Treatment plant to the north, and various water and oil wells. Previous grading on the site includes significant grading performed for the construction of the Rio Vista Water Treatment Plant, including raw and treated water pipelines. Minor grading has also been performed for the various access roads that traverse the site, including the stockpiling of artificial fill at various locations. Oil exploration and production has also occurred at isolated locations on the site.

b. Geologic Setting

The project site is situated in the western Transverse Ranges geomorphic province in the western portion of the Soledad Basin just north of the San Gabriel Fault zone. Numerous east-west trending folds and reverse faults that are the result of on-going compressional tectonics characterize this region. The Soledad Basin is roughly a rectangular-shaped southwesterly plunging synclinal structure that extends between the San Gabriel Fault in the Newhall-Saugus area and the San Andreas Fault near Palmdale. A thick accumulation of Cenozoic sedimentary rocks has accumulated in this structural/depositional basin and has subsequently been faulted and folded by repeated tectonic deformation.

Much of the elevated portion of the project site is underlain by accumulations of ancient river channel deposits that were deposited on a series of successively lower benches cut in the underlying Saugus Formation bedrock by the ancestral Santa Clara River. These depositional Terrace Deposits exhibit crude horizontal stratification. Quaternary Alluvium covers the valley floors.

The geologic structure of the Saugus Formation bedrock below much of the project site has been uplifted and deformed by past tectonic forces into an open anticline that trends northwest across the northeastern portion of the site. The southern limb of the anticline, the Saugus Formation bedrock dips toward the south at angles ranging from 6 to 25 degrees and dips towards the north at angles ranging from 8 to 56 degrees along the northern limb. The structure is more complicated at the northeastern corner of the site where relatively steeply north-dipping bedrock has been deformed by a northwest trending fault. The San Gabriel Fault is located just off site towards the south; 2.5 acres at the southwestern corner of the property are included in the Alquist-Priolo Special Studies Zone for this fault. No development is proposed within this area of the site.

The Riverpark property has been affected by slope movements that range in size from small debris flows and rockfalls to large, deep-seated failures. Fourteen (14) landslides have been mapped on the site.

c. Generalized Geologic/Geotechnical Subsurface Conditions and Soil Properties

The following discussion has been broken down into the following subtopics:

(1) Geologic Units;

(2) Mass Movement Deposits;

(3) Seismicity;

(4) Groundwater;

(5) Soil Compressibility and Hydroconsolidation;

(6) Expansion Potential;

(7) Potential Corrosivity of Soils;

(8) Soils Shear Strength;

(9) Shrinkage, Bulking, and Subsidence;

(10) Rippability;

(11) Debris Flow Hazard; and

(12) Hillside Development.

(1) Geologic Units

A general description of geologic units, including bedrock, Terrace Deposits, Alluvium, slopewash, landslides, and artificial fill are presented below. Distribution of these units is shown on **Figure 4.1-1**.

(a) Saugus Formation (TQs)

The bedrock encountered consists of sedimentary rocks of the late Pliocene to Pleistocene Saugus Formation. This section contains fluvial and transitional lithologies of the lower Saugus Formation, including light-gray sandstone and conglomerate, greenish-gray siltstone, silty sandstone and reddish-brown and brown sandy mudstone and mudstone. Low strength clay beds can be present within the reddish-brown mudstone units and are generally the result of original deposition. These clay layers

were encountered during subsurface exploration of the site. The Saugus Formation is typically moderately indurated.

(b) Quaternary Terrace Deposits (Qt)

Remnants of fluvial Terrace Deposits mantle large portions of the study area (see **Figure 4.1-1**). These deposits consist primarily of poorly- to well-bedded, light gray to yellowish-orange sand, conglomerate, and sandy silts. Large boulders occur throughout the Terrace Deposits, but they are generally concentrated at the basal contact. These deposits are typically friable to poorly-indurated and are typically weathered to a depth of 8 feet.

(c) Quaternary Alluvium (Qal)

Recent river-channel deposits are present in the lower elevations of the property, largely underlying the immediate modern drainage and major tributaries of the Santa Clara River (see **Figure 4.1-1**). Based on subsurface data obtained for the project, the alluvial deposits consist of interbeds of sandy, silty, and clayey soils with limited inclusions of coarser soils. The surficial 20 feet throughout the tract contains hard lenses of silty and clayey soils that apparently were desiccated by the local dry climate. The conditions of the alluvial soils present in each of Planning Areas A1, A2, C and D, in the Remainder Parcel east of Area C, and in the large side canyon designated as Open Space Lot No. 367 are summarized below.

Planning Area A1 is located south of Newhall Ranch Road, north of the Santa Clara River and west of the large side canyon that is proposed as a park site (Lot No. 367). The granular alluvial soils of Area A1 were found to predominantly range from medium to very dense with lenses of loose granular soils from the recommended removal depths shown on **Figure 4.1-1** to the maximum depth explored, 60 feet. Similarly, the silty and clayey alluvial soils of Area A1 were found to predominantly range from medium to hard with very soft to soft clay and silt lenses from the recommended removal depths to the maximum depth explored: 60 feet. Unspecified organic materials were encountered at 26.1 feet depth.

The alluvial areas in Planning Area A1 include portions of Lot Nos. 3-54, 58-60, 71, 72, 74-76, 84-102, 104-130, 143-145, 176, 194-213, Recreation Lot No. 226, Open Space Lot Nos. 227, 233-238, 240-241, 243-246, the 20- to 35-foot wide Trail and Joint Use Easement, and two Water Quality Basin Easements near CPT-20 and CPT-9, as illustrated on **Figure 4.1-1**. A large temporary stockpile of earth fill occupied much of the alluvial area within Area A1. Subsurface explorations were typically located outside the stockpile area.

Planning Area A2 is located east of the proposed park site (Lot No. 367) south of Newhall Ranch Road and north and west of the Santa Clara River. The alluvial areas of Area A2 include Lot Nos. 325-352, Open Space Lot Nos. 357-362, and adjacent portions of Santa Clarita Parkway. The granular alluvial soils of Area A2 below the recommended removal depths were found to predominantly range from dense to very dense with lenses of loose to medium sandy soils. The alluvial silts and clays of Area A2 below recommended removal depths were similarly evaluated and found to predominantly range from stiff to hard with lenses of very soft to medium clays and silts to the maximum depth explored: 51 feet.

Planning Area C and the adjoining Remainder Parcel are located along and north of the planned alignment of Newhall Ranch Road, east of the CLWA Rio Vista Water Treatment Plant, and west of the Santa Clara River. The alluvial granular soils below recommended removal depths for this portion of the tract were found to range from medium to very dense. The alluvial silts and clays below the recommended removal depths for this portion of the tract were found to be very stiff to hard to the maximum depth explored: 51 feet.

Planning Area D, the proposed commercial area, and the associated open space areas are located at the westerly portion of the site, east and south of the existing Bouquet Center commercial center. The alluvial granular soils below the recommended removal depths for Area D were found to be predominantly dense to very dense with lenses of medium sands to the maximum depth explored: 51 feet. The alluvial silts and clays below the recommended removal depths were found to predominantly range from stiff to hard with a 1.5-foot thick lens of very soft to medium clay layer found at 35 feet depth.

The granular alluvial soils in the large side canyon, located between Area A1 and Area A2 and designated as park site/Open Space Lot No. 367, were found to range from medium to very dense to the maximum depth explored: 51 feet. The alluvial silts and clays were found to range from soft to hard to the maximum depth explored.

(d) Slopewash (Qsw)

Swales and side-canyons tributary to the main drainage of the Santa Clara River commonly contain loose debris consisting of poorly sorted sand, silt and bedrock fragments. This material has accumulated via daily surface wash and periodic debris flows, and is present above levels where they are incorporated and reworked by modern stream flow. They are generally poorly consolidated. The maximum thickness of slopewash/colluvium encountered in subsurface excavations was 13.5 feet. Slopewash is indicated in **Figure 4.1-1** where it is estimated to be greater than 4 feet in thickness.

(e) Residual Soil

Ungraded areas of the site are mantled by surface soils consisting of moderate- to yellowish-brown and yellowish gray silty sand with scattered pebbles. This unit is not shown on **Figure 4.1-1**. Soil developed in the alluvial flats and in the relatively flat mesa areas has been disturbed by past agricultural and grading activities.

(f) Artificial Fill (af) and Debris

Existing non-compacted artificial fill on the site ranges from minor spill fills generated during past grading of minor roads and oil well pads to large stockpile fill areas (see **Figure 4.1-1**). Fill associated with the construction of the Department of Water and Power aqueduct has been placed at locations along the aqueduct.

Asphalt debris piles have been mapped on the CLWA property within the Newhall Ranch Road alignment as shown in **Figure 4.1-1**.

(g) Certified Engineered Fill (Cef)

Certified engineered fill has been placed on the site for the construction of CLWA's Rio Vista Water Treatment Facility and the associated raw and treated water lines for the CLWA. The grading was performed between March 1, 1993, and December 30, 1994, to achieve the existing grades to accommodate the raw and treated water lines, as well as the future Newhall Ranch Road. The grading operations, including the placement of certified engineered fill, were observed by Huntingdon Engineering & Environmental, Inc./Schaefer Dixon Associates. The limits of certified engineered fill near Newhall Ranch Road that are shown on **Figure 4.1-1** are from the Huntingdon Engineering & Environmental, Inc./Schaefer Dixon Associates report on rough grading and on-site construction.

(2) Mass Movement Deposits

(a) Landslides (Qls)

Landslides are present on the subject site and typically represent a translational type of failure within the Saugus Formation and Terrace Deposits which failed along a low strength clay bed. The landslides typically consist of highly fractured rock resting above a low strength slip surface. Voids created by dilation of the bedrock (grabens) are commonly backfilled with rock debris and colluvial material.

Landslides were identified based on examination of field exposures and suggestive geomorphic features observed on aerial photographs and on topographic base maps, and confirmed via subsurface explorations. Fourteen (14) landslides have been mapped on the site (see **Figure 4.1-1**).

(b) Surficial Failures (sf)

Shallow (5 to 13 feet in depth) surficial failures involving soil, slopewash and weathered bedrock were observed. The approximate locations and extent are shown on **Figure 4.1-1**.

(3) Seismicity

The Southern California region is seismically active and commonly experiences strong ground shaking resulting from earthquakes along active faults. Earthquakes along these faults are part of a continuous, naturally occurring process that has contributed to the characteristic landscape of the region. The subject property is within the Transverse Ranges Geomorphic Province of Southern California. The Transverse Ranges consist of a series of west-trending mountains and intervening valleys, which is contrary to the northwest geomorphic trend that is typical of most of California and reflects the underlying structural (geologic) trend. These ranges are largely the result of north-south compression, which has resulted in east-west-trending folds and thrust faults. Associated faults in the vicinity of the site include the San Gabriel Fault, Santa Susana, Northridge (East Oakridge) and Sierra Madre (San Fernando) Reverse/Thrust Faults. The January 17, 1994 Northridge (magnitude 6.8) Earthquake occurred on a south-dipping thrust fault which uplifted the Santa Susana Mountains by at least 40 cm.

The San Andreas Fault is a transform boundary between the Pacific Plate and the North American Plate, and is part of the San Andreas system of northwest-striking, right-lateral faults. The faults of this system are generally historically active, as evidenced by the June 28, 1992 Landers (magnitude 7.6) Earthquake (see Fault and Earthquake Epicenter Location Map, Figure D-1 in Appendix D of the Allan E. Seward Engineering Geology, Inc. report in **Appendix 4.1** of this EIR).

During a seismic event, there are three common forms of geologic hazards that are related to earthquakes and that could potentially affect the project site:

1. ground rupture,
2. ground motion, and
3. ground failure (liquefaction, landslides, failures, etc.).

These are discussed individually below.

(a) Ground Rupture

Ground rupture or displacement, generally expected to occur along pre-existing faults, occurs as a fault breaks the ground surface during a seismic event. Ground rupture cannot be prevented; therefore, mitigation of this hazard involves avoiding construction over known existing faults. Where the locations of faults are unknown or suspected, they are investigated through subsurface exploration, delineated, and, if necessary, placed into a potentially hazardous fault zone where construction should be avoided.

Review of the California Division of Mines and Geology (CDMG) Special Publication 42 indicates that the nearest fault to the project site that is designated as an active fault zone under Alquist-Priolo criteria is the San Gabriel Fault located just to the south. This fault is a major structural element of Southern California. In the Newhall-Saugus area, the San Gabriel Fault is classified as active under Alquist-Priolo criteria and is included within an Alquist-Priolo Special Studies Zone by the state of California. Approximately 2.5 acres at the southwestern corner of the property is included within the Alquist-Priolo zone defined along the fault. Development is not currently proposed within this area.

Subsurface exploration of the site by Allan E. Seward Engineering Geology, Inc. revealed a minor fault zone at the northeastern corner of the site in the Saugus Formation bedrock. This fault was recognized based on a change in bedding structure (dip) from the regional, moderate northeast dips to steeply northeast dipping. Two long trenches were excavated in this vicinity and only minor faulting and shearing was encountered. This minor fault is not classified as active on the California Fault Map and was not considered a seismic source in the probabilistic seismic hazard assessment for California. Review of the aerial photographs did not reveal any evidence of photo lineaments or obvious geomorphic expression, such as aligned saddles, swales, linear drainage or other topographic features usually indicative of active faults. Furthermore, the faults, shears and fractures are carbonate line. This carbonate is not present in modern or pre-Holocene Alluvium. It is, therefore, most likely precipitated under soil climates of the past. The faults and shears are generally planar and continuous without the "flowering upward" structure so characteristic of relatively young faults. Allan E. Seward Engineering Geology, Inc. interprets these planar faults as features that formed under high confining pressure caused by a once thick cover of sediments, now long since stripped away. Based on the corroborating evidence provided by the lack of geomorphic expression and lineaments, the presence of carbonate deposits along faults, shears and fracture planes, and the lack of flowering upward structures, the last displacement of these minor faults within this small fault zone took place in pre-Holocene time and, therefore, a setback zone is not required.

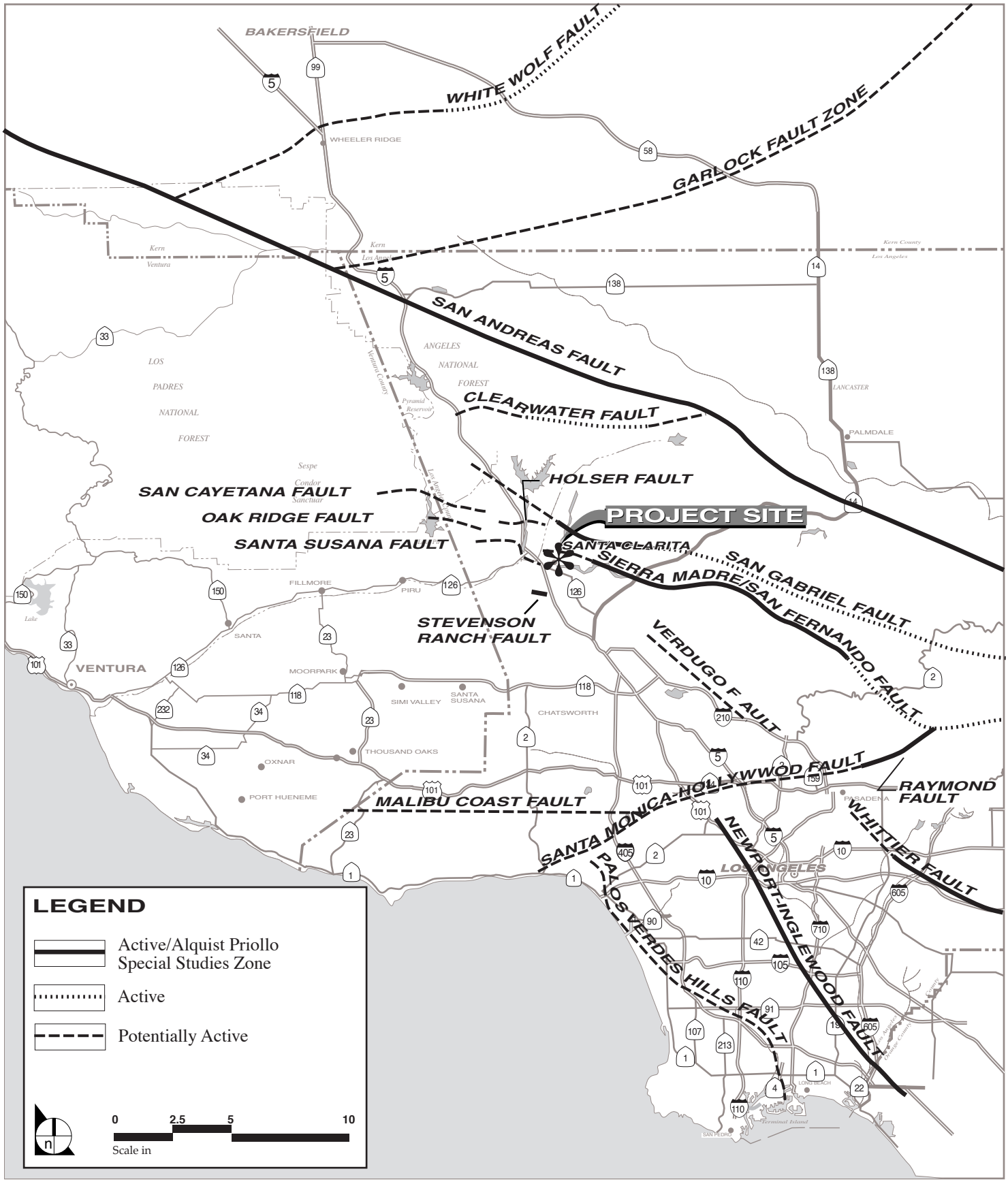
(b) Ground Motion

Ground motion is generated during an earthquake when two blocks of the earth's crust slip past each other. Ground motion is generally greatest near the epicenter of an earthquake, and then decreases with increasing distance and increases with increasing magnitude. Measurement of ground motion is modified by a number of criteria, including focal depth, proximity to projected or actual fault rupture, fault mechanism, duration of shaking, local structure, source direction of earthquake, underlying earth material characteristics, and topography. The combination of these factors makes it difficult to accurately predict potential ground motions at a given site in the geographically and topographically complex Southern California region.

The following faults are anticipated to have the greatest potential impact to the site relative to strong ground motion:

- San Andreas Fault,
- San Fernando Fault,
- Santa Susana Fault,
- Sierra Madre Fault,
- Holser Fault,
- San Gabriel Fault,
- San Cayetano Fault,
- Oak Ridge Fault, and
- Stevenson Ranch Fault.

The locations of these faults are shown in **Figure 4.1-2, Regional Fault Locations**.



SOURCE: ©1997, Impact Sciences.

FIGURE **4.1-2**

Regional Fault Locations

The California Division of Mines and Geology lists an earthquake on the San Gabriel Fault as having a maximum credible magnitude of 7.0.

The peak ground acceleration (PGA) within the proposed project area depends on the soil conditions and distance from the seismogenic faults (i.e., faults capable of generating earthquakes). Potential ground motions from future earthquakes on nearby faults have been evaluated utilizing the procedures outlined in the CDMG Guidelines described in Special Publication 117. Based on Allan E. Seward Engineering Geology, Inc.'s probabilistic analysis, a peak horizontal acceleration of 0.71g was estimated as the design basis ground motion (10 percent chance of exceedance in 50 years)[1] for use in the liquefaction assessment of the site. This acceleration would most likely be produced by a 6.5 magnitude earthquake on the Santa Susana Fault. The average magnitude-weighted (7.5) acceleration was found to be 0.49g for the design basis earthquake.

The Unified Building Code (UBC), 2001 edition, is the currently adopted building code for the state of California. The UBC incorporates the effects of ground shaking in its requirements. For complex structures, additional guidelines and explanations can be found in the current edition of the Recommended Lateral Force Requirements and Commentary, published by the Structural Engineers Association of California.

(c) Ground Failure

Ground failure is a general term describing seismically induced secondary permanent ground deformation caused by strong ground motion. This includes liquefaction and lateral spreading, settlement of poorly consolidated materials (dynamic compaction), differential materials response, slope failures, sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects, and ground lurching.

Liquefaction and lateral spreading are the processes in which water-saturated, usually loose-to-moderately dense, fine-to-medium sands temporarily lose strength due to strong ground motion and behave as a viscous fluid. The loose sand grains rearrange into a more stable orientation in order to transfer the overburden pressure; the sediment/water mixture loses strength and may flow like a viscous fluid if a gradient is present. As water escapes from the collapsing void space between the grains, the sediment settles and water escapes to the surface. When a buried sand zone is liquefied, the

1 Special Publication 117 and UBC both use this definition. Mathematically, it corresponds to a recurrence interval of 475 years.

overburden pressure forces the excess water to the surface, commonly causing sand boils and sand volcanoes.

The State of California has issued "Seismic Hazard Zones" maps for portions of the state that show zones where there is a potential for permanent ground displacements due to liquefaction or earthquake-induced landslides. The placement of a site within a liquefaction zone; does not mean, however, that the site is subject to liquefaction or permanent ground displacements due to liquefaction. It means that conditions that may result in the occurrence of liquefaction exist, previously existed, or could possible exist in the future at the site.

Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, is published by the California Department of Conservation, Division of Mines and Geology. This publication, as its name suggests, provides guidelines for use by geotechnical consultants in evaluating liquefaction potential, among other seismically induced hazards. General comments regarding mitigation of liquefaction, where such a need exists, are also presented.

Much of the Santa Clarita Valley is within a zone of potential liquefaction and subsequent settlement hazards. Even though there was a peak ground acceleration in excess of 0.5g in many parts of the Valley during the 1994 Northridge Earthquake, liquefaction was not observed. There are numerous reasons for the absence of liquefaction-related stress at the ground surface. One reason is that the thickness of non-liquefiable soils is greater than the liquefiable layers and the effects of liquefaction of deep layers do not manifest themselves at the ground surface. Nonetheless, there is a potential for permanent deformation of the ground surface and liquefaction at the site during a seismic event.[2]

Differential materials response refers to the different responses various materials display when subjected to seismic waves. Where materials with different densities or strengths are in contact, differential response to the seismic energy may cause distress along the contact. The combination of dynamic compaction and differential settlement along the differential materials response is a source of future potential hazard along cut/fill and bedrock/alluvium contacts.

Earthquake-induced slope failures include activation and reactivation of landslides, rock falls, debris flows and surficial failures. Review of the SHMA map for the Newhall Quadrangle indicates that much of the slope areas on the site are within designated areas requiring investigation to evaluate potential earthquake-induced landslides. The potential for earthquake-induced slope failures to

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2 Conceptual Geotechnical and Geologic Review of Proposed North Valencia Annexation II, Vesting Tentative Tract Map 44831 and 52667, Valencia, California, by R.T. Frankian & Associates (August 24, 1998).

adversely impact the proposed project is considered negligible provided that mitigation measures proposed are implemented into the project design and during construction activities.[3]

(4) Groundwater

Ground water beneath the Riverpark site can be grouped into two categories: (1) ground water contained in the recent Alluvium (the Alluvial Aquifer), and (2) ground water perched, or trapped, above low permeability layers in the Saugus Formation and the Quaternary Terrace Deposits.

(a) Alluvial Aquifer

Historic ground water levels for the Alluvium were interpolated for the site based on records from ground water contours by Robson (1972) and water levels observed in exploratory excavations by Allan E. Seward Engineering Geology, Inc. These data indicate that historic ground water levels have risen to within 5 feet of the existing ground surface along the margins of the Santa Clara River.

Ground water levels measured during Allan E. Seward Engineering Geology, Inc.'s subsurface investigations ranged from a minimum depth of 14.25 within Open Space Lot No. 360 in the south central portion of the site to 34 feet deep in the eastern portion of the site at the future Newhall Ranch Road alignment just east of the proposed development. It should be noted that the ground water table will fluctuate up and down in response to natural recharge and pumping requirements. Both of these factors are altered as a result of urbanization.

The liquefaction evaluation of the Alluvium deposits for the site by Allan E. Seward Engineering Geology, Inc. assumed a ground water elevation of 5 feet below the existing alluvial ground surface.

(b) Perched Ground Water in the Saugus Formation Bedrock and Quaternary Terrace Deposits

Perched ground water was encountered in the Saugus Formation bedrock and Quaternary Terrace Deposits at the elevated portions of the site (see Plate 4 of 5 in **Figure 4.1-1**). Perched ground water conditions can contribute to slope instability in both natural slopes and cut-slopes.

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[3] Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, and Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.

(5) Soil Compressibility and Hydroconsolidation

Based upon consolidation test data developed for this project, the compressibility of the subsurface soils is considered to be typically low to moderate within the depths tested, which ranged from 4 feet to 20 feet. Lenses of very soft to medium clays and silts were identified as deep as 50 feet below existing grade in Planning Area A1 and may be subject to consolidation.

(6) Expansion Potential

The alluvial soils at the site are predominantly granular. The Terrace Deposits also typically have a very low to low expansion potential. Based on Expansion Index tests, low to medium expansive Saugus Formation bedrock materials were identified at the site. The medium expansive materials typically consist of the siltstone and mudstone units.

(7) Potential Corrosivity of Soils

(a) Soils Electrical Resistivity and pH

Selected samples of on-site soils were tested for resistivity and pH. Soil electrical resistivity values of selected shallow soils suggest that on-site soils classifying as moderately corrosive to ferrous metals exist at the site; pH data show no significant acidity of tested soils.

(b) Soluble Sulfate and Chloride Content in Soils

Selected samples of on-site soils were collected and tested for sulphates and chloride contents. Based upon test results, concrete exposure to sulfates in shallow soils classifies as negligible (per 2001 UBC Classification).

(8) Soils Shear Strength

Direct Shear tests were performed on samples of on-site Alluvium (Qal), Terrace Deposits (Qt), Saugus Sandstone (TQs), landslide material (Qls) and landslide plane material. Remolded samples of on-site soils were also tested for shear strength. Tests results are presented in Appendix B of the Allan E. Seward Engineering Geology, Inc. report in **Appendix 4.1** of this EIR.

(9) Shrinkage, Bulking, and Subsidence

The following bulking and shrinkage factors are based on judgment and in-situ densities compared to an average of 92 percent relative to the maximum dry density as determined per the American Society for Testing and Materials (ASTM) D 1557 test. For the materials encountered at the site, shrinkage (decrease in volume) or bulking of those materials, when excavated, placed and compacted as controlled fill is estimated to be as shown in **Table 4.1-1**.

Table 4.1-1
Shrinkage, Bulking and Subsidence Factors

Material Type	Shrinkage (%)	Bulking (%)
Artificial Fill (af)	20-25%	
Alluvium (Qal)	15-18%	
Slopewash (SW)	15-20%	
Upper Qt (0-8 ft depth)*	12-15%	
Qt (>8′ depth)	3-6%	
Upper TQs (0-3 ft depth)*	5-8%	
TQs (>3ft depth)		2-5%

* *Denotes typical upper weathered zones in Terrace Deposits (Qt) and Saugus Formation (TQs) that are prone to shrinkage.*

(10) Rippability

The bedrock encountered at the site consists primarily of siltstone and sandstone of the Saugus Formation. This formation is generally graded using typical grading equipment and techniques. Heavy single-shank ripping may be required, however, within the more indurated portions.

(11) Debris Flow Hazard

Debris flow hazard exists on Lot No. 524 within Area D.

(12) Hillside Development

On November 24, 1992, the City adopted a Ridgeline Preservation and Hillside Development Ordinance. The provisions of the City's Ridgeline Preservation and Hillside Development Ordinance are intended to implement and define the goals and policies of the General Plan in relation to land use, densities, open space, and community image in furtherance of the General Plan. The intent of the

ordinance is to regulate the development, and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development and to provide for the safety and welfare of the citizens of Santa Clarita while allowing for reasonable development of hillside areas. The provisions of the Ordinance are applicable to those parcels of land which have average slopes of 10 percent or more. The proposed project has some hillside areas with slopes in excess of 10 percent. Two ridgelines classified as secondary overlie the northeastern portion of the site, but no primary ridgelines exist on the site.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

According to The City of Santa Clarita Environmental Guidelines, a project would have a significant effect on the environment if it will:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
   ii) Strong seismic ground shaking?
   iii) Seismic-related ground failure, including liquefaction?
   iv) Landslides?

b) Result in substantial wind or water soil erosion or the loss of topsoil, either on or off site?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?

e) 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?

f) Change in topography or ground surface relief features?

g) Earth movement (cut and/or fill) of 10,000 cubic yards or more?

h) Development and/or grading on a slope greater than 10% natural grade?

i) The destruction, covering or modification of any unique geologic or physical feature?

The project is evaluated relative to all criteria above except for Criterion e) because the project does not propose to use septic tanks for wastewater disposal.

b. Construction/Operational-Related Impacts

Mass grading by balanced cut and fill techniques will be used to create level building pads for the proposed improvements at a variety of grades between the Santa Clara River and the crest of the ascending ridges. Infrastructure for the development is anticipated to include graded roadways and flood control channels. Buried bank stabilization of soil cement and slope toe protection are proposed at various locations at the southerly portion of the development (see **Figures 1.0-3** through **1.0-6** in **Section 1.0, Project Description**, for the proposed locations of bank stabilization).

(1) Criterion a) – Exposure of People or Property to Geologic Hazards, Such as Earthquakes, Landslides, Mudslides, Ground Failure, or Similar Hazards

Earthquakes: Subsurface exploration of the site by Allan E. Seward Engineering Geology, Inc. revealed a minor fault zone at the northeastern corner of the site in the Saugus Formation bedrock; however, it is not classified as active on the California Fault Map, and was not considered a seismic source in the probabilistic seismic hazard assessment for California, and a setback zone is not required. Nonetheless, possible unstable, fractured conditions exist along the fault zone, which could result in a significant impact unless cut-slopes are mitigated through buttressing/stabilization fill. The San Gabriel Fault is active and although not located on the project site, the Alquist-Priolo setback zone for this fault is located on approximately 2.5 acres at the southwestern corner of the project site. No development is proposed for this area.

Landslides/Mudslides: Fourteen landslides have been mapped on the project site (see **Figure 4.1-1**). These typically represent a translational type of failure within the Saugus Formation and Terrace Deposits that failed along a low strength clay bed. The landslides typically consist of highly fractured rock resting above a low strength slip surface. Voids created by dilation of the bedrock (grabens) are commonly backfilled with rock debris and colluvial material. Development within areas of the site affected by landslides would result in a significant impact unless mitigated.

Debris flow hazard exists on Lot No. 524 within Planning Area D. Debris flow hazard is designated (dfh) on the **Figure 4.1-1**. Unless mitigated, this debris flow hazard would result in a significant geotechnical impact.

Ground Failure: The potential for adverse impacts to the proposed development from liquefaction and other secondary seismic effects is considered to be low to non-existent; nonetheless, at some locations, there is a potential for permanent deformation of the ground surface and liquefaction that must be mitigated. Without mitigation, impacts associated with potential liquefaction at the site would be significant.

Transition Lots: If left unmitigated, proposed building pads located in transition zones between cut and fill may experience cracking and movement of the slab due to differing compressibility of the fill as compared to the bedrock material.

Groundwater: Ground water levels on the site ranged from a minimum depth of 14.25 feet below ground surface (bgs) within Open Space Lot No. 360 in the south central portion of the site to 34 feet bgs in the eastern portion of the site at the future Newhall Ranch Road alignment just east of the proposed development. The proposed grades shown on the Vesting Tentative Tract Map are at least 15 feet above the assumed historic high ground water depth of 5 feet bgs; however, ground water may be encountered during grading removals and would result in a significant geotechnical impact unless mitigated.

Perched ground water was encountered in the Saugus Formation bedrock and Quaternary Terrace Deposits at the elevated portions of the site. Perched ground water conditions can contribute to slope instability in proposed natural and proposed cut-slopes.

Ground water and soil moisture conditions can vary seasonally or for other reasons. Complete knowledge of the subsurface groundwater conditions at the site is not available and it is possible that seepage could be encountered while stripping and excavating during site preparation in some areas (e.g., in drainages or along terrace/bedrock contacts on the site). In the event seepage is encountered and not mitigated, a significant geotechnical impact under Criterion a) could occur.

Water collecting on graded pads would aggravate seepage and groundwater-related problems, thus subjecting structures and persons to geologic hazards and constituting a significant environmental impact unless mitigated. Without mitigation, instabilities may result in a significant impact under Criterion a) if no consideration is given for soil types and on-site geotechnical considerations.

Soil Corrosivity: Based on resistivity test data, on-site soils classify as severely corrosive to corrosive to buried metals per County of Los Angeles classification. Sulfate concentrations were negligible per UBC (2001) classification, and pH was near neutral (ranging from 6.0 to 8.0). Chloride concentrations

were very low. Unless mitigated, soil corrosivity impacts to buried metals associated with the project would result in a significant impact under Criterion a).

Development within the Alquist-Priolo Zone: Approximately 2.5 acres at the southwestern corner of the property are included within the Alquist-Priolo Special Studies Zone for the San Gabriel Fault. No development is proposed within this area; therefore, there would be no significant geotechnical impacts relative to Criterion a).

(2) Criterion b) – Any Increase in Wind or Water Erosion of Soils

The largely undeveloped project site has some vegetation, particularly within the riverbed; however, large portions of the site are currently disturbed and subject to wind and water erosion during the rainy season. Wind and water erosion of the site would increase during construction activities unless mitigated, and this would result in a significant impact relative to Criterion b) unless mitigated. Once developed, site erosion and sedimentation would decrease substantially compared to existing conditions because the site would be overcovered with non-erosive surfaces, including pavement, structures, and permanent vegetation, all which would reduce the amount of exposed soil subject to wind and water erosion. Furthermore, implementation of the existing provisions in the City's grading requirements for planting and irrigation of constructed slopes in conjunction with drainage recommendations provided in the section "Surface Drainage and Erosion Control," would provide sufficient mitigation against potential erosion within the subject site. Therefore, the project would result in long-term decrease on-site erosion and would not permanently increase wind and water erosion of the site. As a result, project impacts would be less than significant under Criterion b).

(3) Criterion c) and d) – Unstable Earth Condition or Changes in Geologic Substructure, Potentially Resulting in Landslide, Lateral Spreading, Subsidence, Liquefaction or Collapse including Expansive Soil Creating Substantial Risks to Life or Property

All existing artificial fill (af) on the site is considered unsuitable for support of proposed engineered fills and/or structures. Development over fill would result in a significant geotechnical impact unless mitigated.

Based upon consolidation test data developed for this project, the compressibility and hydroconsolidation of the subsurface soils within the depths tested ranging from 4 feet to 20 feet are considered to be typically low to moderate; however, unless removed, the soils above this depth may be subject to compressibility, which would result in a significant impact under significance Criteria c) and d).

Lenses of very soft to medium clays and silts were identified as deep as 50 feet below existing grade in Planning Area A1. Depending on the consolidation characteristics of these weak clays, the thickness of the clay lenses and the height of fill added, the clay lenses could potentially consolidate under the weight of the fill and liquefaction, impacts could occur unless mitigated. Also, additional consolidation settlement may occur due to a possible lowering of the groundwater table after development should it occur as a result of non-project-related groundwater withdrawals, which would result in a significant impact under Criteria c) and d) unless mitigated.

In planning Area A1, subsidence due to proposed fills is expected to be on the order of 1 to 2 feet. Where the stockpile of artificial fill exists, the subsidence is expected to be less. (It should be noted that bedrock will provide the majority of the total on-site fill materials.) Nonetheless, subsidence on the site would result in a significant impact under Criteria c) and d) unless mitigated.

(4) Criterion f) – Change in Topography or Ground Surface Relief Features

There will be topographic changes on the project site during grading operations to accommodate the proposed project. The changes on the site, however, would not be so substantial that there would be significant changes in on-site topography of ground surface relief features such that the graded site would lose the visual continuity it currently has with its surroundings. Furthermore, all proposed slopes would be constructed with grades that would be within margins of safety to avoid potential slope failure. So, while there would be a change in on-site topography and ground surface relief features, the change is not considered to be significant from a geotechnical standpoint and, therefore, not significant relative to Criterion f).

(5) Criterion g) – Earth Movement of 10,000 Cubic Yards of Fill or More

Development of the site would require 5.5 million cubic yards of grading which would be balanced on site. Additional remedial grading of 3.6 million cubic yards is also proposed. The grading is required for the construction of the project as well as the future Newhall Ranch Road/Golden Valley Road Bridge project. While the 5.5 million cubic yards of materials exceeds the threshold for Criterion g), grading of this quantity would not result in a significant impact from a geotechnical standpoint as long as the geotechnical considerations/mitigation measures are implemented as identified in the report.

(6) Criterion h) – Development and/or Grading on Slopes Greater than 10 Percent Natural Grade

Approximately 77.4 acres of the site (approximately 12 percent) is comprised of slopes greater than 25 percent as shown Section 2.0 Environmental Setting, **Figure 2.0-5, Slope Analysis for TTM 53425**. Although not all of these slopes would be graded, grading would occur on slopes greater than 25 percent natural grade and the project is subject to Hillside Development review. Given the relatively flat topography of the site as reflected in an average cross-section of 6.5 percent and the fact that approximately 12 percent of the site contains slopes of less than 25 percent, the proposed project is not subject to the Hillside Ordinance requirements.

The natural slopes on the site have gradients ranging from 5:1 to 0.5:1 (horizontal:vertical). All natural slopes that are relatively steep and have accumulations of soil and colluvium/slopewash which are prone to debris flow hazard. The south- and southwest-facing natural ridge slopes located above or below the building pads, were analyzed. Subsurface exploration and stability analysis of the south- and southwest-facing natural ridge slope, located above Area D in the vicinity of Open Space Lot No. 526, indicate that, in order to satisfy the City's slope stability requirement both: (1) grading the top of the ridge as indicated on the tentative map; and (2) permanently and consistently limiting groundwater levels within the natural ridge are required.

The northwest facing proposed natural slope descending from proposed Lot Nos. 260 through 270, 275, and 277 through 282 (see **Figure 4.1-1**) has been evaluated. The three dimensional geometry is illustrated on cross section 21-21' which was constructed due to the steep descending natural slope. The geologic structure of the Saugus Formation bedrock is anticipated to be oriented neutral to the proposed natural slope face. It is anticipated that approximately 5 to 8 feet of Quaternary Terrace Deposits will exist above the bedrock at this location. Slope stability analysis indicated that this natural slope satisfies the City of Santa Clarita factor of safety requirement for slope stability. No significant impacts associated with this slope are anticipated.

The proposed southeast facing natural slope located in the vicinity of proposed Lot Nos. 386 through 395 and below portions of proposed cut-slope CS-10 is illustrated on cross sections 16-16' through 19-19'. Slope stability analyses performed on cross sections 16-16' through 18-18' indicate that this natural slope and proposed cut-slope CS-10 satisfies the City of Santa Clarita's slope stability requirement for factor of safety. No significant impacts associated with this slope are anticipated.

The proposed natural slope located east of Lot Nos. 397 through 400 just north of proposed cut-slope CS-10 is illustrated on cross section 26-26'. Slope stability on this section indicates this slope satisfies the

City of Santa Clarita's slope stability requirement for factor of safety. No significant impacts associated with this slope are anticipated.

Lot Nos. 221 through 225 and the adjacent easterly-facing natural slope are located within Landslide Qls-5b. Development on these lots would result in a significant impact unless mitigated.

Fill slopes along planned debris basins may be subject to slope instability under rapid drawdown conditions based on a groundwater level at maximum basin level and an empty basin. This would result in a significant slope stability impact unless mitigated.

Due to the south dipping geologic structure of the bedrock, all southerly-facing proposed cut and proposed natural slopes in the vicinity of Newhall Ranch Road are anticipated to expose adverse geologic conditions that may potentially affect proposed Newhall Ranch Road. There is potential instability to the proposed Newhall Ranch Road extension, regardless of the proposed grading for the proposed project, which include proposed cut-slopes CS-15, CS-17, and the bluff area southerly of CS-15 in the vicinity of cross section 23-23'. Cut slopes in the vicinity of proposed Newhall Ranch Road would result in a significant impact on this proposed roadway unless mitigated.

(7) Criterion i) – Destruction, Covering, or Modification of Any Unique Geologic or Physical Features

No unique geologic or physical features exist on the project site; therefore, no impact relative to this criterion would occur.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

Mitigation measures have not already been incorporated into the project as the mitigation required is administered during site development.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

Although the proposed project may result in potential impacts associated with geotechnical resources prior to mitigation, the project applicant has committed to implementing the following mitigation measures for the proposed project to ensure that future development of the project site is safe from geotechnical hazards and that it would not adversely affect adjacent properties.

a. General

4.1-1 All project site development shall be performed according to the recommendations identified in Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, and in Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.

4.1-2 Mitigation measures for geotechnical resources shall be implemented so as not to conflict with mitigation measures as section forth in **Section 4.6, Biological Resources**, of this EIR.

b. Earthwork

4.1-3 All grading shall be accomplished under the observation and testing of the Project Soils Engineer, Engineering Geologist and/or their authorized representatives in accordance with the recommendations contained herein, the current Uniform Building Code requirements and "Recommended Earthwork Specifications" as presented in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.

(1) Site Preparation

4.1-4 During site preparation, the site shall be cleared and stripped of organics (vegetation), topsoil, roots, undocumented artificial fill, rubble, construction debris and other unsuitable materials, as applicable, and the site shall be graded to provide a firm base for compacted fill. All organics shall be removed from the site for proper disposal. The Geotechnical Engineer and/or his representatives shall observe the excavated areas prior to placing compacted fill.

(2) Removals and Benching

4.1-5 In order to provide a uniform firm bottom prior to placing fill, all unconsolidated Alluvium, slopewash, colluvial soils and severely weathered Terrace Deposits and bedrock shall be removed from areas to receive fill. The estimated depths of removals (excluding landslides) are 5 to 23 feet as shown on **Figure 4.1-1**. The exact depth and extent of necessary removals will be determined in the field during the grading operations when observations and more location-specific evaluations can be performed.

4.1-6 All existing artificial fill (af) shall be removed and replaced with compacted fill. Removals at the locations of exploratory trenches shall be extended to the bottom of the trench backfill if the adjacent removal depths are shallower than the trench.

4.1-7 In areas to receive compacted fill where the surface gradient is steeper than 5:1 (h:v), the soil mantle, colluvium and unsuitable material shall be removed and such areas benched horizontally into competent material prior to or in conjunction with fill placement (see Appendix E, Fill Over Natural Slope, Figure E2 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).

(3) Preparation of Removal Bottom Areas

4.1-8 After the ground surface to receive fill has been exposed, it shall be ripped to a minimum depth of 6 inches, brought to optimum moisture content or above, thoroughly mixed to obtain a near uniform moisture condition and uniform blend of materials, and then compacted to the required relative compaction per the latest ASTM D 1557 laboratory maximum density.

(4) Dewatering During Removals

4.1-9 Where recommended removals encounter ground water, water levels shall be controlled by providing an adequate excavation bottom slope and sumps for pumping water out as the excavation proceeds, or ground water may be lowered by installing shallow dewatering well points prior to grading. Partial removals of soils above the water table and soil improvement below the water table (e.g., shallow compaction grouting) may be another option. The determination as to which measures are to be used shall be made by the project Civil Engineer. Dewatering may be needed depending on the season when the removals are performed. All discharges from dewatering operations, if any, shall comply with the National Pollutant Discharge Elimination System Permit requirements of project construction.

(5) Over-Excavation

4.1-10 A minimum 5-foot thick over-excavation shall be performed on all cut-lots, transitional lots (transitions between bedrock, fill, Terrace Deposits and Alluvium), and streets. This over-excavation will provide attenuation of potential differential settlements or differential material response to seismic events and provide a uniform base for structural support of

buildings. If the maximum depth of fill exceeds 15 feet on a cut/fill transition lot, then the thickness of the fill cap shall be one-third of the deepest fill thickness below any proposed structure (see Appendix E, Cut Lot and Cut Fill Lot (Transitional), Figure E3, of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). If excavation of the native soils (i.e., bedrock) exposes expansive materials, then the lot over-excavation shall be deepened to 8 feet.

(6) Fill Materials

4.1-11 On-site soils that are free of debris, over-size rocks, topsoil and organic matter may be used as sources for compacted fills. Rock or similar irreducible material with a maximum dimension greater than 8 inches may not be placed in the fill. Rocks or hard fragments larger than 4 inches shall not compose more than 25 percent of the fill and/or lift. Any large rock fragments over 8 inches in size, may be incorporated into the fill as rockfill in windrows after being reduced to the specific maximum rock fill size (see Figure E4, Rock Disposal, in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). Where fill depths are too shallow to allow large rock disposal, special handling or removal may be required depending upon on-site field decisions made during grading operations by the project Geologist/Geotechnical Consultant (see "Recommended Earthwork Specifications," Appendix E of the Seward report.)

(7) Fill Compaction

4.1-12 All fill material shall be placed in uniform lifts not exceeding 8 inches in its loose state and compacted to a minimum of 90 percent relative compaction as determined based on the latest ASTM Test Designation D-1557. Additional field compaction requirements are presented in Appendix E, "Recommended Earthwork Specifications" of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Appendix E also includes recommended specifications for placement of trench backfill.

4.1-13 For fills deeper than 40 feet, the portion of fill below 40 feet depth shall be compacted to a minimum of 93 percent relative compaction. These areas shall be delineated at the Grading Plan stage.

(8) Proposed Fill Slopes

4.1-14 Fill slope inclination shall not be steeper than 2:1 (h:v). The fill material within approximately one equipment width (typically 15 feet) of the slope face shall be constructed with cohesive material obtained from on-site soils. The finished fill-slope face shall be constructed by over-building the slope and cutting back to the compacted fill material. Stability fills are recommended where cut-slope faces will expose fill-over bedrock, Alluvium-over-bedrock or Quaternary Terrace Deposits over bedrock conditions. These fills shall be constructed with a keyway at the toe of the fill slope with a minimum equipment width, but not less than 15 feet, and a minimum depth of 3 feet into the firm undisturbed earth. Following completion of the keyway excavations, the Project Engineering Geologist shall observe and approve the keyway bottom prior to backfilling with certified engineered fill.

4.1-15 Where fill slopes are constructed above natural ground with a gradient of 5:1 (h:v) or steeper, all topsoil, colluvium, and unsuitable material shall be removed and a keyway shall be constructed at the toe of the fill slope with a minimum width of 15 feet, and a minimum depth of 3 feet into firm undisturbed earth (see Appendix E, Fill Slope Over Natural Slope diagram, Figure E5 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003). Following completion of the keyway excavations, the project Engineering Geologist/Geotechnical Engineer or designated representative shall observe and approve the keyway bottom prior to backfilling with compacted fill.

4.1-16 Where fill slopes toe out on relatively level natural ground, the removals shall be performed to a minimum 1:1 projection from the toe of slope to the recommended removal depth, (see Appendix E, Fill Slope Toeing Out on Flat Alluviated Canyon, Figure E6 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).

4.1-17 Where sliver fill-slopes are proposed, the slope shall be constructed with a minimum 15-foot width Stability Fill throughout, which is keyed in at the toe of slope (see Appendix E, Stability/Buttress Fill and Backdrains Detail, Figure E7 of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).

(9) Landslides

4.1-18 Fourteen landslides are located within or in the vicinity of the proposed development area of the project. These landslides shall be mitigated as recommended in Table 1 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003.

(10) Proposed Cut-Slopes

4.1-19 Nineteen proposed cut-slopes that would be 25± feet or higher have been identified on the subject site and are designated them as CS-1 through CS-19. Recommended mitigation, if necessary, for each slope as presented in Cut-Slope Summary (Table 2 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map (Revised June 11, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated June 30, 2003 shall be followed. This determination shall be made by the Geologist/Geotechnical Consultant prior to grading activities. It has been conservatively assumed for the purposes of stability analysis that weak bedding planes may occur anywhere in the proposed cut-slopes. If any of the smaller proposed cut-slopes (less than 25± feet in height) have adverse geologic grading configurations (fill over cut), they shall be mitigated, if necessary, with a standard 15- to 20-foot wide key (depending on the proposed cut-slope height) and benching similar to a Stability Fill. A "Typical Fill above Cut-Slope" detail is shown on Figure E8 within Appendix E of the Seward report. This determination shall be made by the project Geologist/Geotechnical Consultant prior to grading activities.

4.1-20 All permanent cut-slopes shall be constructed at a slope ratio not steeper than 2:1 (horizontal to vertical). All permanent cut-slopes exposing Terrace Deposits or Alluvium shall be constructed as a stability fill. Temporary cut slopes in competent rock may be constructed as steep as 1.5:1 (h:v). Potential unstable subsurface conditions exposed during construction, such as adverse bedding, joint planes, zones of weakness or exposed seepage, may require either flatter slopes than specified above or construction of benches. An Engineering Geologist shall observe all backcuts during the grading operations and provide appropriate recommendations, if necessary.

(11) Natural Slopes

4.1-21 For the south and southwest facing natural ridge slope located above Planned Area D in the vicinity of Lot No. 526, groundwater levels shall be permanently limited to those found to be

necessary for stability of the affected slopes through surface water control as specified in **Mitigation Measures 4.1-26** through **4.1-29**. No piped water shall be allowed above elevation 1,250 feet above msl on the existing natural ridge north and northeast of Lot No. 526, and the area of the existing natural ridge above elevation 1,250 feet above msl shall be recorded as a Restricted Use Area (RUA) on the Final Map. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements. This recommended RUA is hatch marked on **Figure 4.1-1**. See the slope stability analysis in Appendix F of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003 for details.

4.1-22 Proposed cut-slope CS-10 shall be constructed as a stability fill due to Quaternary Terrace Deposits anticipated to be exposed within the proposed slope face. A 20-foot building setback shall be constructed from the top of proposed cut-slope CS-10 for Lot Nos. 386 through 391 due to the steep gradient of the natural slope located below the proposed cut slope. This setback is based on geologic/geotechnical judgment and shall be designated on the Final Map as an RUA; the setback line is hatch marked on **Figure 4.1-1**. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements.

(12) Building Setbacks

4.1-23 The recommended building setback from the top of proposed cut-slope CS-10 at the rear of Lot Nos. 386 through 391 located on **Figure 4.1-1** shall be delineated on the Final Map as a Restricted Use Area. The RUA does not allow for structures and is intended to provide gross stability above the development in order to satisfy the City of Santa Clarita slope stability requirements. The RUA determination is made by the Geologist/Geotechnical Consultant and is made prior to recordation of the Final Map. The standard setbacks from ascending and descending slopes provided in the California Code/Uniform Building Code shall be followed, unless superseded by specific geologic and/or soils engineering evaluations.

(13) Exploratory Trench and Boring Backfill

4.1-24 All of the exploratory trenches and borings previously excavated for this project shall be over-excavated and backfilled with compacted fill in accordance with the earthworks recommendations of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated

February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.

c. Drainage Control

4.1-25 Whenever groundwater seepage is observed, the condition shall be evaluated by the Engineering Geologist and Geotechnical Engineer prior to covering with fill material.

4.1-26 Surface drainage control design shall include provisions for positive surface gradients to ensure that surface runoff is not permitted to pond, particularly above slopes or adjacent to building foundations or slabs. Surface runoff shall be directed away from slopes and foundations and collected in lined ditches or drainage swales via non-erodible drainage devices, which shall discharge to paved roadways or existing watercourses. If these facilities discharge onto natural ground, means shall be provided, as directed by the project Civil Engineer, to control erosion and to create sheet flow.

4.1-27 Site grading shall be inspected, particularly after heavy, prolonged rainfall, by the City of Santa Clarita to identify erosion areas at an early stage. Maintenance work shall be done as soon as practical to repair these areas and prevent their enlargement.

4.1-28 Planting and irrigation standards within the City of Santa Clarita Grading Code shall be adhered to in order to prevent soil erosion.

4.1-29 Fill slopes and stability fills, as applicable, shall be provided with subsurface drainage as necessary for stability as determined by the project Geologist/Geotechnical Consultant. A typical backdrain detail is shown on Figure E7, Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Also, subdrains along the bottom of canyon fills shall be constructed. A typical canyon subdrain detail is presented on Figure E9 of the Seward report. The existing subdrains constructed during the grading for the Rio Vista water treatment facility shall be extended to daylight out of the future planned grading or connected to the future storm drains.

4.1-30 All final grades shall be sloped away from the building foundations to allow rapid removal of surface water runoff. No ponding of water shall be allowed adjacent to the foundations. Plants and other landscaped vegetation requiring excessive watering shall be avoided adjacent to the

building foundations. Should landscaping be constructed, an effective water-tight barrier shall be provided to prevent water from affecting the building foundations.

d. Shrinkage, Bulking and Subsidence

4.1-31 The Project Engineer shall design pad grades with sufficient flexibility to accommodate a possible shortage of fill of up to 10 percent of the total yardage graded due to potential shrinkage of fill and potential subsidence due to dewatering.

e. Foundation and Settlement Considerations

4.1-32 The structural design shall include seismic geotechnical parameters in accordance with UBC requirements for Seismic Zone 4. These parameters will be provided at the Grading Plan stage.

4.1-33 Shallow spread footings for foundation support of residential structures can adequately be placed on compacted engineered fill as stated in **Mitigation Measures 4.1-12** and **4.1-13**. Support for heavier structures, if applicable, shall be addressed at the Grading Plan stage. Minimum specifications for continuous (wall) foundation dimensions are 12 inches wide and 12 inches deep below lowest adjacent grade for single-story residential structures. Tentatively, an allowable bearing capacity of 1,800 pounds per square-foot can be used for (minimum-sized) shallow foundations constructed in certified compacted fill. This tentative allowable bearing value shall be confirmed by further field and laboratory testing by the Project Geologist of the site soils before use in design plans. Lateral resistance of footing walls shall be provided at the Grading Plan stage.

4.1-34 If, during grading operations, the resulting cut-fill transition is steep, as determined by the project Geologist/Geotechnical Consultant, at depth below the building area, the geometry of the transition shall be reviewed during grading operations by the Soils Engineer on a site specific basis to evaluate the need for additional over excavation removals and/or additional foundation reinforcement. As a general guideline, steep cut/fill transitions would include slope gradients steeper than 4:1 (h:v) and overall variations in fill thickness of greater than 15 feet, which occur within 20 feet of final pad grade. The determination of need for over excavation of materials shall be guided by Figure E3 (Appendix E), "Cut Lot (Transitional)" and "Cut-Fill Lot (Transitional") of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated

April 4, 2003, which provides a foundation grading detail for locations where foundations will straddle transition zones between cut and fill materials.

4.1-35 To minimize significant settlements, the upper soils in areas to receive fills shall be removed and replaced with compacted fill. Some minor settlements will be expected due to loads from high fills (e.g., higher than 30 feet). Currently, locations of proposed high fills are: CPT-6, CPT-7, CPT-8, CPT-10, CPT-11, CPT-12, CPT-14, CPT-17, CPT-19, CPT-32 and CPT-33. Most of the settlements due to the load of added fill will occur during and shortly after rough grading is complete. However, since lenses of relatively compressible clayey soils exist below recommended removal depths, some of the fill settlements will not occur until the ground water table is lowered below the compressible clay lenses. Ground water table lowering is usually the result of pumping from water wells. (Note: the project would not directly withdraw groundwater.) Alternatively, the site may be temporarily surcharged with earth fill sufficient to simulate the load increase on the compressible clay lenses due to lowering of the ground water table, as determined by the project Geologist/Geotechnical Consultant.

4.1-36 At other alluvial removal areas, potential settlements in Alluvium shall be minimized by the removals and recompaction recommended in Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003. Also, potential effects from localized seismically-induced settlements will be attenuated by the recompacted upper layers and proposed additional fills (see of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003).

f. Excavations, Shoring and Backfill Recommendations

4.1-37 Excavations deeper than 3 feet shall conform to safety requirements for excavations as set forth in the State Construction Safety Orders enforced by the State Division of Industrial Safety, CAL OSHA. Temporary excavations 12 feet or lower shall be no steeper than 1:1 (h:v). For excavations to 20 feet in height, the bottom 3.5 feet may be vertical and the upper portion between 3.5 and 20 feet shall be no steeper than 1.5:1 (h:v). Excavations not complying with these requirements shall be shored. The project Geologist/Geotechnical Consultant shall determine at the time of field inspection if excavation walls in sands and dry soils shall be kept moist, but not saturated at all times.

4.1-38 Parameters for design of cantilever and braced shoring shall be provided at the Grading Plan stage.

4.1-39 The bases of excavations or trenches shall be firm and unyielding prior to foundations or utility construction. On-site materials other than topsoil or soils with roots or deleterious materials may be used for backfilling excavations. Densification (compaction) by jetting may be used for on-site clean sands or imported equivalent of coarser sand provided they have a Sand Equivalent greater than or equal to 30 as determined by ASTM D2419 test method. Specifications for placement of trench backfill shall be adhered to and are presented in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003.

g. Expansive Soils Considerations

4.1-40 The measures presented in Table E1, Minimum Foundation and Slab Recommendations for Expansive Soils, in Appendix E of Geologic and Geotechnical Report; Review of Tentative Tract Map, (Dated February 25, 2003), prepared by Allan E. Seward Engineering Geology, Inc., and dated April 4, 2003, shall be implemented to minimize the effects of soil expansion potential. It is anticipated that compacted fill from the on-site materials will have a very low to medium expansion potential. The expansion potential of the site soils exposed at rough grade shall be tested again after site grading is complete and the final foundation design shall be based on those expansion test results.

h. Corrosivity and Chemical Attack Considerations

4.1-41 On-site soils classify as severely corrosive to corrosive to buried metals per County of Los Angeles classification. Pending additional testing, either Type I or II cement may be considered for use in concrete placed in contact with the ground. Mitigating measures for soil corrosivity shall be finalized by the Project Engineer based on additional confirmatory tests that shall be performed at the Grading Plan stage. Final recommendations for concrete shall be in accordance with the latest UBC requirements, and a corrosion specialist shall provide mitigating recommendations for potential corrosion of metals in contact with on-site soils prior to issuance of a Grading Permit.

7. CUMULATIVE IMPACTS

Geotechnical impacts are site specific in nature and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Because the development of each site, including bank stabilization, would have to be consistent with City of Santa Clarita requirements for projects in the City, the requirements of the Los Angeles County Department of Public Works for projects in unincorporated Los Angeles County, and the Uniform Building Code as they pertain to protection against known geologic hazards, impacts of cumulative development would be less than significant given known geologic considerations.

8. CUMULATIVE MITIGATION MEASURES

No significant cumulative geotechnical impacts would occur; therefore, no cumulative mitigation measures are recommended.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

With implementation of the above identified mitigation measures, project-specific associated with geotechnical resources would be reduced to below a level of significance. Therefore, no unavoidable significant project-specific impacts are anticipated.

4.2 FLOOD

1. SUMMARY

The project site is located within an unnamed approximately 835-acre tributary watershed of the 1,624 square mile Santa Clara River basin. The Santa Clara River traverses the southern portion of the site.

The proposed bank stabilization, erosion protection, and bridge abutments along the Santa Clara River would protect the proposed project and off-site developments from flood hazards during a capital flood event. The flood control improvements described above have already been permitted by the Army Corps of Engineers and the California Department of Fish and Game under the approved NRMP (NRMP). (A more detailed discussion of the NRMP is contained within ***Sections 2.0, Environmental and Regional Setting*** *and* ***4.6, Biological Resources****). Prior to issuance of grading permits, the Army Corps of Engineers and California Department of Fish and Game would approve a Verification Request Letter for compliance verification with the NRMP. The additional analysis for this EIR demonstrates that the proposed bank stabilization would result in no significant impacts to the Santa Clara River floodplain.*

Site clearing and grading operations have the potential to discharge sediment downstream during storm events. Temporary erosion control measures in disturbed areas of the site during the construction phase of the project are proposed to reduce this potential impact to less than significant. Once developed consistently with the proposed drainage concept, the Riverpark project would reduce post-development storm water flows from the approximately 835-acre tributary watershed compared to existing conditions during a 50-year capital storm event. Specifically, the amount of burned and bulked runoff from the watershed would decrease from 2,225 cubic feet per second (cfs) to 2,1121 cfs, while the amount of debris volume would be reduced from 31,770 cubic yards (cy) to 15,558 cy. This 51 percent reduction in debris volume would be due to upstream debris basins proposed within the site and to the reduction in erosive areas on the site that contribute sediment and debris to the runoff. Implementation of the proposed drainage concept would meet the flood control requirements of the City of Santa Clarita and the Flood Control and Watershed Management Divisions of the Los Angeles County Department of Public Works and would reduce impacts to less than significant.

There would be no appreciable increases in eroded areas of the riverbed due to buildout of the study area during the 2- 5 and 10-year storm events, and there would be a decrease in eroded areas during the

20-year and greater storm events. Therefore, no significant stream erosion and debris deposition impacts are anticipated due to the project.

No unavoidable significant project or cumulative project flooding, erosion, or sedimentation-related impacts are expected to occur.

2. INTRODUCTION

The information presented in this section is a summary of the Flood Impact Report for Riverpark, prepared by PSOMAS (February 2004). This report is presented in its entireties in **Appendix 4.2** of this environmental impact report (EIR). This EIR section addresses the potential hydrologic impacts of the project. The potential hydrologic impacts to the biological resources within and adjacent to the Santa Clara River and its on-site tributary drainages are addressed in **Section 4.20, Floodplain Modifications**, of this EIR. Potential water quality impacts of the proposed project are addressed in **Section 4.8, Water Resources**.

a. Materials and Documents Incorporated by Reference

The following list of references identified in this impact analysis is provided for convenience. Documents referred to, referenced or cited are incorporated by reference and are available for review at the City of Santa Clarita, Planning and Building Services Department, Suite 302, Santa Clarita, CA 91355.

- State of California, Department of Transportation (Caltrans). Storm Water Quality Practice Guidelines, November 2001.
- Center for Watershed Protection. The Practice of Watershed Protection, 2000.
- Chow, VT. Open Channel Hydraulics (pg. 165 and pg. 185). McGraw Hill Civil Engineering Series, 1959.
- Currier B., et al. California Department of Transportation BMP Retrofit Pilot Program, Transportation Research Board 8th Annual Meeting, Washington, D.C., January 7–11, 2001.
- Federal Emergency Management Agency (FEMA) Flood Insurance Map 060729 0345C, September 9, 1989.
- John M. Tettemer & Associates, Natural River Management Plan for Santa Clara River from Castaic Creek to One-Half Mile Above the Los Angeles Aqueduct and Portions of the San Francisquito Creek and the Santa Clara River, South Fork [of the Santa Clara River], May 1997.

- Kayhanian M., Johnston J., Yamaguchi H., and Borroum S. Caltrans Storm Water Management Program. Storm Water Journal, 2001.

- Larry Walker Associates, Inc. Investigation of Structural Control Measures for New Development, Prepared for Sacramento Storm Water Management Program, November 1999.

- Los Angeles County Department of Public Works, Hydrology Manual, December 1991 and Sedimentation Manual, June 1993.

- Los Angeles County of Public Works. Development Planning for Storm Water Management, A Manual for the Standard Urban Storm Water Mitigation Plan, September 2002.

- Los Angeles County of Public Works, Level of Flood Protection and Drainage Protection Standards, 1986.

- PSOMAS. Surveyed topography data for Riverpark, November 20, 1998.

- PSOMAS/CH_2MHill. City of Santa Clarita Project Study Report Equivalent Cross Valley Connector Between Soledad Canyon Road and Bouquet Canyon Road (PSRE), February 2001, Revised in February 2003.

- United States Army Corps of Engineers. Santa Clara River Adopted Discharge Frequency Values, adopted May 3, 1994 by the United States Army Corps of Engineers, the Ventura County Flood Control Department and the Los Angeles County Department of Public Works).

- Valencia Company, Natural River Management Plan (Permitted Projects and Activities under the United States Army Corps of Engineers 404 Permit, California Department of Fish and Game 1603 Agreement and 2081 Permit, November 1998.

- Woodward-Clyde. Final Environmental Impact Statement/Environmental Impact Report - 404 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries Los Angeles County, Natural River Management Plan. Applicant, Valencia Company, submitted to the United States Army Corps of Engineers and the California Department of Fish and Game, August 1998.

b. Definitions

The following are definitions to several acronyms and terms, which will be frequently used in this section of the EIR.

100-year storm	A flood that has a 1/100, or one percent, chance of occurring in any given year.
ACOE	Army Corps of Engineers
Burned and Bulked Runoff (Qbb)	Runoff from burned areas that are laden with burned vegetation, fines, rocks, mud and other debris.
Capital flood (Qcap)	The runoff resulting from a theoretical storm based on Los Angeles County Department of Public Works methodology. The "model" storm is derived

	from 50-year frequency rainfall values, which occur in a time sequence patterned after actual major extra-tropical storms occurring in the Los Angeles Region. The calculations of runoff are also based on the soil types and amount of impervious surfaces in a watershed area, and on the assumption that undeveloped portions of the watershed are burned, resulting in significant amounts of debris and sediment being added to the runoff.
CDFG	California Department of Fish and Game
Clear Runoff (Qc)	Runoff that is absent of fines (finely crushed or powdered material), rocks, mud, vegetation, and other debris.
Coefficient of Runoff	Variable in the rational and modified rational method runoff formula, which is dependent upon soil type, rainfall intensity, and the percent of imperviousness.
CWA	Federal Clean Water Act
Detention Basin	Physical flood control structure that captures storm flows and temporarily stores these flows in man-made surface depressions and, therefore, not available for producing surface runoff during storm events. See also Water Quality Detention Basins.
Depression Storage	Upstream runoff that is captured by and settles in a natural or manmade depression and does not continue downstream.
Erosion	The wearing away of land surfaces by water, wind, and ice.
First Flush	First flush is defined in Los Angeles County as the runoff volume generated from 0.75-inches of rainfall in a 24-hour period.
Floodplain	Nearly level land situated on either or both sides of a channel that is subject to flooding during infrequent events.
Impervious	A description of a substance that will not permit water to flow through it.
Infiltration	The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls.
Interception	That portion of precipitation intercepted by vegetation. Intercepted precipitation is disposed of by drip, stem flow, or evaporation (or sometimes sublimation, in the case of snow, sleet, hail, or freezing rain).
LACDPW	Los Angeles County Department of Public Works
Peak Flow	Peak runoff rate measured in cubic feet per second (cfs).
Percolation	The downward flow or filtering of water through pores or spaces in rock or soil.
Q	Runoff rates measured in cfs.

Q50bb	Peak runoff from a 50-year rainfall intensity storm from undeveloped areas that is laden with burned vegetation, fines, rocks, and other debris.
Q50c	Peak runoff from a 50-year rainfall intensity storm from developed areas or from undeveloped areas that are not assumed to be burned or bulked.
Runoff	The portion of rainfall, melted snow, or irrigation water that flows across the ground surface rather than filtrating into the soil.
RWQCB	Regional Water Quality Control Board, Los Angeles Region
Sedimentation	Deposition of waterborne sediments due to a decrease in water velocity and a corresponding reduction in the size and amount of sediment, which can be carried by the flowing water.
Sump	An area from which there is no surface flow outlet.
SWRCB	State Water Resources Control Board
Transpiration	The process by which water vapor is lost to the atmosphere from living plants.
Velocity	The rate or speed at which surface runoff water flows either over land or through a channel, measured in feet per second (fps).
Watershed	All land and water within the confines of a drainage divide.
Waters of the U.S.	Although the definition may change in 2003 to exclude non-navigable, isolated water bodies, in 1986 (U.S. Federal Register), "Waters of the U.S." was defined as follows: All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters: (1) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industrial purposes by industries in interstate commerce. Also included are all impoundments of waters otherwise defined as waters of the United States under the definition; tributaries of waters identified above; the territorial seas; and wetlands adjacent to waters (other than the waters that are themselves wetlands) identified above.[1] By ACOE definition, "Waters of the U.S." are defined by the "ordinary high water mark" that can be identified by physical characteristics, such

1 33 C.F.R. §328.3(a)(2004)

as channel scouring, bank "shelving," areas cleared of terrestrial vegetation, litter and debris, or other indications that may be appropriate.

Wetlands[2] — Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

3. METHODOLOGY

Three development scenarios are addressed in this section:

1. Existing,
2. Existing With Project, and
3. Cumulative Buildout.

Brief summaries of hydrologic and hydraulic methodology are presented in this section to provide the reader with background information and understanding of the methodology used to calculate pre- and post-development runoff quantities, the capacities of proposed improvements, and the effects of development on the Santa Clara River.

a. Hydrology Background and Methodology

(1) Explanation of the County Capital Flood[3]

In 1931, the Los Angeles County Flood Control District (LACFCD) (now the Flood Control Division of the County's Department of Public Works) began development of a comprehensive plan of flood control facilities to collect and convey flows from the mountainous canyons, the alluvial fans, and the urbanized coastal plain.

The major needs in designing the system were: the reduction of damage due to high canyon flows, the conveyance of large volumes of water in a major storm, and the ability to meet future flood control needs. The design of the flood protection system for the County is based upon the Department of Public Works' capital flood hydrology.

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2 33 C.F.R. §328.3(b) 2004.

3 Los Angeles County Department of Public Works, Hydrology Manual, (Alhambra, California: December 1990).

The department's 50-year capital flood (or Qcap) hydrology is based on a "design," or theoretical storm event that is derived from 50-year frequency rainfall values and is patterned after actual major extra-tropical storms observed in the Los Angeles region. The 50-year frequency design storm is assumed to occur over a period of four days, with the maximum rainfall falling on the fourth day.

Analysis of recorded major storms reveals that, during the twenty-four-hour period of maximum rainfall, rainfall intensity typically increases during the first 70 to 90 percent of the period and decreases in the remaining time. Furthermore, approximately 80 percent of the amount of the twenty-four-hour rainfall occurs within the same 70 to 90 percent of the period. In developing the capital flood (or Qcap), the 50-year frequency design storm is assumed to fall on saturated soils. In converting rainfall to runoff, rainfall that is not lost due to the hydrologic processes of interception, evaporation, transpiration, depression storage, infiltration, or percolation is assumed to be surface runoff. The effect of snowfall or snowmelt on rainfall-runoff relationships is a consideration in only a very limited portion of the County (i.e., the higher elevations) where snowfall accumulates in winter.

Another assumption made in developing a capital flood design flow rate is that natural portions of the watershed have been burned by fire. When a watershed burns, the soil infiltration rate decreases due to the loss of vegetation and physical changes in the soil. The County has run field infiltrometer tests in order to quantify the effect that burning has on the coefficient of runoff. The effect of burning the watershed can increase the design runoff rate from 10 percent to 20 percent.

The final factor in adjusting the capital flood design flow rate is referred to as a bulking factor. In the area where a watershed is burned, the runoff would carry with it a large layer of eroded topsoil. This sediment, along with the associated burned trees and brush, is referred to as debris. In order to account for these quantities of debris, the design flow rate is artificially increased using a prescribed bulking factor, which is a function of not only soil type, but also the steepness of the terrain and the size of the drainage basin. The bulking factors for larger drainage basins range from about 1.20 to 1.50, or from 20 percent to 50 percent over and above the burned flow rate.

In summary, the County's Qcap is based on a theoretical four-day storm event occurring right after the watershed has been burned with the resulting flow rate being increased again by a bulking factor, thereby yielding a peak flow rate that is 32 to 80 percent higher than a 50-year storm over an unburned-unbulked drainage basin. The probability of all of the theoretical assumptions identified in the County's capital flood happening at the same time is extremely small, and yields greater design flows than the Federal Insurance Administration's methodology for calculating the 100-year and 500-year floods. As a result, the County's methodology is more conservative than that of the Federal Insurance

Administration. The City has adopted the County's Qcap requirements for projects within its jurisdiction.

(2) Method of Drainage Analysis

The engineering term for the methods used to properly size pipes and channels is "hydraulic analysis." In order to determine the proper sizes of pipes and channels, assumptions must be made regarding the amount of rainfall to design for and the amount and type of development that would take place in a drainage basin. An estimate must also be made as to how often that amount of rainfall could occur. This is referred to as the storm recurrence interval, or its reciprocal value: storm frequency. For example, a storm that has a 10 percent recurrence interval is a storm that has a 10 percent chance of occurring in any given year. The reciprocal of this number (1/10) is also known as a 10-year frequency. The most important concept to keep in mind is that a pipe or channel is "designed" for a rate of flow (measured in cubic feet per second), not a volume of flow (measured in cubic feet or acre-feet). A dam or a lake is designed for storing or containing a fixed volume of water. A pipe of a fixed size, on the other hand, can carry different flow rates, depending on the pressure placed on the water.

In designing a storm drain system, the size of a pipe that would safely carry a predicted rate of flow (expressed in cfs) must be calculated. A 1-foot square box that is 1-foot deep (a cubic-foot) can hold 7.5 gallons of water. From this fact, the amount of storm water passing through a pipe or channel in one second can, very simply put, be calculated by multiplying the cross sectional area of the flow in the pipe (in square feet) by the rate of storm flows through the pipe in feet per second. This three-dimensional rate of flow is referred to as "cubic feet per second."

With the above concepts in mind, the effects of development on natural ground can be considered. Buildings, driveways, patios, sidewalks, and roads all create new impervious covers to the natural ground, and prevent water from being absorbed into the ground. The water that would normally infiltrate into the ground, therefore, runs off at higher than normal flow rates, referred to as "Q." Therefore, the flow rates from developed areas are greater than from undeveloped areas.

(3) Explanation of Design Hydrology

The following provides additional discussion of the effects of soil type, imperviousness, and burning and bulking on storm runoff quantities.

(a) Effects of Soil Type and Amount of Imperviousness on Runoff Rates

The rate of runoff in undeveloped areas is directly related to the type of soil (Please see **Section 4.1, Geotechnical Hazards** and **4.19, Agricultural Resources,** for further discussion regarding soils). Certain soil types accept water faster (are more pervious) than other soils. Therefore, the types of soils present on a site are used in the calculations of runoff. Different soil types have very different water infiltration (or absorption) rates. If a sandy soil (highly pervious) is paved over, the coefficient of runoff (C) would greatly increase, whereas if a clay soil (not highly pervious) is paved over, runoff values would go up, but not as high as in the case of sandy soil because the sandy soil absorbs water faster. In small storms, some soils can absorb 100 percent of the rainfall. For example, soil type 015, Tujunga Fine Sandy Loam, can completely absorb a 0.5-inch per hour (in/hr) storm and almost completely absorb a 1.0 in/hr storm, thereby yielding extremely low runoff rates. For a 200-acre parcel with soil types 015 (Tujunga Fine Sandy Loam) and 012 (Ramona Clay Loam), radically different runoff quantities for the same rainfall events occur. For an intense storm, I = 1.0 inch per hour, and the very pervious soil type 015 (Tujunga Fine Sandy Loam), the runoff rate would be 20 cfs. For the same size parcel on a very impervious soil, such as soil type 012 (Ramona Clay Loam), the runoff rate would be 168 cfs.

(b) Effects of Burning and Bulking

In an undeveloped watershed, capital flood flow rates assume a burned condition, which causes the coefficient of runoff to increase. Further, after increasing the coefficient of runoff for burning, the flow rate is then multiplied by a bulking factor, which is used to account for the amount of mud, and debris that would be contained within the flow from the burned watershed. In the case of the project, the increase in runoff, or flow rates, due to an increase in the coefficient of runoff (C) to account for burning is from 10 to 20 percent. Application of the bulking factor to account for debris production would increase runoff quantities by 20 to 50 percent over and above the burned flow rate.

(c) Effects of Development

As previously mentioned, development places impervious materials over soils that had previously absorbed storm water. Once the impervious materials are placed over the soil, no absorption occurs and runoff takes place. Because development does not typically completely over cover the ground surface, portions of each developed parcel (e.g., front, side, and rear yards, landscaping, open space, etc.) remain pervious to infiltration by storm water. Percent imperviousness for each land use existing on or proposed for the site is presented in **Table 4.2-1, Percent Imperviousness for Selected Land Uses**.

Table 4.2-1
Percent Imperviousness for Selected Land Uses

Land Use	Percent Imperviousness (%)
Agricultural[3]	10[2]
Transportation	100[2]
Single Family Residential	42[1]
Multi Family Residential	68[1]
Commercial	92[1]
Open Space	10[2]

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004.
[1]*Values are from the Los Angeles County Hydrology Manual, Appendix F.*
[2]*Values are from GeoSyntec Consultants (2002).*
[3]*Values are presented for non-irrigated and grassland agricultural use.*

b. Santa Clara River Hydraulics

The floodplain conditions of the Santa Clara River were modeled using River Analysis System (RAS) software developed by the ACOE Hydrologic Engineering Center (HEC). Inputs to the HEC-RAS model include channel geometry, boundary conditions, hydraulic roughness, and hydrology. HEC-GeoRAS is a HEC-developed pre-/post-processor to the hydraulic model HEC-RAS and was used to compile and store a three dimensional representation of the land surface for defining channel and floodplain geometry. A Triangular Irregular Network (TIN) was created from surveyed 2-foot topographic data using the ArcInfo program Topogrid. The TIN was used to extract geometric data for hydraulic analysis. The geometric data were then imported to the hydraulic model HEC-RAS. See the PSOMAS February 2004 report in **Appendix 4.2** for additional discussion of methodology used to analyze the

effects of the project on river hydraulics. The modeling prepared for the Riverpark project is consistent with that prepared for the NRMP.[4]

The project and cumulative condition models for the river were created by modifying existing cross section geometrics of the river to simulate the hydraulic effects of the proposed project bank stabilization, erosion protection and the Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge (project scenario) and Santa Clarita Parkway Bridges (cumulative scenario) on the river. The encroachment due to the bank stabilization was conservatively approximated with levees in the hydraulic model (model levees set at equivalent elevation on slope of channel invert). The proposed Newhall Ranch Road/Golden Valley Road Bridge is modeled on the conservative assumption that the bridge span, bank stabilization and abutment locations are consistent with the Vesting Tentative Tract Map, and the pier spacing is conservatively modeled from the City of Santa Clarita's Project Study Report: Equivalent Cross Valley Connector Between Soledad Canyon Road and Bouquet Canyon Road, thus, using the configuration that would have the greatest impact on river hydraulics.

Existing Santa Clara River discharge rates for the 2-, 5-, 10-, 20-, 50-, and 100-year storm events were obtained from a 1994 ACOE study entitled, Santa Clara River Adopted Discharge Frequency Values. This study is based upon a frequency analysis of stream flow data along the Santa Clara River and, therefore, approximates river flows from observed data.

4. REGULATORY AGENCIES

Storm runoff from the project site, and discharges of runoff into and/or encroachment upon natural drainages, wetlands, and/or flood plains are subject to the federal Clean Water Act (33 U.S.C. § 1251 et seq.) and associated regulations, the State Porter-Cologne Water Quality Control Act (Cal. Water Code § 13000 et seq.) and associated regulations, and Sections 1600–1607 of the State Fish and Game Code, and to requirements established by requirements the ACOE, the CDFG, the SWRCB and the RWQCB, and the Flood Control and Watershed Management Divisions of the Los Angeles County Department of Public Works. Each of these statutes and agencies is discussed individually on the following pages.

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[4] John M. Tettemer & Associates, Natural River Management Plan for Santa Clara River from Castaic Creek to One-Half Mile Above the Los Angeles Aqueduct and Portions of the San Francisquito Creek and the Santa Clara River, South Fork [of the Santa Clara River], May 1997.

a. The Federal Clean Water Act

The project would be subject to federal permit requirements under the Clean Water Act.

In 1972, the Federal Water Pollution Control Act (later referred to as the Clean Water Act; CWA) was amended to require that the discharge of pollutants to "Waters of the U.S." from any point source be effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. In 1987, the CWA was again amended to add Section 402(p), requiring that the United States Environmental Protection Agency (U.S. EPA) establish regulations for permitting of storm water discharges (as a point source) by municipal and industrial facilities and construction activities under the NPDES permit program. The U.S. EPA published final regulations directed at MS4s serving a population of 100,000 or more, and storm water discharges associated with industrial activities, including construction activities, on November 16, 1990. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by a NPDES Permit (Phase I Final Rule, 55 Fed. Reg. 47990). The U.S. EPA published final regulations directed at storm water discharges not covered in the Phase I Final Rule, including, as applicable here, small construction projects of one to five acres, on December 8, 1999 (Phase II Final Rule, 64 Fed. Reg. 68722).

Section 404 of the CWA regulates activities that result in the location of a structure, excavation, or discharge of dredged or fill material into "Waters of the U.S.", which include wetlands along with non-wetland habitats, such as streams (including intermittent streams), rivers, lakes, ponds, etc. The Santa Clara River, including that portion of the river that flows through the site, is designated by the United State Geological Survey as "Waters of the U.S." Two other drainages within the site are also considered "Waters of the U.S." and fall under ACOE jurisdiction (see **Section 4.6, Biological Resources**, for further information).

The CWA authorizes the U.S. EPA to permit a state to serve as the NPDES permitting authority in lieu of the U.S. EPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act (Cal. Water Code § 13000 et seq.) authorizes the SWRCB, through (as applicable here) the RWQCB, to regulate and control discharges into waters of the state. The SWRCB entered into a memorandum of agreement with the U.S. EPA, on September 22, 1989, to administer the NPDES program governing discharges to "Waters of the U.S."

To facilitate compliance with federal regulations, the SWRCB has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites (not applicable to

the project), and the other for storm water from construction sites (NPDES No. CAS000002, General Construction Activity Storm Water Permit, reissued on April 17, 1997). Under the General Construction Activity Storm Water Permit as reissued, facilities discharging storm water associated with construction projects with a disturbed area of five or more acres are required either to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent with the SWRCB. However, a recent ruling (March 2003) amended the requirements to include all projects that disturb one acre or more.[5] The General Construction Activity Storm Water Permit addresses both storm water and non-storm water discharges from construction sites.

The applicant under the General Construction Activity Storm Water Permit must ensure that a Storm Water Pollution Prevention Plan (SWPPP) is approved, and file a Notice of Intent (NOI) with the SWRCB to comply with the state permit prior to issuance of a grading permit.

The RWQCB is the enforcement authority in the Los Angeles Region for the two statewide general permits, and all NPDES storm water and non-storm water permits issued by the RWQCB. These construction sites and discharges are also regulated under local laws and regulations.

The project is also subject to the waste discharge requirements of the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) (**Appendix 4.2**). The City of Santa Clarita is a Permittee under the General MS4 Permit and, therefore, has legal authority for enforcing the terms of the permit in its jurisdiction. The General MS4 Permit is intended to ensure that combinations of source control and treatment control BMPs are implemented to protect the quality of receiving waters. It includes requirements governing the design, construction and operation of developments.

b. United States Army Corp of Engineers (ACOE)

The ACOE has jurisdiction over certain project improvements would be subject to, through the NRMP, and over for improvements covered by this program. Additional project improvements not covered under the NRMP but which are within the jurisdiction of the ACOE would require permits pursuant under Section 404 of the CWA. Section 404 of the CWA regulates activities that result in the location of a structure, excavation, or discharge of dredged or fill material into "Waters of the U.S.", which include: wetlands along with non-wetland habitats, such as streams (including intermittent streams), rivers,

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5 Environmental Protection Agency, National Pollutant Discharge Elimination System General Permit for Discharge from Large and Small Construction Activities (July 2003).

lakes, ponds, etc. The Santa Clara River, including that portion of the river that flows through the site, is designated by the United State Geological Survey as "Waters of the U.S.". Two other drainages within the site are also considered "Waters of the U.S." and fall under ACOE jurisdiction (see **Section 4.6, Biological Resources**, for further information). Construction of the bank stabilization, toe protection, and outlet structures (discussed later in this EIR section), and the Newhall Ranch Road/Golden Valley Road Bridge fall within the ACOE's jurisdiction through the NRMP. In addition, Therefore, certain proposed activities in the two additional river and drainages fall within the ACOE's jurisdiction, such as the construction of the bank stabilization, toe protection, and outlet structures (discussed later in this section), and the Newhall Ranch Road/Golden Valley Road Bridge, may come under the jurisdiction of the ACOE pursuant to Section 404 of the CWA. These improvements are permitted under the already approved NRMP (ACOE Individual Permit No. 94-00-504-BAH).[6]

c. California Department of Fish and Game (CDFG)

CDFG has jurisdiction over the Santa Clara River and the seven identified drainages on the site. The project would be subject to the NRMP for improvements covered through the NRMP, and over by this program. Additional project improvements not covered under the NRMP within the jurisdiction of the CDFG require permits under Sections 1601–1603 of the California Fish and Game Code. Under Sections 1600-1607 of the Code, the CDFG regulates activities that would alter the flows, beds, channels or banks of streams and lakes. The term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blueline streams and watercourses with subsurface flows. In addition to the Santa Clara River, there are six seven other drainages within the site that fall under CDFG jurisdiction (see the **Project Impacts** heading later in this section and **Section 4.6, Biological Resources**, for further information). The NRMP is discussed below, as well as in **Section 4.6, Biological Resources**, which also addresses the Master 1603 Permit granted for Santa Clara River improvements.

d. Los Angeles County Department of Public Works (LACDPW)

The Flood Control Division of the Los Angeles County Department of Public Works (LACDPW) also regulates storm runoff. The LACDPW issued a memorandum in 1986 entitled "Level of Flood Protection and Drainage Protection Standards" for development projects in Los Angeles County. The memorandum established Los Angeles County policy on levels of flood protection and requires that the following

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6 The permit to construct improvements under the Natural River Management Plan comes from an Army Corps Section 404 Permit, Fish and Game Incidental Take and 1603 Permit. The Santa Clara Natural River Management Plan consists of new bank protection, new or widened bridges, inlet structures, storm drain outlets and utility line crossings associated with the infrastructure and land developments near the Santa Clara River and its tributaries in the Santa Clarita Valley.

facilities be designed for the capital flood: all facilities not under State of California jurisdiction that intercept flood waters from natural drainage courses, all areas mapped as floodways, all facilities that are constructed to drain natural depressions or sumps, and all culverts under major and secondary highways. All facilities in developed areas that are not covered by the capital flood protection conditions must be designed for the Urban Flood, or runoff from a 25-year frequency design storm. Because the project would intercept flood flows from natural areas, its storm drainage facilities that accept these flows must be sized and designed for the capital flood.

In addition to meeting the required level of flood protection, all development in the Santa Clara River watershed must: (1) meet standards adopted by the LACDPW for the Santa Clara River and its major tributaries in the County Sedimentation Manual (pp. 2-2 to 2-6), and (2) meet the ACOE and CDFG guidelines the for Santa Clara River, as outlined in the EIS/EIR for the NRMP, which addresses potential impacts associated with improvements along and across a segment of the Santa Clara River adjacent to properties owned by The Newhall Land & Farming Company (including the Riverpark project site).

(1) Natural River Management Plan (NRMP)

(a) Background

On November 30, 1998, the ACOE, CDFG and the RWQCB approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP is a long-term, master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and portions of two of its tributaries. More specifically, the NRMP governs a portion of the main-stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and portions of San Francisquito Creek and the Santa Clara River South Fork, Los Angeles County, California. The project site is located within the portion of the river now governed by the NRMP.

In connection with this approval, the following permits were issued by the following agencies:

- ACOE – Permit No. 94-00504-BAH under Section 404 of the Federal Clean Water Act. Section 404 of the Federal Clean Water Act allows for certain activities that result in the discharge of fill or dredged materials into "Waters of the U.S." or in this case the Santa Clara River. Prior to issuing this permit, the ACOE had completed an Endangered species consultation (pursuant to Section 7 of the Federal Endangered Species Act) with the United States Fish and Wildlife Service.

- CDFG – 1603 Streambed Alteration Agreement No. 5-502-97 and Incidental Take Permit No. 2081-1998-49-5. In summary, the Streambed Alteration Agreement allows for activities that alter the "…natural flow or change the bed, channel or bank of the river…." The Incidental Take Permit applies to all state listed species pursuant to Fish and Game Code Section 2081(b).

- California Regional Water Quality Control Board (Los Angeles Region) (RWQCB) – Order No. 99-104 related to waste discharge associated with the improvements included in the NRMP.

The NRMP was prepared in response to an ACOE request to prepare a long-range management plan for projects and activities potentially affecting the Santa Clara River and San Francisquito Creek. More specifically, the NRMP, and its certified EIS/EIR (NRMP EIS/EIR), analyze impacts associated with the implementation of various infrastructure improvements (bank stabilization, bridges, utility crossings, storm drain outlets, etc.) along and within portions of the Santa Clara River adjacent to Newhall Land properties, including the Riverpark project site. The NRMP, and its EIR/EIS, are available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California, and are incorporated in this EIR by reference.

Due to the discovery in 2001 of a southwestern arroyo toad (*Bufo californicus*) within the NRMP boundaries (in a location west of the confluence of San Francisquito Creek and the Santa Clara River, approximately 1.5 miles west of the Riverpark project site), additional Section 7 (of the Endangered Species Act) consultation between the ACOE and the U.S. Fish and Wildlife Service was initiated. Prior to initiating this consultation, the ACOE and CDFG had removed certain stretches of the Santa Clara River and San Francisquito Creek from the consultation area as these areas lacked the necessary habitat requirements for the arroyo toad. The areas covered by the NRMP but designated as "no may effect" included the Santa Clara River 1,000 feet upstream of the Bouquet Canyon Road Bridge (including most of the Riverpark site), San Francisquito Creek north of the Newhall Ranch Road Bridge and the south fork of the Santa Clara River south of the Valencia Boulevard Bridge. This consultation, along with the preparation of a Biological Opinion (dated November 15, 2002) (**Appendix 4.6**), resulted in the issuance of a modification to the 1998 ACOE Section 404 Permit (issued June 23, 2003) (**Appendix 4.6**) that includes provisions for the protection of the arroyo toad in the effected NRMP area. (The Biological Opinion and the Section 404 modification are incorporated in this EIR and are also available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California.)

(b) Implementation of the NRMP

The permits issued by the effected agencies (ACOE, CDFG, RWQCB) allow Newhall Land or its designee to engage in construction and maintenance activities for the various infrastructure

improvements included within the NRMP. Within the Riverpark site, those improvements include the bank stabilization, toe or erosion protection, various outlet structures, and the Newhall Ranch Road/Golden Valley Road Bridge. The NRMP, through its permits and EIR/EIS, includes certain requirements/conditions and mitigation measures associated with the implementation of the approved improvements.

Prior to initiating an individual project under the NRMP, such as the Riverpark bank stabilization or the Newhall Ranch Road/Golden Valley Road Bridge, Newhall Land (or its designee) must submit to the ACOE and CDFG a Verification Request Letter (VRL), VRL Variance or Request for Amendment and accessory documentation (maps, exhibits, photographs, etc.) showing that the particular planned improvement is consistent with the NRMP and the accessory agency permits.

Upon submittal of the VRL, the ACOE and CDFG have 45 days in which to make their determination on the individual project's consistency with the NRMP and accessory agency permits. The ACOE and CDFG approvals of the request constitute the final approvals from ACOE, CDFG and RWQCB to initiate construction of the project.

(c) Application of the NRMP to the Riverpark Project

As indicated above, various infrastructure improvements and subsequent maintenance activities are governed by and permitted through the approved NRMP and accessory agency permits. Those improvements addressed by the NRMP, and its EIS/EIR, that are located on the Riverpark project site include:

- Bridges:
  - Newhall Ranch Road/Golden Valley Bridge (6-lane), 550 feet long, 110 feet wide.
  - Santa Clarita Parkway Bridge (6-lane), 500-1,000 feet long, 110 feet wide.
- Bank Stabilization (including accessory storm drain outlets):
  - Approximately 2,500 feet of ungrouted rip-rap in certain areas from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.
  - Approximately 11,000 feet of buried bank protection from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.

The NRMP EIS/EIR reviewed and evaluated the biological context and impacts of these river-related improvements and imposed conditions to mitigate their potential impacts. The applicable

improvements proposed by the Riverpark project will be finally permitted under the NRMP, via the VRL process described above, and will be subject to NRMP's conditions/mitigation. To the extent that the Riverpark project improvements differ from those approved in the NRMP, those differences are shown on **Figure 4.6-7**.

5. EXISTING CONDITIONS

a. Drainage Areas and Watercourses

(1) Santa Clara River

The Santa Clara River traverses the southern portion of the site, which is located within an unnamed approximately 835-acre tributary watershed of the 1,634 square mile Santa Clara River basin. The area of this tributary watershed represents 0.08 percent of the Santa Clara River basin and consists primarily of open space and vacant land. Annual rainfall in the tributary area is typically low (an annual average of 17 inches) and generally occurs in the winter months. Completely natural flows in the river only occur in the winter due to storm runoff. The flows vary significantly from year to year. In addition, there are short-term releases from Castaic Lake during summer months that reach the river via Castaic Creek, which joins the river several miles downstream of the project site. Surface water is typically not present on the site during summer months.

Runoff flows to and through eight drainage areas on the site via sheet flows and natural concentrated flows. These flows eventually discharge to the Santa Clara River at eight locations. The acreage for each of the drainage areas is provided in **Table 4.2-2**, **Existing Drainages and Runoff Quantities**. There are currently no existing drainage or erosion/sedimentation control improvements located within the site.

The low flow channel through the project site has a very low to moderate sinuosity. The reach of the river within and adjacent to the site has multiple channels (braided). This kind of system is characterized by high sediment loads, high bank erodibility, and intense and intermittent runoff conditions. Combined with the relatively flat gradient of the river at this point (less than one percent), it has a high potential to aggrade (deposit sediment) at low flow velocities.

Capital flood runoff quantities for each of the eight drainage areas are provided in **Table 4.2-2**, **Existing Drainages and Runoff Quantities**. Under existing conditions, combined clear flows total 1,430 cfs, while burned and bulked flows total 2,217 cfs. The calculated total debris volume is 21,328 cy.

Table 4.2-2
Existing Drainages and Runoff Quantities

Drainage Area	Acreage	Q50c[1] (cfs)	Q50bb[2] (cfs)	Debris Volume (cy)
100 series[3]	49.2	103	163	1,270
200 series	22.5	46	72	581
300/400 series	263.3	406	640	12,722
500 series	101.5	193	306	5,572
600 series	351.7	509	840	10,107
700 series	6.3	22	34	347
800 series	17.5	41	64	962
900 series	22.2	76	106	209
Totals	834	1,396	2,225	31,770

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004
[1] *Q50c - 50-year rainfall intensity clear flow.*
[2] *Q50bb - 50-year rainfall intensity burned and bulked flow.*
[3] *"Series" is intended to represent that there is more than one number in succession. For example in the 100 series there is 100, 101, 102, etc that as a whole make up the 100 series drainage area. Instead of listing each individual number of the subarea only the series is listed.*

Existing flow rates from observed data for the Santa Clara River during 2-, 5-, 10-, 20-, 50-, and 100-year storm events are compiled in **Table 4.2-3, Existing River Flows at Bouquet Canyon**.

Table 4.2-3
Existing River Flows at Bouquet Canyon

Recurrence Interval	Discharge Rate (cfs)
2-Year[1]	1,300
5-Year[1]	4,100
10-Year[1]	7,400
20-Year[1]	12,100
50-Year[1]	21,400
100-Year[1]	31,300
Capital Flood[2]	52,100

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004.
[1] *Existing flows from ACOE, Santa Clara River Adopted Discharge Frequency Values. Adopted May 3, 1994 by the ACOE, the Ventura County Flood Control Department and the Los Angeles County Department of Public Works.*
[2] *ACOE and CDFG. Final Environmental Impact Statement/Environmental Impact Report. 404 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries Los Angeles County, Natural River Management Plan. Applicant, Valencia Company. August 1998.*

(2) Other On-Site Drainages

Other than the Santa Clara River, there are a total of seven drainages located on the project site (see **Figure 4.2-1, Drainage Locations**). Drainages 1 and 5 are intermittent streambeds, while Drainages 2, 3, 4, 6 and 7 are ephemeral streambeds. Because Drainages 2, 3, 4, 5, and 7 do not connect to the Santa Clara River or any other "navigable waters," as defined by the Clean Water Act, these drainages are not under the jurisdiction of the ACOE. The total length of all six drainages within the project boundary and grading limits is approximately 7,105 feet. The following briefly describes each of them (see **Section 4.6** for more detailed discussion of these drainages).

Drainage 1 is an intermittent stream within the main canyon located in the center of the project site. The main channel is approximately 2,728 feet in length. Because the channel discharges into the Santa Clara River, it is considered a "Waters of the U.S." as defined by the Clean Water Act and, therefore, under the regulatory jurisdiction of the ACOE.

Drainage 2 is an ephemeral streambed that consists of one main channel and a smaller tributary channel. The total length of the main channel is 784 feet and the tributary is approximately 336 feet.

Drainage 3 is an ephemeral streambed, and it is 210 feet in length.

Drainage 4 is an ephemeral streambed that consists of one main channel and a smaller tributary channel. The length of the main channel within the project boundary is 1,040 feet, and the tributary is 104 feet. Drainage 4 extends north of the project boundary and grading limits.

Drainage 5 is an intermittent stream. The channel is well defined in the upper reaches of the streambed, but is less defined in the lower reaches. In some areas of the lower reaches, there are no obvious channels or banks. The length of the drainage within the project boundary and the grading limits is 1,040 feet.

Drainage 6 occurs at the eastern edge of the project site. This drainage consists of one main channel and two smaller tributary channels. The total length of the main channel and two tributaries is 1,418 feet. Part of drainage 6 is outside the project boundary and the grading limits. The length of the main channel within the project boundary and the grading limits is 572 feet. Only one of the two tributaries is within the project boundary and the grading limits. The length of the tributary within the project boundary and the grading limits is 104 feet. Because the channel discharges into the Santa Clara River, this drainage is under ACOE jurisdiction.

Drainage 7 is an ephemeral streambed, and it is 200 feet in length and appears erosional in character.

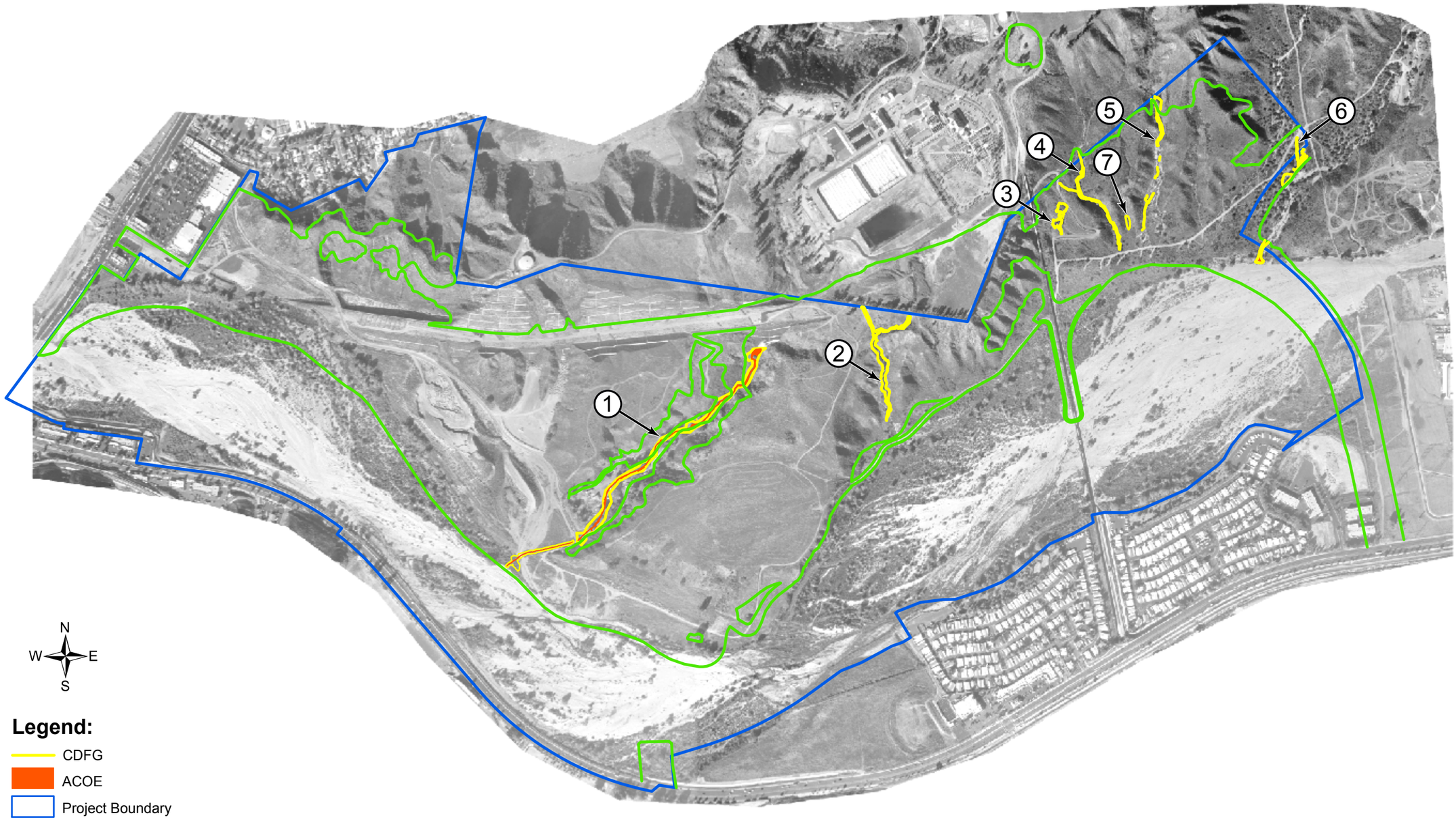


FIGURE **4.2-1**

Drainage Locations

112-16•02/04

(3) NRMP

The permits issued by the effected agencies (ACOE, CDFG and RWQCB) allow Newhall Land or its designee to engage in construction and maintenance activities for the various infrastructure improvements included within the NRMP. Within the Riverpark site, those improvements include the bank stabilization, toe or erosion protection, various outlet structures, and the Newhall Ranch Road/Golden Valley Road Bridge. The NRMP, through its permits and EIR/EIS, includes certain requirements/conditions and mitigation measures associated with the implementation of the approved improvements.

Prior to initiating an individual project under the NRMP, such as the Riverpark bank stabilization or the Newhall Ranch Road/Golden Valley Road Bridge, Newhall Land (or its designee) must submit to the ACOE and CDFG a Verification Request Letter (VRL), VRL Variance or Request for Amendment and accessory documentation (maps, exhibits, photographs, etc.) showing that the particular planned improvement is consistent with the NRMP and the accessory agency permits.

b. Flood Hazards

A portion of the site lies within the 100-year floodplain of the Santa Clara River and within the Federal Emergency Management Administration (FEMA) 100-year floodplain.[7] **Table 4.2-4, Existing Floodplain/Stream Area Within the Project Tributary Watershed**, shows the areas of each existing floodplain and stream for seven storm events. The existing floodplains for the seven storm events are shown in **Figures 4.2-2** through **4.2-8**.

Table 4.2-4
Existing Floodplain/Stream Area Within the Project Tributary Watershed

Storm Event	Study Area Floodplain (acres)
2-Year	109.4
5-Year	187.6
10-Year	266.0
20-Year	300.5
50-Year	325.0
100-Year	337.4
Capital Flood	355.5

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004.

7 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 060729 0345C dated September 9, 1989 for the Unincorporated Areas of Los Angeles County, California. The map is included in Appendix B of the PSOMAS report in **Appendix 4.2** of this EIR. The 100-year floodplain boundaries are based on historical runoff records as actually measured with stream gauges. Mapping the 100-year floodplain is important because the Federal Insurance Administration (FIA) uses it to establish standards for flood insurance coverage. Under FIA criteria, the 100-year flood elevation is the "base flood" and any land that is outside of this 100-year, or base flood, elevation would be considered reasonably safe and free from flood hazard.

6. PROPOSED IMPROVEMENTS

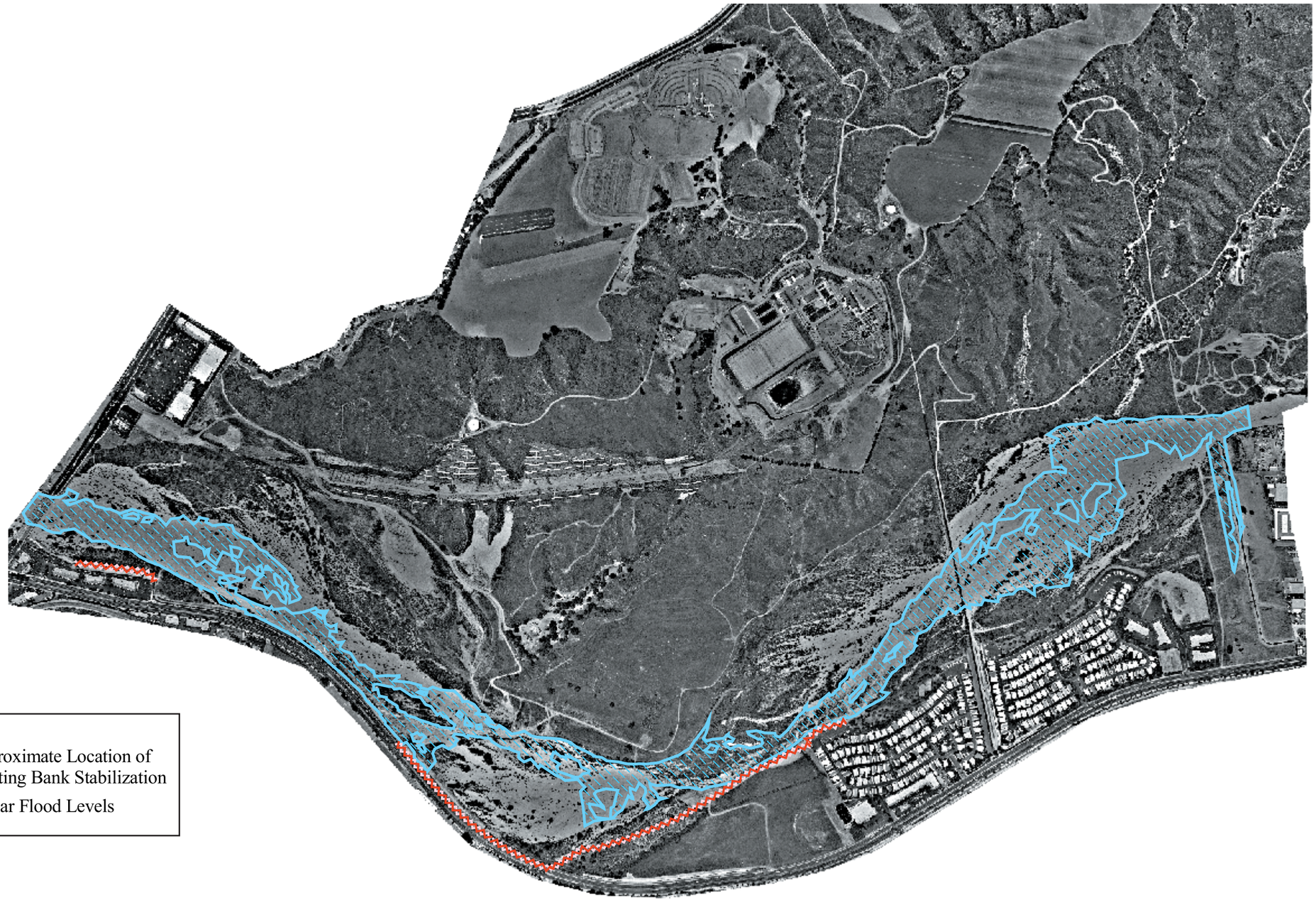
Proposed improvements on the project site that would provide flood and erosion control and that would occur in and adjacent to the Santa Clara River include buried bank stabilization and erosion protection. The project also includes the construction of the Newhall Ranch Road/Golden Valley Road Bridge over the Santa Clara River. The bridge would include abutments and bank stabilization on the north and south side of the bridge, as well as piers within the river. The project does not include the Santa Clarita Parkway Bridge, which is expected to be constructed in the future; however, this latter bridge is included in the cumulative analysis because it is a City-planned improvement and much of its construction would occur within the project site boundaries.

At project buildout, runoff from the seven drainage areas would continue to flow through the site, but would be channeled through a storm system that would be constructed from the developed upland areas of the site down to the Santa Clara River. As required in the LACDPW memorandum entitled, "Level of Flood Protection and Drainage Protection Standards," all on-site drainage systems carrying runoff from developed areas will be designed for the 25-Year Design Storm (Urban Flood), while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps will be designed for the 50-year capital flood. The City of Santa Clarita conforms to these Los Angeles County guidelines.

Runoff through the site would be controlled through a combination of grading, storm drainpipes, channels, catch basins, outlet structures, and bank stabilization along the river. The proposed drainage improvements are described below and their locations are illustrated in **Figure 4.2-9, Drainage Concept Map**. **Figure 4.2-9** also illustrates the post-development drainage patterns for the project site.

(1) Storm Drains

Storm drains (pipes and reinforced concrete boxes) designed for either the 25-year or 50-year capital storm would consist of both privately (Homeowner's Associations, Assessment Districts, etc.) and publicly (City of Santa Clarita and County of Los Angeles) maintained systems. The minimum publicly maintained mainline pipe size would be 18-inch connector pipes for clear flows.



SOURCE: PSOMAS – January 2004

FIGURE **4.2-2**

Santa Clara River Existing Conditions 2-Year Flood Event

112-16•02/04

Legend

5-Year Flood Levels

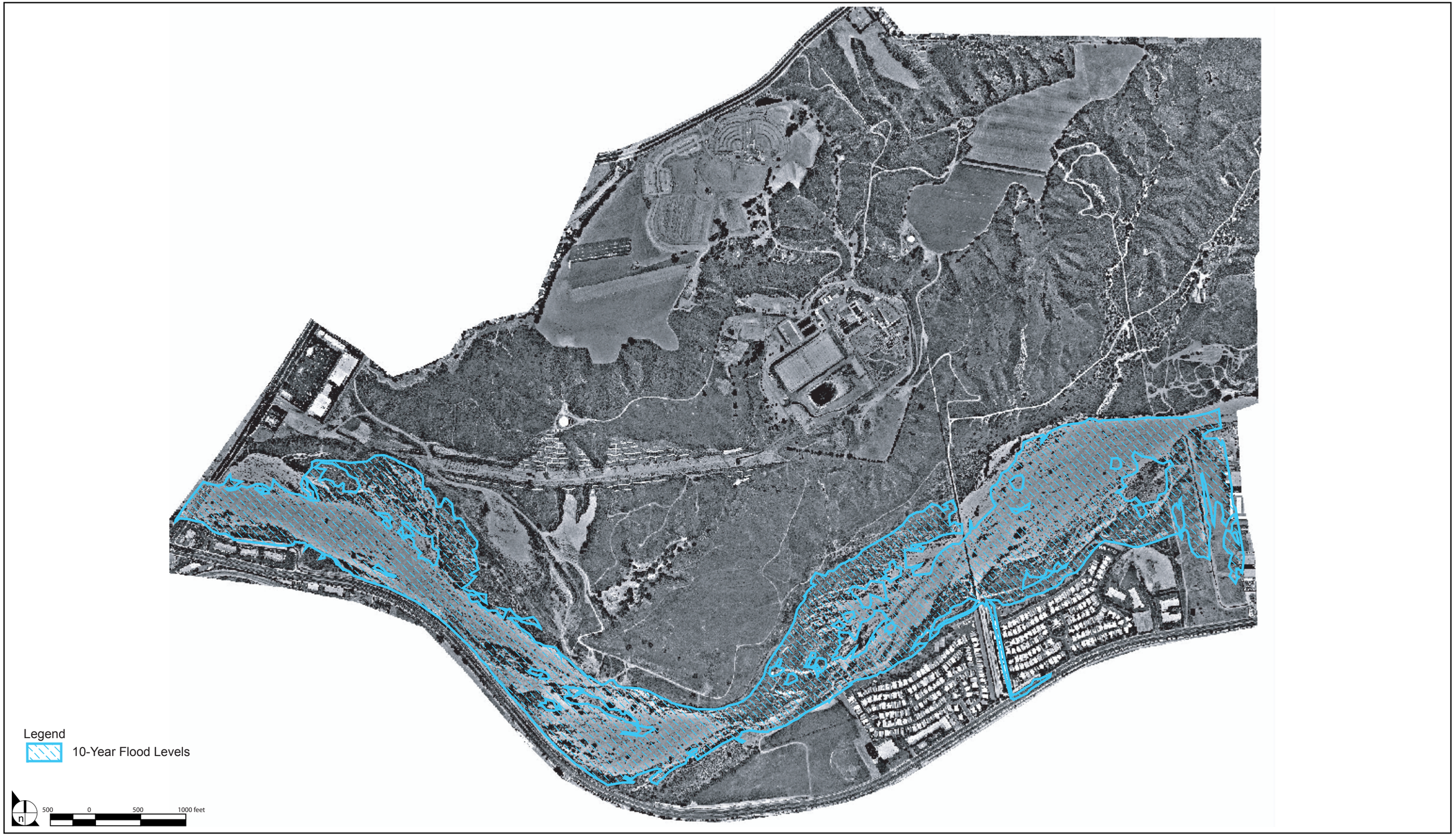
500 0 500 1000 feet

SOURCE: PSOMAS

FIGURE **4.2-3**

Santa Clara River Existing Conditions 5-Year Flood Event

112-16•02/04



SOURCE: PSOMAS

FIGURE **4.2-4**

Santa Clara River Existing Conditions 10-Year Flood Event

112-16•02/04

Legend

20-Year Flood Levels

500 0 500

SOURCE: PSOMAS

FIGURE **4.2-5**

Santa Clara River Existing Conditions 20-Year Flood Event

112-16•02/04

Legend

50-Year Flood Levels

500 0 500 1000 feet

SOURCE: PSOMAS

FIGURE **4.2-6**

Santa Clara River Existing Conditions 50-Year Flood Event

112-16•02/04

Legend

100-Year Flood Levels

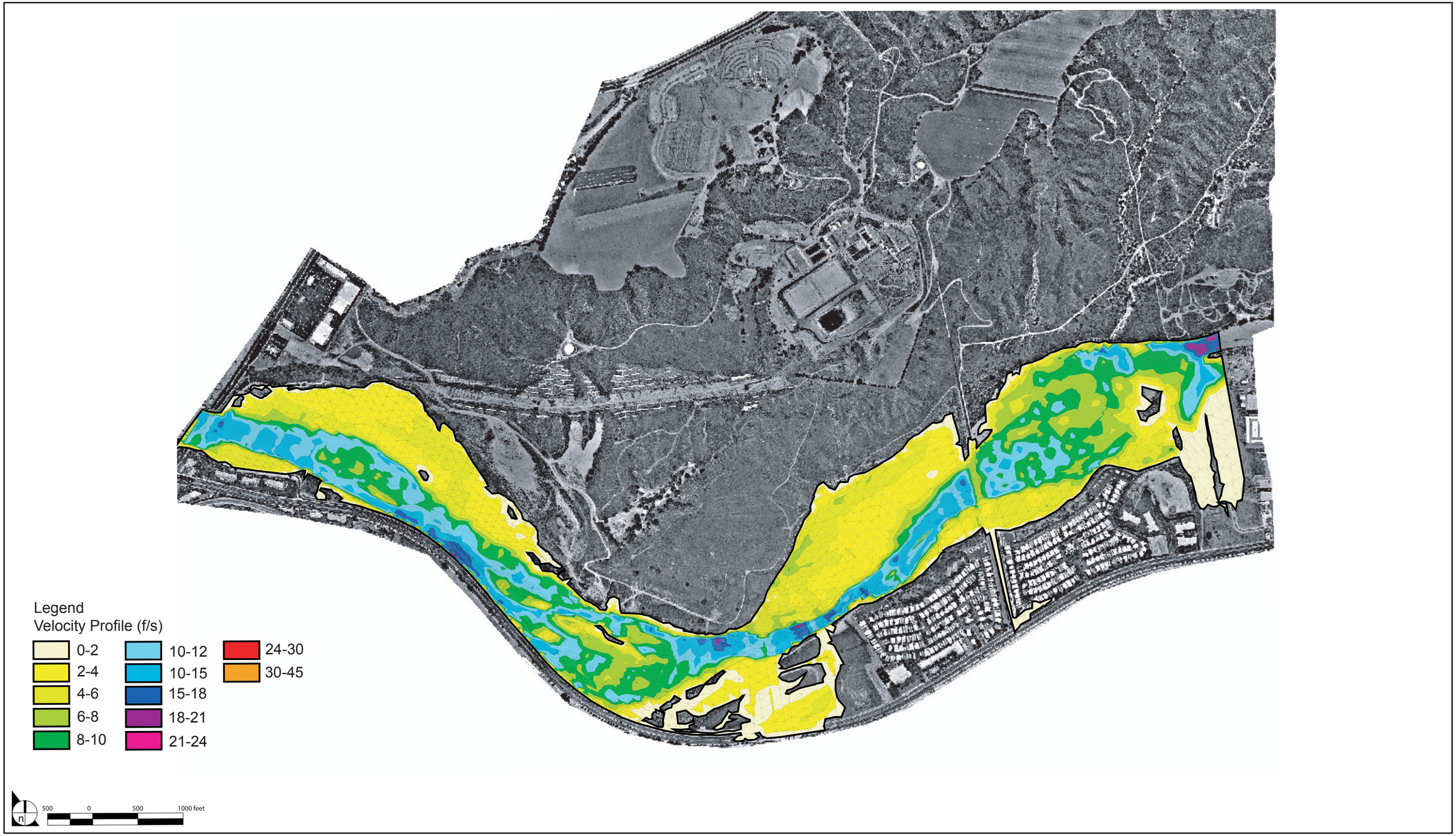
500 0 500 1000 feet

SOURCE: PSOMAS

FIGURE **4.2-7**

Santa Clara River Existing Conditions 100-Year Flood Event

112-16•02/04



SOURCE: PSOMAS

FIGURE **4.2-8**

Santa Clara River Existing Conditions 50-Year Capital Flood Event

Figure 4.2-9

See
Map Box

(DEIR Maps 11 through 15)

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(2) Open Channels

Small open channels would consist of rectangular and trapezoidal concrete channels and would be designed for either the 25-year or 50-year capital storm, depending on the source of the runoff. The channels sized for the 50-year capital storm will have greater capacity than those sized for the 25-year storm.

(3) Low Flow Pipes and Outlets

To reduce pollution impacts from the low flow runoff, a series of pipes and outlets will be provided to intercept first flush runoff from paved project areas. Pollutants expected to be generated on the project site, their potential water quality impacts, and water quality control are addressed in **Section 4.8, Water Services**.

(4) Catch Basins

Catch basins would be provided to intercept flows beyond the 10- and 25-year storms and at strategic locations to minimize flooding at street intersections and at sump locations.

(5) Debris Basins

To reduce debris being discharged through and from the site, debris basins are proposed to intercept flows from undeveloped upland areas prior to their discharge into the on-site storm system.

(6) Energy Dissipaters

To reduce storm flow velocities and to prevent erosion at storm water discharge points into the river, energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters would be constructed wherever necessary at storm system outlets into the river. These energy dissipaters would slow the rate of flow of runoff into the river in order to prevent erosion of the stream channel.

(7) Bank Stabilization

The project would include bank stabilization along the Santa Clara River totaling approximately 6,000 linear feet for residential, park and commercial project development (not including approximately 1,500 feet of toe protection [e.g., A-Jacks™, soil cement or equivalent]), and approximately 3,000 linear

feet to allow for the construction of Newhall Ranch Road. The Newhall Ranch Road/Golden Valley Road Bridge, including bridge abutments (on both the north and south side), and piers is also analyzed in this EIR. Differences between the project improvements and those permitted under the NRMP are illustrated in **Figure 4.2-10, Riverpark Bank Lining**.

7. SIGNIFICANCE THRESHOLD CRITERIA

The following thresholds of significance for potential flooding and sedimentation/erosion/debris production impacts were taken from the City of Santa Clarita Environmental Guidelines. According to the Guidelines, a project would have a significant effect on the environment if it will:

- 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;
- modify a wash, channel creek or river;
- change the rate of flow, currents, or the course and direction of surface water;
- create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems;
- place within 100-year flood hazard area structures, which would impede or redirect flood flows;
- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;
- be inundated by seiche, tsunami, or mudflow;
- 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;
- cause a significant environmentally harmful increase in the flow velocity or erosive volume of storm water runoff; and/or
- cause a significant and environmentally harmful increase in erosion of the project site or surrounding areas.

8. PROJECT IMPACTS

The impacts of project implementation are discussed below for the threshold criteria identified above. Wherever pertinent, these thresholds are applied to project construction impacts. The impacts of installing approximately 9000 linear feet of bank stabilization would be necessary to protect Newhall Ranch Road and the residential and commercial development. In addition, approximately, 1,500

LEGEND:

- PROJECT BOUNDARY
- TOP OF BANK LINING PER NRMP
- RIVER PARK TOP OF BANK LINING
- TOE PROTECTION
- AREA SETBACK/PROJECT TOP OF BANK LINING VS. NRMP TOP OF BANK LINING (576,740 S.F. = 13.2 A.C.)
- AREA ENCROACHMENT/PROJECT TOP OF BANK LINING VS. NRMP TOP OF BANK LINING (120,555 S.F. = 2.8 A.C.)

400 200 0 800

SCALE IN APPROXIMATE FEET

SOURCE: PSOMAS – February 2004

FIGURE **4.2-10**

Riverpark Bank Lining

112-16-02/04

linear feet of toe or erosion protection would be installed adjacent to Area B. The impacts of installing bank protection, bridge piers and abutments (Newhall Ranch Road/Golden Valley Road Bridge) and or erosion protection on the Santa Clara River is analyzed in this section. Wherever a significance threshold criterion is exceeded or wherever there is the potential for a criterion to be exceeded, mitigation is identified that, if feasible, reduces the potential impact to a less than significant level. This impact analysis focuses only on the potential hydrologic impacts of the project; the project's potential impacts to biological resources within and around drainages are addressed in **Section 4.20, Floodplain Modification**. The potential water quality impacts of the project are addressed in **Section 4.8, Water Services**.

a. Construction Impacts

During construction of the bank stabilization (including trail construction), riverbed would be temporarily disturbed due to installation of the bank protection and the Newhall Ranch Road/Golden Valley Road Bridge.

Impacts associated with these improvements and their associated construction impacts to the river have already been addressed in the EIR/EIS for the NRMP. As discussed previously in this section, several components (bridge abutments, piers and bank stabilization) were also addressed in the NRMP EIR/EIS but are also being addressed as a part of the proposed project. Impacts associated with these improvements are discussed below.

The primary concern during construction is potential erosion and sedimentation impacts during site clearing and grading, and prior to overcovering the site with impervious surfaces and non-erodable surfaces. Erosion and sedimentation caused by construction activities are dependent upon on climatic and site conditions, as well as the degree of soil disturbance during construction. Site clearing and grading operations, in particular, would have the greatest potential for discharging sediment downstream during storm events. Unless mitigated through erosion control, increases in sedimentation and debris production on the site during construction, although temporary, would result in a significant impact.

b. Post-Development Impacts

(1) Criterion 1: Substantial Alteration of an Existing Drainage Pattern

Under this criterion, the project would result in a significant impact if it would 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); modify a wash, channel creek or river; and/or change the rate of flow, currents, or the course and direction of surface water.

The Santa Clara River will be altered with the placement of the bank stabilization, erosion protection, bridge abutments and piers, and storm drain outlets as proposed by the project.

Implementation of this project would also result in impacts to ACOE and CDFG jurisdictional areas associated with the six drainage channels in the upland portion of the project site. The effected acreages in each of these drainages are summarized below (see **Section 4.6, Biological Resources**, for more detailed information on the impacts to these drainages).

Drainage	ACOE Jurisdiction Acreage	CDFG Jurisdiction Acreage
1	0.4	2.7
2	0.0	0.7
3	0.0	0.2
4	0.0	0.4
5	0.0	0.2
6	0.2	0.4
Totals	**0.6**	**4.6**

As shown, 0.6 acres of drainages under ACOE jurisdiction and 4.6 acres under CDFG jurisdiction would be impacted by project development. These acreages represent 0.07 and 5.5 percent of the approximately 835-acre tributary area, respectively, and do not represent a substantial alteration of the existing drainage pattern of the site or area.

Impacts associated with erosion and sediment deposition and, therefore, streambed modification within the river are evaluated as a function of in-stream velocities, which are indicators for potential riverbed scouring. An indicator for erosion within the flood area of the river is a benchmark of velocities less than 4 feet per second (ft/sec). That is, if a significant amount of floodplain area were in the 0–4-foot/second range, but as a result of the project (including the Newhall Ranch Road/Golden

Valley Road Bridge), would be subjected to velocities greater than 4 ft/sec, it would be considered potentially significant. However, **Table 4.2-8, Pre- and Post-Development River Velocities**, indicates that increases in areas of the floodplain that would be subject to velocities over 4 ft/sec during a 2-year storm event would be minimal, localized, and would be caused only by the smallest event scenario. There would be no increases in velocity during the 5- and 10-year storm events, and decreases in river velocity for the 20- to 100-year storm events.

Additionally, **Table 4.2-5, Summary of Water Surface Elevations** shows that there are no significant increases in water surface elevation due to project improvements.

The project would also not affect the rate of flow, currents, or the course and direction of surface water of the side drainages as the project would be required to adhere to the City of Santa Clarita and Los Angeles County requirements for detention basins and pipe sizing. As a result, project impacts under this criterion would be less than significant.

(2) Criterion 2: Result in Runoff Volumes in Excess of Existing or Planned Drainage Systems

Under this criterion, the project would result in a significant impact if it would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

The Riverpark development would increase the amount of runoff from those areas of the site that would be covered by roads, buildings, paved parking areas, and other relatively impermeable or impervious features (see **Table 4.2-1, Percent Imperviousness for Selected Land Uses**, for the assumed percent imperviousness for each land use proposed for the site). Specifically, impervious surfaces on the site would increase the amount of clear flow runoff from the site, while burned and bulked runoff and debris volumes would be reduced because the developed portions of the site would be overcovered with impervious surfaces and non-erodable vegetation, and because debris basins that would reduce the amount of debris and sediment in the runoff are proposed at upstream locations.

Table 4.2-5
Summary of Water Surface Elevations

Storm Event	Modeled Scenario	Cross-Section (XS) Location (approximate distance in feet upstream from Bouquet Canyon Bridge)										
		Proposed Newhall Ranch Road/ Golden Valley Road Bridge					Between Areas A-2 and B.			Existing Bouquet Canyon Bridge		
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1252.1	1241.5	1224.2	1216.5	1206.7	1204.1	1198.9	1179.4	1171.6	1163.1	1151
2YEAR	Proposed	1252.1	1241.7	1224.2	1216.6	1206.6	1204.1	1198.9	1179.5	1171.6	1163.2	1151.1
	Difference	0	0.2	0	0.1	-0.1	0	0	0.1	0	0.1	0.1
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1252.3	1242.2	1225.7	1217.5	1207.2	1204.6	1199.3	1180.7	1172.6	1163.9	1152.1
5YEAR	Proposed	1252.3	1242.2	1225.7	1217.5	1207.2	1204.6	1199.3	1180.7	1172.6	1163.9	1152.1
	Difference	0	0	0	0	0	0	0	0	0	0	0
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1252.6	1242.6	1225.8	1217.7	1207.8	1205.1	1199.7	1181.1	1173.2	1164.5	1152.7
10YEAR	Proposed	1252.6	1242.6	1225.5	1217.7	1207.8	1205.1	1199.7	1181.1	1173	1164.5	1152.9
	Difference	0	0	-0.3	0	0	0	0	0	-0.2	0	0.2
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1252.7	1243.1	1226.9	1218.5	1208.4	1205.4	1200.1	1181.7	1173.5	1165.4	1153.3
20YEAR	Proposed	1252.7	1243.1	1227.2	1218.5	1208.4	1205.4	1200.1	1181.7	1173.5	1165.4	1153.4
	Difference	0	0	0.3	0	0	0	0	0	0	0	0.1
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1253.4	1243.7	1227.4	1219.4	1209.3	1206	1200.4	1182.5	1174.2	1166.1	1154.3
50YEAR	Proposed	1253.4	1243.7	1227.4	1219.4	1209.3	1206	1200.4	1182.5	1174.2	1166.2	1154.2
	Difference	0	0	0	0	0	0	0	0	0	0.1	-0.1
		XS 11101	XS 10215	XS 8293	XS 7349	XS 6229	XS 5812	XS 5243	XS 3206	XS 2183	XS 1187	XS 13
	Existing	1254	1244.5	1228.3	1220.3	1210	1206.7	1201.1	1183.2	1174.8	1166.8	1155.1
100YEAR	Proposed	1254	1246.2	1228.3	1220.3	1210.1	1206.8	1201.1	1183.2	1174.9	1166.8	1155
	Difference	0	1.7	0	0	0.1	0.1	0	0	0.1	0	-0.1

The post-development runoff quantities provided in **Table 4.2-6, Post-Development Runoff Quantities**, would total 1,687 cfs for the tributary area during a 50-year storm. A comparison of this table with **Table 4.2-2, Existing Drainages and Runoff Quantities**, demonstrates that clear flows would increase by 20.8 percent over existing conditions [(1,687 – 1,396)/1,396 = 0.208]. Burned and bulked flows being discharged from the site would total 2,112 cfs, which is a 5.0 percent reduction in capital flood flows, from the site [(2,225 – 2,112)/2,112 = 0.05], when compared to pre-development conditions. This reduction in burned and bulked flows is largely due to the proposed upstream debris basins that would capture upstream bulk flows and allow debris to settle out from the runoff before it enters the storm system through the developed portion of the site. As a result, there would be a net decrease in runoff and the project would not result in downstream flooding. Therefore, site runoff would not cause an exceedance of river capacity and project impacts under this criterion would be less than significant.

Table 4.2-6
Post-Development Runoff Quantities

Drainage Area[4]	Acreage	Q50c[2] (cfs)	Q50bb[3] (cfs)	Debris Volume (cy)
100 series	34.8	108	111	363
200 series	76.6	180	187	902
300 series	201	440	510	2,668
400 series	17.2	34	34	0
500 series	116.5	281	295	1,424
600 series	356.5	538	854	9,982
700 series	2.1	7	11	116
800 series	4.0	14	25	103
900 series	22.2	85	85	0
Totals[1]	**833.9[5]**	**1,687**	**2,112**	**15,558**

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004.
[1] *Slight reduction (about 2 acres) in total area from existing conditions is due to on-site grading and rounding of numbers.*
[2] *Q50c - 50-year rainfall intensity clear flow.*
[3] *Q50bb - 50-year capital flood burned and bulked flow.*
[4] *When compared to the pre-development conditions, typically more drainage areas are called out because the proposed project provides detail on how the hydrologic would be addressed*
[5] *When compared to pre-development conditions the acreage of the drainage area actually decreases due to several factors: rounding of numbers and by altering some of the slopes on the site, some of drainage areas causing them to drain away from the river instead of toward the river.*

Furthermore, since storm flows from upstream areas would be channeled through the site in facilities designed for the 50-year capital storm, and since on-site runoff would be accommodated in facilities designed for the 25-Year Urban Design Storm pursuant to LACDPW requirements, no on-site or upstream flooding due to inadequately designed storm drainage facilities would occur. As a result, project impacts under this criterion would be less than significant.

(3) Criterion 3: Place Housing or Structures Within a 100-Year Flood Hazard Area

Under this criterion, the impact analysis will determine if the project will 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, and/or place structures within a 100-year flood hazard area that would impede or redirect flood flows.

The project encroaches upon the existing FEMA flood hazard area, and residential lots 338 through 352 along the southern site boundary would be located within the 100-year flood hazard area. This would result in a significant impact under this criterion unless mitigated. The project proposes buried bank stabilization that would protect the above noted residential units from flood waters and subsequent impacts and consequently remove these units from the potential for flooding.

The bank stabilization improvements and the proposed Newhall Ranch Road/Golden Valley Road Bridge would be placed within the 100-year flood hazard area of the Santa Clara River. The banks of the Santa Clara River will be slightly altered by the placement of the bank stabilization, erosion protection and the Newhall Ranch/Golden Valley Road Bridge and a modification to the FEMA flood hazard boundary will be necessary to correspond to the location of the bank stabilization improvements. As shown above, their locations and dimensions are such that neither the bank stabilization nor the bridges would impede or redirect flood flows within the river. As a result, project impacts to flood flows within the river would be less than significant.

(4) Criterion 4: Exposure to Significant Risk of Loss, Injury, or Death

Under this criterion, the impact analysis will determine if the project will expose people or structures to a significant risk of loss, injury or death involving flooding (including by seiche, tsunami, mudflow, and failure of a levee or dam).

The project site is located inland from the Pacific Ocean and not in proximity to any large, continuously filled bodies of surface water; therefore, it is not subject to seiche or tsunamis. There are no dams that occur upstream of the Riverpark site. There is no indication that the proposed project, or other existing or planned projects in the project area, would be at risk due to a failure of a dam. Furthermore, the site is subject to some debris flows; however, adequate building setbacks from natural slopes and debris control facilities proposed in upstream areas of the site would protect the project development from mudflow hazard. Therefore, the following impact analysis focuses on potential impacts associated with flooding within the river.

The findings of the PSOMAS reports provided in **Appendix 4.2** of this EIR, demonstrates that bridge piers and abutments for the Newhall Ranch Road/Golden Valley Road Bridge will not significantly affect flood levels. The analysis also demonstrates that the proposed bank stabilization will protect the proposed development area on the site from the 100-year and 50-year capital flood events (see February 2004 PSOMAS report in **Appendix 4.2** of this EIR) of the Santa Clara River and would only slightly increase the water surface of the river (by less than a foot). These findings are consistent with the EIS/EIR for the NRMP, which already addresses and mitigates impacts associated with placing bank stabilization, bridges, storm drain outlets, utility crossings and other modifications to the river adjacent to properties owned by The Newhall Land & Farming Company. As a result, project impacts to exposure of risk of loss, injury or death involving flooding would be less than significant.

Under both existing and developed conditions, floodplain areas would be inundated during extreme events (i.e., the 50-year, 100-year and capital floods). **Table 4.2-7, Pre- and Post-Development Floodplain/Stream Area,** compares the pre- and post-development acreages of the floodplain for the seven storm events. The floodplain of the river in this analysis begins at the Bouquet Canyon Bridge and ends 3,040 feet upstream of the California Aqueduct pipeline crossing (Please see **Section 2.0, Environmental and Regulatory Setting, Figure 2.0-4, Site Characteristics** and **Section 4.20, Floodplain Modifications**, **Figure 4.20-1, Project Study Area**). As shown, the acreage within the river study area that would be subject to flooding would decrease with project development by as much as 42.3.0 acres. However, because residential lots 338 through 352 along the southern site boundary would be located within the 100-year flood hazard area, residences on these lots would be exposed to a significant risk of loss, which would be a significant impact unless mitigated. As the project includes bank stabilization, which would protect the above-noted residential units from flood waters and subsequent impacts and, consequently, remove these units from the potential for flooding.

Table 4.2-7
Pre- and Post-Development Floodplain/Stream Area

Storm Event	Existing Conditions	Post Development	
	Acreage	Acreage	Difference
2-Year	109.4	105	-4.4
5-Year	187.6	179.3	-8.3
10-Year	266.0	250.8	-15.2
20-Year	300.5	278.7	-21.8
50-Year	325.0	295.2	-29.8
100-Year	337.4	303.7	-33.7
Capital Flood	355.5	313.2	-42.3

The figures in **Table 4.2-6** include the effect of the proposed bank stabilization. As demonstrated in the February 2004 PSOMAS report in **Appendix 4.2** of this EIR, water surface elevations would increase slightly with construction of the proposed bank stabilization. These increases are not considered significant and would not expose people or structures to a significant risk of loss, injury or death involving flooding, and consequently impacts are less than significant.

(5) Criterion 5: Substantial Alteration of an Existing Drainage Pattern Resulting in Substantial Erosion or Siltation and Criterion 6: Harmful Increases in Erosion

Under these criteria, the impact analysis will determine if the project will cause a substantial and environmentally harmful increase in erosion of the project site or surrounding areas. The analysis will also address potential riverbed scouring as a result in potential increase in flow velocities within the river.

A comparison between **Table 4.2-2, Existing Drainages and Runoff Quantities**, and **Table 4.2-6, Post-Development Runoff Quantities**, demonstrates that total debris volume from the approximately 835-acre tributary watershed would decrease from 31,770 cy to 15,558 cy, which is a 51 percent decrease [(31,770 – 15,558)/31,770 = 0.510]. Burned and bulked flows would also decrease from 2,225 cfs to 2,112 cfs (a 5.0 percent decrease). This reduction in sedimentation and debris production is a result of reduced erosion of the site due to coverage of much of the development area with pavement, roofs, vegetation, and other non-erosive surfaces. The County and City-defined criteria for design of flood control systems establish the more severe hydrologic conditions (e.g., burned and bulked) as the basis of impact evaluation (see **Appendix 4.2, Flood Technical Report for Riverpark**, February 2004, Sections 2.1.1 and 2.1.2). It is also a result of the proposed debris basins that would capture sediment and debris in upstream runoff. With these improvements in place, the project would reduce post-construction impacts on- and off-site erosion, downstream sedimentation, and debris production and transport and, therefore, a less than significant impact.

Impacts associated with erosion and sediment deposition within the river are evaluated as a function of in-stream velocities, which are indicators for potential riverbed scouring. An appropriate indicator for erosion within the flood area of the river is a benchmark of velocities less than 4 ft/sec (ft/sec). That is, if a significant amount of floodplain area were in the 0-4-foot/second range, but as a result of the project (including the Newhall Ranch Road/Golden Valley Road Bridge), would be subjected to velocities greater than 4 ft/sec, it would be considered potentially significant. However, **Table 4.2-8, Pre- and Post-Development River Velocities**, indicates that increases in areas of the floodplain that would be subject to velocities over 4 ft/sec during a 2-year storm event would be minimal (increase of 2

acres), localized (in the immediate vicinity of the abutments and piers), and would be caused only by the smallest event scenario. There would be no net increases affected by velocity during the 5- and 10-year storm events, and decreases in river velocity for the 20- to 100-year storm events.

Table 4.2-8
Pre- and Post-Development River Velocities

Storm Event	Area (acres) with Velocities Greater than 4 ft/sec		Impacts (Percent Increase from Existing)
	Existing Scenario	Post-Development	
2-Year	32	34	6%
5-Year	86	86	0%
10-Year	137	137	0%
20-Year	174	168	-3%
50-Year	228	223	-2%
100-Year	276	264	-4%

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004.

Even though not significant, to reduce storm flow velocities during smaller, more frequent flows (i.e., 2-year storm events) and to prevent erosion at storm water discharge points into the river, the project has incorporated energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters would be constructed wherever necessary at storm system outlets into the river into its design (Please see **Section 1.0, Project Description**). These energy dissipaters would slow the rate of flow of runoff into the river in order to prevent erosion of the stream channel. These improvements are already permitted under the NRMP.

The floodplain analyses for the river indicate that any changes in river hydraulics due to the project at the project boundaries are minimal and not significant. River hydraulics (specifically water velocities and depths of flow) are the primary mechanism (and indicator) for erosion and deposition potential. Therefore, because the river hydraulics were essentially unchanged at the project boundaries, it was not necessary to prepare a comprehensive river sedimentation analysis.

c. Conclusion

Development of the proposed Riverpark project would result in no impacts relative to Criterion 1 because it would not substantially alter existing drainage patterns within and through the project site such that it would increase on- or off-site flooding; significantly modify a drainage channel, or change the rate of flow, currents, or the course and direction of surface waters.

Project impacts relative to Criterion 2 would be less than significant because project development would include on-site improvements consistent with LACDPW requirements and sized for either the 25-year Urban or the 50-year capital storm events, depending on the source of runoff. As a result, it would not create or contribute runoff in quantities that would exceed the capacity of existing or planned storm water drainage systems. Furthermore, project impacts relative to Criteria 5 and 6 would be less than significant because it would not result in substantial on- or off-site erosion or siltation, erosive velocities or volumes of water in the river, or cause harmful increases in erosion of the project site or surrounding areas.

The project includes bank stabilization that would protect housing proposed within the existing 100-year federal Flood Hazard Boundary, resulting in no significant impact. Impacts associated with placing structures within and along the river that are consistent with the NRMP have also been previously addressed in the EIR/EIR for that plan.

The project would not or expose people or structures to a significant risk of loss, injury or death as a result of the failure of a levee or dam, or by inundation by seiche, tsunami, or mudflow; however, lots 338 through 352 along the southern site boundary would be located within the 100-year flood hazard area. The project includes bank stabilization to protect these homes from risk of flood, loss, injury or death and impacts would be reduced to less than significant.

9. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

4.2-1 The on-site storm drains (pipes and reinforced concrete boxes) and open channels shall be designed and constructed for either the 25-year or 50-year capital storm.

4.2-2 Debris basins shall be constructed pursuant to Los Angeles County Department of Public Works requirements to intercept flows from undeveloped areas entering into the developed portions of the site.

4.2-3 Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed as required by LACDPW at outlet locations to reduce velocities of runoff into the channel where necessary to prevent erosion.

4.2-4 Approximately 6,000 linear feet of buried bank stabilization shall be constructed along the Santa Clara River for residential, park and commercial project development (not including approximately 1,500 feet of toe protection [e.g., A-Jacks™, soil cement or equivalent]), and

approximately 3,000 linear feet to allow for the construction of Newhall Ranch Road. Additionally, bridge abutments and piers shall be constructed for the Newhall Ranch Road/Golden Valley Road Bridge.

4.2-5 The project shall comply with applicable mitigation measures of the Natural River Management Plan.

4.2-6 The project is required to comply with the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001), and with the state's General Construction Activity Storm Water Permit, California State Water Resources Control Board Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) No. CAS000002, reissued on April 17, 1997, as amended.

10. MITIGATION MEASURES PROPOSED BY THIS EIR

a. Mitigation for Construction Impacts

4.2-7 All on- and off-site flood control improvements necessary to serve the project are to be constructed to the satisfaction of the City of Santa Clarita and/or County of Los Angeles Department of Public Works Flood Control Division.

4.2-8 Prior to start of soil-disturbing activities at the site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in accordance with and in order to partially fulfill the California State Water Resources Control Board Order No. 99-08-DWQ, NPDES General Permit No. CAS000002 (General Construction Permit). The SWPPP shall meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP shall be certified the City of Santa Clarita in accordance with the signatory requirements of the General Construction Permit and implemented concurrently with commencement of the soil-disturbing activity.

4.2-9 Per the April 26, 2001 modification to the General Construction Permit, a contingency "Sampling and Analysis Plan" shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the

storm events to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP.

4.2-10 Following the completion of the construction project and when the site has been stabilized, a Notice of Termination shall be filed with the RWQCB.

4.2-11 During all construction phases, temporary erosion control to retain soil and sediment on the site shall be implemented, including:

- re-vegetating exposed areas as quickly as possible;
- minimizing disturbed areas;
- diverting runoff from downstream drainages with earth dikes, temporary drains, slope drains, etc.;
- velocity reduction through outlet protection, check dams, and slope roughening/terracing;
- dust control measures, such as sand fences, watering, etc.;
- stabilizing all disturbed areas with blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, and/or other erosion resistant soil coverings or treatments;
- stabilizing the construction entrance/exist with aggregate underdrain with filter cloth or other comparable method;
- placing sediment control BMPs at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season (sediment control BMPs may include filtration devices and barriers, such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters, and/or with settling devices, such as sediment traps or basins; and/or
- eliminating or reducing, to the extent feasible, non-storm water discharges (e.g., pipe flushing, and fire hydrant flushing, over-watering during dust control, vehicle and equipment wash down) from the construction site through the use of appropriate sediment control BMPs.

4.2-12 All necessary permits, agreements, letters of exemption or a Verification Request Letter from the Army Corps of Engineers and/or the California Department of Fish and Game for project-related development are to be obtained prior to issuance of grading permits.

4.2-13 By October 1st of each year, a separate erosion control plan for construction activities shall be submitted to the local municipality describing the erosion control measures that will be implemented during the rainy season (October 1 through April 15).

b. Mitigation Measures for Operational Impacts

4.2-14 A final developed condition hydrology analysis shall be prepared in conjunction with final project design when precise engineering occurs. This final analysis will be done to confirm that the final project design is consistent with this analysis. Those final calculations shall establish design features for the project that satisfy the criterion that post-development peak storm water runoff discharge rates, velocities, and duration in natural drainage systems mimic pre-development conditions. All elements of the storm drain system shall conform to the policies and standards of the Los Angeles County Department of Public Works, Flood Control Division, as applicable.

4.2-15 Ultimate project hydrology and debris production calculations shall be prepared by a project engineer to verify the requirements for debris basins and/or desilting inlets.

4.2-16 To reduce debris being discharged from the site, debris basins shall be designed and constructed pursuant to LACDPW Flood Control to intercept flows from undeveloped areas entering into the developed portions of the site.

11. CUMULATIVE IMPACTS

It has been estimated that approximately 4 percent of that portion of the Santa Clara River watershed found in Los Angeles County would be developed and approximately 2.5 percent of the portion of the watershed found in Ventura County would be developed.[8] Each development project in the Santa Clara River watershed (1,634 sq. miles) will be of varying character and size, will have its own unique topographic and geologic characteristics, and will be subject to the development criteria of the jurisdiction in which it is located.

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8 Alex Sheydayi, Deputy Director, Ventura County Public Works Agency, Flood Control Department, statement made at the Santa Clara River Enhancement and Management Plan Steering Committee Meeting, May 30, 1995.

All development within the portion of the watershed of the Santa Clara River located in Los Angeles County, including that within the City of Santa Clarita, is required to comply with the LACFWD Qcap requirements to ensure that upstream or downstream flooding does not occur. Compliance with these requirements ensures consistency with the County's Qcap model. Pursuant to LACDPW requirements, all drainage systems in developments that carry runoff from developed areas must be designed for the 25-Year Urban Design storm, while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps must be designed for the 50-year capital flood storm. LACDPW also prohibits significant increases in off-site post-development storm flows and significant increases in storm flow velocities. Development in the Los Angeles County portion of the watershed must also comply with LACDPW design criteria. As a result of compliance, overall storm runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would be free of the debris that is typical of undeveloped watersheds and flow velocities would not increase significantly. Because on-site facilities would already have been built for burned and bulked flows from undeveloped areas, they would have more than adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop.

As the analysis of project development demonstrates, development in minor drainage courses within the portions of the watershed located in Los Angeles County in compliance with these requirements would experience a decrease in burned and bulked runoff as the hillsides of the watershed develop.[9] Discharge quantities into the Santa Clara River from these minor drainages under post-development conditions would be less than under existing conditions because the runoff would be free of the debris that is typical of undeveloped watersheds. As a policy, both the City of Santa Clarita and the LACDPW prohibit significant increases in flow velocity from a project site; therefore, adherence to this policy would result in no significant cumulative increases in velocity or erosion/sedimentation impacts along that portion of the Santa Clara River, which drains to this watershed.

Other projects within the City of Santa Clarita and Los Angeles County would be subject not only to the same general requirements as the proposed Riverpark project, but also to such other requirements as the City of Santa Clarita (as applicable) and LACDPW would specifically identify for them based on their unique topographic and geologic characteristics.

The analysis of project conditions, above, demonstrates that project development, which must comply with all of these City and County requirements, would not create any significant impacts. Compliance

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9 See **Appendix 4.2**, Flood Technical Report for Riverpark, February 2004, Sections 2.1.1 and 2.1.2, for reference discussion.

with the applicable regulations results in the less discharge from the project post-development as compared to pre-development levels, and thus runoff from the project causes no incremental increase in the cumulative impact of watershed-wide development.

The City of Santa Clarita General Plan provides for additional development within this tributary watershed. However, the only probable future development within the approximate 835-acre tributary drainage in which the project is located is the Santa Clarita Parkway Bridge. As shown by the analysis below, the addition of that bridge to the tributary drainage also would not cause any significant impacts. Therefore, cumulative development within this tributary drainage would not cause any cumulative impacts.

Because the cumulative project drainage improvements in the City of Santa Clarita and Los Angeles County would be required to conform to the requirements of the City of Santa Clarita Department of Engineering Services and the LACDPW in order to handle the capital flood from the effected watershed, no potentially significant cumulative project flooding impacts are expected to occur from the incremental impacts of the project. The development criteria of each jurisdiction will ensure that no potentially significant cumulative impacts will occur.

a. Flood Impacts

Pursuant to LACDPW requirements, all drainage systems in developments that carry runoff from developed areas will be designed for the 25-Year Urban Design Storm, while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps will be designed for the 50-year capital flood storm. LACDPW also prohibits significant increases in off-site post-development storm flows and significant increases in storm flow velocities. Development elsewhere in the watershed must also comply with LACDPW design criteria. As a result of compliance, overall storm runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would be free of the debris that is typical of undeveloped watersheds and flow velocities would not increase significantly. Because on-site facilities would already have been built for burned and bulked flows from undeveloped areas, they would have more than adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop.

Because on-site drainage facilities would have adequate capacity to capture and convey off-site flows from developed upstream areas and because the storm drainage improvements in the remainder of the watershed would be required to comply with LACDPW design criteria, no significant increases in

velocity and related scouring, and no significant cumulative project flooding impacts are expected to occur downstream of the site (including the Santa Clara River) as the watershed builds out.

b. Floodplain

Cumulative conditions in the floodplain analysis are defined as the project conditions (which includes the Newhall Ranch Road/Golden Valley Road Bridge) with the addition of the Santa Clarita Parkway Bridge. (Note that the floodplain of the river in this analysis begins at the Bouquet Canyon Bridge and ends 3,040 feet upstream of the California Aqueduct pipeline crossing.)

Table 4.2-9, Pre-, Post-Development, and Cumulative Floodplain/Stream Area, compares the pre- and post-development acreages of the floodplain for seven storm events. As shown, the acreage subject to flooding under would decrease with cumulative project development for all storm events. In the cumulative scenario, the bank stabilization associated with Tract 20838 would protect Soledad Canyon Road from flooding in all storm events.

Table 4.2-9
Pre-, Post-Development, and Cumulative Floodplain/Stream Area

Storm Event	Pre-Development (acres)	Post-Development (acres)	Cumulative (including Santa Clarita Parkway Bridge) (acres)
2-Year	109.9	105	106.2
5-Year	187.6	179.3	178.4
10-Year	266.0	250.8	250.7
20-Year	300.5	278.7	278.3
50-Year	325	295.2	295.1
100-Year	337.4	303.7	302.9
Capital Flood	355.5	313.2	310.7

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004

As demonstrated in **Table 4.2-10, Water Surface Elevations at Selected River Locations from Upstream to Downstream,** there would be no significant increases in water surface elevation in the Santa Clara River due to past, present approved or future probable projects within the extent of the river addressed in the NRMP (i.e., those portions of the Santa Clara River adjacent to properties owned by The Newhall Land & Farming Company, including the Riverpark project site). No significant floodplain impacts are anticipated as a result of cumulative projects.

Table 4.2-10
Water Surface Elevation at Selected River Locations from Upstream to Downstream

Cross-Section (XS) and station (approximate distance in feet upstream from Bouquet Canyon Bridge)						
Proposed Newhall Ranch Road/Golden Valley Road Bridge						
XS 12207	**XS 11101**	**XS 10215**	**XS 9100**	**XS 8293**	**XS 7349**	**XS 6229**
1261.6	1252.1	1241.5	1231.6	1224.2	1216.5	1206.7
1262.9	1252.1	1241.7	1231.6	1224.2	1216.6	1206.6
1262.9	1252.1	1241.7	1231.6	1224.2	1216.6	1206.8
0	0	0	0	0	0	0.2
XS 12207	**XS 11101**	**XS 10215**	**XS 9100**	**XS 8293**	**XS 7349**	**XS 6229**
1262.5	1252.3	1242.2	1232.7	1225.7	1217.5	1207.2
1264.4	1252.3	1242.2	1232.8	1225.7	1217.5	1207.2
1264.1	1252.3	1242.2	1232.8	1225.7	1217.5	1207.2
0	0	0	0	0	0	0
XS 12207	**XS 11101**	**XS 10215**	**XS 9100**	**XS 8293**	**XS 7349**	**XS 6229**
1262.7	1252.6	1242.6	1233.0	1225.8	1217.7	1207.8
1264.7	1252.6	1242.6	1233.0	1225.5	1217.7	1207.8
1264.7	1252.6	1242.6	1233.0	1225.5	1217.7	1207.8
0	0	0	0	0	0	0
XS 12207	**XS 11101**	**XS 10215**	**XS 9100**	**XS 8293**	**XS 7349**	**XS 6229**
1263.3	1252.7	1243.1	1233.5	1226.9	1218.5	1208.4
1265.6	1252.7	1243.1	1233.5	1227.2	1218.5	1208.4
1265.6	1252.7	1243.1	1233.5	1227.2	1218.5	1208.4
0	0	0	0	0.2	0	0
XS 12207	**XS 11101**	**XS 10215**	**XS 9100**	**XS 8293**	**XS 7349**	**XS 6229**

c. Stream Erosion and Debris Deposition

Using the threshold of velocities of 4 feet/second, **Table 4.2-11, Cumulative Impacts on Erosion**, demonstrates no appreciable increases in potentially eroded areas due to buildout of the study area during the 2- and 5-year storm events, and a decrease in area during the 20-year and greater storm events. Any increase is for relatively small storm events and local mitigation measures would be required in specific locations. Unlike larger storm events, which would transport sediment downstream, for smaller storms it is probable that many of these localized conditions will equilibrate. Therefore, no significant stream erosion and debris deposition impacts are anticipated due to the project, subject to mitigation.

Table 4.2-11
Cumulative Impacts on Erosion

Storm Event	Area (acres) with Velocities Greater than 4 ft/sec		Difference in Acreage
	Existing Conditions	Cumulative Conditions (including Santa Clarita Parkway Bridge)	
2-Year	31	35	+4
5-Year	85	86	+1
10-Year	136	133	-3
20-Year	176	172	-4
50-Year	229	223	-6
100-Year	286	267	-19

Source: PSOMAS, Flood Technical Report for Riverpark, February 2004

Because the cumulative project drainage improvements in the City of Santa Clarita and Los Angeles County would be required to conform to the requirements of the City of Santa Clarita Department of Public Works and the Los Angeles County Department of Public Works in order to handle the capital flood from the effected watershed, no significant cumulative project flooding impacts are expected to occur when the watershed reaches buildout. Erosion and sedimentation, when controlled as required by the City and County, would also not result in significant cumulative impacts.

d. Conclusion

Other projects within Santa Clarita and Los Angeles County would not only be subject to the same general requirements as the proposed Riverpark project, but to other requirements that the City of Santa Clarita (as applicable) and LACDPW Flood Control Division would specifically identify for them. All development within the watershed of the Santa Clara River within the City of Santa Clarita is already required to comply with the City of Santa Clarita Department of Engineering Services requirements and locations within the unincorporated Los Angeles County would comply with the Los Angeles County Department of Public Works Flood Control Division requirements have been established to ensure that upstream or downstream flooding does not occur and to ensure that downstream erosion and sedimentation do not occur. Therefore, no unavoidable significant cumulative flooding, erosion and sedimentation impacts would be created. Compliance with these requirements ensures consistency with the County's Qcap model.

12. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

Implementation of the aforementioned mitigation measures to the satisfaction of the City of Santa Clarita and the LACDPW would reduce flooding, erosion, and sedimentation impacts to less than significant levels. Therefore, no unavoidable significant impacts are anticipated.

b. Cumulative Impacts

There would be no cumulative impacts; therefore, no unavoidable significant cumulative flooding, erosion, or sedimentation impacts would be created.

4.3 TRAFFIC/ACCESS

1. SUMMARY

At buildout, the proposed project development would generate 13,300 average daily trips (ADT). The project would construct the on-site roadway improvements to the standards of the City of Santa Clarita.

The traffic impact analysis, using both the City of Santa Clarita performance standards and Congestion Management Program standards, found that the project at buildout would significantly impact the following intersections:

- *McBean Parkway and Newhall Ranch Road,*
- *Valencia Boulevard and Magic Mountain Parkway,*
- *Seco Canyon Road and Bouquet Canyon Road,*
- *Bouquet Canyon Road and Soledad Canyon Road (Bouquet Junction),*
- *Bouquet Canyon Road and Newhall Ranch Road, and*
- *Whites Canyon Road and Soledad Canyon Road.*

To mitigate these impacts to less than significant, the project must pay for or construct its fair share of off-site improvements or a combination of improvements that equitably act as its fair share. The Riverpark project is located within the Bouquet Canyon Bridge and Thoroughfare District (Bouquet B&T District). This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district. In summary, the District has been designed to accommodate the needs of future development anticipated by the City and County General Plans.

Full buildout of the project necessitates the construction of the Newhall Ranch Road extension to Golden Valley Road, including the Newhall Ranch Road/Golden Valley Road Bridge across the Santa Clara River. This road and this bridge will be used by both project traffic and non-project related traffic. While a two lane road and bridge would accommodate the project-generated traffic alone (approximately 3,000 ADT at the bridge), a minimum of four lanes are required to accommodate the additional non-project traffic that will use the road and bridge (an additional 29,000 ADT).

Mitigation in the form of securing right-of-way for roadways out of the applicant's control improvements is proposed for four intersections and are considered currently infeasible:

Pre-Interim Year: (Occupancy of up to 500 units, without Newhall Ranch Road/Golden Valley Road Bridge)
Valencia Boulevard/Magic Mountain Parkway

Interim Year: (Full-Buildout of Project)
Valencia Boulevard/Magic Mountain Parkway
Bouquet Canyon Road/Soledad Canyon Road
Seco Canyon Road/Bouquet Canyon Road
Whites Canyon Road/Soledad Canyon Road

Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the above-identified four intersections for the following reasons. First, the identified mitigation requires the acquisition of additional property for right-of-way, property not controlled by the applicant. Eminent domain may reasonably be seen as necessary to make the necessary acquisitions. Second, the mitigation would require relocation of on-site improvements on properties at the affected intersections. Finally, the mitigation could force the relocation of existing businesses at the affected intersections. Affected intersections are illustrated with photographs depicting right-of-way encroachment in ***Appendix 4.3, Traffic and Circulation Report****.*

The City has determined that the affected intersections are built-out and generally recognizes the infeasibility of additional improvements at such intersection, with the exception of the Bouquet Canyon Road/Soledad Canyon Road intersection. The Bouquet Canyon Road/Soledad Canyon Road intersection improvements are expected to occur in spring 2004. Upon completion of these improvements, this intersection will be considered built out. The City of Santa Clarita General Plan Circulation Element states, "Existing street improvements are, in some cases, not able to be modified to accommodate additional traffic or circulation movements due to right-of-way limitations and existing development." This language in the adopted General Plan acknowledges that the benefits of improvements at such intersections are not outweighed by a combination of the potential time and cost of actions that may necessary to acquire the property, the physical and economic costs to businesses at the affected intersections, and the social costs that could occur if businesses were forced to relocate in order to continue to operate.

The Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as LOS E, Whites Canyon Road/Soledad Canyon Road intersection is forecast as LOS D, Valencia Boulevard/Magic Mountain Parkway as LOS F, Seco Canyon Road/Bouquet Canyon Road as LOS E, which is considered a significant unmitigatable impact. Consequently, the project's impacts to traffic/access are unavoidable

and significant. However, the project would exceed its mitigation goal as required by the Congestion Management Program (CMP) by 95,430 credits, which would offset project impacts to the regional transportation system (i.e., CMP-governed facilities).

2. INTRODUCTION AND METHODOLOGY

This section of the EIR summarizes the findings of a traffic report prepared for the proposed project by Austin-Foust Associates, Inc., dated February 2004. Because this report is technical in its subject and language, this section presents a summary intended for the non-technical reader. Readers should consult the Austin-Foust Associates, Inc. report in **Appendix 4.3** of this EIR for greater detail and analysis when needed.

a. Project Study Area

The project study area, illustrated in **Figure 4.3-1, Project Study Area**, includes the roadways and intersections near the project site and those locations where project traffic would represent one percent or more of total traffic. These roadways and intersections were selected with input from the City Transportation and Engineering staff and the traffic consultant for the EIR. As is seen in the figure, the project study area generally extends to McBean Parkway to the west, Via Princessa and Sierra Highway to the south, and Bouquet Canyon Road to the north. Future roadways and roadway extensions through the project study area include, among others, the extension of Newhall Ranch Road east of Bouquet Canyon Road, Golden Valley, Santa Clarita Parkway, Golden Triangle, and Via Princessa. All of these roadways are consistent with the City's Circulation Element.

b. Santa Clarita Valley Consolidated Traffic Model

Traffic forecast data for this traffic impact analysis were derived from the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The SCVCTM is a traffic planning computer model and the principal tool for transportation planning in the Santa Clarita Valley. It was developed jointly by the City of Santa Clarita and the County of Los Angeles Public Works Department to provide traffic forecasts for transportation planning in the Valley.[1] Specifically, the model analyzes expected or possible projects based on actual development applications and general plan provisions, and predicts traffic impacts based on various assumptions for different time periods as the Valley builds out. The

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1 The Santa Clarita Valley extends from the Ventura County line east to where the Antelope Freeway (State Route 14 [SR-14]) passes out of the Santa Clarita Valley near Vasquez Rocks Park. Its northern boundary is the Grapevine area north of Castaic and its southern boundary extends to the confluence of the I-5 and SR-14 freeways south of Newhall Pass (this is the area that is the subject of the County's Santa Clarita Valley Area Plan).

model is regularly updated (2003) to include any City or County General Plan Amendments in the Valley that may alter build-out numbers. Therefore, for any given Future Land Use Scenario for the Santa Clarita Valley area, the model can forecast future traffic volumes on the future roadways in the area under evaluation. For instance, the traffic forecasts used in the cumulative impact analysis for this EIR section are for a long-range time frame and assume buildout of the City of Santa Clarita General Plan and the County of Los Angeles Santa Clarita Valley Area Plan (including active pending General Plan Amendments for urban development).

Furthermore, the SCVCTM is developed from regional models prepared by the Southern California Association of Governments (SCAG) and it also forecasts traffic in a regional context. This means that not only are trips to and from the Santa Clarita Valley included in the forecasts, but also trips that pass through the Valley are also included.

c. Definitions

For convenience, certain terms used throughout this EIR section are defined below to clarify their intended meaning:

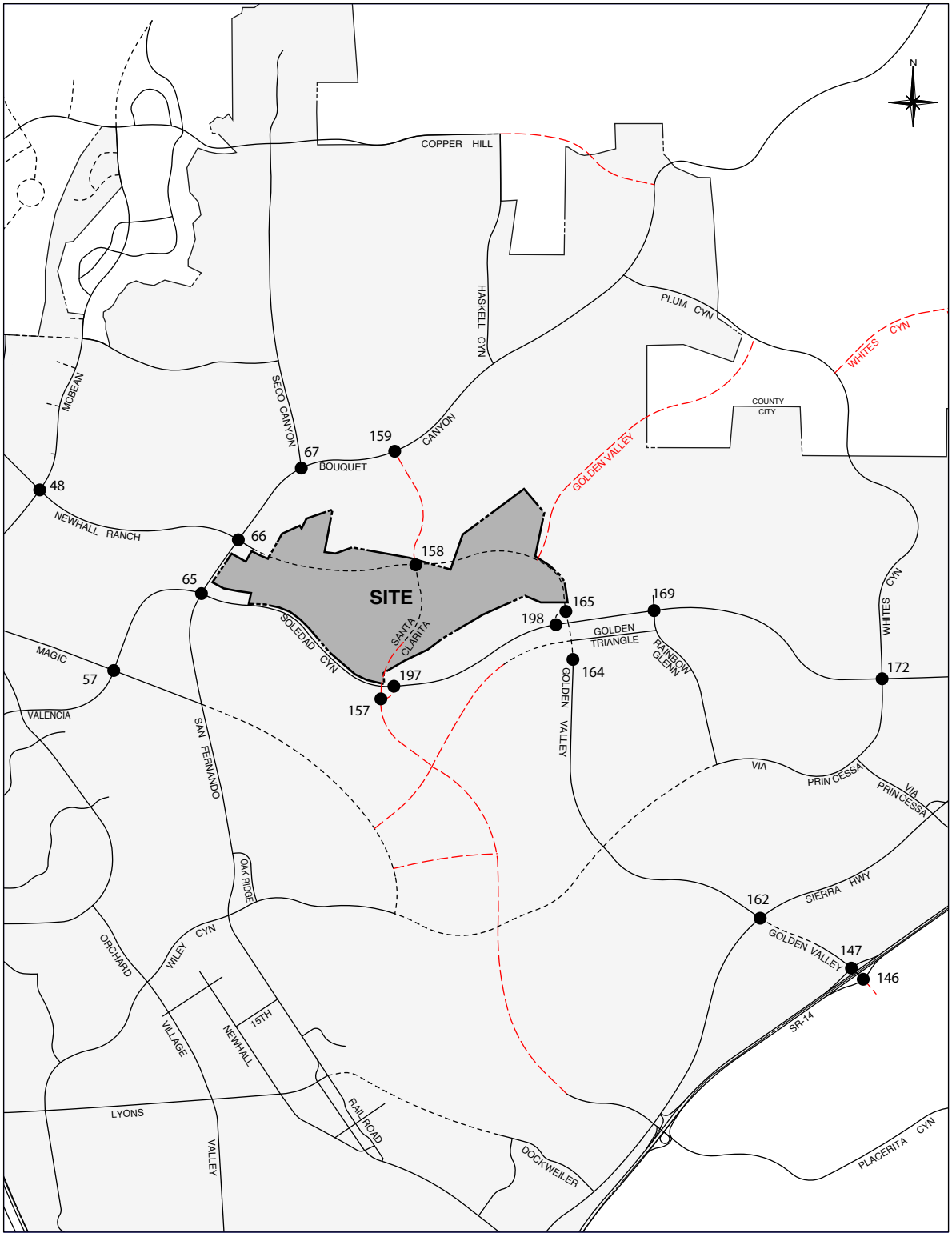
ADT — Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.

CMP — Congestion Management Program. A state mandated program administered by the Los Angeles County Metropolitan Transportation Authority (MTA) that provides a mechanism for coordinating land use and development decisions.

DU — Dwelling Unit. Used in quantifying residential land use.

ICU — Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.

LOS — Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments.



Legend

- Study Location
- Site Boundary
- Existing Roadway
- Interim Year Roadway
- Long-Range Roadway
- City Boundary

SOURCE: Austin–Faust Associates, April 2003.

FIGURE **4.3-1**

Project Study Area

Peak Hour — This refers to the hour during the AM peak period (typically 7 AM – 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.

Trip — A trip has trip-ends that are a starting point and an end point.

Trip-end — A trip generation measure that represents the total trips entering and leaving a location.

TSF — Thousand Square Feet. Used in quantifying non-residential land uses, and refers to building floor area.

V/C — Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.

VPD — Vehicles Per Day. Similar to ADT, but more typically applied to trip generation (i.e., the amount of traffic generated by a given amount of land use).

VPH — Vehicles Per Hour. Used for roadway volumes (counts or forecasts) and trip generation estimates. Measures the number of vehicles in a one-hour period, typically the AM or PM peak hour.

VPHPL — Vehicles Per Hour Per Lane. Similar to VPH but with the roadway volume averaged to the total number of roadway lanes.

d. Levels of Service Descriptions

Level of Service (LOS) is a concept developed to quantify the degree of comfort afforded to drivers as they travel on a given roadway. The degree of comfort includes such elements as travel time, number of stops, total amount of stopped delay, etc. As defined in the Transportation Research Board, National Research Council's Highway Capacity Manual (HCM 2000), six grades are used to denote the various LOS and are denoted A through F. **Table 4.3-1, Level of Service of Urban Streets**, **Table 4.3-2, Level of Service of Signalized Intersections**, and **Table 4.3-3, Level of Service of Freeways**, describes the six grades of LOS for these respective facilities. Please refer to **Subsection 6., Performance**

Criteria/Significance Thresholds, for the specific methods of calculating LOS for arterial roads and freeways in the project study area.

Table 4.3-1
Level of Service of Urban Streets

LOS	Description	Percent of FFS[1]
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speeds (FFS) for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is normal.	90
B	LOS B describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. Vehicles are completely unimpeded in their ability to maneuver with the traffic stream. Control delay at signalized intersections is minimal.	70
C	LOS C describes stable operations; however, the ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.	50
D	LOS D borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.	40
E	LOS E is characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	33
F	LOS F is characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.	25

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

[1] *The average travel speed along an urban street is the determinant of the operating Level of Service (LOS). The travel speed along a segment, section, or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. The general statements characterize LOS along urban streets and show the relationship to free flow speeds (FFS).*

Table 4.3-2
Level of Service of Signalized Intersections

LOS	Description	Delay per Vehicle (sec)
A	LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	< 10
B	LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than the LOS A, causing higher levels of delay.	10 – 20
C	LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20 – 35
D	LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35 – 55
E	LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55 – 80
F	LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	> 80

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

Table 4.3-3
Level of Service Descriptions – Freeways

LOS	Description
A	LOS A describes free-flow operations. Free-flow speeds (FFS) prevail. Vehicles are almost completely unimpeded in their ability to maneuver with the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B	LOS B represents reasonably free-flow, and FFS are maintained. The ability to maneuver with the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	LOS C provides for flow with speeds at or near the FFS of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.
D	LOS D is the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
E	At its highest density value, LOS E describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver with the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability with the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	LOS F describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points, and are the result of a bottleneck downstream point. LOS F is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS E, as well as the operations within the queue that forms upstream. Whenever LOS F conditions exist, they have the potential to extend upstream for significant distances.

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

e. Land Use and Trip Generation

Trip generation for a project is based upon the amount and type of future land use proposed in an area and requires that future land use projections be broken down into specific units, such as square feet of

floor area, number of dwelling units, etc. One of the most widely accepted trip generation rate sources is the Institute of Transportation Engineers (ITE) Trip Generation Manual – 6th Edition. The trip generation for the non-commercial uses within the project site is calculated using trip rates from the SCVCTM and are based on published data from the Trip Generation Manual. The commercial center trip generation is calculated using the ITE equation based shopping center trip rate. The results of the trip generation are calculated as "trip-ends", which are defined as the total trips entering and leaving a given location. Project trip generation rates are presented later in this EIR section.

f. Trip Distribution

The geographic distribution of project generated trips for Riverpark was determined using the SCVCTM, which takes into account the specific type of land uses proposed for the site and how those land uses would interact with the other land uses in the City.

3. EXISTING CONDITIONS

a. Existing Roadway System

Major arterial streets near to the project site include Bouquet Canyon Road, Newhall Ranch Road, Soledad Canyon Road, Valencia Boulevard and Golden Valley Road. State Route 14 (SR-14) provides regional access to the site and is located approximately 3.5 miles to the south. The Interstate 5 (I-5) Freeway is located approximately 3.5 miles west of the project site. The site is currently directly accessed via a short extension of Newhall Ranch Road, which terminates at the project site's western boundary east of Bouquet Canyon Road (see **Figure 4.3-2, Existing Roadway Network**).

Figure 4.3-2, Existing Roadway Network, illustrates the existing roadway system within the project study area. The numbers on each roadway segment represent the number of travel lanes within each segment, referred to in this study as mid-block lanes. For example, a "2" indicates a two-lane road segment.

b. Existing Traffic Volumes and Levels of Service

Figure 4.3-3, Existing Average Daily Traffic, illustrates ADT volumes on the roadway system in the project study area. The number by each roadway segment is the ADT volume in thousands. Peak hour turning movement volumes for each study area intersection are represented in **Figure 4.3-4, AM Peak Hour Turning Movement Volumes – Existing Conditions**, and **Figure 4.3-5, PM Peak Hour Turning**

Movement Volumes – Existing Conditions, for the AM and PM peak hours, respectively. The peak hour counts were collected at various times between December 2001 and October 2002 and, in most cases, during the second half of 2002.

The results of the ICU LOS analyses for project area intersections are shown in **Table 4.3-4, ICU Summary – Existing (2002) Condition**, (ICU worksheets are provided in Appendix A of the Austin-Foust report in **Appendix 4.3** of this EIR). As shown, two intersections do not currently meet the City's performance standard (discussed below under **Subsection 6., Performance Criteria/Significance Thresholds**):

- Bouquet Canyon Road/Soledad Canyon Road (LOS F in PM peak hour), and
- Whites Canyon Road/Soledad Canyon Road (LOS E in AM peak hour).

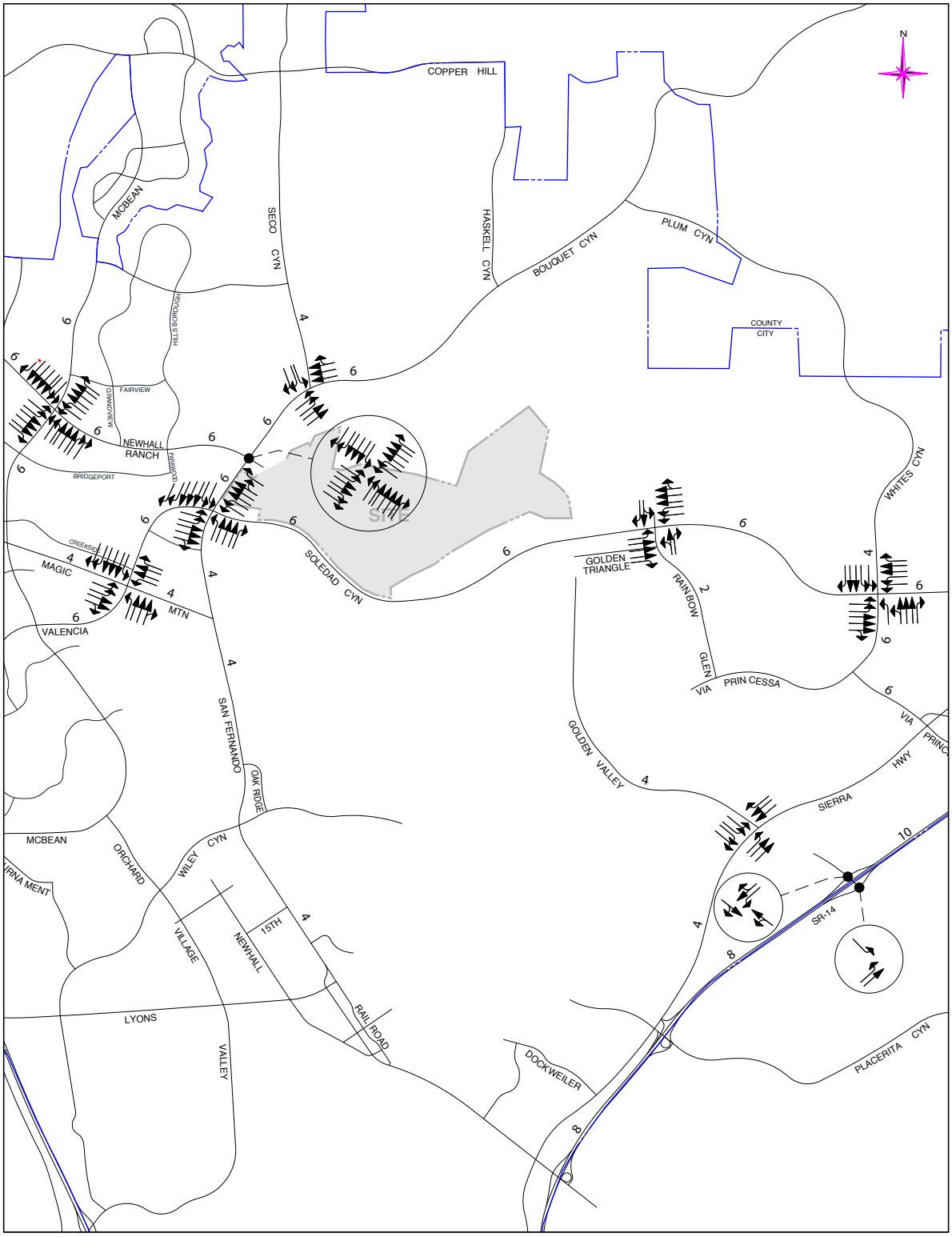
Table 4.3-4
ICU Summary – Existing (2002) Condition

Intersection	AM Peak Hour		PM Peak Hour		Count Date
	ICU	LOS	ICU	LOS	
48. McBean Pkwy/Newhall Ranch Rd	.82	D	.66	B	8/26/02
57. Valencia Boulevard/Magic Mtn Pkwy	.58	A	.69	B	12/3/01
65. Bouquet Cyn Rd/Soledad Cyn Rd	.76	C	1.04[1]	F	6/3/02
66. Bouquet Cyn Rd/Newhall Ranch Rd	.88	D	.83	D	6/3/02
67. Seco Cyn Rd/Bouquet Cyn Rd	.90	D	.90	D	10/23/02
146. SR-14 NB Ramp/Golden Valley Rd	.17	A	.28	A	10/24/02
147. SR-14 SB Ramp/Golden Valley Rd	.52	A	.25	A	10/24/02
162. Sierra Hwy/Golden Valley Rd	.68	B	.47	A	8/5/02
169. Rainbow Glen Dr/Soledad Cyn Rd	.72	C	.67	B	10/23/02
172. Whites Canyon Rd/Soledad Cyn Rd	.97[1]	E	.77	C	10/24/02

Source: Austin-Foust Associates (February 2004).
*[1] Exceeds performance standard (see **Table 4.3-7**)*
Level of Service ranges: .00 - .60 A; .61 - .70 B; .71 - .80 C; .81 - .90 D; .91 - 1.00 E; Above 1.00 F

c. Existing Transit Service

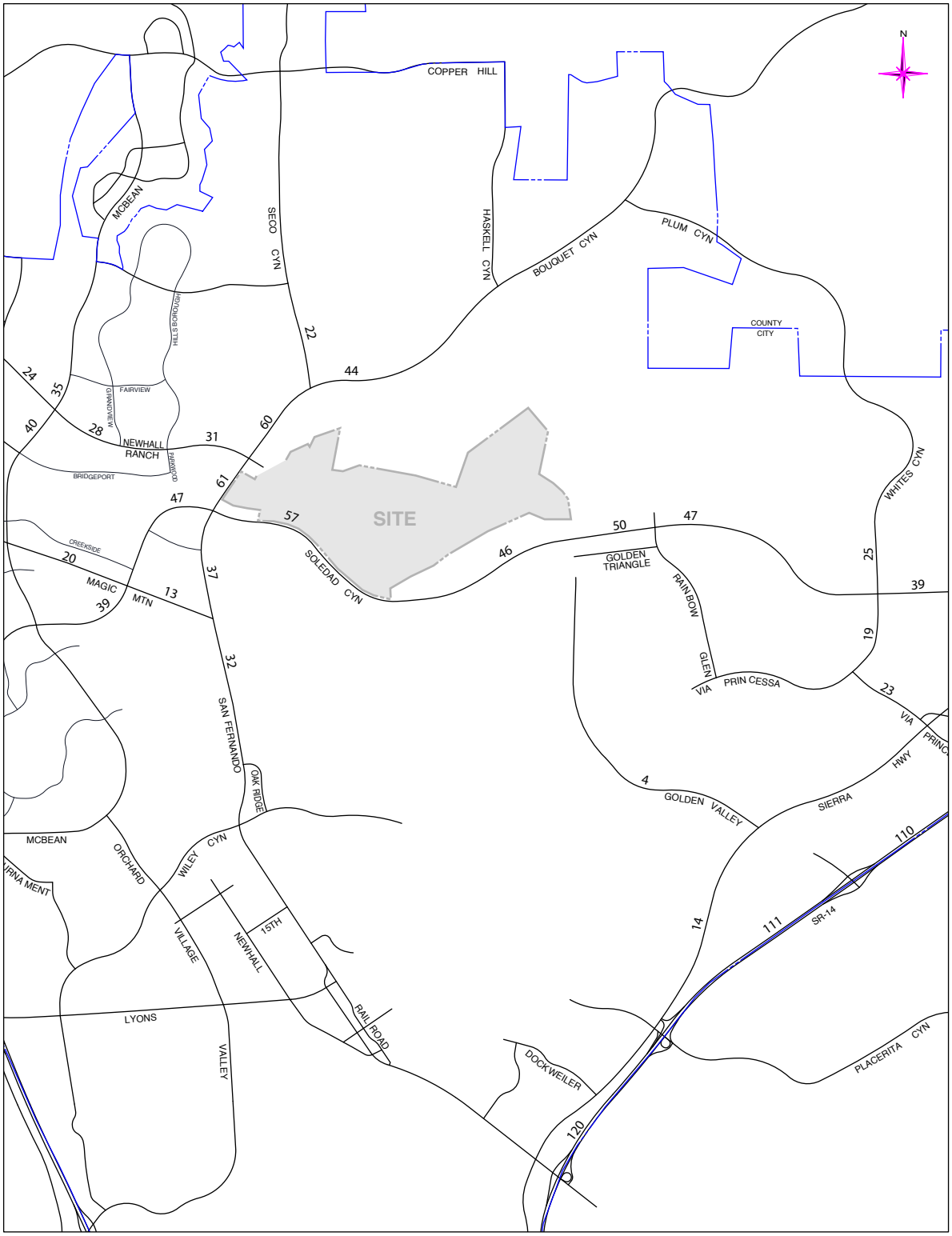
The project study area is served by two major transit carriers; the Santa Clarita Transit (SCT) system operated by the City of Santa Clarita and Metrolink operated by the Southern California Regional Rail Authority (SCRRA). The SCT largely serves the Santa Clarita Valley, while Metrolink currently serves Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties.



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-2**

Existing Roadway Network



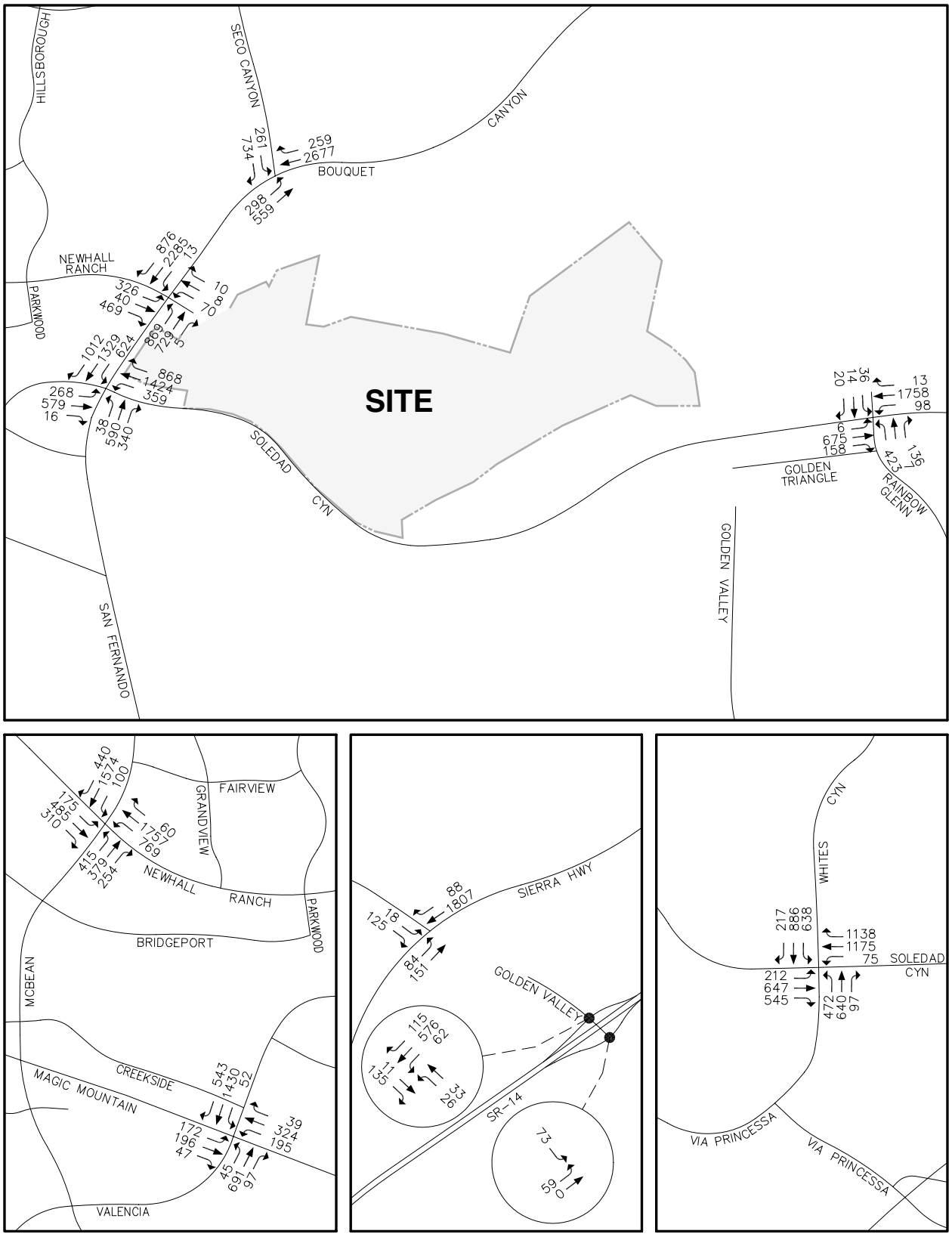
Legend

xx ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-3**

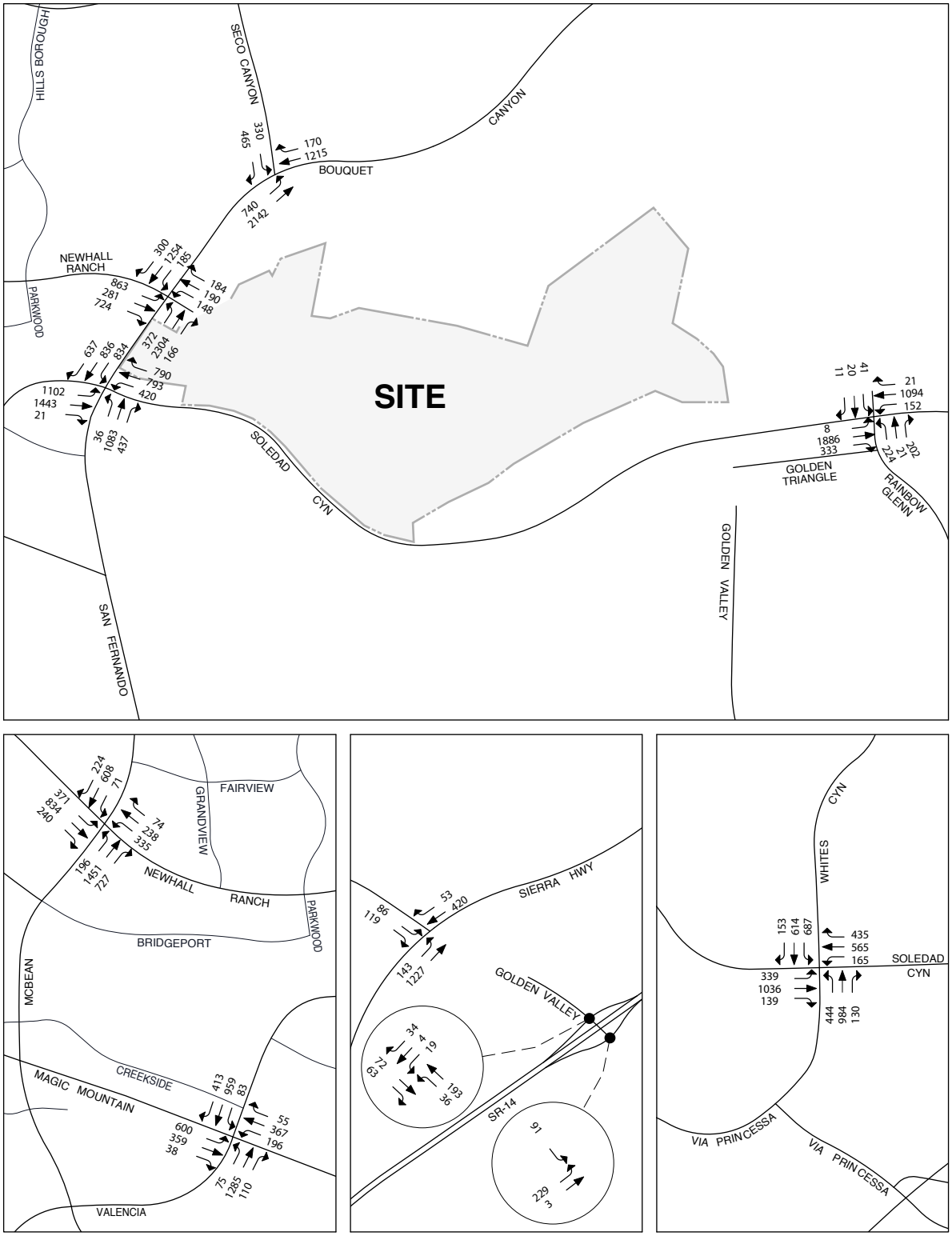
Existing Average Daily Traffic



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-4**

AM Peak Hour Turning Movement Volumes–Existing Conditions



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-5**

PM Peak Hour Turning Movement Volumes–Existing Conditions

SCT commuter buses provide regional service to downtown Los Angeles, the San Fernando Valley and the Antelope Valley. Existing commuter bus service within a quarter mile radius of the proposed project includes Route 796 to Warner Center/Thousand Oaks, Route 797 to Century City/UCLA, Route 798 to Van Nuys/Sherman Oaks, and Route 799 to Downtown Los Angeles.

Existing fixed-route bus service within a quarter mile radius of the proposed project consists of SCT Routes 3, 4, 5, 6, 501, 502, 503, and 504. Each route passes the site via the intersection of Bouquet Canyon Road and Newhall Ranch Road. Route 3 provides service to Seco Canyon, Valencia Town Center, Tourney Road, and Magic Mountain. Route 4 provides service to Larc Ranch, Bouquet Canyon Road, Valencia Town Center, College of the Canyons, California Institute of the Arts, Lyons Avenue, Newhall Metrolink, and the Santa Clarita Valley Senior Center. Routes 5 (Sierra Highway) and 6 (Shadow Pines) provide service to Shadow Pines, Sierra Highway, Soledad Canyon Road, Valencia Town Center, Hart High School, Lyons Avenue, and Stevenson Ranch. Route 501 to Magic Mountain, Route 502 to the Valencia Commerce Center Area, Route 503 to Seco Canyon, and Route 504 to Bouquet Canyon provide service from the Santa Clarita Metrolink Rail Station to various areas of the City.

It can be anticipated that, over time, the local bus service will expand as additional development occurs within the Valley. Typically, bus route plans are evaluated on an annual basis, and routes are added and/or modified as appropriate and as funding permits; therefore, as the proposed project develops, service to the project area is expected to be added accordingly at the discretion of the City of Santa Clarita. Meanwhile, the current transit arrangement is anticipated to continue to serve local residents of the area, connecting residential areas with employment and commercial centers.

In addition to bus service, the Santa Clarita Metrolink Rail Station is located just south of the project site on Soledad Canyon Road. This Metrolink station provides commuter rail service between the Antelope Valley and Downtown Los Angeles, thereby supplying additional regional transit to the site. Metrolink also links Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties with convenient transfer service between the bus and rail systems. The Los Angeles County Metropolitan Transit Authority oversees transit planning in the Los Angeles County area, and has a long-range plan for future rail transit. An eventual Metrolink extension along the State Route 126 corridor to Ventura County is part of the long-range transit plans prepared by Ventura County, City of Santa Clarita and Southern California Association of Governments.

d. Bridge and Thoroughfare District Fee

Within the Santa Clarita Valley, the County and the City have established Bridge and Thoroughfare (B&T) Districts to manage the many significant transportation infrastructure improvements planned to

occur within the Valley. The project site is located within the Bouquet Canyon District and the project will pay fees or construct eligible improvements. The Bouquet Canyon District is a full mitigation district meaning that the fee represents a fair share allocation of all of the required highway infrastructure within the district.

4. ACCESS

East-west vehicular access to the site would be from the Newhall Ranch Road extension, while the future Santa Clarita Parkway would provide access to the site from the north and south. The future extension of Golden Valley Road would also provide north-south access to the site, as well as a continuous route from SR-14 at Golden Valley Road. Buildout of the project necessitates the extension of Newhall Ranch Road, (full grading, 4-6 lanes) including the Newhall Ranch Road/Golden Valley Road Bridge over the Santa Clara River, to the Golden Valley Road/Soledad Canyon Road flyover.[2] A portion of Newhall Ranch Road is located off site on property owned by Castaic Lake Water Agency. The project would include the construction of a portion of Santa Clarita Parkway (full grading, 4 vehicle lanes, Class I trail) from Newhall Ranch Road south for approximately 1,500 feet. The project will not include construction of the Santa Clarita Parkway Bridge over the Santa Clara River or its connection to Soledad Canyon Road. All on-site roadways and intersections would be constructed to the standards of the City of Santa Clarita. A combination of full access and limited access (right-turn in/right-turn out only and left-turn in, right-turn in/right-turn out only) entrances into the residential areas would also be constructed.

The proposed commercial uses are located near the southeast corner of the Bouquet Canyon Road/Newhall Ranch Road intersection. Formal, detailed development plans for these commercial uses are not being proposed at this time, therefore exact driveway locations are unknown. For this analysis, it is assumed that the center will have a full access driveway on Newhall Ranch Road (approximately 500 feet east of Bouquet Canyon Road), as well as a right-turn in/right-turn out driveway on Bouquet Canyon Road (approximately 250 feet south of Newhall Ranch Road). The access assumption was made based upon the fact that these uses are commercial in nature and will desire access from Newhall Ranch Road as well as Bouquet Canyon Road. Vehicle trips, generated by a maximum of 40,000 square feet of commercial building area, are being evaluated in this report.

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2 The extension of Golden Valley Road (the "flyover"), from Soledad Canyon Road to a point approximately 900 feet north of Soledad Canyon Road is covered under a separate approval issued by the City with construction anticipated to commence in the next six to nine months.

5. DEVELOPMENT SCENARIOS

The traffic analysis evaluates the proposed project for pre-interim year, interim year, alternative interim year, and long-range timeframes using the SCVCTM. The development of the full project (e.g., 1,183 residential dwelling units, a maximum of 40,000 square feet of retail commercial uses and a neighborhood park) is contingent on the planned extension of Newhall Ranch Road over the Santa Clara River to connect with the planned and substantially funded extension of Golden Valley Road (referred to collectively as segments of the Cross-Valley Connector). Planned for completion in 2006/2007, the Cross-Valley Connector will provide a continuous route from the SR-14 at Golden Valley Road to I-5 at the SR-126 interchange. Since this major infrastructure improvement will result in significant and complex changes to existing travel patterns, an analysis scenario in which project traffic is added to existing conditions would not adequately analyze reasonably foreseeable future conditions and potential impacts. Therefore, this analysis adds project traffic to background conditions that include the future traffic patterns that will occur as a result of this new roadway.

a. Pre-Interim Year Scenario

This scenario represents occupancy of up to 500 units of the project without the Newhall Ranch Road/Golden Valley Road Bridge. It differs from the Interim Year Scenario (discussed below) by only representing the occupancy of up to 500 dwelling units on the site and by only including development of the Valencia Commerce Center up through its currently approved "Phase 3" (9.4 million square feet of industrial/office use). Roadway infrastructure also does not include the future extensions of Via Princessa and Magic Mountain Parkway.

b. Interim Year Scenario

The Interim Year Scenario represents full project buildout, which is projected to occur by 2008. The transportation system would consist of roadway improvements and future infrastructure consistent with the related projects included within the horizon year, which generally corresponds to a level of development approximately 10 years into the future. While this horizon does not coincide specifically with the buildout of the project site (estimated to occur by 2008), it represents the best timeframe for planning purposes since it includes a comprehensive set of cumulative development projects that have been incorporated into the SCVCTM. With this, a conservative scenario is established for analyzing the impacts of the proposed project combined with projected and approved growth on a reasonably expanded circulation system. This approach is supported by the City Transportation and Engineering Services staff.

Future roadways in the study area under this scenario include the extension of Newhall Ranch Road west to I-5 (estimated completion in 2006), the extension of Newhall Ranch Road east to Golden Valley Road/Soledad Canyon Road (estimated completion in 2006), the connection of Via Princessa between its current western terminus (near San Fernando Road) and its current eastern terminus (near Rainbow Glen Drive) (estimated completion in post-2010), and the extension of Magic Mountain Parkway to Via Princessa (estimated completion in post-2010). **Figure 4.3-6, Future Transportation System – Interim Year and Long-Range**, illustrates the general locations of these future arterial roadways.

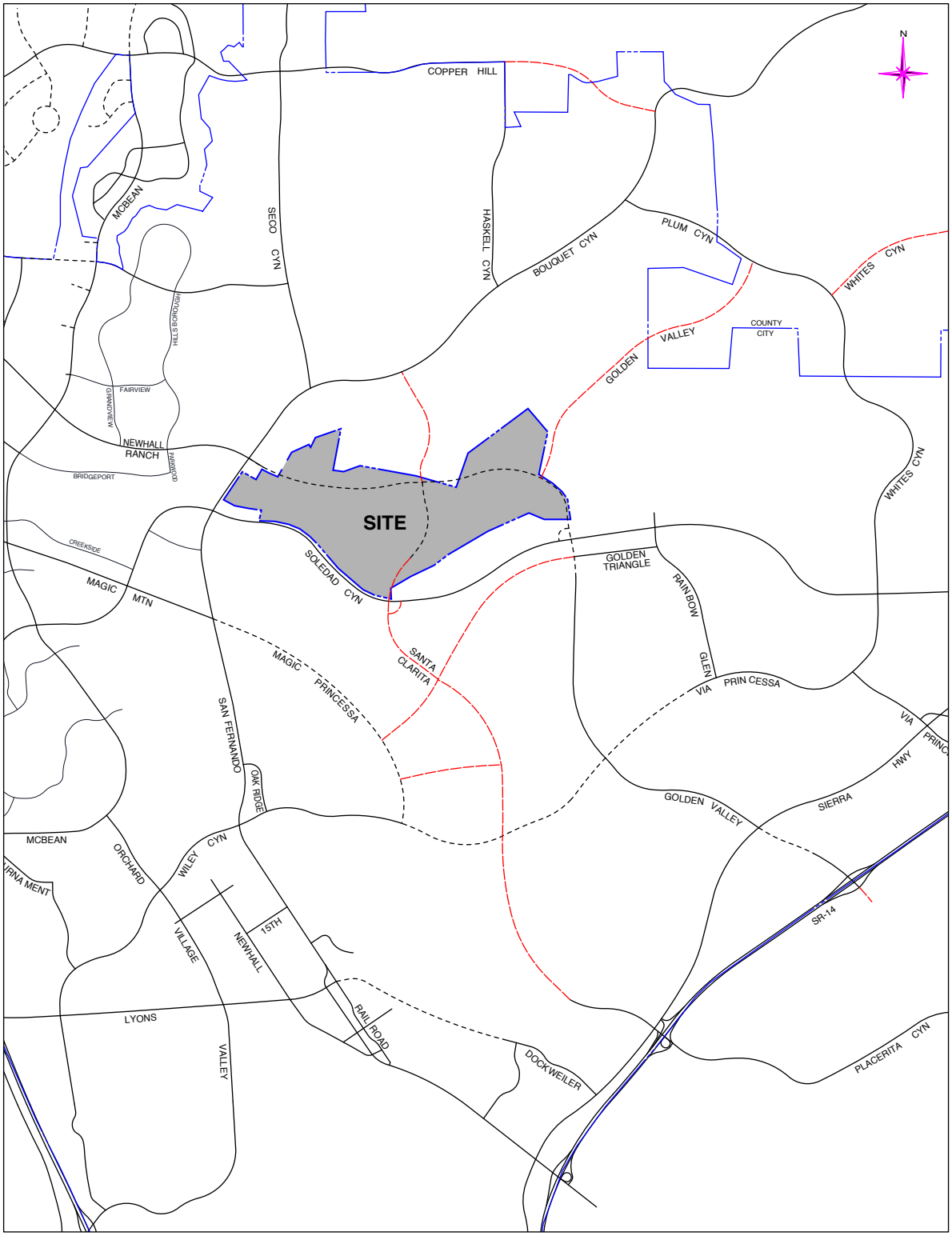
Interim Year land use is based on data provided by the City and County. For this analysis, the Interim Year land use database was updated to include the most recent data from the City and County regarding approved, pending and planned projects. Please see **Section 3.0, Cumulative Impact Analysis Methodology**, for details regarding DMS and cumulative analysis. (See Appendix C of the Austin-Foust report in **Appendix 4.3** of this EIR for the list of related projects in the vicinity of the proposed project.)

c. Alternative Interim Year Scenario

The Alternative Interim Year Scenario is not an expected scenario to occur because of the timing of construction of the project and the expected buildout of the Santa Clarita Parkway. It is expected that development of the proposed project would occur prior to construction of this roadway. At the direction of the City, an Alternative Interim Year Scenario was prepared which represents full buildout of the project and transportation improvements as described for the Interim Year Scenario, and also includes the construction and operation of Santa Clarita Parkway between Bouquet Canyon Road and Placerita Canyon Road. While Santa Clarita Parkway is not usually included within the Interim Year horizon (and a schedule of its construction does not currently exist), the City Planning and Transportation and Engineering Services staff requested this special analysis as a portion of the roadway would pass through the project site; however, this scenario is not expected to occur.

d. Santa Clarita Valley Cumulative Build-Out Scenario

Since the proposed project involves a General Plan Amendment, an evaluation of long-range conditions is provided based on build-out land use projections for the Santa Clarita Valley and a roadway network that is consistent with the City's General Plan Circulation Element. The City's Circulation Element includes significant future roadway projects near the project site in addition to those included in the Interim Year Scenario.



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-6**

Future Transportation System–Interim Year and Long-Range

Specific projects include: Santa Clarita Parkway between Bouquet Canyon Road and Placerita Canyon Road; a northerly extension of Golden Valley Road that intersects with Newhall Ranch Road within the project site, just north of the Santa Clara River, and extends to Plum Canyon Road. The previously referenced figure, **Figure 4.3-6, Future Transportation System – Interim Year and Long-Range**, illustrates the general locations of these future facilities.

6. PERFORMANCE CRITERIA/SIGNIFICANCE THRESHOLDS

Performance criteria are utilized as significance thresholds for this impact analysis. In most traffic studies, performance criteria are based on two primary measures. The first is "capacity", which establishes the vehicle carrying ability of a roadway and the second is "volume". The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time.

The ratio between the volume and the capacity gives a volume-to-capacity (V/C) ratio and a corresponding level of service.

Table 4.3-5, Volume/Capacity Ratio Level of Service Ranges, summarizes the V/C ranges that correspond to LOS A through F for arterial roads and freeway segments. The V/C ranges listed for arterial roads within the study area are designated in the General Plan for the City of Santa Clarita. The V/C ranges listed for freeway segments are based on the V/C and LOS relationships specified in the Highway Capacity Manual (HCM 2000) for basic freeway sections.

Table 4.3-5
Volume/Capacity Ratio Level of Service Ranges

V/C Range	LOS
ARTERIAL ROADS	
0.00 – 0.60	A
0.61 – 0.70	B
0.71 – 0.80	C
0.81 – 0.90	D
0.91 – 1.00	E
Above 1.00	F
FREEWAY SEGMENTS	
0.00 – 0.30	A
0.31 – 0.50	B
0.51 – 0.71	C
0.72 – 0.89	D
0.90 – 1.00	E
Above 1.00	F

Source: Austin-Foust Associates (February 2004).

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the City and increases in the V/C ratio which cause an unacceptable LOS or which contribute to an unacceptable LOS are defined as significant impacts.

The following performance criteria are based on defined criteria for three fundamental components of the circulation system: freeway mainline segments, arterial roads (including intersections), and freeway ramps.

a. Freeway Mainline Segments

Capacities for calculating peak hour V/C ratios for freeway mainline segments are based on information contained in the July 1995 Caltrans Highway Design Manual and have been verified through discussions with Caltrans staff. A capacity of 2,000 vehicles per hour per lane (vphpl) is used for mixed-flow (general purpose) mainline freeway lanes; this capacity corresponds to LOS E conditions. HOV capacities used for this analysis are lower than the capacity for a mixed flow freeway lane and reflect the objective for HOV facilities to operate better than LOS E. Consistent with Caltrans' guidelines for high occupancy vehicle (HOV) facilities, a desirable operating capacity of 1,600 vphpl is applied for a one-lane "buffer-separated" HOV facility.

For this analysis, any additional mainline capacity that may be realized due to the existence of an auxiliary lane (the portion of the roadway for weaving, truck climbing, speed change, or for other purposes supplementary to through traffic movement) was not included in order to provide a conservative estimate of overall capacity. The capacity of a freeway auxiliary lane is difficult to define since auxiliary lanes are typically implemented to preserve standard freeway capacities at locations where the geometric design is below standard (for example, between interchanges that are spaced less than one mile apart or where heavy on/off ramp volumes occur between interchanges). While an auxiliary lane can increase the overall capacity of a mainline freeway segment, the practical increase depends on such key factors as the length of the auxiliary lane and the on/off ramp volumes at the beginning and end of the auxiliary lane.[3]

The capacity assumptions for freeway mixed-flow and HOV lanes are summarized in **Table 4.3-6, Freeway Mainline Performance Criteria**, together with the overall impact criteria for analyzing freeway mainline segments within the traffic analysis study area. The LOS E performance standard listed here has been established by Caltrans as the operating standard for freeway mainline segments and is also consistent with Los Angeles County Congestion Management Program (CMP) requirements. Any degradation in this LOS would result in a significant impact on a freeway mainline segment.

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3 Riverpark-VTTM 53425, Traffic Impact Analysis, February 2004

Table 4.3-6
Freeway Mainline Performance Criteria

V/C Calculation Methodology
Level of Service to be based on peak hour volume/capacity (V/C) ratios calculated using the following capacities: • 2,000 vehicles per hour per lane (vphpl) for mixed-flow (general purpose) lanes under stable flow conditions. • 1,600 vphpl for a one-lane high occupancy vehicle (HOV) facility under stable flow conditions.
Performance Standard
Level of Service E (peak hour V/C less than or equal to 1.00).
Threshold of Significance
If based on a comparison with existing conditions, a project related V/C increase is greater than or equal to .02 (the impact threshold specified in the CMP) for a freeway mainline segment that is forecast to operate worse than the performance standard, then the impact of that project scenario or alternative is considered significant. This is applicable only when the freeway mainline segment is forecasted to operate worse than the performance standard.

Source: Austin-Foust Associate (February 2004).

b. Arterial Roads

For the arterial system, the peak hour is the accepted time period used for impact evaluation and a number of techniques are available to establish suitable V/C ratios and to define the corresponding LOS. These definitions and procedures are established by individual local jurisdictions and by regional programs, such as the CMP.

Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. The intersection capacity utilization (ICU) methodology (Transportation Research Board, "Interim Materials on Highway Capacity" (Transportation Research Circular, No. 212, 1980) is applied using peak hour volumes and the geometric configuration of the intersection. This methodology sums the V/C ratios for the critical movements of an intersection and is the preferred procedure for intersection analysis by the City of Santa Clarita. The ICU methodology is comparable to the intersection capacity analysis methodology outlined in the HCM 2000.

The ICU calculation methodology and associated impact criteria proposed for the study area arterial system are summarized in **Table 4.3-7, Arterial Intersection Performance Criteria**. The City utilizes LOS D (ICU not to exceed 0.90) as the accepted standard and target LOS for future intersections. The City's General Plan Circulation Element, updated in February 1997 (see **Appendix 4.3**), establishes the basis for the thresholds of significance for traffic impacts used in this analysis. These thresholds supersede the thresholds specified in the 1990 Preliminary Traffic Impact Report Guidelines (see **Appendix 4.3**). Discussions with City staff in the Transportation and Engineering Services Department provided the detailed impact thresholds listed in **Table 4.3-7**.

Any increases in the V/C ratio which causes an exceedance of 0.81 or which contributes to an unacceptable LOS would result in a significant impact on arterial roads.

Table 4.3-7
Arterial Intersection Performance Criteria

ICU Calculation Methodology	
Level of Service to be based on peak hour ICU values calculated using the following assumptions:	
Saturation Flow Rate: 1,750 vehicles/hour/lane	
Clearance Interval: .10	
RTOR Allowed: Yes*	
RTOR Saturation Factor: .75	
No minimum volume/capacity assumed	
Performance Standard	
LOS D	
Impact Criteria	
Impacts due to the project shall be considered when any of the following conditions are met:	
With-Project ICU	Project Increment
.81-.90 (LOS D)	≥ .02
.91 or more (LOS E or F)	≥ .01
Mitigation must be identified that results in an ICU less than or equal to pre-project conditions.	

Source: Austin-Foust Associates, correspondence to City of Santa Clarita, October 2003, and City of Santa Clarita Traffic Impact Report Guidelines and December 1997 City of Santa Clarita General Plan Circulation Element and the City Transportation and Engineering Services Department.
**"De facto" right-turn lane is used in the ICU calculation if 19 feet from edge of pavement to inside of through-lane exists and parking is prohibited during peak hours.*
Abbreviations: ICU – Intersection Capacity Utilization; RTOR – Right Turn On Red; LOS – Level of Service

c. Freeway Ramps

Similar to the arterial system evaluation, the peak hour is also the accepted time period used for impact evaluation of freeway interchange ramps. For this study, LOS for freeway ramps within the traffic analysis study area are based on AM and PM peak hour V/C ratios. Capacities for the various ramp configurations that either exist or are anticipated on the freeway system within the traffic analysis study area are based on information contained in the Caltrans Highway Design Manual and the January 2000 Caltrans Ramp Meter Design Manual, and have been verified through discussions with Caltrans staff.

The capacities for calculating ramp V/C ratios are summarized in **Table 4.3-8, Freeway Ramp Performance Criteria**, together with the overall impact criteria for freeway ramps within the study area. The LOS E performance standard listed in the table has been established by Caltrans as the operating standard for freeway ramps. Any degradation as defined by the impact criteria for this LOS would result in a significant impact on a freeway ramp.

Table 4.3-8
Freeway Ramp Performance Criteria

V/C Calculation Methodology
Level of Service to be based on peak hour volume/capacity (V/C) ratios calculated using the following ramp capacities: Freeway to Arterial Road Interchanges Metered On-Ramps A maximum capacity of 900 vehicles per hour (vph) for a one-lane metered on-ramp with only one mixed-flow lane at the meter. A maximum capacity of 1,080 (20 percent greater than 900) vph for a one-lane metered on-ramp with one mixed-flow lane at the meter plus one HOV preferential lane at the meter. A maximum capacity of 1,500 vph for a one-lane metered on-ramp with two mixed-flow lanes at the meter. A maximum capacity of 1,800 vph for a two-lane metered on-ramp with two mixed-flow lanes at the meter. Non-Metered On-Ramps and Off-Ramps A maximum capacity of 1,500 vph for a one-lane ramp. A maximum capacity of 2,250 (50 percent greater than 1,500) vph for a two-lane on-ramp that tapers to one merge lane at or beyond the freeway mainline gore point and for a two-lane off-ramp with only one auxiliary lane. A maximum capacity of 3,000 vph for a two-lane on-ramp that does not taper to one merge lane and for a two-lane off-ramp with two auxiliary lanes.
Performance Standard
Level of Service E (peak hour V/C less than or equal to 1.00).
Thresholds of Significance
If based on a comparison with existing conditions, a project related V/C increase is greater than or equal to .02 (the impact threshold specified in the CMP) for a freeway ramp that is forecast to operate worse than the performance standard, then the impact of that project scenario or alternative is considered significant.

Source: Austin-Foust Associates (February 2004)
Abbreviations: V/C – Volume to Capacity Ratio
vph – Vehicles per Hour

7. PROJECT IMPACTS

a. Significance Threshold Criteria

Thresholds of Significance and Criteria are outlined above in **Tables 4.3-6** through **4.3-8.**

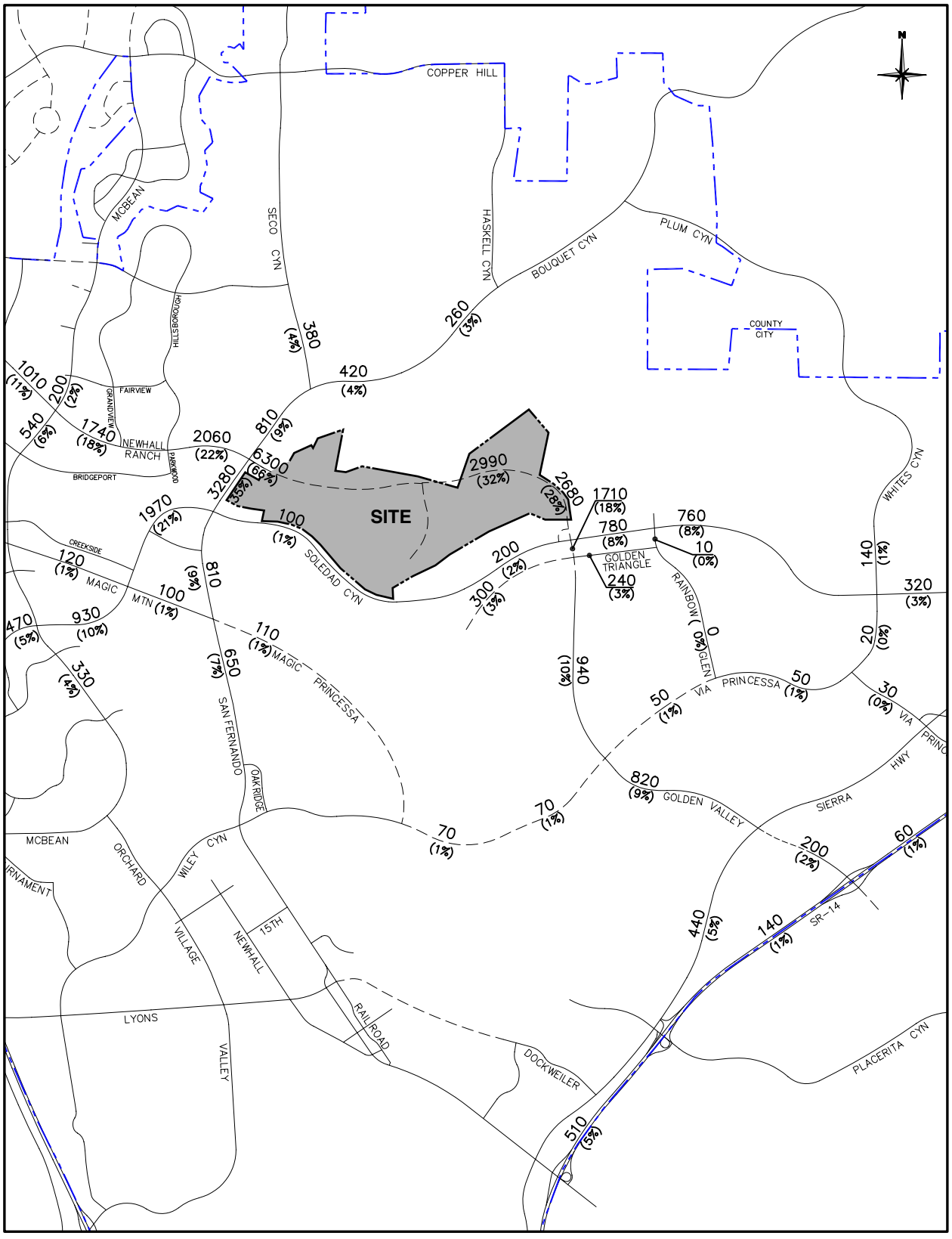
Table 4.3-9, Project Land Use and Trip Generation Summary, lists the estimated number of average daily trip-ends generated by the project. The proposed project is estimated to generate approximately 13,300 total ADTs with approximately 800 occurring in the AM peak hour (600 outbound) and approximately 1,250 occurring in the PM peak hour (760 inbound).

Table 4.3-9
Project Land Use and Trip Generation Summary

Land Use	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	ADT
TRIP GENERATION								
Residential								
Area A1 - Single Family	225 du	43	126	169	146	81	227	2,228
Area A2/B - Single Family	214 du	41	120	161	139	77	216	2,119
Area C - Apartment	420 du	34	181	215	172	88	260	2,898
Area D - Apartment	324 du	26	139	165	133	68	201	2,236
Area A1 - Developed Park	4.25 ac	0	0	0	0	0	0	11
Subtotal Residential	1,183 du	144	566	710	590	314	904	9,492
Commercial								
Retail Commercial	40.00 tsf	57	36	93	165	178	343	3,782
Total		**201**	**602**	**803**	**755**	**492**	**1,247**	**13,274**
TRIP RATES								
Single Family Detached[1]	du	.19	.56	.75	.65	.36	1.01	9.90
Apartment[2]	du	.08	.43	.51	.41	.21	.62	6.90
Developed Park[3]	ac	.00	.00	.00	.03	.04	.07	2.60
Retail Commercial[4]	tsf	ADT: LN(T) = 0.643*LN(X) + 5.866						
		AM: LN(T) = 0.596*LN(X) + 2.329 (61% IB/39% OB)						
		PM: LN(T) = 0.660*LN(X) + 3.403 (48% IB/52% OB)						

Source: Austin-Foust Associates (February 2004).
du = dwelling unit; ac = acre; tsf = thousand square feet
[1] *SCVCTM Category 3 (Single Family 6-10 du/acre)*
[2] *SCVCTM Category 5 (Apartment)*
[3] *SCVCTM Category 51 (Developed Park)*
[4] *Institute of Transportation Engineers (ITE) Category 820 (Shopping Center)*

Figure 4.3-7, Average Daily Traffic Volumes – Project Residential Trips Only, illustrates the project only ADT and distribution percentages for the residential portion of the site (see Figures 3-3 and 3-4 in the Austin-Foust Report in **Appendix 4.3** for the peak hour residential volumes). Approximately two thirds of the project's residential traffic would access the site via the Newhall Ranch Road/Bouquet Canyon Road intersection and approximately 30 percent would access the site via the Newhall Ranch Road/Golden Valley Road intersection at Soledad Canyon Road. (The geographic distribution of project-generated trips was determined using the City's traffic model to prepare a project only select zone run. The Interim Year version of the SCVCTM provided the background conditions for this select zone run. The model takes into account the specific type of land use proposed for the site and how that land use would interact with other land uses in the City.) Approximately 5 percent of the residential trips would represent a local interaction with the project's commercial center and with the existing commercial center located on the northeastern corner of the Bouquet Canyon Road/Newhall Ranch Road intersection. At the regional level, over 90 percent of the project's residential generated traffic would stay within the Santa Clarita Valley.



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XXXX Project ADT
(Y%) Distribution Percentage

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-7**

Average Daily Traffic Volumes–Project Residential Trips Only

This is due in part to the substantial employment base that has developed within the area, as well as to the majority of residential daily trip generation being non-work based (e.g., work trips typically account for only two to four of the average ten trips generated each day by a single-family residence). The remaining traffic would be oriented outside the Valley with approximately 5 percent south on SR-14/I-5, approximately one percent east on SR-14, approximately one percent north on I-5 and less than one percent west on SR-126.

Figure 4.3-8, Average Daily Traffic Volumes – Project Commercial Trips Only, illustrates the ADT and distribution percentages for the commercial center (see Figures 3-3 and 3-4 in the Austin-Foust Report in **Appendix 4.3** for the peak hour commercial volumes). The distribution of traffic generated by the retail commercial center would be more localized than the project's residential component, as is depicted in the figures.

b. Arterial Road Impacts

(1) Pre-Interim Year Analysis

Table 4.3-10, Trip Generation Summary for 500 Dwelling Units, summarizes the land use and trip generation characteristics for 500 residential units constructed under this scenario, which would generate 4,260 total average daily trips with 319 occurring in the AM peak hour (250 outbound) and 415 occurring in the PM peak hour (270 inbound). (See Figures 4-17 through 4-22 in the Austin-Foust report in **Appendix 4.3** for trip distribution and peak hour turning movement volumes for this scenario.)

Table 4.3-10
Trip Generation Summary for 500 Dwelling Units

			AM Peak Hour			PM Peak Hour			
Location	**Land Use**	**Units**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**ADT**
Area A	Single Family	270 du	51	151	202	176	97	273	2,673
Area D	Apartment	230 du	18	99	117	94	48	142	1,587
Total		**500 du**	**69**	**250**	**319**	**270**	**145**	**415**	**4,260**

Source: Austin-Foust Associates (February 2004).
*See **Table 4.3-9** for source of trip rates.*

Table 4.3-11, ICU and LOS Summary – Pre-Interim Year Conditions, summarizes the ICUs and LOS for the study area intersections for the Pre-Interim Year Scenario. The table shows that four intersections would experience a significant impact due to the traffic generated by the 500 units under the arterial

intersection performance criteria with three of those intersections forecast to exceed LOS D. The following intersections are those significantly impacted:

Table 4.3-11
ICU and LOS Summary – Pre-Interim Year Conditions

Intersection	Without Project				With Project				Increase	
	AM		PM		AM		PM		AM	PM
48. McBean Pkwy/Newhall Ranch Rd	.87	D	.86	D	.88	D	.87	D	.01	.01
57. Valencia Blvd/Magic Mountain Pkwy	.80	C	1.01	F	.81	D	1.02	F	.01	.01**
65. Bouquet Cyn Rd/Soledad Cyn Rd	.83	D	1.07	F	.85	D	1.08	F	.02*	.01**
66. Bouquet Cyn Rd/Newhall Ranch Rd	.82	D	.88	D	.84	D	.88	D	.02*	.00
67. Seco Cyn Rd/Bouquet Cyn Rd	.98	E	.98	E	.98	E	.99	E	.00	.01**
146. SR-14 NB Ramp/Golden Valley Rd	.47	A	.64	B	.47	A	.64	B	.00	.00
147. SR-14 SB Ramp/Golden Valley Rd	.53	A	.67	B	.53	A	.67	B	.00	.00
158. Santa Clarita/Newhall Ranch Rd	.10	A	.10	A	.11	A	.11	A	.01	.01
162. Sierra Hwy/Golden Valley Rd	1.06	F	.90	D	1.06	F	.90	D	.00	.00
164. Golden Valley Rd/Golden Triangle	.64	B	.54	A	.64	B	.54	A	.00	.00
165. Golden Valley Rd/Valley Center	.53	A	.60	A	.54	A	.60	A	.01	.00
169. Rainbow Glen Dr/Soledad Cyn Rd	.65	B	.86	D	.65	B	.86	D	.00	.00
172. Whites Canyon Rd/Soledad Cyn Rd	.98	E	.98	E	.98	E	.98	E	.00	.00
198. Valley Center/Soledad Cyn Rd	.85	D	.73	C	.85	D	.75	C	.00	.02

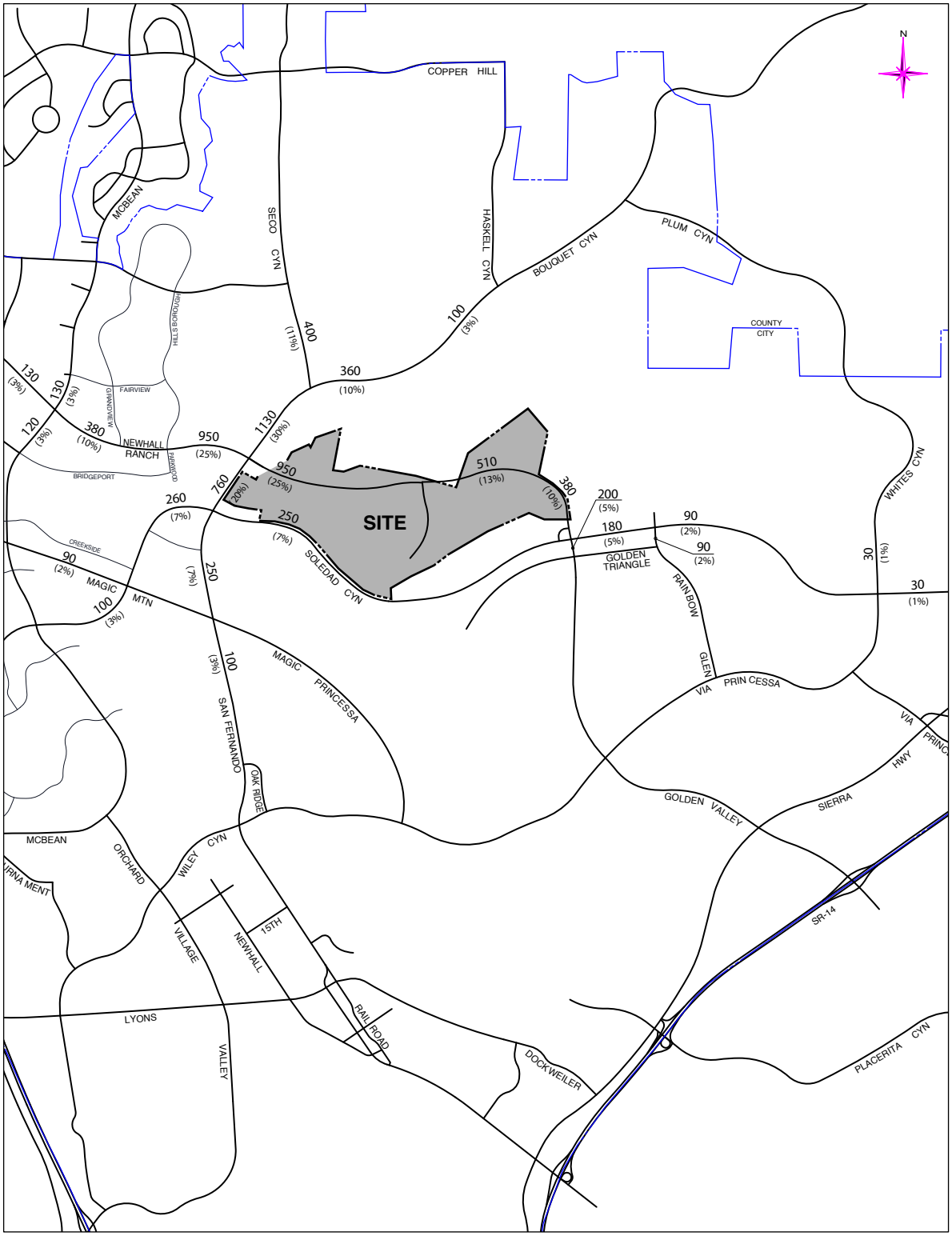
Source: Austin-Foust Associates (February 2004).
** Significant Project Impact (see **Table 4.3-7**) LOS D or Better*
*** Significant Project Impact (see **Table 4.3-7**) LOS E or Worse*
Level of Service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

Intersections with Significant Project Impact at LOS E:

- Valencia Boulevard and Magic Mountain Parkway,
- Bouquet Canyon Road and Soledad Canyon Road, and
- Seco Canyon Road and Bouquet Canyon Road.

Intersection with Significant Project Impacts at LOS D:

- Bouquet Canyon Road and Newhall Ranch Road.



Legend

XXXX Project ADT
(Y%) Distribution Percentage

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-8**

Average Daily Traffic Volumes–Project Commercial Trips Only

Mitigation that addresses the above impacts is summarized in **Table 4.3-12, Proposed Mitigation – Pre-Interim Year With Project Conditions**. The improvements at the Bouquet Canyon Road/Soledad Canyon Road intersection would consist of reconfiguring the southbound approach to include three left-turn lanes and two through lanes. Similarly, the improvements at the Bouquet Canyon Road/Newhall Ranch Road intersection consist of reconfiguring the northbound approach to include three left-turn lanes and three through lanes. This configuration is necessary only until the segment of Newhall Ranch Road, including the construction of the Newhall Ranch Road/Golden Valley Road Bridge across the Santa Clara River is constructed. The construction of this bridge results in a connection between Soledad Canyon Road and Newhall Ranch Road that reduces the volume of traffic through the intersection of Bouquet Canyon Road/Soledad Canyon Road reducing the level of service to LOS D. With the reduction in traffic, the southbound triple left-turn lanes would not be required and the southbound approach should be reconfigured back to its planned ultimate configuration, which consists of two left-turn lanes, three through lanes and two right-turn lanes at Bouquet Canyon Road/Soledad Canyon Road and two left-turn lanes, four through lanes and on right-turn lane at Bouquet Canyon Road/Newhall Ranch Road.

The project's percentage impact (as shown by the ICU) on the affected intersections, after taking into account the feasibility of the improvements, are as follows:

- Bouquet & Soledad (mitigated) AM: .03 and PM: -.09
- Bouquet & Newhall Ranch (mitigated) AM: .00 and PM: .01
- Seco & Bouquet (mitigated) AM: .00 and PM: -.12
- Valencia & Magic Mountain (unmitigated) AM: .01 and PM: .01.

The Riverpark project is located within the Bouquet B&T District. This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district. In summary, the District has been designed to accommodate the needs of future development anticipated by the City and County General Plans.

Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the above-identified intersection for the following reasons. The identified mitigation requires the following: (1) need for the acquisition of additional right-of-way of property not controlled by the applicant; and (2) significant costs associated with the relocation or alteration of landscaping, structures and drive aisles on private property to accommodate an increased right-of-way. The combination of the following issues: acquisition of right-of-way outside of the applicant's control,

relocation of on-site improvements on properties at the affected intersections, and a determination that the affected intersections are presently built-out and exceed the project's proportional impact to the affected intersections.

Future identified improvements within the Bouquet B&T District may result in improved operation at the impacted intersections. Various factors, including but not limited to, dedication of additional right-of-way at these affected intersections due to use alteration, expansion, or change, acquisition of the affected right-of-way by the City via funds from a B&T District, continued expansion of the Valley's circulation system (i.e., construction of regional roadway improvements), and increased public transit use may improve the operation of each of the affected intersections. There is an approved improvement to the Bouquet Canyon Road/Soledad Canyon Road intersection which would result in that intersection being presently built-out.

Table 4.3-12
Proposed Mitigation – Pre-Interim Year With Project Conditions

Intersection	Mitigation
(Mitigation Not Requiring Right-of-Way):	
65. Bouquet Cyn Rd/Soledad Cyn Rd	Temporary configuration to consist of 3 Southbound Left-Turn Lanes and 2 Southbound Through Lanes. Would revert to 2 Southbound Left-Turn Lanes and 3 Southbound Through Lanes (existing configuration) when Cross-Valley Connector is completed.
66. Bouquet Cyn Rd/Newhall Ranch Rd	Add 2nd Southbound Left-Turn Lane Temporary configuration to consist of 3 Northbound Left-Turn Lanes, 3 Northbound Through Lanes and 2 Westbound Right-Turn Lanes. Will revert to 2 Northbound Left-Turn Lanes, 4 Northbound Through Lanes, and 1 Westbound Right-Turn Lane (existing configuration) when Cross-Valley Connector is completed.
67. Seco Cyn Rd/Bouquet Cyn Rd	Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn/Right-Turn Lane, 1 Right-Turn Lane).
Mitigation Requiring Right-of-Way:	
57. Valencia Blvd/Magic Mountain Pkwy	Add 3rd Eastbound Through Lane (requires right-of-way, presently infeasible)

(2) Interim Year Analysis

The following subsections discuss Interim Year no-project and with-project conditions.

(a) Interim Year No-Project Traffic Conditions

Interim Year no-project ADT volumes within the study area are shown in **Figure 4.3-9, Average Daily Traffic Volumes – Interim Year Without Project**. (See Figures 4-2 and 4-3 in the Austin-Foust report in **Appendix 4.3** for peak hour turning movement volumes for this scenario.) **Table 4.3-13, ICU and LOS Summary – Existing and Interim Year Without Project**, provides the ICU values for the Interim Year and for existing conditions. The ICU tabulations indicate that deficiencies at three additional intersections (McBean Parkway/Newhall Ranch Road, Valencia Boulevard/Magic Mountain Parkway, and Seco Canyon Road/Bouquet Canyon Road) are forecast to occur by the Interim Year when compared to existing conditions. The Bouquet Canyon Road/Soledad Canyon Road intersection and the Whites Canyon Road/Soledad Canyon Road intersection, which have been shown to be deficient for existing conditions, are forecast to remain deficient for Interim Year conditions without the proposed project.

Table 4.3-13
ICU and LOS Summary – Existing and Interim Year Without Project

Intersection	Existing				Without Project				Increase	
	AM		PM		AM		PM		AM	PM
48. McBean Pkwy/Newhall Ranch Rd	.82	D	.66	B	.91	E*	.88	D	.09	.22
57. Valencia Blvd/Magic Mountain Pkwy	.58	A	.69	B	1.07	F*	1.09	F*	.49	.40
65. Bouquet Cyn Rd/Soledad Cyn Rd	.76	C	1.04	F*	.76	C	.92	E	.00	-.12
66. Bouquet Cyn Rd/Newhall Ranch Rd	.88	D	.83	D	.85	D	.88	D	-.03	.05
67. Seco Cyn Rd/Bouquet Cyn Rd	.90	D	.90	D	.96	E*	.96	E*	.06	.06
146. SR-14 NB Ramp/Golden Valley Rd	.17	A	.28	A	.55	A	.78	C	.38	.50
147. SR-14 SB Ramp/Golden Valley Rd	.52	A	.25	A	.61	B	.81	D	.07	.56
162. Sierra Hwy/Golden Valley Rd	.68	B	.47	A	.87	D	.84	D	.19	.37
164. Golden Valley Rd/Golden Triangle					.52	A	.60	A		
165. Golden Valley Rd/Valley Center					.56	A	.60	A		
169. Rainbow Glen Dr/Soledad Cyn Rd	.72	C	.67	B	.69	B	.89	D	-.03	.22
172. Whites Canyon Rd/Soledad Cyn Rd	.97	E*	.77	C	.98	E*	.88	D	.01	.11
198. Valley Center/Soledad Cyn Rd					.65	B	.62	B		

Source: Austin-Foust Associates (February 2004).
** Exceeds performance standard (see **Table 4.3-7**).*
Level of Service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

(b) Interim Year With Project Traffic Conditions

The proposed project would generate approximately 13,200 vehicle trips per day, with approximately 800 trips in the AM peak hour and approximately 1,250 trips in the PM peak hour.

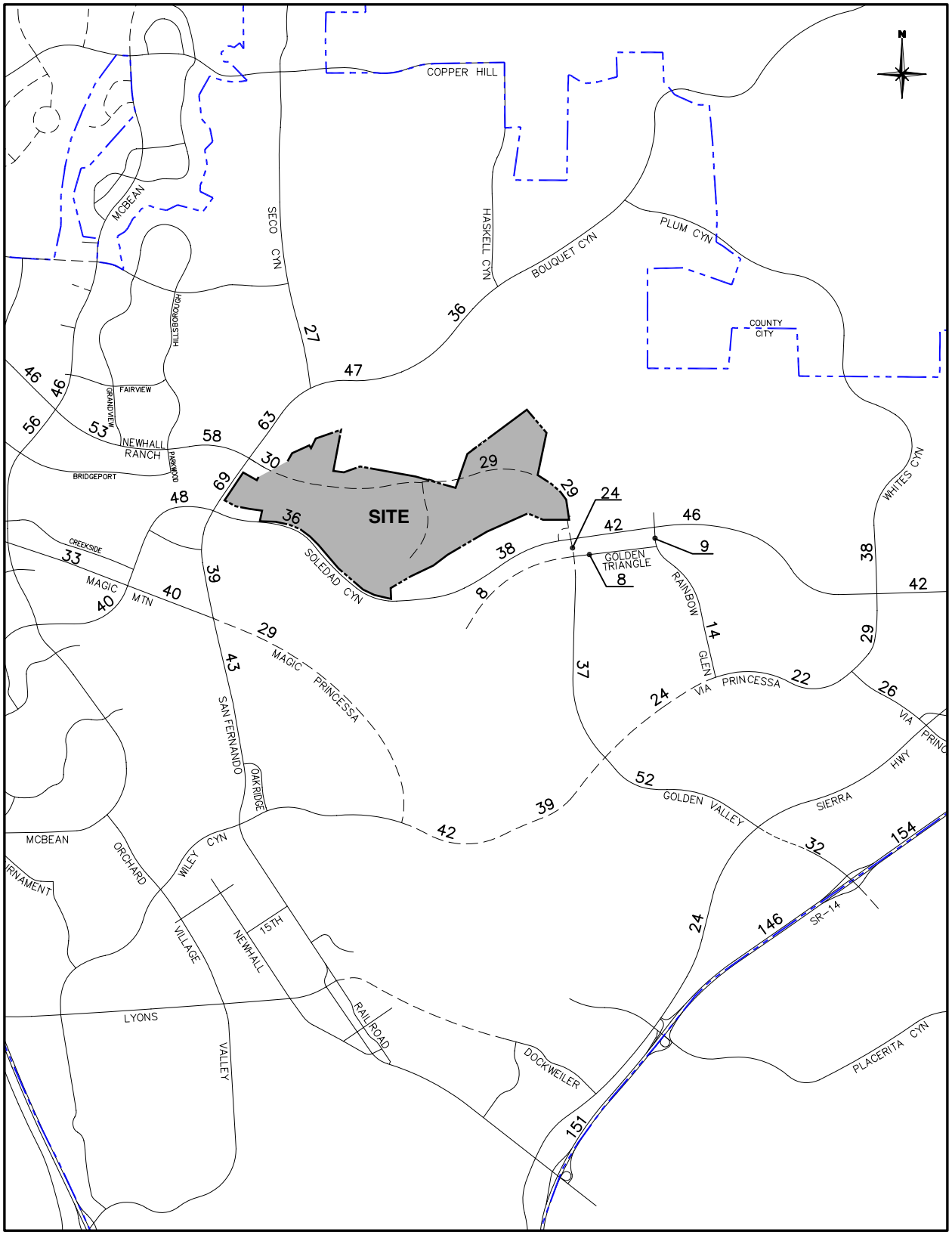
Interim Year with project volumes is provided in **Figure 4.3-10, Average Daily Traffic Volumes – Interim Year With Project**. (See Figures 4-5 and 4-6 in the Austin-Foust report in **Appendix 4.3** for peak hour turning movement volumes for this scenario.) Peak hour ICU values in **Table 4.3-14, ICU and LOS Summary – Interim Year With and Without Project**, compares Interim Year no-project and Interim Year with-project conditions. The table shows that six intersections would experience a significant impact due to project-generated traffic under the Arterial Intersection Performance Criteria, with four of those intersections forecast to exceed LOS D. The following intersections are those significantly impacted:

Intersections with Significant Project Impact at LOS E or LOS F:

- McBean Parkway and Newhall Ranch Road, (both AM and PM peak)
- Valencia Boulevard and Magic Mountain Parkway, (both AM and PM peak)
- Bouquet Canyon Road and Soledad Canyon Road, (PM peak), and
- Seco Canyon Road and Bouquet Canyon Road (both AM and PM peak).

Intersections with Significant Project Impact at LOS D:

- Bouquet Canyon Road and Newhall Ranch Road, (both AM and PM peak) and
- Whites Canyon Road and Soledad Canyon Road (PM peak).



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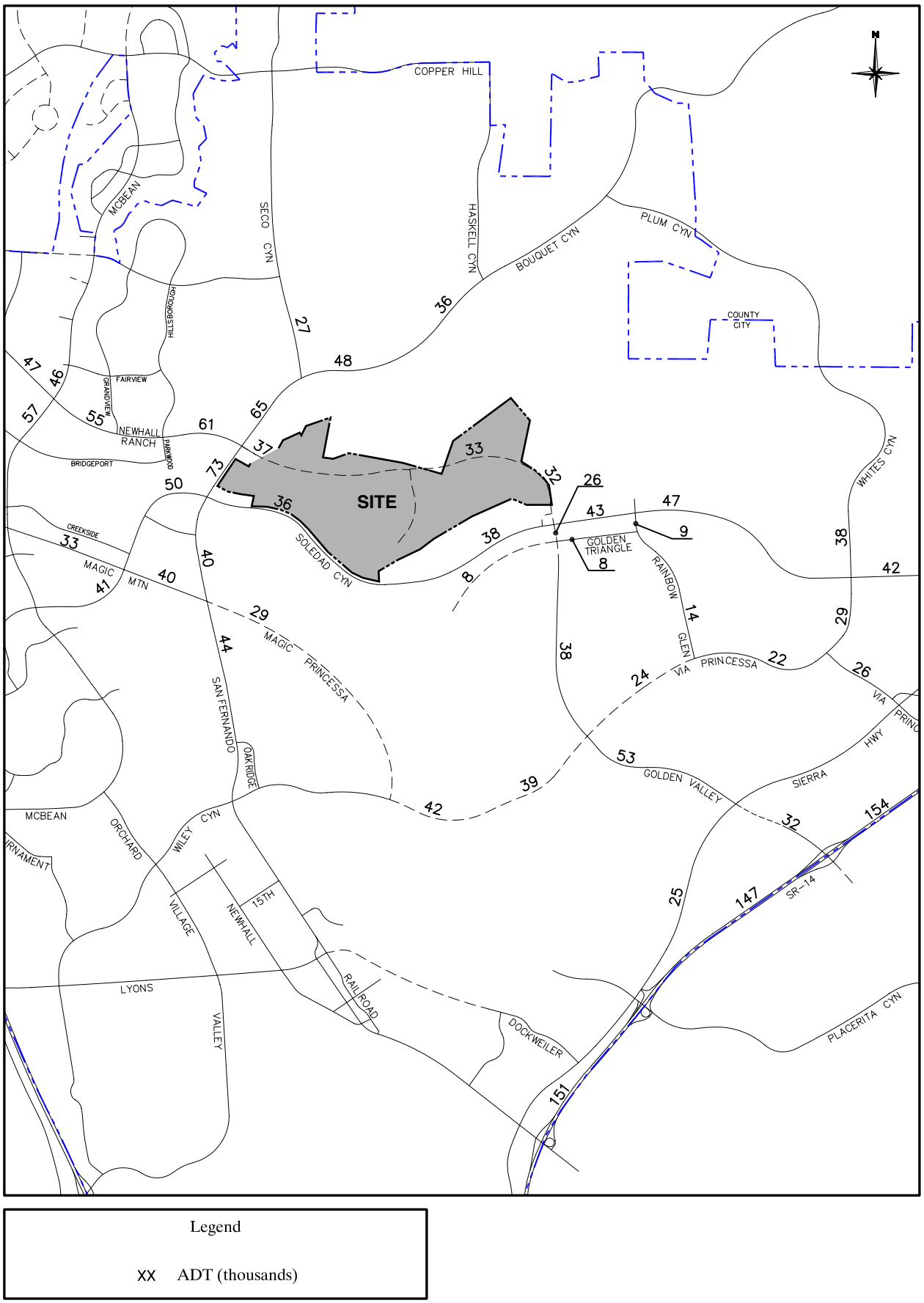
XX ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-9**

Average Daily Traffic Volumes–Interim Year without Project



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XX ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-10**

Average Daily Traffic Volumes–Interim Year with Project

Table 4.3-14
ICU and LOS Summary – Interim Year With and Without Project

Intersection	Without Project				With Project				Increase	
	AM		PM		AM		PM		AM	PM
48. McBean Pkwy/Newhall Ranch Rd	.91	E	.88	D	.92	E	.90	D	.01**	.02*
57. Valencia Blvd/Magic Mtn Pkwy	1.07	F	1.09	F	1.08	F	1.11	F	.01**	.02**
65. Bouquet Cyn Rd/Soledad Cyn Rd	.76	C	.92	E	.78	C	.97	E	.02	.05*
66. Bouquet Cyn Rd/Newhall Ranch Rd	.85	D	.88	D	.88	D	.90	D	.03*	.02
67. Seco Cyn Rd/Bouquet Cyn Rd	.96	E	.96	E	.97	E	.97	E	.01**	.01**
146. SR-14 NB Ramp/Golden Valley Rd	.55	A	.78	C	.55	A	.78	C	.00	.00
147. SR-14 SB Ramp/Golden Valley Rd	.61	B	.81	D	.61	B	.81	D	.00	.00
158. Santa Clarita/Newhall Ranch Rd					.42	A	.43	A		
162. Sierra Hwy/Golden Valley Rd	.87	D	.84	D	.87	D	.85	D	.00	.01
164. Golden Valley Rd/Golden Triangle	.52	A	.60	A	.55	A	.63	B	.03	.03
165. Golden Valley Rd/Valley Center	.56	A	.60	A	.60	A	.61	B	.04	.01
169. Rainbow Glen Dr/Soledad Cyn Rd	.69	B	.89	D	.71	C	.90	D	.02*	.01*
172. Whites Canyon Rd/Soledad Cyn Rd	.98	E	.88	D	.98	E	.90	D	.00	.02*
198. Valley Center/Soledad Cyn Rd	.65	B	.62	B	.67	B	.63	B	.02	.01**

Source: Austin-Foust Associates (February 2004).

** Significant Project Impact (see **Table 4.3-7**) LOS D*

*** Significant Project Impact (see **Table 4.3-7**) LOS E or F*

Level of Service ranges:

.00 - .60	*A*
.61 - .70	*B*
.71 - .80	*C*
.81 - .90	*D*
.91 - 1.00	*E*
Above 1.00	*F*

Table 4.3-15, Proposed Mitigation – Interim Year With Project Conditions, summarizes potential improvements that would mitigate the project's impacts at the intersections that would exceed LOS D. Six intersections are significantly impacted by the proposed project for Interim Year conditions. Four result in conditions of LOS E or worse and two result in LOS D. Mitigation measures that address these impacts are as follows:

Table 4.3-15
Proposed Mitigation – Interim Year With Project Conditions

Intersection	Mitigation
Mitigation Not Requiring Right-of-Way:	
48. McBean Pkwy/Newhall Ranch Rd	Add 4th Eastbound Through Lane Add 4th Westbound Through Lane
66. Bouquet Cyn Rd/Newhall Ranch Rd	Add 4th Eastbound Through Lane Add 4th Westbound Through Lane
67. Seco Cyn Rd/Bouquet Cyn Rd	Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn/Right-Turn Lane, 1 Right-Turn Lane)
Mitigation Requiring Right-of-Way:	
57. Valencia Blvd/Magic Mtn Pkwy	Add 3rd Eastbound Through Lane (presently infeasible)
65. Bouquet Cyn Rd/Soledad Cyn Rd	Add 4th Northbound Through Lane (presently infeasible)
67. Seco Cyn Rd/Bouquet Cyn Rd	Add 1st Westbound Right-turn Lane (presently infeasible)
172. Whites Canyon Rd/Soledad Cyn Rd	Add 2nd dedicated Northbound Left-Turn Lane & convert shared Northbound Left-Turn/Through Lane to 3rd dedicated Through Lane (presently infeasible) Or, Add 1st Eastbound Right-Turn Lane (presently infeasible)

Source: Austin-Foust Associates (February 2004).

As shown above, most of these improvements require the acquisition of right-of-way, which is out of the applicant's control.

The project's percentage impact (as shown by the ICU) on the affected intersections, are as follows:

- McBean & Newhall Ranch (mitigated) AM: -.04 and PM: -.05
- Bouquet & Newhall Ranch (mitigated) AM: -.03 and PM: -.01
- Seco & Bouquet (partially mitigated) AM: .01 and PM: -.10
- Valencia & Magic Mountain (unmitigated) AM: .01 and PM: .02
- Bouquet & Soledad (unmitigated) AM: .02 and PM: .05
- Whites Canyon & Soledad (unmitigated) AM: .00 and PM: .02.

The Riverpark project is located within the Bouquet B&T District. This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district. In summary, the District has been designed to accommodate the needs of future development anticipated by the City and County General Plans.

Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the four above identified intersections for the following reasons. The identified mitigation requires the following: (1) need for the acquisition of additional right-of-way of property not controlled by the applicant; and (2) significant costs associated with the relocation or alteration of landscaping, structures and drive aisles on private property to accommodate an increased right-of-way. The combination of the following issues: acquisition of right-of-way outside of the applicant's control, relocation of on-site improvements on properties at the affected intersections are presently built out, and exceed the project's proportional impact to the affected intersections. Additionally, the City considers these intersections to be presently built-out, excepting Bouquet Canyon Road/Soledad Canyon Road which will be considered "presently built-out" upon completion of the Bouquet Canyon Road Bridge over the Santa Clara River and associated intersection improvements.

Future identified improvements within the Bouquet B&T District may result in improved operation at the impacted intersections. Various factors, including but not limited to, dedication of additional right-of-way at these affected intersections due to use alteration, expansion, or change, acquisition of the affected right-of-way by the City via funds from a B&T District, continued expansion of the Valley's circulation system (i.e., construction of regional roadway improvements), and increased public transit use may improve the operation of each of the affected intersections.

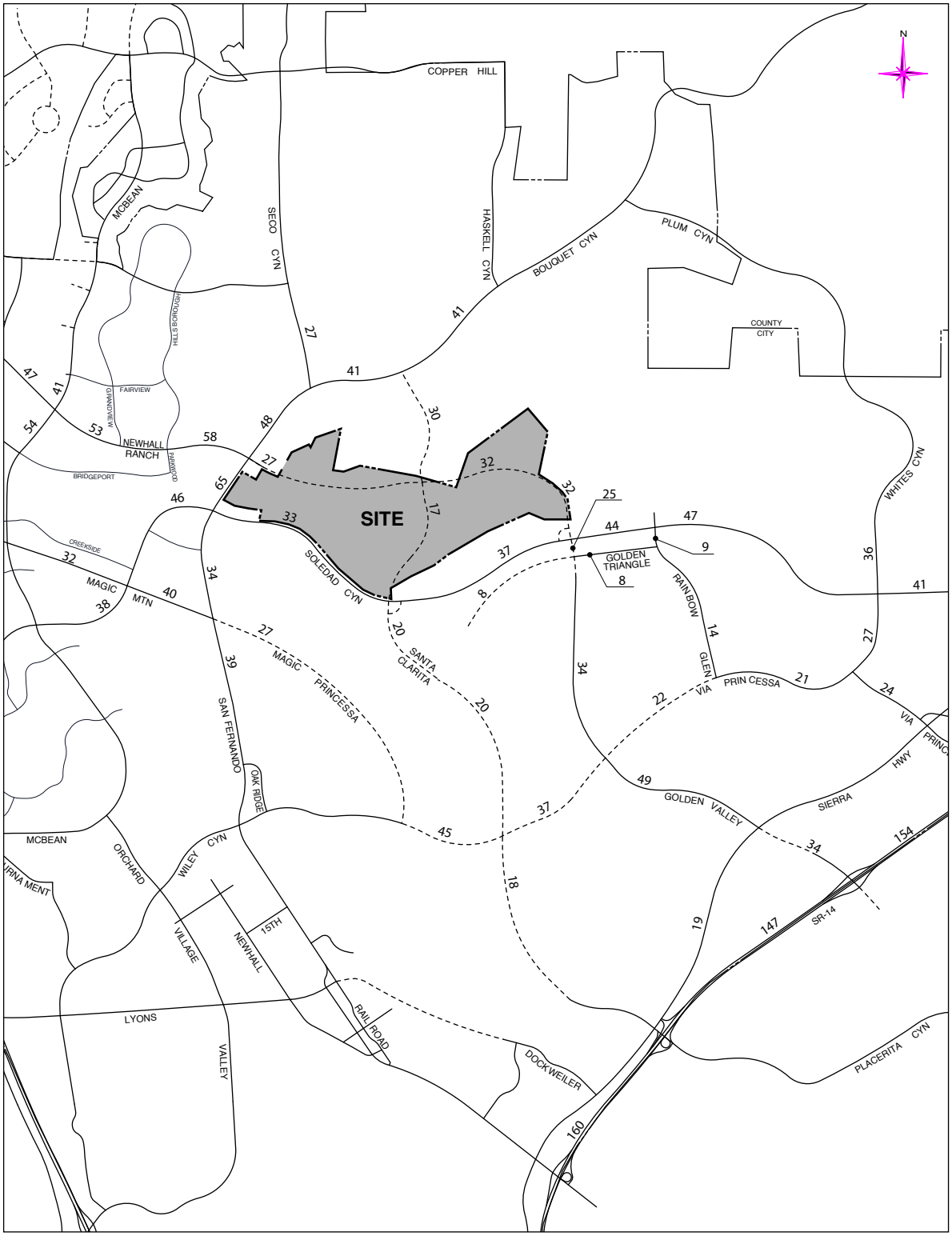
Without mitigation, the Valencia Boulevard/Magic Mountain Parkway intersection is forecast as LOS F (same as the no-project conditions), the Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as LOS E (same as the no-project conditions), the Seco Canyon Road/Bouquet Canyon Road intersection is forecast as LOS E (same as the no-project conditions), and the Whites Canyon Road/Soledad Canyon Road intersection is forecast as LOS D (same as the no-project). The remaining significantly impacted intersections will be fully mitigated with the proposed improvements and are forecast as LOS D.

(3) Alternative Interim Year Analysis

An alternative Interim Year setting has been analyzed with and without the proposed project. This setting differs from the Interim Year setting analyzed in the previous section due to the inclusion of the entire length of the future Santa Clarita Parkway.

(a) Alternative Interim Year No-Project Conditions

No-project ADT volumes for this scenario are shown in **Figure 4.3-11, Average Daily Traffic Volumes – Alternative Interim Year Without Project**. (See Figures 4-8 and 4-9 in the Austin-Foust report in **Appendix 4.3** for peak hour turning movement volumes for this scenario.) **Table 4.3-16, ICU and LOS Summary – Existing and Alternative Interim Year Without Project**, provides the corresponding ICU values and, also listed for comparison purposes, are the ICUs for existing conditions. Under this alternative, the ICU tabulations indicate that deficiencies would occur at two additional intersections (Valencia Boulevard/Magic Mountain Parkway, and Seco Canyon Road/Bouquet Canyon Road) when compared to existing conditions. The Bouquet Canyon Road/Soledad Canyon Road intersection and the Whites Canyon Road/Soledad Canyon Road intersection, which have been shown to be deficient for existing conditions, are forecast to remain deficient for the alternative Interim Year conditions without the proposed project.



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-11**

Average Daily Traffic Volumes–Alternative Interim Year without Project

Table 4.3-16
ICU and LOS Summary – Existing and Alternative Interim Year Without Project

Intersection	Existing				Without Project				Increase	
	AM		PM		AM		PM		AM	PM
48. McBean Pkwy/Newhall Ranch Rd	.82	D	.66	B	.89	D	.83	D	.07	.17
57. Valencia Blvd/Magic Mountain Pkwy	.58	A	.69	B	1.05	F*	1.16	F*	.47	.47
65. Bouquet Cyn Rd/Soledad Cyn Rd	.76	C	1.04	F*	.72	C	.91	E*	-.04	.13
66. Bouquet Cyn Rd/Newhall Ranch Rd	.88	D	.83	D	.83	D	.78	C	-.05	-.05
67. Seco Cyn Rd/Bouquet Cyn Rd	.90	D	.90	D	.79	C	.93	E*	-.11	.03
146. SR-14 NB Ramp/Golden Valley Rd	.17	A	.28	A	.64	B	.79	C	.47	.51
147. SR-14 SB Ramp/Golden Valley Rd	.52	A	.25	A	.64	B	.80	C	.12	.55
157. Santa Clarita & Soledad Access					.35	A	.44	A		
157b. Santa Clarita & Soledad (at grade)					.72	C	.76	C		
158. Santa Clarita/Newhall Ranch Rd					.35	A	.44	A		
159. Santa Clarita & Bouquet Cyn Rd					.66	B	.76	C		
162. Sierra Hwy/Golden Valley Rd					.57	A	.69	B		
164. Golden Valley Rd/Golden Triangle					.67	B	.79	C		
165. Golden Valley Rd/Valley Center	.68	B	.47	A	.78	C	.86	D	.10	.39
169. Rainbow Glen Dr/Soledad Cyn Rd					.53	A	.68	B		
172. Whites Canyon Rd/Soledad Cyn Rd					.53	A	.55	A		
198. Valley Center/Soledad Cyn Rd	.72	C	.67	B	.69	B	.88	D	-.03	.21
172. Whites Canyon & Soledad Cyn Rd	.97	E*	.77	C	.96	E*	.87	D	-.01	.10
197. Santa Clarita Access & Soledad Cyn Rd					.51	A	.70	B		
198. Valley Center & Soledad Cyn Rd					.64	B	.62	B		

Source: Austin-Foust Associates (February 2004).
** Exceeds performance standard (see **Table 4.3-7**)*
Level of Service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

(b) Alternative Interim Year With Project Conditions

Alternative Interim Year volumes that include project-generated traffic are provided in **Figure 4.3-12, Average Daily Traffic Volumes – Alternative Interim Year With Project**. (See Figures 4-11 and 4-12 in the Austin-Foust report in **Appendix 4.3** for peak hour turning movement volumes for this scenario.) Peak hour ICU values can be found in **Table 4.3-17, ICU and LOS Summary – Alternative Interim Year With and Without Project**, which provides a comparison between Interim Year no-project and Interim Year with-project conditions.

The table shows that five intersections would experience a significant impact due to the project-generated traffic under the Arterial Intersection Performance Criteria with four of those intersections forecast to exceed LOS D. The following intersections would be significantly impacted if this scenario were to occur:

Intersections with Significant Project Impact at LOS E or LOS F:

- McBean Parkway/Newhall Ranch Road, (both AM and PM peak)
- Valencia Boulevard/Magic Mountain Parkway, (both AM and PM peak)
- Bouquet Canyon Road/Soledad Canyon Road (PM peak) and
- Seco Canyon Road/Bouquet Canyon Road (PM peak).

Intersections with Significant Project Impact at LOS D:

- Bouquet Canyon Road/Newhall Ranch Road (both AM and PM peak).

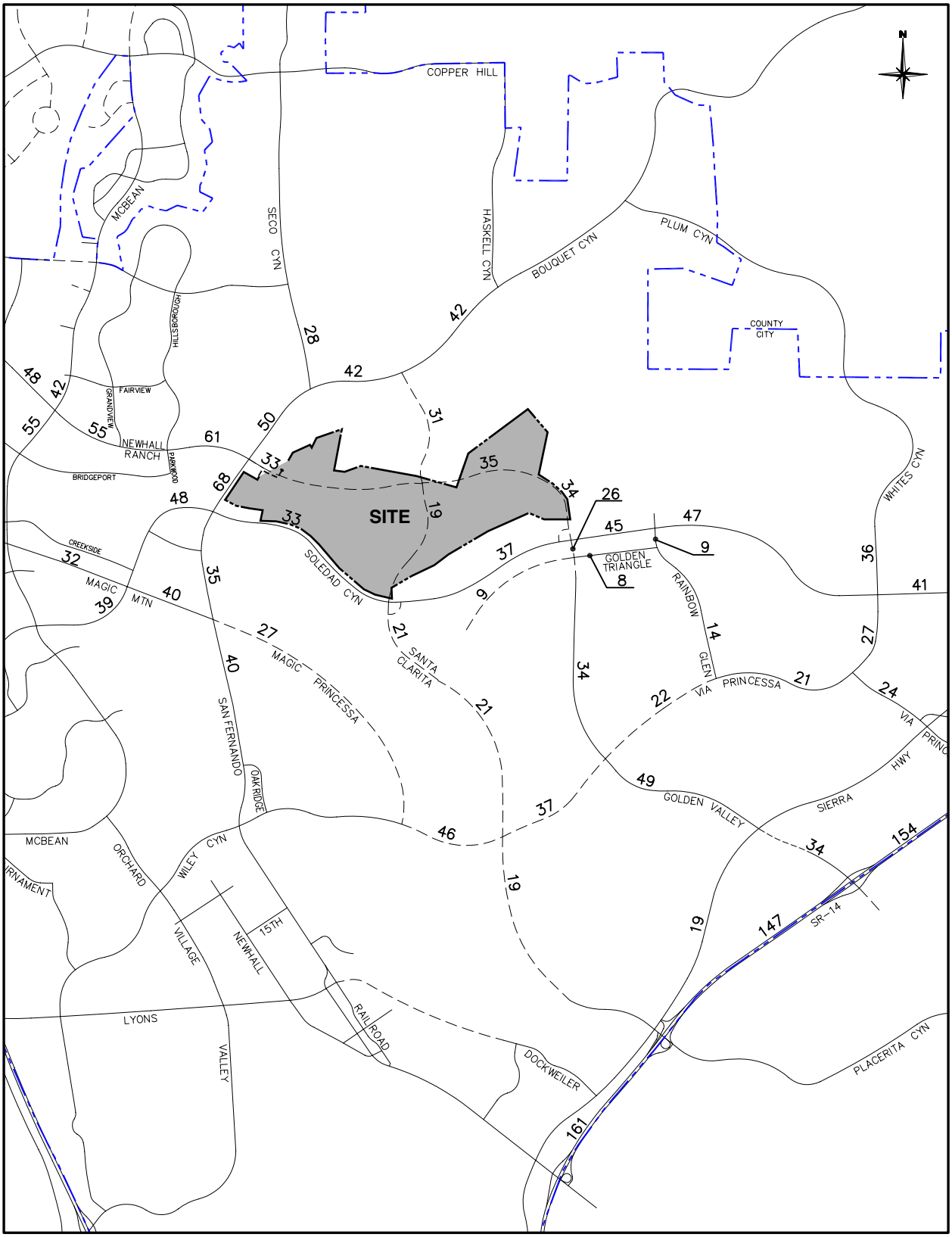
If this scenario were to occur, mitigation for the five intersections that would require mitigation are identified in **Table 4.3-18, Proposed Mitigation – Alternative Interim Year With Project Conditions**.

Table 4.3-17
ICU and LOS Summary – Alternative Interim Year With and Without Project

Intersection	Without Project				With Project				Increase	
	AM		PM		AM		PM		AM	PM
48. McBean Pkwy/Newhall Ranch Rd	.89	D	.83	D	.91	E	.86	D	.02**	.03*
57. Valencia Blvd/Magic Mountain Pkwy	1.05	F	1.16	F	1.07	F	1.17	F	.02**	.01**
65. Bouquet Cyn Rd/Soledad Cyn Rd	.72	C	.91	E	.74	C	.93	E	.02	.02**
66. Bouquet Cyn Rd/Newhall Ranch Rd	.83	D	.78	C	.85	D	.82	D	.02*	.04*
67. Seco Cyn Rd/Bouquet Cyn Rd	.79	C	.93	E	.80	C	.95	E	.01	.02**
146. SR-14 NB Ramp/Golden Valley Rd	.64	B	.79	C	.64	B	.80	C	.00	.01
147. SR-14 SB Ramp/Golden Valley Rd	.64	B	.80	C	.64	B	.80	C	.00	.00
157. Santa Clarita & Soledad Access	.35	A	.44	A	.36	A	.48	A	.01	.04
157b. Santa Clarita & Soledad (at grade)	.72	C	.76	C	.75	C	.78	C	.03	.02
158. Santa Clarita/Newhall Ranch Rd	.35	A	.44	A	.36	A	.48	A	.01	.04*
159. Santa Clarita & Bouquet Cyn Rd	.66	B	.76	C	.67	B	.77	C	.01	.01
162. Sierra Hwy/Golden Valley Rd	.57	A	.69	B	.62	B	.71	C	.05*	.02
164. Golden Valley Rd/Golden Triangle	.67	B	.79	C	.68	B	.81	D	.01	.02*
165. Golden Valley Rd/Valley Center	.78	C	.86	D	.78	C	.87	D	.00	.01*
169. Rainbow Glen Dr/Soledad Cyn Rd	.53	A	.68	B	.54	A	.70	B	.01	.02
172. Whites Canyon & Soledad Cyn Rd	.96	E	.87	D	.96	E	.87	D	.00	.00
197. Santa Clarita Access & Soledad Cyn Rd	.51	A	.70	B	.52	A	.71	C	.01	.01
198. Valley Center & Soledad Cyn Rd	.64	B	.62	B	.65	B	.62	B	.01	.00

Source: Austin-Foust Associates (February 2004).
** Significant Project Impact (see **Table 4.3-7**) LOS D*
*** Significant Project Impact (see **Table 4.3-7**) LOS E or F*

Level of Service ranges:	
.00 - .60	*A*
.61 - .70	*B*
.71 - .80	*C*
.81 - .90	*D*
.91 - 1.00	*E*
Above 1.00	*F*



Legend

XX ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-12**

Average Daily Traffic Volumes–Alternative Interim Year with Project

Table 4.3-18
Proposed Mitigation – Alternative Interim Year With Project Conditions

Intersection	Mitigation
Mitigation Not requiring Right-of-Way:	
48. McBean Pkwy/Newhall Ranch Rd	Add 4th Eastbound Through Lane, and Add 4th Westbound Through Lane
66. Bouquet Cyn Rd/Newhall Ranch Rd	Add 4th Eastbound Through Lane, and Add 4th Westbound Through Lane
67. Seco Cyn Rd/Bouquet Cyn Rd	Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn/Right-Turn Lane, 1 Right-Turn Lane)
Mitigation Requiring Right-of-Way:	
57. Valencia Blvd/Magic Mountain Pkwy	Add 3rd Eastbound Through Lane (requires right-of-way, presently infeasible)
65. Bouquet Cyn Rd/Soledad Cyn Rd	Add 4th Northbound Through Lane (requires right-of-way, presently infeasible)

Source: Austin-Foust Associates (December 2004).

As shown above, some of the improvements require the acquisition of right-of-way, which is out of the applicant's control.

If this scenario were to occur, the project's percentage impact (as shown by the ICU) on the affected intersections, after taking into account the feasibility of the improvements, are as follows:

- McBean & Newhall Ranch (mitigated) AM: -.01 and PM: -.04
- Bouquet & Newhall Ranch (mitigated) AM: -.02 and PM: -.02
- Seco & Bouquet (mitigated) AM: .01 and PM: -.13
- Valencia & Magic Mountain (unmitigated) AM: .02 and PM: .01
- Bouquet & Soledad (unmitigated) AM: .02 and PM: .02.

The Riverpark project is located within the Bouquet B&T District Bouquet B&T District. This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district. In summary, the District has been designed to accommodate the needs of future development anticipated by the City and County General Plans.

Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the above-identified four intersections for the following reasons. The identified mitigation requires the following: (1) need for the acquisition of additional right-of-way of property not controlled by the

applicant; and (2) significant costs associated with the relocation or alteration of landscaping, structures and drive aisles on private property to accommodate an increased right-of-way. The combination of the following issues: acquisition of right-of-way outside of the applicant's control, relocation of on-site improvements on properties at the affected intersections, a determination that the affected intersections are presently built out and exceed the project's proportional impact to the affected intersections.

Future identified improvements within the Bouquet Bridge & Thoroughfare District may result in improved operation at the impacted intersections. Various factors, including but not limited to, dedication of additional right-of-way at these affected intersections due to use alteration, expansion, or change, acquisition of the affected right-of-way by the City via funds from a B&T District, continued expansion of the Valley's circulation system (i.e., construction of regional roadway improvements), and increased public transit use may improve the operation of each of the affected intersections.

Without mitigation, the Valencia Boulevard/Magic Mountain Parkway intersection is forecast as LOS F (same as the no-project and the with project/with mitigation conditions) and the Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as LOS E (same as the no-project conditions). The remaining significantly impacted intersections will be fully mitigated with the proposed improvements and are forecast as LOS D or better.

(4) Summary of Arterial Road Impacts

The following matrix lists the significantly impacted intersections by development scenario:

Intersection	Interim Year	Alternative Interim Year	Pre-Interim Year
McBean Parkway/Newhall Ranch Rd	X	X	
Valencia Boulevard/Magic Mountain Pkwy	X	X	X
Bouquet Canyon Road/Soledad Canyon Rd	X	X	X
Bouquet Canyon Road/Newhall Ranch Rd	X	X	X
Seco Canyon Road/Bouquet Canyon Rd	X	X	X
Whites Canyon Road/Soledad Canyon Rd	X		

Source: Austin-Foust Associates (February 2004).

Locations are noted where mitigation measures will potentially require the acquisition of right-of-way that is not under the control of the project applicant. Therefore, the implementation of these mitigation measures may require the condemnation of property by the City in order to acquire the necessary right-of-way.

At the intersections of Valencia Boulevard/Magic Mountain Parkway, Bouquet Canyon Road/Soledad Canyon Road, Seco Canyon Road/Bouquet Canyon Road, and Whites Canyon Road/Soledad Canyon Road, the City has determined that improvements to reduce the project's impact to a level less than significant are presently infeasible. There is an approved improvement to the Bouquet Canyon Road/Soledad Canyon Road intersection, which would result in that intersection being presently builtout. This is due to the need for additional right-of-way at these intersections which are built to their ultimate size. For Interim Year conditions, without mitigation, the Valencia Boulevard/Magic Mountain Parkway intersection is forecast as LOS F (same as the no-project conditions), the Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as LOS E (same as the no-project conditions), the Seco Canyon Road/Bouquet Canyon Road intersection is forecast as LOS E (same as the no-project conditions), and the Whites Canyon Road/Soledad Canyon Road intersection is forecast as LOS D (same as the no-project and the with project with mitigation conditions). The remaining significantly impacted intersections will be fully mitigated with the proposed improvements and are forecast as LOS D or better.

Full buildout of the project necessitates the construction of the Newhall Ranch Road extension to Golden Valley Road, including the Newhall Ranch Road/Golden Valley Road Bridge across the Santa Clara River. This road and this bridge, will be used by both project traffic and non-project related traffic. While a two-lane road and bridge would accommodate the project-generated traffic alone (approximately 3,000 ADT), a minimum of four lanes are required to accommodate the additional non-project traffic that will use the road and bridge (an additional 29,000 ADT).

c. Freeway Mainline and Ramp Analysis

Freeway mainline segments and ramps were analyzed using the criteria outlined above. **Table 4.3-19, Freeway Level of Service Summary – Interim Year Conditions**, summarizes the comparison of Interim Year conditions with and without the proposed project for Interim Year conditions. The Alternative Interim Year conditions are summarized in **Table 4.3-20, Freeway Level of Service Summary – Alternative Interim Year Conditions**. (Detailed V/C calculations, including a summary of existing conditions, are located in Appendix C of the Austin-Foust report in **Appendix 4.3** of this EIR.)

Table 4.3-19
Freeway Level of Service Summary – Interim Year Conditions

Location		Without Project				With Project			
		Capacity	Volume	V/C	LOS	Capacity	Volume	V/C	LOS
I. AM PEAK HOUR									
A. Freeway Ramps									
Golden Valley Road &	NB On	2,250	848	.377	A	2,250	855	.380 (.003)	A
SR-14	SB On	1,500	543	.362	A	1,500	558	.372 (.010)	A
	NB Off	1,500	621	.414	A	1,500	626	.417 (.003)	A
	SB Off	1,500	903	.602	B	1,500	904	.603 (.001)	B
Placerita Canyon Road &	NB On (d)	2,250	6	.003	A	2,250	6	.003 (.000)	A
SR-14	NB On (l)	1,500	353	.235	A	1,500	353	.235 (.000)	A
	SB On[1]	1,500	734	.489	A	1,500	763	.509 (.020)	A
	SB On[2]	1,500	261	.174	A	1,500	261	.174 (.000)	A
	NB Off	1,500	532	.355	A	1,500	536	.357 (.002)	A
	SB Off	1,500	942	.628	B	1,500	944	.629 (.001)	B
B. Freeway Mainline Segments									
SR-14 s/o Placerita Cyn	NB	7,600	3,519	.463	B	7,600	3,527	.464 (.001)	B
SR-14 s/o Golden Valley	NB	7,600	3,344	.440	B	7,600	3,349	.441 (.001)	B
SR-14 n/o Golden Valley	NB	9,600	3,571	.372	B	9,600	3,578	.373 (.001)	B
SR-14 s/o Placerita Cyn	SB	8,000	8,176	1.022	F	8,000	8,220	1.028 (.006)	F
SR-14 s/o Golden Valley	SB	7,600	8,123	1.069	F	7,600	8,138	1.071 (.002)	F
SR-14 n/o Golden Valley	SB	9,600	8,482	.844	D	9,600	8,483	.884 (.000)	D
II. PM PEAK HOUR									
A. Freeway Ramps									
Golden Valley Road &	NB On	2,250	1,272	.565	A	2,250	1,275	.567 (.002)	A
SR-14	SB On	1,500	821	.547	A	1,500	829	.553 (.006)	A
	NB Off	1,500	1,184	.789	C	1,500	1,197	.798 (.009)	C
	SB Off	1,500	867	.578	A	1,500	872	.581 (.003)	A
Placerita Canyon Road &	NB On (d)	2,250	1	.000	A	2,250	1	.000 (.000)	A
SR-14	NB On (l)	1,500	560	.373	A	1,500	560	.373 (.000)	A
	SB On[1]	1,500	392	.261	A	1,500	398	.265 (.004)	A
	SB On[2]	1,500	299	.199	A	1,500	302	.201 (.002)	A
	NB Off	1,500	644	.429	A	1,500	669	.446 (.017)	A
	SB Off	1,500	748	.499	A	1,500	748	.499 (.000)	A
B. Freeway Mainline Segments									
SR-14 s/o Placerita Cyn	NB	7,600	8,327	1.096	F	7,600	8,365	1.101 (.005)	F
SR-14 s/o Golden Valley	NB	7,600	8,244	1.085	F	7,600	8,257	1.086 (.001)	F
SR-14 n/o Golden Valley	NB	9,600	8,330	.868	D	9,600	8,333	.868 (.000)	D
SR-14 s/o Placerita Cyn	SB	8,000	4,983	.623	C	8,000	5,000	.625 (.002)	C
SR-14 s/o Golden Valley	SB	7,600	5,039	.663	C	7,600	5,047	.664 (.001)	C
SR-14 n/o Golden Valley	SB	9,600	5,084	.530	C	9,600	5,089	.530 (.000)	C

Source: Austin-Foust Associates (February 2004).
V/C shown in parentheses represent the project's increment of the total V/C
(d) = Direct Ramp
(l) = Loop Ramp
[1] *SB On-ramp from Sierra Highway*
[2] *SB On-ramp from Placerita Canyon Road*

Table 4.3-20
Freeway Level of Service Summary – Alternative Interim Year Conditions

Location		Without Project				With Project			
		Capacity	Volume	V/C	LOS	Capacity	Volume	V/C	LOS
I. AM PEAK HOUR									
A. Freeway Ramps									
Golden Valley Road &	NB On	2,250	963	.428	A	2,250	966	.429 (.001)	A
SR-14	SB On	1,500	403	.269	A	1,500	403	.269 (.000)	A
	NB Off	1,500	826	.551	A	1,500	827	.551 (.000)	A
	SB Off	1,500	840	.560	A	1,500	842	.561 (.001)	A
Placerita Canyon	NB On (d)	2,250	7	.003	A	2,250	7	.003 (.000)	A
Road & SR-14	NB On (l)	1,500	213	.142	A	1,500	213	.142 (.000)	A
	SB On[1]	1,500	826	.551	A	1,500	843	.562 (.001)	A
	SB On[2]	1,500	758	.505	A	1,500	795	.530 (.015)	A
	NB Off	1,500	612	.408	A	1,500	619	.413 (.005)	A
	SB Off	1,500	887	.591	A	1,500	887	.591 (.000)	A
B. Freeway Mainline Segments									
SR-14 s/o Placerita Cyn	NB	7,600	3,781	.498	B	7,600	3,789	.499 (.001)	B
SR-14 s/o Golden Valley	NB	7,600	3,389	.446	B	7,600	3,390	.446 (.000)	B
SR-14 n/o Golden Valley	NB	9,600	3,527	.367	B	9,600	3,530	.368 (.001)	B
SR-14 s/o Placerita Cyn	SB	8,000	8,643	1.080	F	8,000	8,696	1.087 (.007)	F
SR-14 s/o Golden Valley	SB	7,600	7,942	1.045	F	7,600	7,942	1.045 (.000)	F
SR-14 n/o Golden Valley	SB	9,600	8,378	.873	D	9,600	8,380	.873 (.000)	D
II. PM PEAK HOUR									
A. Freeway Ramps									
Golden Valley Road &	NB On	2,250	1,232	.548	A	2,250	1,235	.549 (.001)	A
SR-14	SB On	1,500	719	.479	A	1,500	719	.479 (.000)	A
	NB Off	1,500	1,276	.851	D	1,500	1,280	.853 (.002)	D
	SB Off	1,500	903	.602	B	1,500	907	.605 (.003)	B
Placerita Canyon	NB On (d)	2,250	2	.001	A	2,250	2	.001 (.000)	A
Road & SR-14	NB On (l)	1,500	596	.397	A	1,500	596	.397 (.000)	A
	SB On[1]	1,500	790	.527	A	1,500	804	.536 (.009)	A
	SB On[2]	1,500	228	.152	A	1,500	234	.156 (.004)	A
	NB Off	1,500	958	.639	B	1,500	997	.665 (.026)	B
	SB Off	1,500	701	.467	A	1,500	702	.468 (.001)	A
B. Freeway Mainline Segments									
SR-14 s/o Placerita Cyn	NB	7,600	8,611	1.133	F	7,600	8,653	1.139(.006)	F
SR-14 s/o Golden Valley	NB	7,600	8,250	1.086	F	7,600	8,254	1.086 (.000)	F
SR-14 n/o Golden Valley	NB	9,600	8,204	.855	D	9,600	8,207	.855 (.000)	D
SR-14 s/o Placerita Cyn	SB	8,000	5,337	.667	C	8,000	5,356	.670 (.003)	C
SR-14 s/o Golden Valley	SB	7,600	5,022	.661	C	7,600	5,023	.661 (.000)	C
SR-14 n/o Golden Valley	SB	9,600	5,205	.542	C	9,600	5,210	.543 (.001)	C

Source: Austin-Foust Associates (February 2004).
V/C shown in parentheses represent the project's increment of the total V/C
(d) = Direct Ramp
(l) = Loop Ramp
[1] *SB On-ramp from Sierra Highway*
[2] *SB On-ramp from Placerita Canyon Road*

The amount of project traffic forecast for the SR-14 segments is generally less than 50 vehicles per hour (SCVCTM). For those segments forecast as LOS F, the project's component of the future V/C is .007 or less, which is under the threshold of significance (.020) established by the County CMP (see **Table 4.3-6, Freeway Mainline Performance Criteria**). Likewise, the project would not cause a significant impact on the freeway on and off ramps since those locations would remain at an acceptable LOS with the project traffic.

d. Congestion Management Program (CMP)

The CMP is a state-mandated program enacted by the state legislature with the passage of various Assembly Bills. The requirements for the program became effective with voter approval of Proposition 111 in June of 1990.

The CMP highway network, which is evaluated in this analysis, consists of all state highways (both freeways and arterials) and principal arterials that meet the criteria established by the Metropolitan Transportation Authority (MTA). Impacts are evaluated by monitoring LOS performance standards for specific highway segments and key roadway intersections on the CMP highway network, as designated by the MTA. The CMP guidelines indicate that, for planning framework documents, such as General Plan Amendments and Specific Plans, the arterial segment analysis (which monitors at least one segment between CMP intersections) may be substituted for the intersection analysis.

The Congestion Management Program (CMP) for Los Angeles County requires that a proposed development quantify the project's impacts on the CMP highway system and the local and regional transit systems. Also included is a debit/credit analysis that uses the New Development Activity Debits and the CMP's Countywide Deficiency Plan Credits to assess the project's impacts and benefits, respectively.

(1) Project Impacts on CMP Highway System

According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis (TIA) consists of the CMP monitoring locations that meet the following criteria:

1. CMP intersections where the proposed project would add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).
2. Mainline freeway locations where the project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

No freeway mainline locations meet the freeway criterion; however, the following two LACCMP intersections do meet the intersection criterion:

- Valencia Boulevard/Magic Mountain Parkway, and
- Sierra Highway/Placerita Canyon Road.

Table 4.3-21, ICU and LOS Summary – CMP Monitoring Intersections, summarizes the intersection ICUs and LOS for the two intersections based on the Los Angeles County CMP ICU calculation methodology.[4] Included in the table are the relevant ICUs and LOS after taking into account the project mitigation identified previously.

Table 4.3-21
ICU and LOS Summary – CMP Monitoring Intersections

	Without Project				With Project				Increase	
	AM		PM		AM		PM		AM	PM
INTERIM YEAR										
57. Valencia Blvd/Magic Mountain Pkwy	1.17	F	1.19	F	1.18	F	1.20	F	.01	.01
					(1.10)	(F)	(1.20)	(F)	(-.07)	(-.01)
145. Sierra Hwy/Placerita Canyon Rd	.92	E	1.10	F	.93	E	1.11	F	.01	.01
ALTERNATIVE INTERIM YEAR										
57. Valencia Blvd/Magic Mtn Pkwy	1.14	F	1.26	F	1.16	F	1.28	F	.02*	.02*
					(1.09)	(F)	(1.20)	(F)	(-.05)	(-.06)
145. Sierra Hwy/Placerita Canyon Rd	1.13	F	1.27	F	1.13	F	1.28	F	.00	.01

Source: Austin-Foust Associates (February 2004).
** Significant Project Impact – CMP Criteria (V/C ≥ .02 causing or worsening LOS F)*
Values in parenthesis indicate ICU and LOS with the project mitigation identified for other scenarios.
Level of Service ranges: .00 - .60 A
.61 - .70 B
.71 - .80 C
.81 - .90 D
.91 - 1.00 E
Above 1.00 F

CMP methodology states that a significant project impact would occur should the proposed project increase traffic demand at a CMP monitoring location by 2 percent of capacity (V/C ≥ .02), causing or worsening LOS F. Without mitigation, the project would cause a significant impact at the intersection of Valencia Boulevard/Magic Mountain Parkway for the Alternative Interim Year Scenario since it worsens LOS F conditions. With the mitigation previously identified for the Interim Year Scenario,

4 The CMP ICU methodology differs from the City methodology used elsewhere in this report in regards to the per lane capacity used in the calculations (2,880 vphpl for dual left-turn lanes and 1,600 vphpl for all other lane configurations).

the project would result in no significant traffic impacts since the project would result in an improvement over no-project conditions.

(2) Project Transit Impacts

Another component of the CMP transportation impact analysis is a review of transit impacts. This review includes evidence that transit operators received the Notice of Preparation for this EIR (provided in **Appendix I** of this EIR), estimation of the number of project trips assigned to transit, information on facilities and/or programs that will encourage public transit use, and an analysis of project impacts on transit service. Information on existing transit service to the project area was provided earlier in this EIR section.

The proposed project is forecast to generate 13,274 ADT. The conversion to person trips is accomplished by using the CMP guidelines (multiplying the ADT by an occupancy factor of 1.4) that results in a total of 18,584 average daily person trips. Applying the MTA's factor for converting total person trips to transit trips (.035) results in approximately 650 total daily transit trips and approximately 65 peak hour transit trips (based on the peak hour representing 10 percent of the total daily trips.

The proposed project incorporates bus standards and design features that support and facilitate transit use. The City of Santa Clarita Transit Division has determined that with transit provisions designed into the project and with the payment of fees, the project will not have significant transit impacts.[5] Transit service is evaluated and funded on an as-needed basis. If additional fixed route service will be needed near the project site in the future, the project would coordinate with the transit provider to identify appropriate bus stop/turnout locations.

(3) Debit/Credit Analysis

One purpose of the CMP is to track new development activity. This is accomplished by using established impact values (debits) for each type of land use developed. Conversely, credits are applied for transportation improvement strategies that have been identified as beneficial to the transportation system. **Table 4.3-22, CMP Debit and Credit Summary**, summarizes the CMP debits and credits associated with the proposed project and its mitigation. Results of the debit/credit analysis for the Riverpark project show that the proposed project would result in a net credit surplus of 95,430 points. These surplus credit points can be transferred to other jurisdictions or can be pooled through sub-

5 Corey Hill, City Transit Division, 2003.

regional forums to offset impacts at other locations as determined by the County in cooperation with other local jurisdictions.

Table 4.3-22
CMP Debit and Credit Summary

Category	Units	Debit Value	Subtotal
Single-Family Residential	1,183 du	6.80	8,044
Commercial 0-299 TSF	40.00 tsf	22.23	889
		Total Debits	8,933
Improvement	**Quantity**	**Credit Value**	**Subtotal**
General Use Highway Lane			
Newhall Ranch Road	1.75 miles x 4 lanes	11,500	80,500
Santa Clarita Parkway	.50 miles x 4 lanes	11,500	23,000
Intersection Modification (CMP Route)			
Valencia/Magic Mountain Parkway	1	575	575
Intersection Modific. (Non-CMP Major Arterial)			
McBean/Newhall Ranch Road	1	144	144
Seco Canyon/Bouquet Canyon	1	144	144
		Total Credits	104,363
		Total Mitigation Goal (Debit Points)	8,933
		Total Deficiency Plan Improvements (Credit Points)	104,363
		Surplus Credit Points	95,430

Source: Austin-Foust Associates (February 2004).

8. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project has not incorporated any mitigation measures into its design.

9. MITIGATION MEASURES PROPOSED BY THIS EIR

a. On-Site Mitigation

4.3-1 The project applicant shall construct all on-site local roadways and intersections to City of Santa Clarita standards.

4.3-2 Two future major arterial roadways pass through the project site (Newhall Ranch Road and Santa Clarita Parkway) and are identified as traffic improvements in the Bouquet B&T District. The project shall construct the portions of these arterials that are located within the site boundary to accommodate the project generated traffic; that is a total of two vehicular lanes (one in each direction) on both Newhall Ranch Road and Santa Clarita Parkway. Santa

Clarita Parkway shall be extended from its intersection with Newhall Ranch Road, south approximately 1,500 linear feet.

The applicant can occupy up to 500 units with the construction of an extension of Newhall Ranch Road easterly to the furthest access point needed for the 500 units. This extension of Newhall Ranch Road for the occupancy of 500 units shall include a total of two vehicular lanes (one in each direction).

Prior to occupancy of the 501st unit, Newhall Ranch Road from Bouquet Canyon Road to the Soledad Canyon Road "flyover," including the Newhall Ranch Road/Golden Valley Road Bridge, shall be constructed and operational with a total of two vehicular lanes (one in each direction).

b. Off-Site Mitigation

(1) Pre-Interim Year Mitigation

The following mitigation measures only apply to the Pre-Interim Year Scenario:

4.3-3 Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible).

4.3-4 Bouquet Canyon Road & Soledad Canyon Road: Temporary configuration to consist of 3 Southbound Left-Turn Lanes and 2 Southbound Through Lanes. Would revert to 2 Southbound Left-Turn Lanes and 3 Southbound Through Lanes (existing configuration) when Cross-Valley Connector is completed.

4.3-5 Seco Canyon Road & Bouquet Canyon Road: Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn/Right-Turn Lane, 1 Right-Turn Lane).

The improvements at the Bouquet Canyon Road/Soledad Canyon Road intersection consist of reconfiguring the southbound approach to include three left-turn lanes and two through lanes.

4.3-6 Bouquet Canyon Road/Newhall Ranch Road: Add 2nd Southbound Left-Turn Lane. Temporary configuration to consist of 3 Northbound Left-Turn Lanes, 3 Northbound Through Lanes and 2

Westbound Right-Turn Lanes. Will revert to 2 Northbound Left-Turn Lanes, 4 Northbound Through Lanes, and 1 Westbound Right-Turn Lane (existing configuration) when Cross-Valley Connector is completed.

(2) Interim Year Mitigation

The following mitigation measures only apply to the Interim Year Scenario:

4.3-7 McBean Parkway & Newhall Ranch Road: Add 4th Eastbound Through Lane. Add 4th Westbound Through lane.

4.3-8 Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible).

4.3-9 Seco Canyon Road & Bouquet Canyon Road: Add 1st Westbound Right-Turn Lane (requires right-of-way, presently infeasible). Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn Lane/Right-Turn Lane, 1 Right-Turn Lane).

4.3-10 Bouquet Canyon Road & Soledad Canyon Road: Add 4th Northbound Through Lane. (Requires right-of-way on Southeast Corner of Intersection along Bouquet Canyon Road, presently infeasible.)

4.3-11 Bouquet Canyon Road & Newhall Ranch Road: Add 4th Eastbound Through Lane and Add 4th Westbound Through Lane.

4.3-12 Whites Canyon & Soledad Canyon Road: Add 2nd dedicated Northbound Left-Turn Lane & convert shared Northbound Left-Turn/Through Lane to 3rd dedicated Through Lane (requires right-of-way on southeast side of intersection along Whites Canyon Road, presently infeasible) or Add 1st Eastbound Right-Turn Lane (requires right-of-way on southwest corner of intersection along Soledad Canyon Road, presently infeasible).

(3) Alternative Interim Year Mitigation

The following mitigation measures only apply to the Alternative Interim Year Scenario:

4.3-13 McBean Parkway & Newhall Ranch Road: Add 4th Eastbound Through Lane. Add 4th Westbound Through Lane.

4.3-14 Valencia Boulevard & Magic Mountain Parkway: Add 3rd Eastbound Through Lane (requires right-of-way on south side of Valencia Boulevard, presently infeasible).

4.3-15 Seco Canyon Road & Bouquet Canyon Road: Convert 1st Southbound Right-Turn Lane to a shared Left-Turn/Right-Turn Lane (for 1 Left-Turn Lane, 1 shared Left-Turn Lane/Right-Turn Lane, 1 Right-Turn Lane).

4.3-16 Bouquet Canyon Road & Soledad Canyon Road: Add 4th Northbound Through lane (requires right-of-way on Southeast Corner of Intersection along Bouquet Canyon Road, presently infeasible).

4.3-17 Bouquet Canyon Road and Newhall Ranch Road: Add 4th Eastbound Through Lane Add 4th Westbound Through Lane.

The SCVCTM, when run using the assumptions of project development and mitigation measures for each scenario, indicates that roadways and intersections under each scenario would be within acceptable levels of service.

(4) Other Mitigation

4.3-18 Applicable transit mitigation fees will be paid at the time of final map recordation.

4.3-19 If additional fixed route service will be needed near the project site in the future, as determined by the City of Santa Clarita, the project developer(s) shall coordinate with the transit provider to identify appropriate bus stop/turnout locations.

10. PROJECT COMPARISON TO VALLEY TRAFFIC MODEL

The Long-Range Cumulative Impact Scenario, also referred to as the Santa Clarita Valley (SCV) Cumulative Build-Out Scenario throughout this EIR, entails buildout of all lands under the current

land use designations indicated in the Los Angeles County Santa Clarita Valley Area Plan and the City of Santa Clarita General Plan, plus the proposed project, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. The source of data for the Santa Clarita Valley Build-Out Scenario is the Santa Clarita Valley Consolidated Traffic Model.

The Santa Clarita Valley area is projected to realize substantial growth over the next twenty years or more, and this anticipated growth is reflected in the City's General Plan and County's Area Plan for the area. Accompanying this growth will be additional traffic on area roadways and additions to the existing circulation system in the form of new roads and widening of existing facilities.

The following subsections discuss with and without project conditions for the Santa Clarita Valley Build-Out Scenario, as well as an alternative Long-Range Scenario, which does not include the future full extension of Santa Clarita Parkway. Consistent with the City's previous General Plan studies that only address ADT volumes, ADT volumes are forecast for long-range cumulative conditions.

a. Santa Clarita Valley Build-Out/Long Range Scenario Without Project

This scenario represents buildout of the Santa Clarita Valley under the Santa Clarita Valley Area Plan and City of Santa Clarita General Plan, including development of the project site as permitted under existing General Plan designations. Long-range cumulative ADT volumes within the study area are shown in **Figure 4.3-13, Average Daily Traffic Volumes – Santa Clarita Valley Buildout Without Project**. **Figure 4.3-14, Average Daily Traffic Volumes – Santa Clarita Valley Buildout Without Project and Without Santa Clarita Parkway**, illustrates the long range General Plan ADT volumes without either the proposed project or the Santa Clarita Parkway.

b. Santa Clarita Valley Build-Out Scenario With Project

Because the proposed project represents less development on the project site than permitted under the General Plan, it would result in a net reduction in traffic generation when compared to the land uses allowed by the current General Plan. **Table 4.3-23, Trip Generation Comparison – General Plan vs. Proposed Project**, compares the trip generation for the proposed project to the General Plan land use designations for the site and shows that the proposed project would generate approximately 68,000 fewer average daily trips than the land uses permitted under the General Plan. Likewise, when compared to the land use that has historically been used by the City and the County for long-range planning, the proposed project would generate approximately 14,000 ADT less, **Table 4.3-24, Trip Generation Comparison- Long-Range Cumulative vs. Proposed Project. Table 4.3-24** is not based on the

General Plan designations but rather the information in the latest model. The General Plan allows more density than what is shown below.

Table 4.3-23
Trip Generation Comparison – General Plan vs. Proposed Project

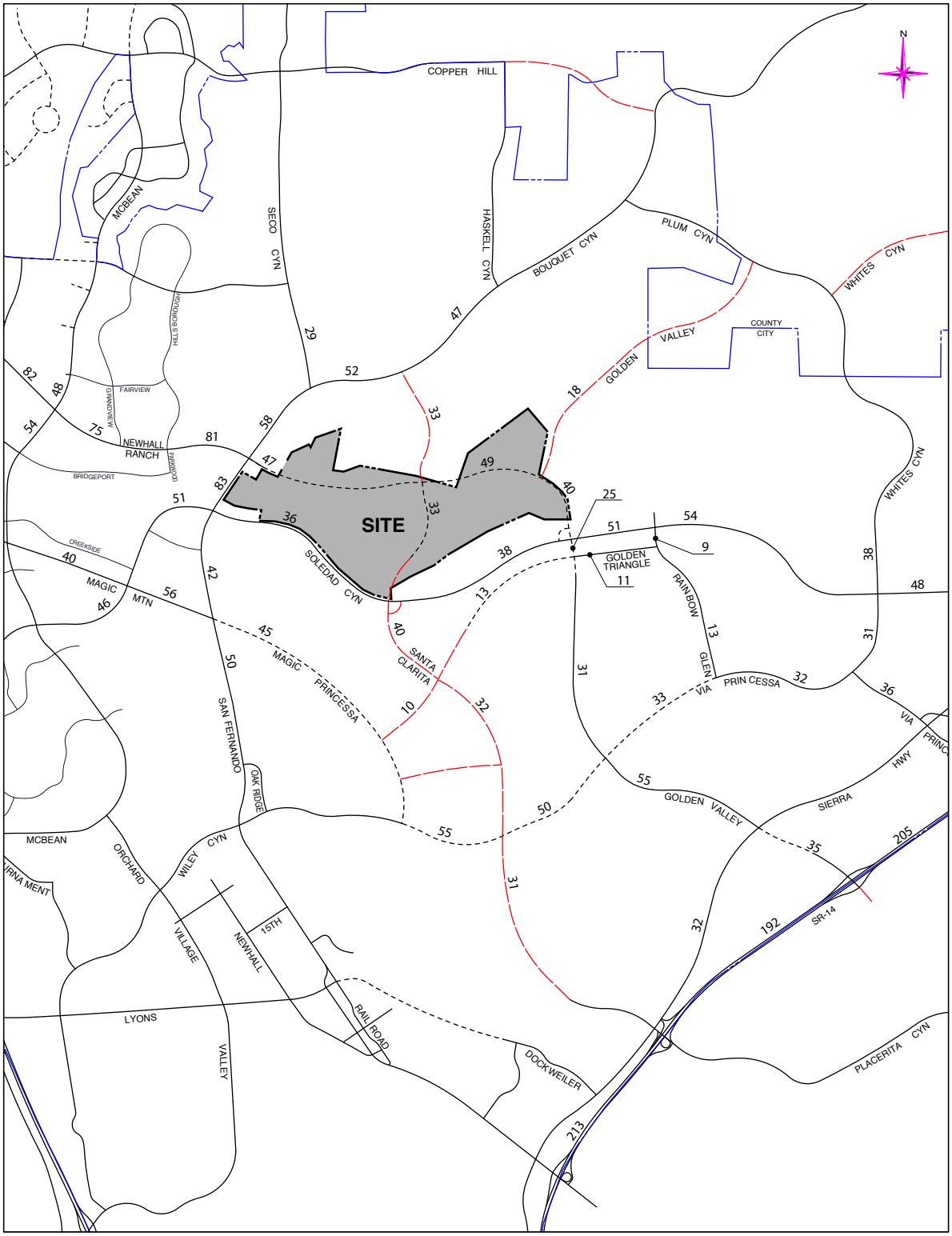
		General Plan		Proposed Project		Difference	
Land Use		**Units**	**ADT**	**Units**	**ADT**	**Units**	**ADT**
Single-Family Residential	du	2,642	26,156	439	4,347	-2,203	-21,809
Apartment	du	--	--	744	5,134	744	5,134
Mobile Home	du	360	2,484	--	--	-360	-2,484
Commercial Center (>30 ac)	tsf	537.54	21,534	--	--	-537	-21,534
Commercial Center (<10 ac)	tsf	23.95	2,037	40	3,782	16.05	1,745
Industrial Park	tsf	304.87	1,829	--	--	-304.87	-1,829
Commercial Office	tsf	2,381.54	27,531	--	--	-2,381.54	-27,531
Neighborhood Park	ac	--		4.25	11	4.25	11
Totals			81,571		13,274		-68,297

Source: Austin-Foust Associates (2004).
du =dwelling unit; tsf =thousand square feet; ac = acres

Table 4.3-24
Trip Generation Comparison – Long-Range Cumulative vs. Proposed Project

		Long-Range Cumulative		Proposed Project		Difference	
Land Use		**Units**	**ADT**	**Units**	**Units**	**ADT**	**Units**
Single-Family Residential	du	1,180	11,682	439	4,347	-741	-7,335
Condominium/Townhouse	du	700	5,600	--	--	-700	-5,600
Apartment	du	--	--	744	5,134	744	5,134
Commercial Center	tsf	162	8,588	40	3,782	-112	-4,806
Golf Course	ac	150	1,194	--	--	-150	-1,194
Neighborhood Park	ac	--		4.25	11	4.25	11
Total			27,064		13,274		-13,790

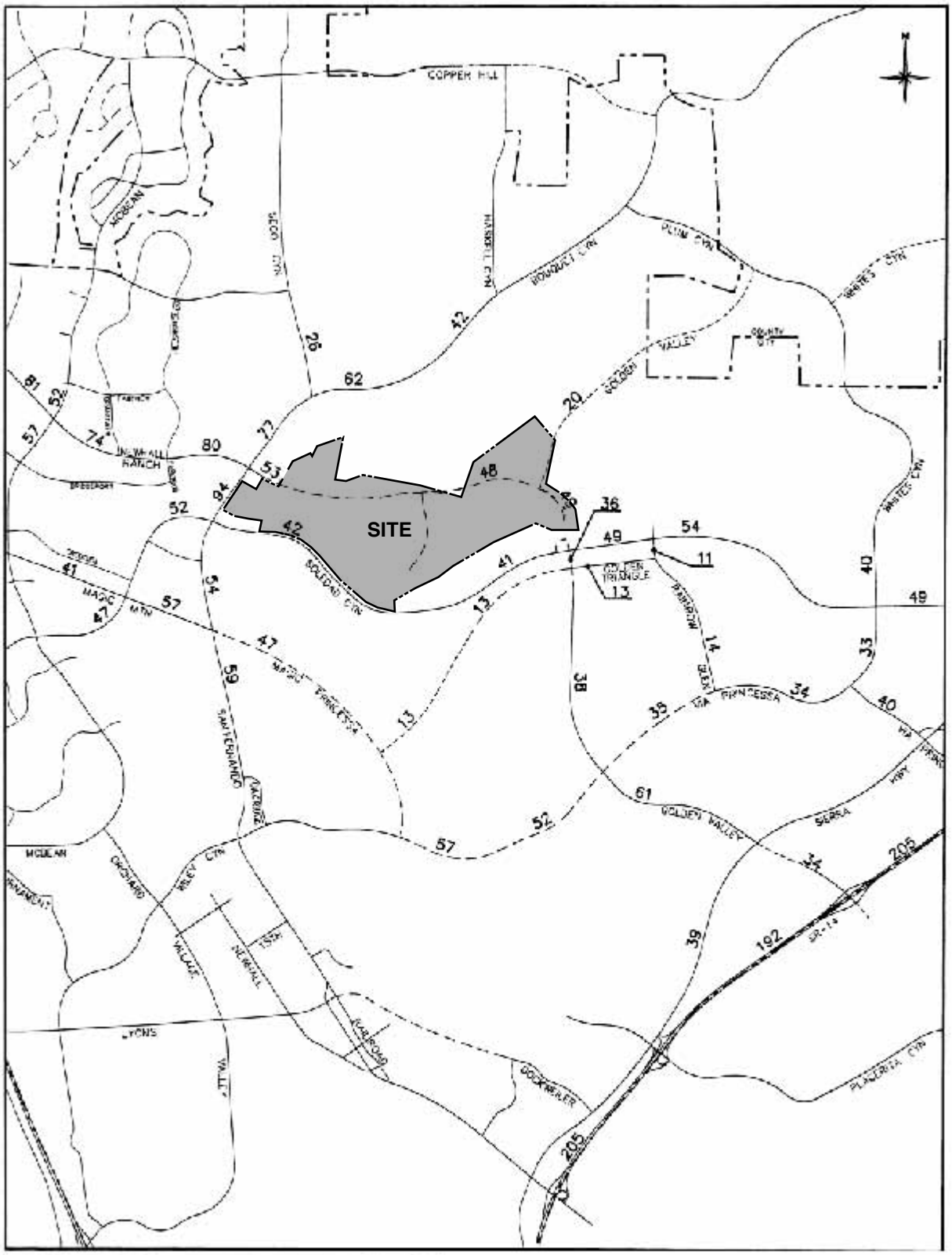
Notes:
du = dwelling unit
tsf = thousand square feet
ac = acres



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-13**

Average Daily Traffic Volumes–Santa Clarita Valley Buildout without Project



SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-14**

Average Daily Traffic Volumes–Santa Clarita Valley Buildout Scenario without Project and without Santa Clarita Parkway

Figure 4.3-15, Average Daily Traffic Volumes – Santa Clarita Valley Build-Out Scenario With Project, illustrates Santa Clarita Valley build-out conditions based on development of the site with the proposed project. **Figure 4.3-16, Average Daily Traffic Volumes – Santa Clarita Valley Build-Out Scenario With Project and Without Santa Clarita Parkway**, illustrates the proposed project with the removal of Santa Clarita Parkway. As shown, the proposed project would result in lower traffic volumes on project study area roadways than if the site were to be developed as previously anticipated by the City. In the vicinity of the project site, volumes along Bouquet Canyon Road would reduce by 2 percent, Newhall Ranch Road volumes would reduce by 1 percent, and volumes on Valencia Boulevard reduce by 4 percent and on Santa Clarita Parkway volumes would reduce by 12 percent. However, the magnitude of difference between the land uses as shown on the roadway network isn't as evident as it is in the trip generation tables. Since each scenario is modeled independent of the other, two distinct volume assignments result. Each assignment is unique and optimizes the available roadway capacity in order to minimize total travel times. Therefore, high demand roadways such as Bouquet Canyon Road and Soledad Canyon Road will be utilized nearly the same given either land use scenario. Nonetheless, the proposed plan results in a substantial reduction of traffic volume on the City's roadways, as compared to the City's General Plan designations for the site and the long-range uses identified in the SCVCTM.

11. CUMULATIVE IMPACTS

Within the Santa Clarita Valley, the County and the City have established B&T Districts to manage the many significant infrastructure improvements planned to occur within the valley. The project site is located within the Bouquet Canyon District and the project will pay fees or construct eligible improvements.

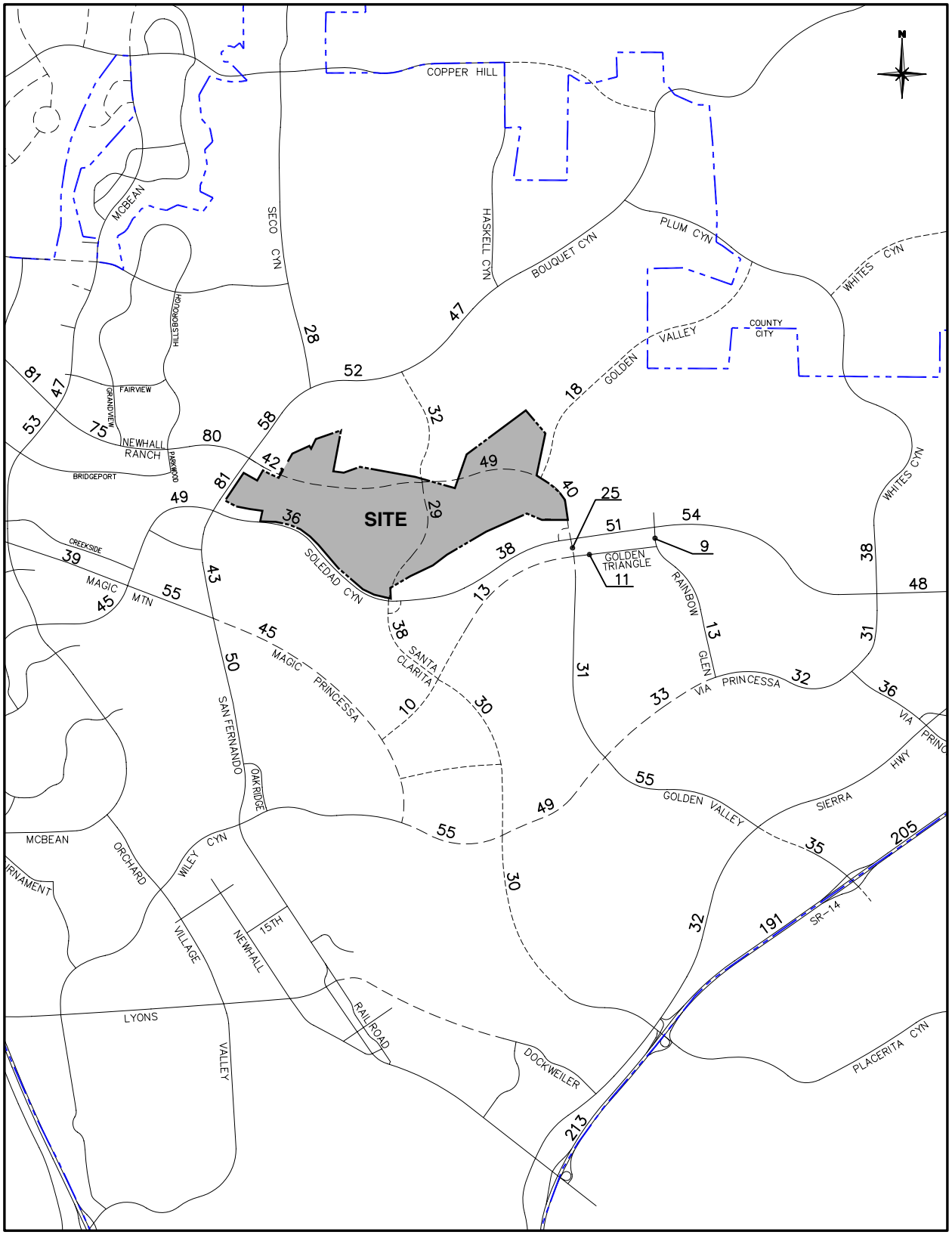
The Bouquet Canyon B&T District has recently been updated and is considered a full improvement district. The implication of this is that the B&T fees collected within the district have been calculated to cover all the anticipated improvements necessary to build out the arterial roadway network as outlined in the City's General Plan Circulation Element. The following mitigation is proposed based on the Santa Clarita Valley Cumulative Build-Out Scenario in order to reduce the traffic related impacts of the cumulative projects to below a level of significance:

12. CUMULATIVE MITIGATION MEASURES

4.3-20 The project shall fund its calculated fair share of improvements to augment the capacities of affected roadways.

13. UNAVOIDABLE SIGNIFICANT IMPACTS

The project's contribution to the Bouquet Canyon Road/Soledad Canyon Road, Valencia Boulevard/Magic Mountain Parkway, Seco Canyon Road/Bouquet Canyon Road, and the Whites Canyon Road/Soledad Canyon Road intersections are significant impacts given the City's impact criteria. Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible because it would require the taking of existing occupied structures. This mitigation would require the acquisition of additional right-of-way at these intersections. The City has determined that these intersections are/or will soon be built to their ultimate size. Since the project and these intersections are in a full mitigation B&T District, the project will pay B&T fees that can be used by the district to fund future roadway improvements that would reduce or alleviate the impact of these intersections. However, the Valencia Boulevard/Magic Mountain Parkway intersection is forecast as LOS F, Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as LOS E, Seco Canyon Road/Bouquet Canyon Road intersection is forecast as LOS E, and the Whites Canyon Road/Soledad Canyon Road intersection is forecast as LOS D, which is considered a significant unmitigatable impact. Consequently, the project's impacts to traffic/access are unavoidable and significant.



Legend

XX ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-15**

Average Daily Traffic Volumes–Santa Clarita Valley Buildout Scenario with Project

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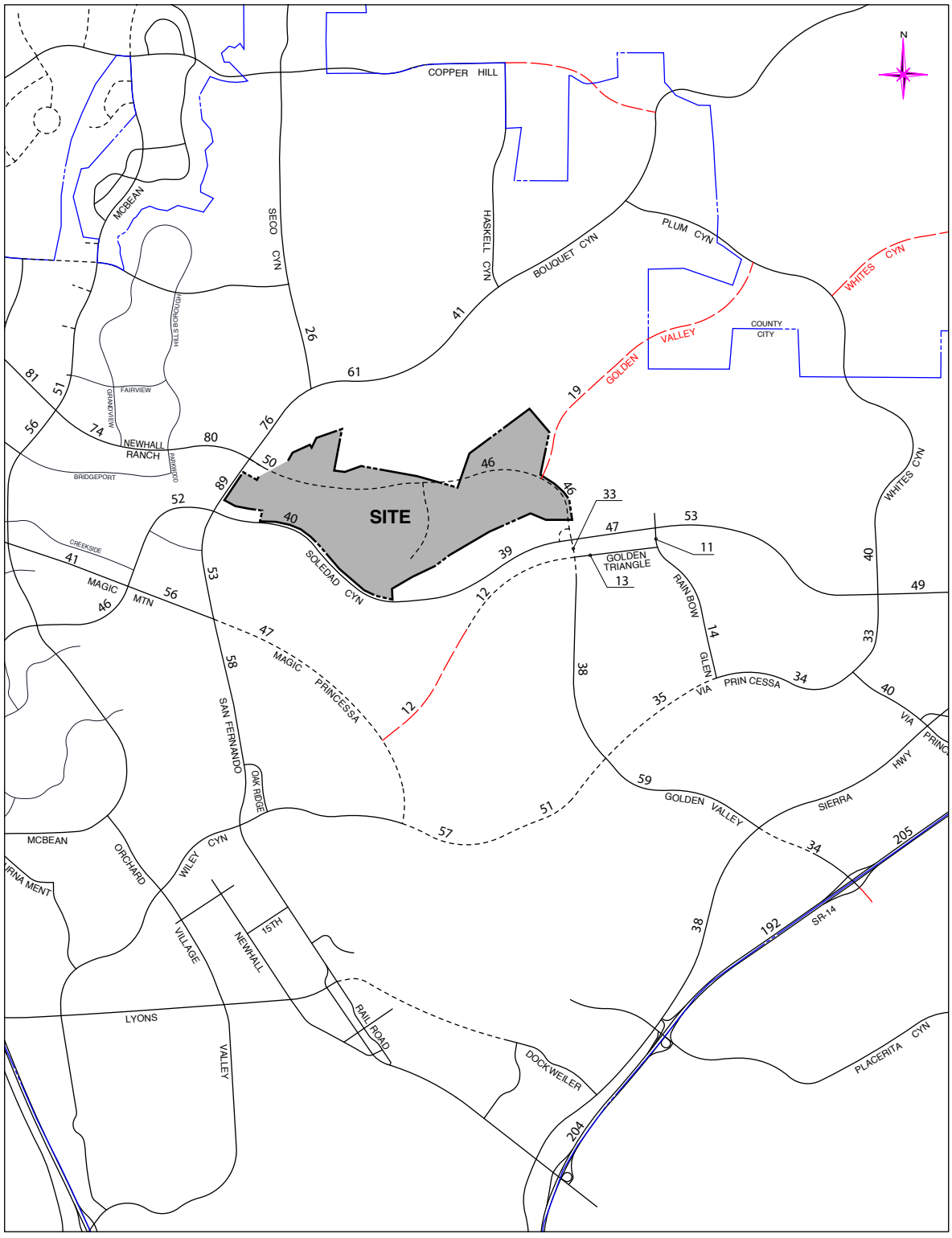

Legend

XX ADT (thousands)

SOURCE: Austin–Foust Associates, April 2003.

FIGURE **4.3-16**

Average Daily Traffic Volumes–Santa Clarita Valley Buildout Scenario with Project and without Santa Clarita Parkway

4.4 AIR QUALITY

1. SUMMARY

Implementation of the Riverpark project would generate both construction-related and operation-related pollutant emissions. Construction-related emissions would be generated by on-site stationary sources, on- and off-road heavy-duty construction vehicles, and construction worker vehicles. Operation-related emissions would be generated by on-site and off-site stationary sources and by mobile sources. During the 51-month construction phase, emissions of carbon monoxide (CO), volatile organic compounds (VOC), oxides of nitrogen (NO_x) and particulate matter (10 micron) (PM_{10}) would exceed thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD) for approximately 13, 36, 26, and 12 months, respectively. At project buildout, operational emissions of CO, VOC, NO_x, and PM_{10} would exceed SCAQMD thresholds, primarily due to mobile source emissions in the summertime and to mobile source and fireplace/wood-burning stove emissions in the wintertime.

No project land use would be exposed to CO hotspots and the project would not cause a CO hotspot at other locations of sensitive receptors in the project study area, such as the Emblem tract. In addition, population growth attributed to the project is within growth forecasts contained in the Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG), which forms the basis for the land use and transportation control portions of the 2003 Air Quality Management Plan (AQMP). Because the project is within the growth forecasts for the region, it would, consequently, be consistent with the AQMP, indicating that it would not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley or throughout the South Coast Air Basin.

Feasible mitigation measures would be implemented that would reduce construction-related and operational-related emissions to the maximum extent feasible. However, no feasible mitigation exists which would reduce the project's construction-related emissions of VOC, NO_x, or PM_{10} to below the SCAQMD's recommended thresholds of significance. No feasible mitigation exists to reduce the project's operational emissions of CO, VOC, or NO_x to less than significant. Therefore, the project's construction-related and operation-related emissions would be considered unavoidably significant.

The SCAQMD's criteria of annual emission reductions of one percent for CO, VOC, NO_x, PM_{10}, and oxides of sulfur (SO_x), were used to assess cumulative air quality impacts. Through site planning, proposed design features, and with implementation of the mitigation measures recommended in this section, the project would reduce wintertime emissions for CO, VOC, NO_x, and PM_{10} by 75.3, 91.8, 29.5, and 85.3 percent, respectively. During the summer, these emissions would be reduced by 4.6, 17.7, 9.3, and 4.2 percent, respectively. Therefore, cumulative air quality impacts would not be significant given

the cumulative project thresholds of significance of the SCAQMD's CEQA Air Quality Guidelines, and the fact that the project's population forecast is consistent with the SCAQMD's 2003 Air Quality Management Plan. However, because the project's operational-related CO, VOC, NO_x, and PM_{10} emissions would exceed the SCAQMD's project-specific thresholds of significance, even with all feasible mitigation, project implementation will result in a cumulatively significant and unavoidable air quality impact. This is considered a conservative and "worst-case" approach for estimating the project's cumulative air quality impacts.

Note: All citations to sources and source materials are incorporated by reference and copies can be found at the City of Santa Clarita, Department of Planning and Building Services, 23920 Valencia Boulevard, Suite 300, Santa Clarita, California 91355.

2. INTRODUCTION TO AIR QUALITY

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The project site is located within the South Coast Air Basin (Basin), which is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east (see **Figure 4.4-1, South Coast Air Basin**). The project site is not located within either the SSAB or the MDAB.

The Basin consistently generates the highest levels of smog in the United States and is considered to have the worst air quality in the nation. The factors that influence this determination are discussed below.

a. Smog and its Causes

Smog is a general term based on the words smoke and fog that is used to describe dense, visible air pollution. Although some air pollutants are colorless, smog is commonly used to describe the general concentrations of pollutants in the air. Smog is formed when combustion emissions and gaseous emissions, such as VOC and NO_x, undergo photochemical reactions in sunlight to form ozone (O_3). Ozone is a gas that, in the upper atmosphere, helps to shield the earth from harmful radiation. However, in the lower atmosphere where people live, ozone poses health risks and damages crops, rubber, and other materials. Particulates, such as soil and dust materials, and vehicle exhaust particulates often mix with ozone, CO, and other compounds and create a brownish haze in the air. "Smog episode" warnings are issued when an occurrence of high concentrations of ozone is predicted that could endanger or cause harm to the public.

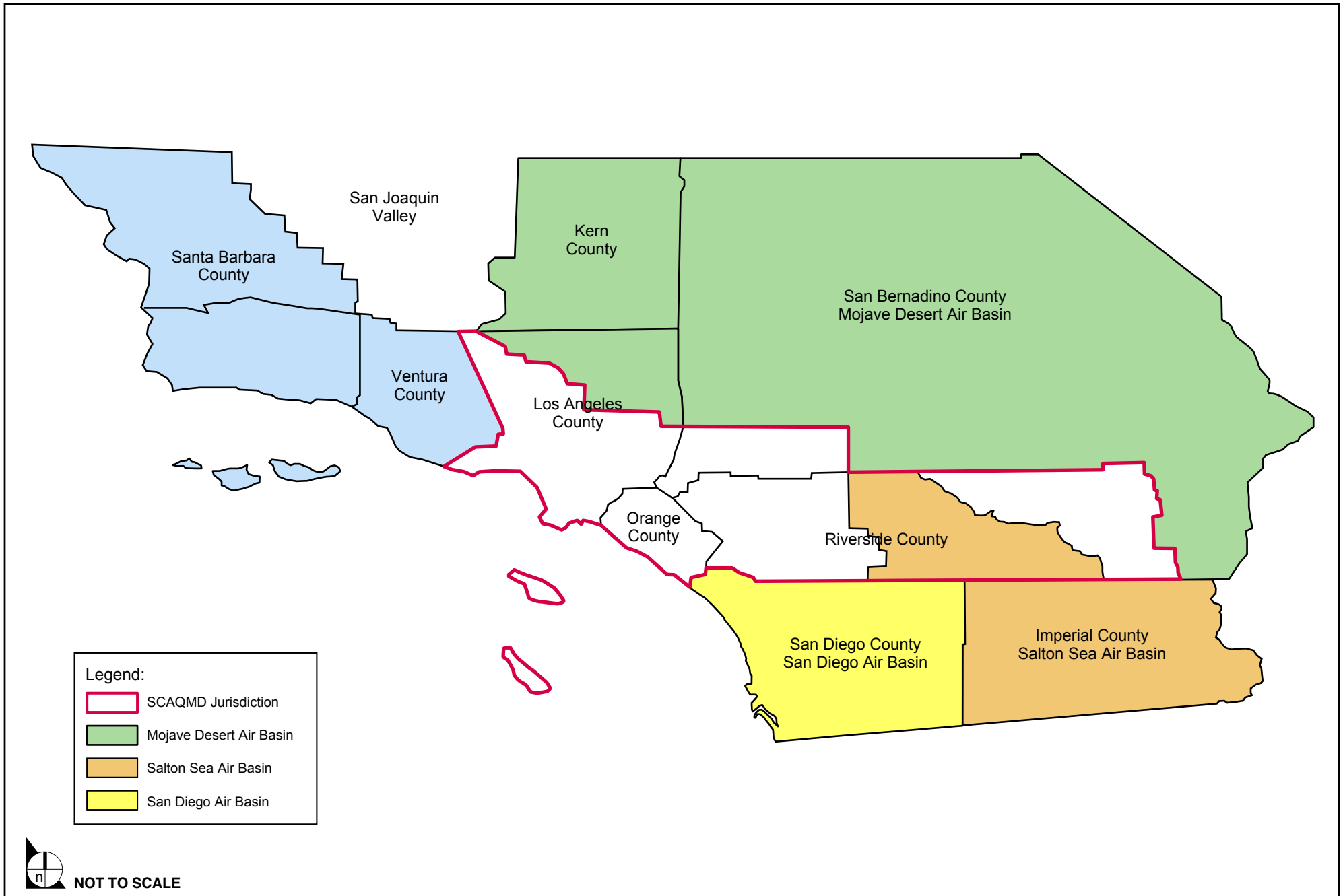

FIGURE **4.4-1**

South Coast Air Basin

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The topography and climate of the Basin combine to make it an area of high smog potential. During the summer months, a warm air mass frequently descends over the lower, cool, moist marine air layer. The warm upper layer forms a cap over the marine layer and inhibits the air pollutants generated near the ground from dispersing upward. Light summer winds and the surrounding mountains further limit the horizontal disbursement of the pollutants. Concentrating volumes of pollutants in this manner allows the summer sunlight to generate high levels of smog. In the winter, cool ground temperatures and very light winds cause extremely low inversions and air stagnation that trap CO and NO_x during the late night and early morning hours. On days when no inversions occur, or when winds average 25 miles per hour or more, there will be no important smog effects. A summary of local climatic conditions is provided later in this section.

The air pollutants within the Basin are generated by both stationary and mobile sources. One type of stationary source is known as a "point source," which has one or more emission sources at a single facility. The other type of stationary source is the "area source," which is widely distributed and produces many small emissions. Point sources are usually associated with manufacturing and industrial uses, and includes sources that produce electricity or process heat, such as refinery boilers or combustion equipment, but may also include commercial establishments, like gasoline stations, dry cleaners or charbroilers in restaurants. Examples of area sources include residential water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products, such as barbecue lighter fluid or hair spray. "Mobile sources" refer to operational and evaporative emissions from motor vehicles. They account for over 95 percent of the CO emissions, approximately two-thirds of the SO_x emissions, three-quarters of the NO_x emissions, and one-half of the VOC found within the Basin.[1]

b. Regulatory Agencies and Responsibilities

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the Basin are discussed below along with their individual responsibilities.

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1 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 3-4.

(1) U.S. Environmental Protection Agency (U.S. EPA)

The U.S. EPA is responsible for enforcing the 1990 amendments to the Federal Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS) that it establishes. These standards identify levels of air quality for six "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The six criteria pollutants include ozone, CO, nitrogen dioxide (NO_2 [a form of NO_x]), sulfur dioxide (SO_2 [a form of SO_x]), PM_{10}, and lead. The U.S. EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the Federal Government, such as aircraft, locomotives, and interstate trucking.

In response to its enforcement responsibilities, the U.S. EPA requires each state to prepare and submit a State Implementation Plan (SIP) that describes how the state will achieve the federal standards by specified dates, depending on the severity of the air quality within the state or air basin. The South Coast Air Basin is classified by the U.S. EPA as an extreme non-attainment area for ozone (the only area in the nation to be classified as such), a serious non-attainment area for CO, and a non-attainment area for NO_x and PM_{10}. Originally, under the compliance timetables in the 1990 Amendments to the CAA that pertain to ozone, the Basin was to achieve attainment status for ozone within twenty years (i.e., November 15, 2010). To do so, the Basin was to show a 15 percent reduction from its 1990 Basin-wide emissions inventory within six years from the enactment date of the CAA, and a 3 percent annual reduction thereafter for the remainder of the 20 years. In July 1997, the U.S. EPA announced new health-based standards for ozone. The SCAQMD now has until 2012 at the latest to meet the ozone standard, but the SCAQMD's 2003 Air Quality Management Plan (discussed below) projects attainment of this standard by 2010. For the other non-attainment pollutants, the Basin must achieve attainment status by the most expeditious date that can be achieved, but no later than five years from the date the area was designated non-attainment. If the Basin experiences difficulty doing so, the U.S. EPA may extend the period for attainment for an additional ten years.

Also in 1997, the U.S. EPA announced a new standard for particulate matter under the National Ambient Air Quality Standards: $PM_{2.5}$. A subset of PM_{10}, $PM_{2.5}$ refers to particulate matter that is 2.5 micrometers or smaller in size, or approximately 1/30 the diameter of a human hair. Sources of $PM_{2.5}$ include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles, such as buses and trucks. These fine particles are also formed in the atmosphere when gases, such as SO_2, NO_2, and VOC (all of which are also products of fuel combustion), are transformed in the air by chemical reactions. Fine particles are of concern because they can be deeply

inhaled and can put human health at risk, particularly the health of children. The standards that the U.S.EPA set for $PM_{2.5}$ in 1997 include an annual-average standard of 15 micrograms per cubic meter ($\mu g/m^3$) and a 24-hour standard of 65 $\mu g/m^3$.

No model to predict emissions of $PM_{2.5}$ from future development project exists at the time of this writing (January 2004). Because no model is currently available to assess potential $PM_{2.5}$ impacts from new land development projects, they cannot be assessed in this impact analysis separately from the impacts of PM_{10} emissions as a whole.[2] However, because $PM_{2.5}$ is a subset of PM_{10}, as described above, the project's potential $PM_{2.5}$ emissions will be included within its potential PM_{10} emissions.

At the time of this writing, the U. S. EPA has not designated the attainment status of the Basin for the new ozone and $PM_{2.5}$ standards. However, based on monitoring data through 2002, it is expected that the Basin will be designated as nonattainment for both the federal 8-hour ozone and $PM_{2.5}$ standards sometime in 2004.

(2) California Air Resources Board

The California Air Resources Board (ARB), a department of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the Federal CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. The ARB has established emission standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish ambient air quality standards for the state (state standards) and a legal mandate to achieve these standards by the earliest practicable date. These standards apply to the same six criteria pollutants as the Federal CAA, and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride. They are also more stringent than the federal standards and, in the case of PM_{10} and SO_2, far more stringent.

In 1997, after receiving the new U.S. EPA standards, the ARB and Office of Environmental Health Hazard Assessment staff reviewed the scientific literature on the health effects of exposure to particular matter, and recommended lowering the existing state standard for PM_{10} and adopting a lower

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2 Telephone conversation with Patrick Gaffney, Air Pollution Specialist, California Air Resources Board, Planning and Technical Support, Inventory Branch, 11 March 2003.

standard for $PM_{2.5}$.[3] Staff specifically recommended that the annual-average standard for PM_{10} be lowered from 30 $\mu g/m^3$ to 20 $\mu g/m^3$ (the 24-hour-average standard of 50 $\mu g/m^3$ for PM_{10} would be retained), and that the new annual-average standard for $PM_{2.5}$ in California be established at 12 $\mu g/m^3$, which is less than the federal standard of 15 $\mu g/m^3$. These standards were adopted by the California Air Resources Board in June 2002, approved by the Office of Administrative Law on June 5, 2003, and became effective on July 5, 2003. The SCAQMD has until 2015 at the latest to meet the federal $PM_{2.5}$ standard. The Air Resources Board will also consider establishing a 24-hour $PM_{2.5}$ state standard in the future; however, the timing of the adoption of this latter standard is currently unknown.

Health and Safety Code Section 39607(e) requires the ARB to establish and periodically review area designation criteria. These designation criteria provide the basis for the ARB to designate areas of the state as "attainment," "nonattainment," or "unclassified" for the state standards. In addition, Health and Safety Code Section 39608 requires the ARB to use the designation criteria to designate areas of California and to annually review those area designations. The ARB makes area designations for nine criteria pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10}, sulfates, lead, hydrogen sulfide, and visibility-reducing particles.[4] Currently, the ARB has not established area designations for vinyl chloride;[5] however, the ARB has identified vinyl chloride as a toxic air contaminants with an undetermined threshold level of exposure for adverse health effects. Therefore, vinyl chloride is addressed on a project-by-project basis. As discussed below, this project is not expected to emit vinyl chloride or other criteria pollutants, such as sulfates, lead, hydrogen sulfide, and visibility-reducing particles.

Currently, the ARB has designated the Basin as an extreme non-attainment area for ozone,[6] a non-attainment area for PM_{10},[7] attainment for CO (except Los Angeles County,[8] which is serious

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3 California Air Resources Board. "Review of the Ambient Air Quality Standards for Particulate Matter and Sulfates; Standards Review Schedule." [Online] 16 June 2003.http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm.

4 California Air Resources Board. "Area Designations (Activities and Maps)." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/desig.htm>; Written communication with Marcy Nystrom, California Air Resources Board, 24 December 2003, stating that State law states requires ARB to make area designations for pollutants with State standards listed in California Code of Regulations, Title 17, section 70200. However, vinyl chloride is not included in this section of the California Code of Regulations; and therefore, the ARB does not make area designations for vinyl chloride.

5 Id.

6 California Air Resources Board. "State Area Designation Map: Ozone." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_ozone.htm>.

7 California Air Resources Board. "State Area Designation Map: PM_{10}." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_pm10.htm>.

8 California Air Resources Board. "State Area Designation Map: CO." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_co.htm>.

nonattainment) and sulfates,[9] unclassified for hydrogen sulfide,[10] and attainment or unclassified for NO_2, SO_2, lead, and visibility reducing particles.[11] The ARB has not established area designations for vinyl chloride. For areas classified as non-attainment, the CCAA requires that the SCAQMD prepare an air quality management plan with specific emission reduction strategies, and to meet specified milestones in implementing emission controls to achieve more healthful air. New control strategies are to include an indirect and area source control program, best available retrofit control technology for existing sources, a program to mitigate all emissions from new and modified permitted stationary sources (no net increase), transportation control measures, and substantial use of low-emission vehicles (e.g., natural gas or methanol-powered vehicles). The CCAA also requires control measures to be ranked by priority and cost-effectiveness. The air quality management plans must achieve a reduction in emissions of 5 percent or more per year, or 15 percent or more in a three-year period for pollutants causing severe non-attainment.

Each year, the ARB reviews the area designations and updates them as appropriate, based on the three most recent calendar years of air quality data. The ARB held a public workshop on October 15, 2003, to discuss proposed amendments to the area designation criteria and area designation regulations. These proposed amendments include area designations for the new state $PM_{2.5}$ standard that the ARB adopted in June 2002. At the workshop, ARB staff also discussed proposed area designations for the federal $PM_{2.5}$ standards. A public hearing on these items is scheduled for early 2004.

Currently, the ARB proposes to change the Basin's CO attainment status from nonattainment to nonattainment – transitional.[12] The ARB also proposes to designate the Basin as nonattainment for the state $PM_{2.5}$ standard.[13] The ARB staff is planning to review the NO_2 standard for possible revision in 2004, and is considering a stricter standard.

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9 California Air Resources Board. "State Area Designation Map: Sulfates." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_sulfates.htm>.

10 California Air Resources Board. "State Area Designation Map: Hydrogen Sulfide." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_h2s.htm>.

11 California Air Resources Board. "Area Designation Maps/State and Federal." [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/adm.htm>.

12 Written communication with Marcy Nystrom, California Air Resources Board, 24 December 2003. Nonattainment-transitional is a subcategory of nonattainment. For pollutants other than ozone, nonattainment-transitional indicates no more than two violations of the state standard at each site in the area during the previous calendar year, and the area is expected to reach attainment within the next three years.

13 Written communication with Marcy Nystrom, California Air Resources Board, 24 December 2003.

In the early 1980s, the ARB established one of the nation's first comprehensive state air toxics programs. The Toxic Air Contaminant Identification and Control Act (AB 1807-1983) created California's program to reduce the health risks from air toxics. This law expanded the ARB's authority to evaluate and control air toxics.

An additional state law, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588-1987), supplements the original legislation by requiring a statewide air toxics inventory and notification of local residents of significant risk from near-by sources of air toxics. A 1992 amendment to the law (SB 1731) requires that the risk be reduced from these significant sources.

The goal of the ARB's Air Toxics Program is to protect the public health. It does this by reducing toxic air contaminants (TACs) that pose the highest risk to Californians. The ARB's program involves two separate steps. During the first step, risk assessment, the ARB identifies the highest risk substances (i.e., TACs). In the second or risk management step, the ARB and local air pollution control districts (APCDs), such as the SCAQMD, investigate and adopt measures requiring air sources of TACs to minimize risk to public health.

The ARB maintains summaries and historical trends of TACs throughout the state, including the Basin.[14]

(3) Southern California Association of Governments (SCAG)

SCAG is a council of governments for the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible, pursuant to §176(c) of the 1990 amendments to the CAA, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to California

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[14] California Air Resources Board. "Air Quality Data Statistics." [Online] 22 December 2003. < http://www.arb.ca.gov/adam/welcome.html>.

Health and Safety Code Section 40460(b), SCAG is also responsible for preparing and approving the portions of the Basin's air quality management plans relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG's method of accomplishing these requirements is through the preparation of the Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG). The RCPG, along with various growth projections and trends, are used by the SCAQMD in updating its Air Quality Management Plan, as discussed below.

(4) South Coast Air Quality Management District (SCAQMD)

The management of air quality in the Basin is the responsibility of the SCAQMD. This responsibility was given to SCAQMD by the California Legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, SCAQMD is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. Specifically, SCAQMD is responsible for monitoring ambient air pollutant levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards.

(a) SCAQMD Air Quality Management Plan (2003 AQMP)

As discussed previously, the Federal and State CAAs require the preparation of plans to bring air emissions within healthful levels. The SCAQMD has responded to this requirement by preparing a series of air quality management plans,[15] the most recent of which was adopted by the governing board on August 1, 2003. The purpose of the 2003 AQMP for the Basin (and those portions of the SSAB under the SCAQMD's jurisdiction) is to set forth a comprehensive program that will lead these areas into compliance with all federal and state air quality planning requirements. Specifically, the 2003 AQMP is designed to satisfy the California Clean Air Act (CCAA) tri-annual update requirements and fulfill the SCAQMD's commitment to update transportation emission budgets based on the latest approved motor vehicle emissions model and planning assumptions. The 2003 AQMP has been approved by the ARB, and it has been submitted to the U.S. EPA for review and approval as a SIP revision.

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15 For example, the SCAQMD amended the 1997 AQMP in 1999 to address the U.S. EPA's proposed disapproval of the 1997 Ozone State Implementation Plan (SIP) revision to ensure that the 1997 AQMP complied with or exceeded federal requirements. The 1999 AQMP amendments to the 1997 AQMP were subsequently approved by the U.S. EPA into the SIP in April 2000. The SCAQMD updated the PM_{10} portion of the 1997 AQMP for both the Basin and Coachella Valley in 2002, as part of the District's request to extend the PM_{10} attainment date from 2001 to 2006 for these areas as allowed under the federal Clean Air Act. The U.S. EPA approved the 2002 update on April 18, 2003.

Success of the 2003 AQMP requires the cooperation of all levels of government: local, regional, state, and federal. Each level is represented in the 2003 AQMP by the appropriate agency or jurisdiction that has the authority over specific emissions sources, and for which each has specific planning and implementation responsibilities.

The overall control strategy for the 2003 AQMP is to meet applicable state and federal requirements, including attainment with ambient air quality standards. The focus of the 2003 AQMP is to demonstrate attainment with the federal PM_{10} ambient air quality standard by 2006 and with the federal 1-hour ozone standard in 2010, while making expeditious progress toward attainment of state standards and upcoming new federal standards. Although the 2003 AQMP does not specifically address the new federal 8-hour ozone and $PM_{2.5}$ standards, it is designed to make continued progress toward meeting these standards. The 2003 AQMP relies upon the most recent planning assumptions and the best available information, such as the ARB's EMFAC2002 for on-road mobile source emissions inventory, ARB's off-road model for off-road mobile source emission inventory, latest point source and improved area source inventories, as well as the use of the 1997 ozone episodes, expanded air quality modeling analysis, and SCAG's forecast assumptions based on its 2001 Regional Transportation Plan.

The 2003 AQMP was prepared to ensure compliance with the federal ozone and particulate (PM_{10}) standards, to accommodate growth, to reduce the high levels of criteria pollutants within the Basin, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. Principal control policies and measures for improving the Basin's air quality include: extensive use of clean fuels, transportation control measures, market incentives, and facility permitting. Many of these policies and measures have been adopted as rules by the SCAQMD Governing Board or may be adopted as rules in the future.

The air quality levels projected in the 2003 AQMP are based on several assumptions. For example, the 2003 AQMP assumes that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its most current version of the RCPG. The 2003 AQMP also assumes that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. The project's consistency with the 2003 AQMP is discussed later in this EIR section.

(b) SCAQMD Rules and Regulations

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the Basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board which limit the emissions that can be generated by various uses and/or activities, and that identify specific pollution reduction measures which must be implemented in association with various uses and activities. These rules not only regulate the emissions of the federal and state criteria pollutants, but also TACs and acutely hazardous materials.[16] The rules are also subject to on-going refinement by SCAQMD.

Stationary emissions sources subject to these rules are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD also monitors the amount of stationary emissions being generated and uses this information in developing the AQMP. The project would be subject to SCAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts.

(c) SCAQMD California Environmental Quality Act (CEQA) Air Quality Handbook

In April 1993, the SCAQMD prepared its CEQA Air Quality Handbook (Handbook) as a guide to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA. It was later updated in November 1993 and is presently being updated by the district. The Handbook is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents, such as this EIR. It recommends thresholds for use in determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

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16 Assembly Bill 1807 (AB 1807) (Stats. 1983, Ch. 1047; Health and Safety Code section 39650 et seq., Food and Agriculture Code Section 14021 et seq.), enacted in September 1983, sets forth a procedure for the identification and control of toxic air contaminants (TAC) in California. AB 1807 defines a "toxic air contaminant" as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health (Health and Safety Code Section 39655a). California Air Resources Board. Toxic Air Contaminant Staff Report/Executive Summaries. [Online] 2 February 2004. <http://www.arb.ca.gov/toxics/summary/summary.htm>.

Although the Handbook has been adopted by the Governing Board of the SCAQMD, it does not, nor does it intend to, supersede a local jurisdiction's CEQA procedures. This EIR was prepared following the recommendations of the SCAQMD found in the Handbook, as well as more current recommendations for air quality modeling.[17]

The Handbook is currently undergoing revision. As of October 8, 2003 (the last revision to the district's website (www.aqmd.gov/ceqa/hdbk.html) that addresses the Handbook revisions at the time of this writing in January 2004),[18] only three chapters have been revised: Chapter 2 – Improving Air Quality and the AQMD's Rule, Chapter 3 – Basis Air Quality Information, and Chapter 4 – Early Consultation and Sensitive Receptor Siting Criteria. The Handbook, along with the revised chapters, were used in preparing the air quality impact analysis in this EIR section.

(5) Local Governments

Local governments, such as the City of Santa Clarita, have the authority and responsibility to reduce air pollution through their police power and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the 2003 AQMP. The 2003 AQMP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, a first step toward implementing a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its general plan, such as the Air Quality Element in the City of Santa Clarita General Plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring such improvements as bus turnouts, energy-efficient street lights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.[19]

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17 SCAQMD recommends use of URBEMIS2002 as an alternative air quality model. Personal communication with Charles Blankson, Ph.D., South Coast Air Quality Management District, Diamond Bar, California, 8 November 2002.

18 The most current version of the Air Quality Handbook available at the time this section was written, and upon which this section relies, can be viewed at the City, as stated above.

19 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 2-2. (See **Appendix 4.4**.)

3. EXISTING CLIMATE AND AIR QUALITY

a. Regional Climate

The regional climate significantly influences the air quality in the Basin. Temperature, wind, humidity, precipitation and even the amount of sunshine influence the quality of the air. In addition, the Basin is frequently subjected to an inversion layer that traps air pollutants. Temperature has an important influence on Basin wind flow, pollutant dispersion, vertical mixing, and photochemistry.

Annual average temperatures throughout the Basin vary from the low to middle 60 degrees Fahrenheit (F). However, due to decreased marine influence, the eastern portion of the Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the Basin, with average minimum temperatures of 47 degrees F in downtown Los Angeles and 36 degrees F in San Bernardino. All portions of the Basin have recorded maximum temperatures above 100 degrees F.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer is an excellent environment for that conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast, and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the Basin's rainfall occurs from November through April (see **Table 4.4-1, Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961-1990**). Annual average rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region and near the mountains. Rainy days comprise 5 to 10 percent of all days in the Basin with the frequency being higher near the coast. The influence of rainfall on the contaminant levels in the Basin is minimal. Although some wash-out of pollution would be expected with winter rains, air masses that bring precipitation of consequence are very unstable and provide excellent dispersion that masks wash-out effects. Summer thunderstorm activity affects pollution only to a limited degree. If the inversion is not broken by a major weather system,

high contaminant levels can persist even in areas of light showers. However, heavy clouds associated with summer storms minimize ozone production because of reduced sunshine and cooler temperatures.

Table 4.4-1
Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961-1990

Month	Mean Daily Temperatures (°F)		Mean Monthly Precipitation
	Maximum	Minimum	
January	65	47	2.40
February	66	49	2.51
March	65	50	1.98
April	68	53	0.72
May	69	56	0.14
June	72	60	0.03
July	75	63	0.01
August	76	64	0.15
September	76	63	0.31
October	74	59	0.34
November	71	52	1.76
December	66	48	1.66
	110 (high)	23 (low)	12.01 (total)

Source: 1999 Local Climatological Data, Annual Summary with Comparative Data, Los Angeles, California, International Airport.

Due to the generally clear weather, about three-quarters of available sunshine is received in the Basin. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately ten hours of possible sunshine, and approximately fourteen hours on the longest day of the year. The percentage of cloud cover during daylight hours varies from 47 percent at Los Angeles International Airport (LAX) to 35 percent at Sanberg, a mountain location. The number of clear days also increases with distance from the coast: 145 days at LAX and 186 days at Burbank.[20] The Basin typically receives much less sunshine during the first six months of the year than the last six months. This difference is attributed to the greater frequency of deep marine layers and the subsequent increase in stratus clouds during the spring and to the fact that the rainy season begins late in the year (November) and continues through early spring.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of air pollutants. During the late autumn to early spring rainy season, the Basin is subjected to wind flows associated with traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds (locally termed "Santa Anas") each year. During the dry season, which coincides with the months of maximum

20 1999 Local Climatological Data, Annual Summary with Comparative Data, Los Angeles, California, International Airport. National Oceanic and Atmospheric Administration.

photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the Basin is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island, which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

The vertical dispersion of air pollutants in the Basin is frequently restricted by the presence of a persistent temperature inversion in the atmospheric layers near the earth's surface. Normally, the temperature of the atmosphere decreases with altitude. However, when the temperature of the atmosphere increases with altitude, the phenomenon is termed an inversion. An inversion condition can exist at the surface or at any height above the ground. The bottom of the inversion, known as the mixing height, is the height of the base of the inversion.

In the Basin, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm, high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire Basin. The mixing height for this inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_x and CO from vehicles, as the pool of cool air drifts seaward. Winter is, therefore, a period of high levels of primary pollutants along the coastline.

In general, inversions in the Basin are lower before sunrise than during the daylight hours. As the day progresses, the mixing height normally increases as the warming of the ground heats the surface air layer. As this heating continues, the temperature of the surface layer approaches the temperature of the base of the inversion layer. When these temperatures become equal, the inversion layer's lower

edge begins to erode and, if enough warming occurs, the layer breaks up. The surface layers are gradually mixed upward, diluting the previously trapped pollutants. The breakup of inversion layers frequently occurs during mid- to late-afternoon on hot summer days. Winter inversions usually break up by mid-morning.

b. Regional Air Quality

In this subsection, year 2001[21] regional air quality in the Basin, and in the portion of the SSAB monitored by the SCAQMD, and is compared to state and federal ambient air quality standards. The following information, unless denoted otherwise, is derived primarily from the SCAQMD's 2003 AQMP, Chapter 2 – Air Quality and Health Effects, and Appendix II – Current Air Quality.[22]

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the air basin, and the meteorological conditions. The Basin has low mixing heights and light winds, which are conducive to the accumulation of air pollutants. Pollutants that impact air quality are generally divided into two categories: criteria pollutants (those for which health standards have been set) and toxic air contaminants (those that cause cancer or have adverse human health effects other than cancer).

(1) Criteria Pollutants

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to national and state standards.

"It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained [in the Basin]. Health-based air quality standards have been established by California and the Federal Government for the following criteria air pollutants: ozone, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM_{10} and SO_2, much more stringent. California has also established standards for sulfates, visibility

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21 According to the SCAQMD's 2003 AQMP, complete data for the year 2002 is not available at this time. South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>., Chapter 2, p. 2-1, fn.1.

22 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>.

reducing particles, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of the monitored pollutants and their effects on health are summarized in **Table 4.4-2, Ambient Air Quality Standards**."[23]

Air quality of a region is considered to be in attainment of the standards if the measured ambient air pollutant levels for ozone, CO, SO_2 (1- and 24-hour), NO_2, and PM_{10}, are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive three-year period. The National Ambient Air Quality Standards (other than ozone, PM_{10}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year.

In 2001,[24] the Basin exceeded the federal standards for ozone, PM_{10} and $PM_{2.5}$ on a total of 58 days overall. Despite the substantial improvement over historical air quality in the past few decades, some areas in the Basin still exceed the 1-hour federal standard for ozone more frequently than any other area of the U.S. In 2001, nine out of ten locations in the nation that exceeded the standard most frequently were located in the Basin and the Basin is currently the only area in the nation classified as "extreme" nonattainment for ozone.

The Basin is also among the few areas in the nation that are still classified as nonattainment for carbon monoxide. (According to preliminary data, the Basin has technically met the CO standards in 2002, and once this is validated, the SCAQMD is expected to request reclassification as attainment in the next few years.

California and National ambient air quality standards for each of these pollutants and their effects on health are summarized in **Table 4.4-2, Ambient Air Quality Standards**.

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23 South Coast Air Quality Management District. Draft Environmental Assessment for: Proposed Amended Rule 2202 – On-Road Motor Vehicle Mitigation Options (Diamond Bar, California: South Coast Air Quality Management District, November 2003), p. 3-1. This report may be found on the SCAQMD website at: http://www.aqmd.gov/ceqa/documents/2003/aqmd/draftea/2202/revisedea/rdea.doc.

24 According to the SCAQMD's 2003 AQMP, complete data for the year 2002 is not available at this time.

Table 4.4-2
Ambient Air Quality Standards

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Ozone	0.09 ppm, 1-hr. avg.	0.12 ppm, 1-hr avg., 0.08 ppm, 8-hr avg.	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.25 ppm, 1-hr avg.	0.0534 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg. 0.25 ppm, 1-hr. avg.	0.030 ppm, annual arithmetic mean 0.14 ppm, 24-hr avg.	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM_{10})*	20 $\mu g/m^3$, annual geometric mean 50 $\mu g/m^3$, 24-hr avg.	50 $\mu g/m^3$, annual arithmetic mean 150 $\mu g/m^3$, 24-hr avg.	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter ($PM_{2.5}$)*	12 $\mu g/m^3$, annual arithmetic mean	15 $\mu g/m^3$, annual arithmetic mean 65 $\mu g/m^3$, 24-hr avg.	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decrease lung functions and premature death
Sulfates	25 $\mu g/m^3$, 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardiopulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 $\mu g/m^3$, 30-day avg.	1.5 $\mu g/m^3$, calendar quarterly average	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to reduce the visual range to less than 10 miles at relative humidity less than 70%, 8-hour average (10 AM – 6 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent
Hydrogen Sulfide	0.03 ppm (42 $\mu g/m^3$), 1-hr avg.	None	Odor annoyance

Air Pollutant	Concentration/Averaging Time: State Standard	Concentration/Averaging Time: Federal Primary Standard	Most Relevant Health Effects
Vinyl Chloride**	0.01 ppm (26 $\mu g/m^3$), 24-hr avg.	None	Known carcinogen

Source: South Coast Air Quality Management District. Draft Environmental Assessment for: Proposed Amended Rule 2202 – On-Road Motor Vehicle Mitigation Options (Diamond Bar, California: South Coast Air Quality Management District, November 2003), Table 3-1, p. 3-2. This report may be reviewed on the SCAQMD website at http://www.aqmd.gov/ceqa/documents/2003/aqmd/draftea/2202/revisedea/rdea.doc.
$\mu g/m^3$ = microgram per meter cubed.
ppm = parts per million.
* *New and stricter state standards for PM are proposed by the ARB. They include: PM_{10} annual average of 20 $\mu g/m^3$ and new $PM_{2.5}$ annual average of 12 $\mu g/m^3$.*
** *The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

(a) Current Air Quality Summary

As noted above, unless otherwise indicated, the following information is derived primarily from the SCAQMD's 2003 AQMP, Chapter 2 – Air Quality and Health Effects, and Appendix II – Current Air Quality. The following discussion presents a regional overview of the Basin's air quality status. The project's site-specific current air quality conditions are discussed below. The project is located in Source Receptor Area 13, Santa Clarita Valley, in northwest Los Angeles County. Ambient Air Monitoring Station No. 090 monitors pollutant concentrations for this Source Receptor Area. As will be demonstrated later on in this EIR section, the Santa Clarita Valley area, did not register any of the maximum pollutant concentrations measured in 2001 for the Basin.

"In 2001, the maximum ozone, PM_{10}, and $PM_{2.5}$ concentrations exceeded federal standards by wide margins. Maximum 1-hour and 8-hour average ozone concentrations recorded (0.190 ppm in East San Gabriel Valley and 0.144 ppm in Central and East San Bernardino Valley areas) were 152 and 169 percent of the federal standard, respectively. Maximum 24-hour average and annual average PM_{10} concentrations (219 $\mu g/m^3$ recorded in Banning Airport area and 63.1 $\mu g/m^3$ recorded in the Metropolitan Riverside County area) were 146 and 125 percent of the federal 24-hour and annual average standards, respectively. Maximum 24-hour average and annual average $PM_{2.5}$ concentrations (98.0 $\mu g/m^3$ and 31.1 $\mu g/m^3$, both recorded in Metropolitan Riverside County area) were, respectively, 150 and 201 percent of the federal 24-hour and annual average standards. CO concentrations did not exceed the standards in 2013.[25] The highest 8-hour average CO concentration recorded (7.71 ppm in the South Central Los Angeles County area) was 81 percent of the federal CO standard.

[25] Preliminary data from 2002 indicates one violation of CO, which is allowed under the Clean Air Act for attainment classification purpose.

"Concentrations of other pollutants remained below the standards. The maximum annual average nitrogen dioxide NO_2 concentration (0.0419 ppm recorded in the East San Fernando Valley area) was 78 percent of the federal standard, and the maximum annual average sulfur dioxide (SO_2) concentration (0.0031 ppm recorded in Southwest Coastal Los Angeles County area) was 10 percent of the federal standard. The maximum sulfate concentration recorded (20.6 $\mu g/m^3$ in Southwest Coastal Los Angeles County area) was 82 percent of the state sulfate standard. The maximum quarterly average lead concentration recorded at any SCAQMD air monitoring station was 8 percent of the federal standard. However, higher concentrations of lead (32 percent of the standard) were recorded at special monitoring sites immediately adjacent to stationary sources (in Central Los Angeles area).

The federal ozone standard was exceeded on a maximum of 26 days (seven percent of days in the Central San Bernardino Mountains area). Exceedances of the federal 24-hour PM_{10} standard were recorded on a maximum of one day (two percent of days sampled at each of the locations in Banning Airport and Southwest San Bernardino Valley area), and the federal 24-hour $PM_{2.5}$ standard was exceeded on a maximum of 19 days (6 percent of days sampled, in Metropolitan Riverside County area)."[26]

The following sections present summary information on health effects and how frequently, and by how much of a margin, different areas of the Basin and SSAB exceeded the federal and state ambient air quality standards in 2001.

(b) Ozone (O_3) Specific Information

"Ozone is a colorless gas with a pungent odor. In general, it is not directly emitted, but is formed in the atmosphere as the result of sunlight acting on emissions of nitrogen oxides and organic gases such as hydrocarbons."[27] Please see the discussion of ozone, above in the subsection entitled Smog and Its Causes.

Health Effects

"Individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between

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26 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-5 to 2-6.

27 California Air Resources Board. "Ozone" [On line] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/ozone-1/ozone-1.htm>.

elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities.

"Ozone exposure under exercising conditions is known to increase the severity of the above mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes."[28]

Air Quality

"In 2001, the [SCAQMD] regularly monitored ozone concentrations at 28 locations in the Basin and SSAB. All areas monitored were below the stage 1 episode level (0.20 ppm), but the maximum concentrations in the Basin exceeded the health advisory level (0.15 ppm). Maximum ozone concentrations in the SSAB areas monitored by the [SCAQMD] were lower than in the Basin and were below the health advisory level."[29]

Table 4.4-3, 2001 Maximum 1-Hour Ozone Concentrations by Basin and County, and **Table 4.4-4, 2001 Maximum 8-Hour Ozone Concentrations by Basin and County**, show maximum 1-hour and 8-hour ozone concentrations by air basin and county, respectively.

Table 4.4-3
2001 Maximum 1-Hour Ozone Concentrations by Basin and County

Basin/County	Maximum 1-Hr Avg. (ppm)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	0.190	152	East San Gabriel Valley
Orange	0.125	100	Saddleback Valley
Riverside	0.152	122	Perris Valley
San Bernardino	0.184	147	Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	0.137	110	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-9.

28 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-8.

29 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-8.

Table 4.4-4
2001 Maximum 8-Hour Ozone Concentrations by Basin and County

Basin/County	Maximum 8-Hr Avg. (ppm)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	0.135	159	East San Gabriel Valley
Orange	0.098	115	Saddleback Valley
Riverside	0.136	160	Perris Valley
San Bernardino	0.144	169	Central San Bernardino Valley, East San Bernardino Valley
Salton Sea Air Basin			
Riverside	0.114	134	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-9.

"The number of days exceeding the federal standard varied widely by area. Areas along or nearby the coast did not exceed the federal standard, due in large part to the prevailing sea breeze which transports polluted air inland before high ozone concentrations can be reached. The standard was exceeded most frequently in the inland valleys extending from East San Gabriel Valley through the Riverside-San Bernardino area, and in the adjacent mountains. The Central San Bernardino Mountains area recorded the greatest number of exceedances of the state standard (88 days), federal standard (26 days) and health advisory level (12 days).

"The number of exceedances of the 8-hour federal ozone standard was also lowest at the coastal areas, increasing to a peak in the Riverside-San Bernardino Valley and adjacent mountain areas."[30]

(c) Carbon Monoxide (CO) Specific Information

"CO is a colorless, odorless gas. It results from the incomplete combustion of carbon-containing fuels such as gasoline or wood, and is emitted by a wide variety of combustion sources."[31]

Health Effects

"Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

30 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, pp. 2-9 to 2-10.

31 California Air Resources Board. "Carbon Monoxide." [On line] 8 January 2004. < http://www.arb.ca.gov/research/aaqs/caaqs/co/co.htm>.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reduction in birth weight and impaired neurobehavioral development has been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities. Additional research is needed to confirm these results."[32]

Air Quality

Carbon monoxide concentrations were measured at 23 locations in the Basin and neighboring SSAB areas in 2001. **Table 4.4-5, 2001 Maximum Carbon Monoxide Concentrations by Basin and County**, shows the 2001 maximum 8-hour average concentrations of carbon monoxide by air basin and county.

Table 4.4-5
2001 Maximum Carbon Monoxide Concentrations by Basin and County

Basin/County	Maximum 8-Hr Avg. (ppm)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	7.7	81	South Central L.A. County
Orange	4.7	49	Central Orange County, North Orange County
Riverside	4.5	47	Metropolitan Riverside County
San Bernardino	3.3	35	Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	1.5	16	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-13.

"Regarding the maximum 8-hour average carbon monoxide concentrations in the Basin in 2001, higher concentrations were limited to the areas of Los Angeles County where vehicular traffic is most dense, with the maximum concentration (7.71 ppm) recorded in the South Central Los Angeles County area. The Basin recorded the 6th highest maximum 8-hour average carbon monoxide concentration in the

32 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-12.

nation in 2001 and is one of the few areas in the country still designated as nonattainment for carbon monoxide."[33]

(d) Particulate Matter (PM_{10} and $PM_{2.5}$) Specific Information

"Suspended particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. 'Inhalable' PM consists of particles less than 10 microns in diameter, and is defined as 'suspended particulate matter' or 'PM_{10}.' Fine particles are less than 2.5 microns in diameter ($PM_{2.5}$)."[34]

Health Effects

"A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter.

The elderly, people with pre-existing respiratory and/or cardiovascular disease and children appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$."[35]

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33 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-12.

34 California Air Resources Board. "Particulate Matter." [On line] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm>.

35 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-14.

Air Quality, PM_{10}

The district monitored PM_{10} concentrations at 18 locations in 2001. Maximum 24-hour and annual average concentrations are shown in **Table 4.4-6, 2001 Maximum 24-hour Average PM_{10} Concentrations by Basin and County** and **Table 4.4-7, 2001 Maximum Annual Average PM_{10} Concentrations by Basin and County**, respectively.

"Higher concentrations associated with high winds in the desert areas were recorded in the Coachella Valley area of the [SSAB]. The data for samples collected on these high-wind days were excluded in accordance with U.S. EPA's Natural Event Policy.

"The federal annual PM_{10} standard was exceeded at only a few locations in the [SCAQMD] in the areas of Riverside and San Bernardino Counties in and around the Metropolitan Riverside County area and further inland in San Bernardino Valley areas. The federal 24-hour standard was also exceeded at two locations in Riverside and San Bernardino counties. The much more stringent state standards were exceeded in all areas of the Basin monitored in 2001."[36]

Table 4.4-6
2001 Maximum 24-hour Average PM_{10} Concentrations by Basin and County

Basin/County	Maximum 24-Hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	106	70	East San Gabriel Valley
Orange	93	62	Central Orange County
Riverside	219	146	Banning Airport
San Bernardino	166	110	Southwest San Bernardino Valley
Salton Sea Air Basin			
Riverside*	149*	99*	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 15.
**Adjusted for high-wind days in accordance with U.S. EPA's Natural Event Policy.*

36 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-14.

Table 4.4-7
2001 Maximum Annual Average PM_{10} Concentrations by Basin and County

Basin/County	Annual Average ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	45.3	90	East San Gabriel Valley
Orange	36.0	79	Central Orange County
Riverside	63.1	125	Metropolitan Riverside County
San Bernardino	52.4	104	Southwest San Bernardino Valley
Salton Sea Air Basin			
Riverside*	50.2*	99*	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 15.
**Adjusted for the high-wind days in accordance with U.S. EPA's Natural Event Policy.*

Air Quality $PM_{2.5}$

The district began regular monitoring of $PM_{2.5}$ in 1999 following the EPA's adoption of the national $PM_{2.5}$ standards in 1997. In 2001, $PM_{2.5}$ concentrations were monitored at 18 locations throughout the SCAQMD.[37] Maximum 24-hour and annual average concentrations are shown in **Table 4.4-8, 2001 Maximum 24-hour Average $PM_{2.5}$ Concentrations by Basin and County** and **Table 4.4-9, 2001 Maximum Annual Average $PM_{2.5}$ Concentrations by Basin and County**, respectively. Both 24-hour and annual $PM_{2.5}$ standards were exceeded at most locations in the Basin.

Table 4.4-8
2001 Maximum 24-hour Average $PM_{2.5}$ Concentrations by Basin and County

Basin/County	Maximum 24-Hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	94.7	145	East San Fernando Valley
Orange	70.8	108	Central Orange County
Riverside	98.0	150	Metropolitan Riverside County
San Bernardino	78.5	120	Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	44.7	68	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-16.

[37] South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-14.

Table 4.4-9
2001 Maximum Annual Average $PM_{2.5}$ Concentrations by Basin and County

Basin/County	Annual Average ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	26.1	168	South San Gabriel Valley
Orange	22.4	145	Central Orange County
Riverside	31.1	201	Metropolitan Riverside County
San Bernardino	26.2	169	Southwest San Bernardino Valley, Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	12.2	79	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-16.

Regarding $PM_{2.5}$ concentrations throughout the Basin, "similar to PM_{10} concentrations, $PM_{2.5}$ concentrations were higher in the inland valley areas of San Bernardino and Metropolitan Riverside counties. However, $PM_{2.5}$ concentrations were also high in Los Angeles county and central Orange county. The high $PM_{2.5}$ concentrations in Los Angeles and Orange counties are due to the secondary formation of smaller particulates resulting from mobile and stationary source activities. In contrast to PM_{10}, $PM_{2.5}$ concentrations were low in the Coachella Valley area of SSAB. PM_{10} concentrations are normally higher in the desert areas due to windblown and fugitive dust emissions."[38]

(e) Nitrogen Dioxide (NO_2) Specific Information

"Nitrogen dioxide (NO_2) is a pungent gas that is responsible for the reddish-brown tinge of smoggy air in [the Basin]. Sunlight causes NO_2 to react with organic gases to form ozone. NO_2 is one of the nitrogen oxides (NO_x) that are emitted from high-temperature combustion processes, such as those occurring in automobiles and power plants. Home water heaters and gas stoves also produce…NO_2."[39]

Health Effects

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in

38 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-16.

39 California Air Resources Board. "Nitrogen Dioxide." [On line] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/no2-1/no2-1.htm>.

healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

"In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2."[40]

Air Quality

In 2001, nitrogen dioxide concentrations were monitored at 23 locations. No area of the Basin or SSAB exceeded the federal or state standards for NO_2. Maximum annual average concentrations for 2001 are shown in **Table 4.4-10, 2001 Maximum Nitrogen Dioxide Concentrations by Basin and County**. The Basin has not exceeded the federal standard for nitrogen dioxide since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any U.S. county.

The state standard was not exceeded at any SCAQMD monitoring location in 2001. The highest 1-hour average concentration recorded (0.25 ppm in East San Fernando Valley) was 96 percent of the state standard.

Table 4.4-10
2001 Maximum Nitrogen Dioxide Concentrations by Basin and County

Basin/County	Maximum Annual Avg. (ppm)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	0.0419	78	East San Fernando Valley
Orange	0.0293	55	Central Orange County
Riverside	0.0247	46	Metropolitan Riverside County
San Bernardino	0.0384	72	Northwest San Bernardino Valley
Salton Sea Air Basin			
Riverside	0.0175	33	Coachella Valley

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-19.

40 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-18.

(f) Sulfur Dioxide (SO_2) Specific Information

"Sulfur dioxide (SO_2) is a gaseous compound of sulfur and oxygen. SO_2 is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing."[41]

Health Effects

"Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO_2. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor."[42]

Air Quality

"No exceedances of federal or state standards for SO_2 occurred in 2001 at any of the nine [SCAQMD] locations monitored. Though SO_2 concentrations remain well below the standards, SO_2 is a precursor to sulfate, which is a component of fine particulate matter, PM_{10} and $PM_{2.5}$. Standards for PM_{10} and $PM_{2.5}$ were both exceeded in 2001. Maximum concentrations of sulfur dioxide for 2001 are shown in [**Table 4.4-11, 2001 Maximum Sulfur Dioxide Concentrations by Basin and County**]. Sulfur dioxide was not

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41 California Air Resources Board. "Sulfur Dioxide." [On line] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/so2-1/so2-1.htm>.

42 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-19.

measured at SSAB sites in 2001. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued."[43]

Table 4.4-11
2001 Maximum Sulfur Dioxide Concentrations by Basin and County

Basin/County	Maximum 24-hr Avg. (ppm)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	0.012	8	Southwest Coastal Los Angeles County, South Coastal Los Angeles County
Orange	0.007	5	North Coastal Orange County
Riverside	0.011	8	Metropolitan Riverside County
San Bernardino	0.010	7	Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	N.D.	--	--

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-20.
N.D. = No Data. Historical measurements indicate concentrations are well below standards.

(g) Sulfates (SO_4) Specific Information

"Sulfates (SO_4) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features."[44]

Health Effects

"Most of the health effects associated with fine particles and sulfur dioxide at ambient levels are also associated with sulfates. Thus, both mortality and morbidity effects have been observed with an increase in ambient sulfate concentrations. However, efforts to separate the effects of sulfates from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as

43 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, pp. 2-19 to 2-20.

44 California Air Resources Board. "Sulfates." [On line] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm>.

sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved."[45]

Air Quality

"In 2001, the state sulfate standard was not exceeded anywhere in the Basin. Maximum concentrations by air basin and county are shown in [**Table 4.4-12, 2001 Maximum Sulfate Concentrations by Basin and County**]. No sulfate data were obtained at SSAB stations in 2001. Historical sulfate data showed concentrations in the SSAB areas to be well below the standard, and measurements have been discontinued."[46]

Table 4.4-12
2001 Maximum Sulfate Concentrations by Basin and County

Basin/County	Maximum 24-hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	20.6	82	Southwest Coastal Los Angeles County
Orange	N.D.	--	--
Riverside	10.7	43	Metropolitan Riverside Co.
San Bernardino	11.5	46	Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	N.D.	--	--

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-21.
N.D. = No Data. Historical measurements indicate concentrations are well below standards.

(h) Lead (Pb) Specific Information

Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past two decades.

Health Effects

"Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous

45 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-20.

46 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-21.

system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers."[47]

Air Quality

"The federal and state standards for lead were not exceeded in any area of the [SCAQMD] in 2001. There have been no violations of the standards at the [SCAQMD's] regular air monitoring stations since 1982, as a result of removal of lead from gasoline. However, special monitoring stations immediately adjacent to stationary sources of lead [(such as lead smelters and plating operations)] have recorded exceedances of the standards in very localized areas of the Basin as recently as 1991 for the federal standard and 1994 for the state standard. [**Table 4.4-13, 2001 Maximum Lead Concentrations by Basin and County**] shows the maximum concentrations recorded in 2001. The highest quarterly average lead concentration (0.49 $\mu g/m^3$ in Central Los Angeles), measured at special monitoring sites immediately adjacent to stationary sources of lead, was 32 percent of the federal standard.

The maximum monthly average lead concentration at the regular monitoring stations (0.23 $\mu g/m^3$ in the South Central Los Angeles County area) was 15 percent of the state standard. The maximum at the special monitoring sites immediately adjacent to sources (0.57 $\mu g/m^3$ in Central Los Angeles) was 38 percent of the standard."[48]

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47 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-21.

48 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 2-22.

Table 4.4-13
2001 Maximum Lead Concentrations by Basin and County

Basin/County	Maximum Quarterly Average ($\mu g/m^3$)	Percent of Federal Standard	Area
South Coast Air Basin			
Los Angeles	0.12	8	South Central Los Angeles County
Orange	N.D.	--	--
Riverside	0.03	2	Metropolitan Riverside County
San Bernardino	0.04	3	Northwest San Bernardino Valley, Central San Bernardino Valley
Salton Sea Air Basin			
Riverside	N.D.	--	--

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Chapter 2, p. 2-22.
N.D. = No Data. Historical measurements indicate concentrations are well below standards.

(i) Hydrogen Sulfide Specific Information

"Hydrogen sulfide is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation."[49]

Health Effects

"Breathing hydrogen sulfide at levels above the state standard will result in exposure to a very disagreeable odor. In 1984, an ARB committee concluded that the ambient standard for hydrogen sulfide is adequate to protect public health and to significantly reduce odor annoyance." [50]

Air Quality

Currently, the SCAQMD's monitoring stations throughout the Basin do not monitor this pollutant.[51]

49 California Air Resources Board. "Hydrogen Sulfide." [On line] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/h2s/h2s.htm>.

50 California Air Resources Board. "Hydrogen Sulfide." [On line] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/h2s/h2s.htm>.

51 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4 – A-22.

(j) Vinyl Chloride Specific Information

"Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents."[52]

Health Effects

"Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes in liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans." [53]

Air Quality

Currently, the SCAQMD's monitoring stations throughout the Basin do not monitor this pollutant.[54]

(k) Visibility Reducing Particles Specific Information

"Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt."[55]

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52 California Air Resources Board. "Vinyl Chloride." [On line] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/vc/vc.htm>.

53 California Air Resources Board. "Vinyl Chloride." [On line] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/vc/vc.htm>.

54 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4 – A-22.

55 California Air Resources Board. "Visibility Reducing Particles." [On line] 22 December 2003. http://www.arb.ca.gov/research/aaqs/caaqs/vrp-1/vrp-1.htm.

Health Effects

"The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze."[56]

Air Quality

Although the SCAQMD's monitoring stations throughout the Basin do not directly monitor this pollutant[57] this pollutant is measured indirectly as PM_{10} and $PM_{2.5}$.

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the State of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles.[58]

(1) Criteria Pollutant Emissions Inventory

SCAQMD's emissions inventory for the Basin from the 2003 AQMP is summarized in **Table 4.4-14, Annual Average Emissions by Major Source Type for Baseline Year 1997**. The emissions inventory for the anthropogenic (of human genesis) inventory is made up of stationary sources and mobile sources encompassing on-road and off-road mobile sources. On-road mobile sources include light-duty passenger vehicles; light-, medium-, and heavy-duty trucks; motorcycles, and urban buses. Off-road mobile sources include off-road vehicles, trains, ships, aircraft, and mobile equipment.

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56 California Air Resources Board. "Visibility Reducing Particles." [On line] 22 December 2003. http://www.arb.ca.gov/research/aaqs/caaqs/vrp-1/vrp-1.htm.

57 South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4 – A-22.

58 California Air Resources Board. "Visibility Reducing Particles." [On line] 22 December 2003. http://www.arb.ca.gov/research/aaqs/caaqs/vrp-1/vrp-1.htm.

The SCAQMD emissions inventory includes emissions in the Basin of TOG (total organic gases), VOC, CO, NO_x, SO_x, total suspended solids (TSP), PM_{10}, and $PM_{2.5}$.[59] Since ozone is formed by photochemical reactions involving the precursors VOC and NO_x, it is not inventoried. **Table 4.4-14** lists the 1997 (most recent) inventory for the criteria pollutants (including $PM_{2.5}$) in the Basin.

Table 4.4-14
Annual Average Emissions by Major Source Type for Baseline Year 1997
(ton/day)

Source Category	TOG	VOC	CO	NO_x	SO_x	TSP	PM_{10}	$PM_{2.5}$
Total Stationary and Area Sources	980.69	340.02	234.07	90.70	19.60	533.48	275.91	89.83
Total On-Road Vehicles	140.48	129.89	1,096.53	205.56	2.64	23.92	23.49	15.51
Total Other Mobile	122.27	113.85	1,104.41	241.08	54.25	19.05	18.34	15.91
Total	1,243.44	583.76	2,435.01	537.34	76.49	576.45	317.73	121.25

Source: South Coast Air Quality Management District, 2003 Air Quality Management Plan (Diamond Bar, California: South Coast Air Quality Management District) August 1, 2003, Appendix III, Attachment A.

As shown in **Table 4.4-14**, mobile sources are the major contributors to CO (90 percent), NO_x (83 percent), SO_x (74 percent), and VOC (42 percent) emissions in the Basin. Stationary and area sources are the major contributors to PM_{10} and $PM_{2.5}$ emissions (87 and 74 percent, respectively).

Lead and vinyl chloride inventories for the Basin are shown in **Table 4.4-15, 1998 Annual Average Day Toxic Emissions for the South Coast Air Basin**. Hydrogen sulfide, as discussed above, is primarily related to odors and would be inventoried as a nuisance. Visibility reducing particles are indirectly discussed above in the context of PM_{10} and $PM_{2.5}$. Sulfates are indirectly discussed above in the context of SO_x.

[59] The 2003 AQMP presents emission levels in the Basin for the criteria air contaminants and their precursors. Specifically, data are included for emissions of TOG, VOC, NO_x, SO_x, CO, particulate matter (PM), PM_{10} and fine suspended particulate less than 2.5 microns ($PM_{2.5}$). The $PM_{2.5}$ emissions are presented in this document because the U.S. EPA is in the process of adopting $PM_{2.5}$ air quality standards. Ozone is formed from photochemical reactions involving other air contaminants so it is not inventoried. Although air quality standards for NO_x and SO_x are based on NO_2 and SO_2, respectively, emissions of NO_x and SO_x are in the emissions inventory because multiple species of NO_x and SO_x contribute to the formation of particulate, and NO_x and VOC react in the presence of sunlight to produce ozone. TOG incorporates all gaseous compounds containing the element carbon with the exception of the inorganic compounds, CO, carbon dioxide (CO_2), carbonic acid, carbonates and metallic carbides. VOC, a subset of TOG, includes all organic gases in TOG except acetone, ethane, methane, methylene chloride, methylchloroform, perchloroethylene, methyl acetate, parachlorobenzotrifluoride, and a number of Freon-type gases. Important subsets of PM are PM_{10} and $PM_{2.5}$. In the 2003 AQMP, the amount of VOC in TOG and the amount of PM_{10} and $PM_{2.5}$ in PM are calculated for each process primarily using species and size fraction profiles provided by the ARB. South Coast Air Quality Management District. AQMP 2003. Appendix III, p. III-1-2. On line 22 December 2003. http://www.aqmd.gov/aqmp/docs/2003AQMP_AppIII.pdf>.

(2) Toxic Air Contaminants (TACs)

The following information has been obtained primarily from the SCAQMD's Multiple Air Toxics Exposure Study II, described below. TACs typically emitted in the Basin include the contaminants listed in **Table 4.4-15**.

(a) Cancer Risk

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens. In other words, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people will contract cancer over their lifetime, or 250,000 in a million, from all causes, including diet, genetic factors, and lifestyle choices. Approximately 2 percent of cancer deaths in the United States may be due to TACs.[60]

The Multiple Air Toxics Exposure Study II (MATES II), which is the most comprehensive study of urban toxic air pollution ever undertaken, shows that motor vehicles and other mobile sources of air pollution are the predominant source of cancer-causing air pollutants in the Basin. The SCAQMD's Governing Board directed staff to undertake the MATES II as part of the agency's environmental justice initiatives (e.g., EJ Initiative #7) adopted in late 1997.[61] A panel of scientists from universities, an environmental group, businesses and other government agencies helped design and guide the study. One goal of the study was to determine the cancer risk from toxic air pollution throughout the area by monitoring toxics continually for one year at ten monitoring sites. Another goal was to determine if there were any sites where TAC concentrations emitted by local industrial facilities were causing a disproportionate cancer burden on surrounding communities. To address this second goal, the SCAQMD monitored toxic pollutants at fourteen sites for one month each with three mobile monitors. Monitoring platforms were placed in or near residential areas adjacent to clusters of facilities. Although no TAC hotspots were identified, models show that elevated levels of toxic air pollutants can occur very close to facilities emitting TACs.

In the MATES II study, SCAQMD monitored more than thirty TACs at twenty-four sites over a one-year period in 1999. The SCAQMD collected more than 4,500 air samples and, together with the CARB, performed more than 45,000 separate laboratory analyses of these samples. In the study, SCAQMD calculated cancer risk assuming seventy years of continuous exposure to monitored levels of pollutants.

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60 Doll and Peto, 1981. The Causes of Cancer: Qualitative Estimates of Avoidance of Risks of Cancer in the United States Today. Journal of the National Cancer Institute, June 1981.

61 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study II (MATES II) (Diamond Bar, California: South Coast Air Quality Management District, March 2000), p. ES-1. See also http://www.aqmd.gov/matesiidf/matestoc.htm.

The MATES II found that the average carcinogenic risk throughout the Basin is approximately 1,400 in one million (1,400 x 10^{-6}). Diesel-fueled mobile sources represent the greatest contributors to TAC emissions in the Basin.[62]

(b) Non-Cancer Health Risks

For exposures to compounds that do pose a health risk, but not a cancer risk, it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The California Environmental Protection Agency and California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (REL) for non-carcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, referred to as the hazard index.

(c) Toxic Air Contaminants Inventory

The data available for TAC emissions inventories are not nearly as complete as the data for criteria pollutants. Starting in 1989, industrial facilities have been required to compile toxic emissions inventories under the AB 2588 program.[63] Companies subject to the program are required to report their TAC emissions to the SCAQMD.

The SCAQMD's first emissions inventory was compiled for thirty TACs for the year 1982 for stationary sources only. This inventory was updated during the preparation of the 1999 MATES II study, which consisted of an evaluation and a characterization of ambient air toxics data in the Basin. The MATES II inventory is the most up-to-date inventory prepared by the SCAQMD. It also estimated the cancer risk of several TACs. For the study, twenty of the original thirty pollutants were updated for the year 1998. Additionally, mobile source emissions for twelve of the twenty toxic pollutants were compiled. The stationary source data included 1,244 point sources and the mobile source inventory included only on-road motor vehicles. A summary of the 1998 emissions inventory is presented in **Table 4.4-15, 1998 Annual Average Day Toxic Emissions for the South Coast Air Basin**, which provides the estimated toxic emissions for selected compounds, by source category.

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62 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study II (MATES II) (Diamond Bar, California: South Coast Air Quality Management District, March 2000), p. ES-9.

63 In September 1987, the California Legislature established the AB 2588 air toxics "Hot Spots" program. It requires facilities to report their air toxics emissions, ascertain health risks, and to notify nearby residents of significant risks. The emissions inventory and risk assessment information from this program has been incorporated into this report. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Table 4.4-15
1998 Annual Average Day Toxic Emissions for the South Coast Air Basin
(lbs/day)

Pollutant	On-Road	Off-Road	Point	AB2588	Area	Total
Acetaldehyde[a]	5,485.8	5,770.3	33.9	57.1	189.1	11,536.2
Acetone[b]	4,945.8	4,824.7	3,543.5	531.4	23,447.4	37,292.8
Benzene	21,945.5	6,533.4	217.7	266.8	2,495.4	31,458.8
Butadiene [1,3]	4,033.8	1,566.1	6.7	2.0	151.3	5,759.9
Carbon tetrachloride	0.0	0.0	8.8	1.8	0.0	10.6
Chloroform	0.0	0.0	0.0	35.5	0.0	35.5
Dichloroethane [1,1]	0.0	0.0	0.0	0.1	0.0	0.1
Dioxane [1,4]	0.0	0.0	0.0	105.0	0.0	105.0
Ethylene dibromide	0.0	0.0	0.0	0.2	0.0	0.2
Ethylene dichloride	0.0	0.0	4.9	17.6	0.0	22.5
Ethylene oxide	0.0	0.0	58.1	12.3	454.1	524.4
Formaldehyde[a]	16,664.9	16,499.3	521.6	674.7	1,107.5	35,468.0
Methyl Ethyl Ketone[a]	905.1	906.9	3,240.2	385.9	14,535.4	19,973.5
Methylene chloride	0.0	0.0	1,378.6	1,673.6	94,21.7	12,473.9
Methyl tertiary butyl ether (MTBE)	58,428.9	2,679.2	40.5	434.4	54,73.7	67,056.7
p-Dichlorobenzene	0.0	0.0	0.0	4.5	3,735.6	3,740.1
Perchloroethylene	0.0	0.0	4,622.0	2,249.1	22,813.1	29,684.2
Propylene oxide	0.0	0.0	0.0	22.3	0.0	22.3
Styrene	1,114.8	287.1	447.0	3,836.7	21.4	5,707.0
Toluene	63,187.6	11,085.9	5,689.6	3,682.4	52,246.7	135,892.2
Trichloroethylene	0.0	0.0	1.1	58.0	2,550.3	2,609.3
Vinyl chloride	0.0	0.0	0.0	4.3	0.0	4.3
Arsenic	0.1	0.3	2.7	0.7	21.4	25.2
Cadmium	1.6	1.5	0.5	0.7	27.5	31.8
Chromium	2.4	2.3	3.9	2.2	302.2	313.0
Diesel particulate	23,906.3	22,386.3	0.0	5.4	815.3	47113.4
Elemental carbon[c]	27,572.1	6,690.3	702.8	0.0	16,770.5	51,735.7
Hexavalent chromium	0.4	0.4	0.3	1.0	0.1	2.2
Lead	0.7	0.9	1.9	24.5	1,016.3	1,044.3
Nickel	2.5	2.2	2.9	21.6	85.6	114.9
Organic carbon	16,426.2	153,81.8	0.0	0.0	108,612.1	140,420.2
Selenium	0.1	0.1	3.0	5.7	2.6	11.6
Silicon[b,c]	68.6	67.6	167.2	0.0	248,614.0	248,917.4

Source: South Coast Air Quality Management District, Multiple Air Toxics Exposure Study II (Diamond Bar, California: South Coast Air Quality Management District) March 2000, Table 4.2.

[a] *Primarily emitted emissions. These materials are also formed in the atmosphere as a result of photochemical reactions.*

[b] *Acetone and silicon are not toxic compounds. Their emissions are included in this table because they were measured in the sampling program and were subsequently modeled for the purpose of model evaluation.*

[c] *Includes elemental carbon from all sources (including diesel particulate).*

c. Local Climate

The coastal area of the Basin is dominated by a semi-permanent, subtropical, Pacific high-pressure system. Generally mild, the climate is tempered by cool sea breezes, but may be infrequently interrupted by periods of extremely hot weather, passing winter storms, or Santa Ana winds. The project site is located further inland where the temperature is generally higher and the relative humidity lower than along the coast.

The project site is located in the transitional microclimatic zone of the Basin, which is located between two climatic types, termed valley marginal and high desert. Situated far enough from the ocean to usually escape coastal damp air and fog, the summers are hot and the winters are sunny and warm. Summer nights are pleasantly cool and the surrounding slopes drain off cold air near the ground on clear winter nights.

The South Coast Air Basin both transports and receives air pollutants from the coastal portions of Ventura and Santa Barbara counties that are located in the South Central Coast Air Basin, which also receives air pollutants from oil and gas development operations on the outer continental shelf.

Climate in the Santa Clarita Valley is relatively mild and annual average daytime temperatures range from 89.7 degrees Fahrenheit (F) in summer to 63.6 degrees F in winter. Low temperatures average 58.9 degrees F in summer and 41.3 degrees F in winter. In wintertime during calm, clear nights, the localized mountain/valley wind patterns are enhanced and cool air blows down from the mountains towards the Valley floor. Annual precipitation in the Santa Clarita Valley is 13.10 inches, which occurs almost exclusively from late October to early April. As elsewhere in the Basin, precipitation is higher in the mountains than in the Valley. Portions of the Santa Susana and San Gabriel Mountains, which form the outer limits of the Valley, receive between 22 and 24 inches of rainfall per year.

Predominant wind patterns for the greater Santa Clarita Valley area are typical for areas in which valleys and mountains are located in proximity to one another. During the day, onshore winds reach the Valley and are enhanced by local topographical features. During the night, surface radiation cools the air in the mountains and hills, which flows down the Valley, producing a gentle wind pattern (**Figure 4.4-2, Dominant Wind Patterns in the Basin**). The predominant daytime wind flows from the south/southeast as the effects of the regional onshore flow are modified by the up-valley flow from the San Fernando Valley through the Newhall Pass. This pattern is most dominant during summer, the peak smog season. At night, local winds flow down the Santa Clara River Valley as winds flowing from the east.

d. Local Ambient Air Quality

(1) Source Receptor Area 13

To monitor the concentrations of the criteria pollutants, the SCAQMD has divided the Basin into source receptor areas (SRAs) in which its thirty-three air quality monitoring stations are operated. The project site is located within SRA 13, which encompasses the Santa Clarita Valley west to the Ventura County line. The station that monitors this SRA (No. 090) is located approximately 3.0 miles south of the project site at 12th Street and Placerita Canyon Road. This station presently only monitors pollutant concentrations of ozone, CO, NO_2, and PM_{10}.[64] No other station monitors air pollutant concentrations in the Santa Clarita Valley.

Table 4.4-16, Ambient Pollutant Concentrations Registered in SRA 13, lists the ambient pollutant concentrations registered and the violations of state and federal standards that have occurred at the Santa Clarita monitoring station from 1998 through 2002 preliminary data (most recent data available as of this writing).

As shown, the Santa Clarita monitoring station has registered values above state and federal standards for ozone and the state standard for PM_{10}. Concentrations of CO and NO_2 have not been exceeded within the Santa Clarita Valley and concentrations of the other two criteria pollutants, sulfur dioxide and lead, have not been exceeded anywhere within the Basin since 1984 for CO and 1982 for NO_2.[65]

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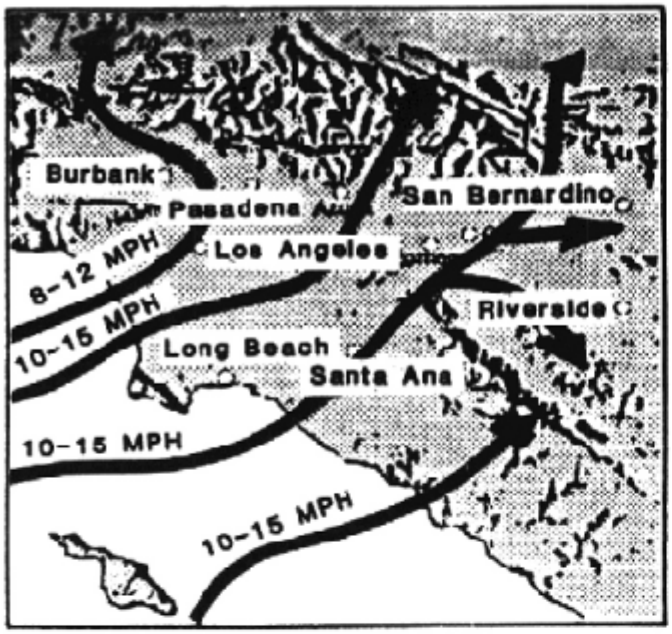
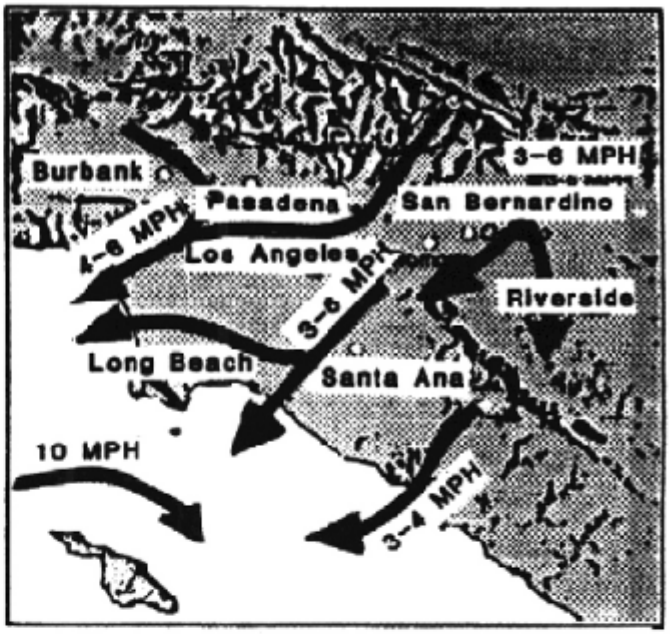
64 As late as 1991, this station also monitored SO_2, pollutant concentrations for the Santa Clarita Valley. South Coast Air Quality Management District. 2003 AQMP. [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Tables A-4 – A-22.

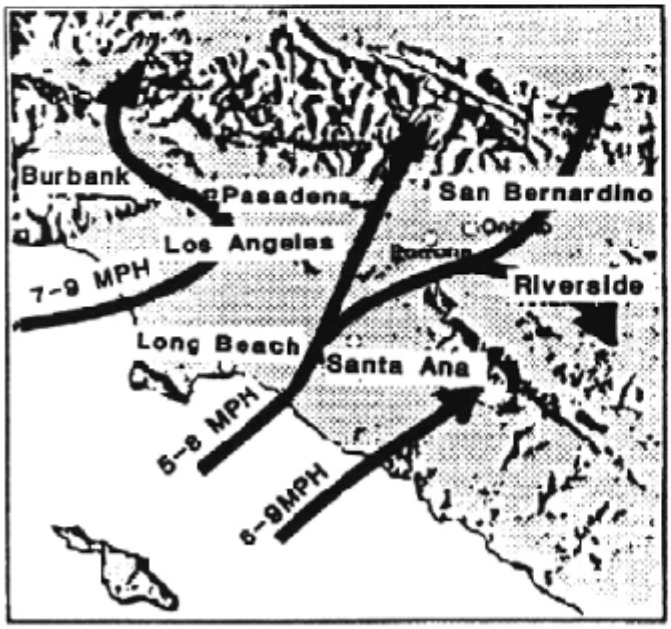
65 South Coast Air Quality Management District. "2003 AQMP." [On line] December 22, 2003. < http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Attachment A, Tables A-21 and A-22.



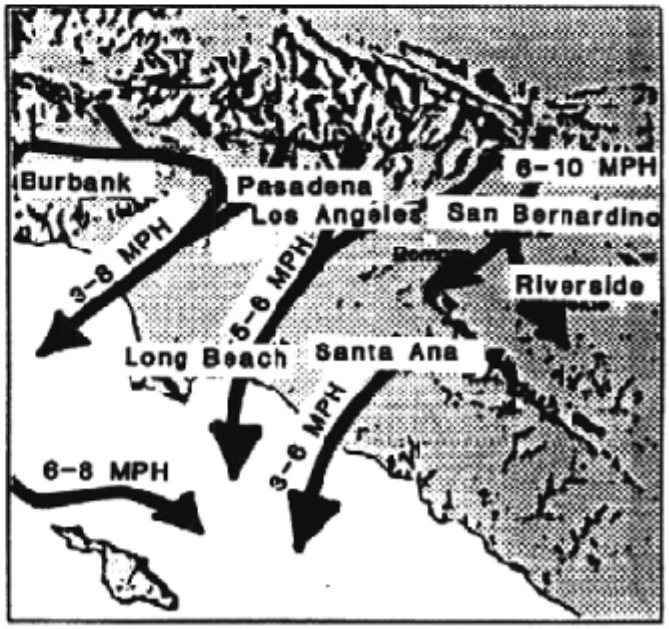
Typical Summer Daytime Ocean Winds
(noon to 7:00 pm)



Typical Summer Night Drainage Winds
(midnight to 5:00 am)



Typical Winter Daytime Ocean Winds
(noon to 7:00 pm)



Typical Winter Night Drainage Winds
(midnight to 5:00 am)

NOT TO SCALE

SOURCE: South Coast Air Quality Management District, CEQA Air Quality Handbook

FIGURE **4.4-2**

Dominant Wind Patterns in the Basin

Table 4.4-16
Ambient Pollutant Concentrations Registered in SRA 13

Pollutant	Standards[1,2]	Year 1998	1999	2000	2001	2002
SANTA CLARITA MONITORING STATION						
OZONE (O_3)						
Maximum 1-hour concentration monitored (ppm)		0.18	0.12	0.13	0.184	0.169
Number of days exceeding federal standard	>0.12 ppm	16	0	1	9	32
Number of days exceeding state standard	>0.09 ppm	38	18	31	49	81
Number of days exceeding Health Advisory	≥0.15 ppm	0	0	0	2	8
CARBON MONOXIDE (CO)						
Maximum 1-hour concentration monitored (ppm)		8	7	6	6	3
Maximum 8-hour concentration monitored (ppm)		3.4	3.6	4.9	3.14	1.9
Number of days exceeding federal 8-hr standard	≥9.5 ppm	0	0	0	0	0
Number of days exceeding state 8-hour standard	≥9.0 ppm	0	0	0	0	0
NITROGEN DIOXIDE (NO_2)						
Maximum 1-hour concentration monitored (ppm)		--	0.10	0.10	0.10	0.10
Number of days exceeding state standard	>0.25 ppm 1-hour	--	0	0	0	0
PARTICULATE MATTER (PM_{10})						
Maximum 24-hour concentration ($\mu g/m^3$)		60	75	64	62	61
Number of samples		55	56	61	61	60
Number of samples exceeding federal standard	>150 $\mu g/m^3$	0	0	0	0	0
Number of samples exceeding state standard	>50 $\mu g/m^3$	3	12	4	4	7
Percent of samples exceeding federal standard	>150 $\mu g/m^3$	0	0	0	0	0
Percent of samples exceeding state standard	>50 $\mu g/m^3$	5.5	21	7	7	11.7
PARTICULATE MATTER ($PM_{2.5}$)[3]	--	--	--	--	--	--

-- = pollutant not monitored
Sources: South Coast Air Quality Management District, Air Quality Data (for 1998, 1999, 2000, and 2001), (Diamond Bar, California: South Coast Air Quality Management District, 1999, 2000, 2001, and 2002). 2002 data were obtained from South Coast Air Quality Management District. Draft Environmental Assessment for: Proposed Amended Rule 2202 – On-Road Motor Vehicle Mitigation Options (Diamond Bar, California: South Coast Air Quality Management District, November 2003), pp. 3-3 through 3-10. This report may be reviewed on the SCAQMD website at http://www.aqmd.gov/ceqa/documents/2003/aqmd/draftea/2202/revisedea/rdea.doc.

[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

[2] *Federal and state standards are for the same time period as the maximum concentration measurement unless otherwise indicated.*

[3] *$PM_{2.5}$ is not monitored in SRA 13.*

(2) Local Vicinity Emissions

The vicinity of the project site is characterized by residences, commercial, light industrial and institutional uses, the Rio Vista Water Treatment Plant to the north, park and recreational uses, open space, and the Santa Clara River. Emissions sources include area sources, such as space heating, cooking, wood-burning stoves and fireplaces, and water heating; stationary emissions, such as gas stations, on-site dry cleaners, and fast-food restaurants with underfired charbroilers; and mobile activities, primarily automobile and truck traffic.

Motor vehicles are the primary sources of pollutants within the project vicinity. Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." Section 9.4 of the CEQA Air Quality Handbook identifies carbon monoxide (CO) as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. Sensitive receptors are populations that are more susceptible to the effects of air pollution than the population at large.[66] The SCAQMD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities.[67] As indicated in **Table 4.4-16** above, CO concentrations are not an issue in SRA 13 and are not expected to be an issue in the project study area,[68] because the existing background concentrations for SRA 13 are well below the CO standards. Nonetheless, a CO hotspot analysis was conducted for existing traffic conditions in the project study area.

The following existing intersections were identified by a field survey as intersections in the project study area with nearby sensitive receptors that could be affected by project-generated traffic:

- Magic Mountain Parkway/Valencia Boulevard,
- Seco Canyon Road/Bouquet Canyon Road,
- Sierra Highway/Golden Valley Parkway,
- Soledad Canyon Road/Rainbow Glen, and
- Soledad Canyon Road/Whites Canyon.

Maximum existing CO concentrations for project study area intersections were calculated for peak hour traffic volumes at each of these intersections using CALINE4, a dispersion model for predicting CO concentrations. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak hour turning volumes to ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening model developed by the Bay Area Air Quality Management District. The simplified model, which is available on the SCAQMD

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66 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 5-1.

67 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 5-7.

68 The project study area includes all intersections and roadways that could potentially be significantly impacted by project traffic (project traffic volumes would diminish outside of the project study area, thereby reducing the potential for project-related CO hotspots outside of the study area).

website for use in CEQA documents, is intended as a screening analysis that identifies a potential CO hotspot. If a hotspot is identified, the complete CALINE4 model is then utilized to determine precisely the CO concentrations predicted at the intersections in question. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway and 90° to the secondary road, wind speed of less than one meter per second, and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations.

The results of these calculations are presented in **Table 4.4-17, Existing Carbon Monoxide Concentrations at Nearby Sensitive Receptors**, for representative receptors located 50 and 100 feet from each roadway. As shown, the CALINE4 screening model predicts that, under worst-case conditions, no existing CO concentrations would exceed the state and federal 1- and 8-hour CO standards near these intersections.

(3) Site-Specific Emissions

Aside from the construction storage area on the project site, the site is undeveloped and does not generate air emissions with the exception of fugitive dust from the disturbed areas on the site.

Table 4.4-17
Existing Carbon Monoxide Concentrations at Nearby Sensitive Receptors

	50 Feet		100 Feet	
Intersection	**1-Hour[1]**	**8-Hour[2]**	**1-Hour[1]**	**8-Hour[2]**
Magic Mountain Parkway/Valencia Parkway	7.3	4.1	7.0	3.8
Seco Canyon Road/Bouquet Canyon Road	8.6	5.0	7.9	4.5
Sierra Highway/Golden Valley Parkway	6.8	3.7	6.6	3.5
Soledad Canyon Road/Rainbow Glen	7.8	4.4	7.3	4.1
Soledad Canyon Road/Whites Canyon Road	7.6	4.2	7.1	3.9

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 4.4**.*
[1] *State standard is 20.0 parts per million. Federal standard is 35 parts per million.*
[2] *State and federal standard is 9.0 parts per million.*

4. PROPOSED IMPROVEMENTS AND EXPECTED TRANSIT USE

The project applicant proposes residential, commercial, and recreational uses on the site, all of which would include sidewalks, bike lanes, trails, and trees that would shade buildings. The sidewalks, bike lanes, and trails would encourage alternative modes of travel in lieu of automobiles, while the shade trees would reduce the amount of energy required for air conditioning and the corresponding energy generation emissions.

The Project Study Area is served by two major transit carriers: the Santa Clarita Transit (SCT) system operated by the City of Santa Clarita and Metrolink operated by the Southern California Regional Rail Authority (SCRRA). The SCT largely serves the Santa Clarita Valley, while Metrolink currently serves Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties.

SCT commuter buses provide regional service to downtown Los Angeles, the San Fernando Valley, and the Antelope Valley. Existing commuter bus service within a quarter mile radius of the proposed project includes Route 796 to Warner Center/Thousand Oaks, Route 797 to Century City/UCLA, Route 798 to Van Nuys/Sherman Oaks, and Route 799 to Downtown Los Angeles. Existing fixed-route bus service within a quarter mile radius of the proposed project consists of SCT Routes 3, 4, 5, 6, 501, 502, 503, and 504 (see **Section 4.3, Traffic/Access**, for a detailed description of these routes).

In addition to bus service, the Santa Clarita Metrolink Rail Station is located just south of the project site on Soledad Canyon Road. Metrolink provides commuter rail service between the Antelope Valley and Downtown Los Angeles, and also links Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties with convenient transfer service between the bus and rail systems. An eventual Metrolink extension along the SR-126 corridor to Ventura County is part of the long-range transit plans prepared by Ventura County, City of Santa Clarita and SCAG. The project would facilitate the use of public transit by placing housing and commercial within close proximity to existing public transit facilities.

Using data from May 2003 (most recent data available), average weekday ridership on the Antelope Valley Line of the Metrolink, which serves the Santa Clarita Valley, was 5,609 people,[69] with approximately 17.5 percent boarding at the Santa Clarita station.[70] According to Metrolink

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69 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>. The Antelope Valley Line has nine stations that run from Lancaster to Glendale.

70 City of Santa Clarita. "City of Santa Clarita Press Releases: Metrolink Ridership Soars in Santa Clarita." [Online] 21 November 2002. <http://www.santa-clarita.com/cityhall/press/o73101h.htm>.

management, the overall regional system has removed 22,259 cars per day from regional roadways, which represents 2.9 percent of the freeway traffic on freeways that run parallel to the Metrolink lines.[71] The use of these mass transit facilities has helped to reduce roadway congestion, fuel consumption, and air emissions within the region.

The project site is also within 7 miles of existing job centers (e.g., Valencia Commerce Center [please see **Section 4.3, Traffic/Access** for a description of the Valencia Commerce Center], Valencia Industrial Center, Corporate Center, Valencia Gateway, Centre Point Business Park, Rye Canyon Business Park, Valencia Market Place, and Town Center) that provide employment opportunities to many Santa Clarita Valley residents. Because of the proximity of the project site to these job centers, many Santa Clarita Valley residents do not have to commute to more distant employment centers in the San Fernando Valley, Ventura County, or beyond. The project site would also be linked to various employment, shopping, and recreation areas in the Santa Clarita Valley through the community trails and paseos. Although not included into model analysis, use of these facilities could reduce the need for some motor vehicle trips. As a result of reduced commutes and other vehicle trips, vehicle miles traveled and, consequently, air pollutant emissions could be reduced.

5. PROJECT IMPACTS

Emissions that can adversely affect air quality originate from various activities. A project generates emissions both during the period of its construction and through ongoing daily operations. Construction and operational area and mobile source emissions were calculated using URBEMIS2002, which is a land use and transportation based air quality model developed (Jones and Stokes) in cooperation with the ARB and air quality management districts and air pollution control districts throughout the state. It is designed to estimate regional air emissions from new development projects, including construction emissions. The model calculates the volume and type of air emissions released into the entire air basin, and also accounts for specific meteorological conditions and topography that characterize each specific air basin in California. Construction emissions were estimated using SCAQMD approved emission factors and assumptions that are already built into the model.

Conservatively, this analysis has utilized a site development scenario that is projected to occur over a 51-month period during which different portions of the site would be developed at different times. Based on a construction timeline that the applicant prepared for the project, fourteen individual construction subphases were identified (subphases A through N), as presented in **Table 4.4-18,**

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71 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>.

Construction Subphases. Each subphase is represented by a continuous activity in one or more areas of the site and accounts for any overlap in construction activities that may occur. As a shown in the table, various stages of development (e.g., clearing and grading, pavement and asphalt installation, and building construction) would occur simultaneously on the site, resulting in a rise and fall of the amount of construction equipment on the site during the 51-month buildout of the project, as well as a rise and fall in construction emissions generated at the site.

Due to the complexity of the proposed site development and the limitations of URBEMIS2002 in that construction phases cannot be calculated to overlap as they would under normal circumstances, a more precise construction emissions analysis was conducted for the project using emission factors and methodologies presented in the ARB's Software Users' Guide [for] URBEMIS2002 for Windows with Enhanced Construction Module (May 2002).[72]

Development of the project would generate air emissions from a wide variety of area, mobile, and stationary sources. Construction-related emissions can be categorized as either on site or off site. On-site emissions generated during construction principally consist of exhaust emissions (NO_X, SO_X, CO, VOC, and PM_{10}) from heavy-duty diesel and gasoline powered construction equipment operation, fugitive dust (PM_{10}) from disturbed soil, and evaporative VOC emissions from asphaltic paving, traffic striping, and painting. Off-site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM_{10}) from worker commute trips, equipment and material delivery trips, and haul truck material removal trips to and from the construction site.

Once the proposed uses are constructed and occupied, emissions would be generated by area sources such as water and space heaters, wood-burning stoves and fireplaces, gasoline powered landscape maintenance equipment, and consumer products (e.g., air fresheners, automotive products, household cleaners, and personal care products). Mobile source emissions would be generated by motor vehicle travel associated with occupancy of the proposed development. Stationary source emissions could be generated from SCAQMD permitted sources (i.e., charbroiler and gas station) operated in relation to the proposed commercial uses.

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72 California Air Resources Board. "URBEMIS2002 Program." [On line] 22 December 2003. < http://www.arb.ca.gov/planning/urbemis/urbemis2002/urbemis2002.htm>.

Table 4.4-18
Construction Subphases

Subphase	Activity	Active Acreage	Length of Subphase (Weeks)	Single-Family Units	Multi-Family Units	Comm'l Square Footage
A, Weeks 1 thru 19	Clear/Grading (All Areas)	56.85	19			
B, Weeks 20 thru 25	Clear/Grading (All Areas)	17.95	6			
	Pavement/Asphalt (A1 & D)	4.28				
C, Weeks 26 thru 30	Clear/Grading (All Areas)	14.96	5			
	Pavement/Asphalt (A1 & D)	3.57				
D, Weeks 31 thru 44	Clear/Grading (All Areas)	41.89	14			
	Pavement/Asphalt (A1 & D)	4.15				
	Pavement/Asphalt (A2, B, & C)	5.84				
E, Weeks 44 thru 50	Clear/Grading (All Areas)	17.95	6			
	Pavement/Asphalt (A1 & D)	1.78				
	Pavement/Asphalt (A2, B, & C)	2.50				
	Building Construction (A1)	1.69		9		
	Building Construction (D)	1.61			31	
F, Weeks 51 thru 89	Pavement/Asphalt (A2, B, & C)	27.84	39			
	Building Construction (A1)	11.00		56		
	Building Construction (D)	10.46			201	
G, Weeks 90 thru 94	Pavement/Asphalt (A2, B, & C)	3.57	5			
	Building Construction (A1)	1.41		7		
	Building Construction (D)	1.34			26	
	Building Construction (A2 & B)	1.78		8		
H, Weeks 95 thru 99	Pavement/Asphalt (A2, B, & C)	3.57	5			
	Building Construction (A1)	1.41		7		
	Building Construction (D)	1.34			26	
	Building Construction (A2 & B)	1.78		8		
	Building Construction C	3.10			33	
I, Weeks 100 thru 105	Pavement/Asphalt (A2, B, & C)	4.28	6			
	Building Construction (A1)	1.69		9		
	Building Construction (D)	1.61			31	
	Building Construction (A2 & B)	2.13		10		
	Building Construction (C)	3.72			40	
	Building Construction (Comm'l)	6.00				14,118
J, Weeks 106 thru 107	Building Construction (A1)	0.56	2	3		
	Building Construction (D)	0.54			10	
	Building Construction (A2 & B)	0.71		3		
	Building Construction (C)	1.24			13	
	Building Construction (Comm'l)	3.00				4,706
K, Weeks 108 thru 116	Building Construction (A1)	2.54	9	13		
	Building Construction (A2 & B)	3.20		15		
	Building Construction (C)	5.59			60	
	Building Construction (Comm'l)	3.00				21,176
L, Weeks 117 thru 157	Building Construction (A1)	11.56	41	59		
	Building Construction (A2 & B)	14.58		67		
	Building Construction (C)	25.45			273	
M, Weeks 158 thru 200	Building Construction (A1)	12.13	43	62		
	Building Construction (A2 & B)	15.30		70		
N, Weeks 201 thru 219	Building Construction (A2 & B)	7.11	20	**33**	**0**	**0**

a. Significant Thresholds Criteria

Although the City of Santa Clarita has an Air Quality Element in its General Plan the City has not officially adopted thresholds of significance for air quality impacts. Therefore, in the absence of such thresholds, EIRs prepared for projects in the City use the thresholds recommended by the SCAQMD in its CEQA Air Quality Handbook. The City has determined that these thresholds are appropriate. SCAQMD's thresholds for both construction and operational emissions are defined below.

(1) Construction Emission Thresholds

The SCAQMD recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant:[73]

- 24.75 tons per quarter or 550 pounds per day of CO;
- 2.5 tons per quarter or 75 pounds per day of VOC;
- 2.5 tons per quarter or 100 pounds per day of NO_x;
- 6.75 tons per quarter or 150 pounds per day of SO_x;
- 6.75 tons per quarter or 150 pounds per day of PM_{10}.

(2) Operational Emissions

The SCAQMD has recommended two types of air pollution thresholds to assist lead agencies in determining whether or not the operational phase of a project's development would be significant. These are identified in the following discussion under Emission Significance Thresholds and Additional Indicators of Potential Air Quality Impacts. The SCAQMD recommends that a project's impacts be considered significant if any of these operational thresholds is exceeded.

(a) Emission Significance Thresholds

The SCAQMD has established these thresholds, in part, based on Section 182(e) of the Federal CAA, which identifies 10 tons a year of VOC as the significance level for stationary sources of emissions in extreme non-attainment areas for ozone.[74] As discussed earlier, VOC and NO_x undergo photochemical

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73 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 6-4.

74 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 6-1.

reactions in sunlight to form ozone and the Basin is the only extreme non-attainment area for ozone in the United States. This emission threshold has been converted to a pound per day threshold for the operational phase of a project. Thresholds for other emissions have been identified based on their levels in the Basin in comparison with ozone levels. Because they are converted from a CAA threshold, the SCAQMD believes that these thresholds are based on scientific and factual data.[75] Therefore, the District recommends that the following thresholds be used by lead agencies in making a determination of operation-related project significance:[76]

- 550 pounds per day of CO;
- 55 pounds per day of VOC;
- 55 pounds per day of NO_x;
- 150 pounds per day of SO_x;
- 150 pounds per day of PM_{10}.

(b) Additional Indicators of Potential Air Quality Impacts

The SCAQMD recommends that projects meeting any of the following criteria also be considered to have significant air quality impacts:[77]

- 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 an area which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's build-out year;
- Project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot;
- Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors;
- Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety;

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75 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 6-1.

76 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 6-2.

77 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), pp. 6-2 – 6-3.

- Project could emit a toxic air contaminant regulated by SCAQMD rules or that is on a federal or state air toxic list;
- Project could be occupied by sensitive receptors within one quarter mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401; or
- Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of one in one million.

The following discussion reviews the project's potential impacts relative to each of the recommended significance criteria identified above.

b. Construction-Related Impacts

(1) Construction Emissions

As mentioned above, construction-related emissions can be designated as either on site or off site. On-site emissions generated during construction principally consist of exhaust emissions (NO_X, SO_X, CO, VOC, and PM_{10}) from heavy-duty diesel powered construction equipment operation, fugitive dust (PM_{10}) from disturbed soil, and evaporative VOC emissions from asphaltic paving, and architectural coatings (i.e., painting). Off-site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM_{10}) from worker commute trips. Emissions during the construction phase are also a result of truck trips made for equipment and materials delivery to remove wastes and unused materials from the construction site.

Development of the proposed project would require site preparation (i.e., removal of the existing construction storage yard and accessory buildings, clearing, and grading); pavement and asphalt installation (including infrastructure improvements); and construction of the proposed residential, commercial, and recreational uses. The few permanent structures that exist at the storage yard would be demolished concurrently with on-site grading and emissions from their demolition are factored into the site grading activities. Site buildout would occur over 51 months during which, as noted above, emissions would be generated by on-site stationary sources, heavy-duty construction vehicles, on-road trucks, and construction worker vehicles. In addition, fugitive dust would be generated by grading and pavement installation.

Because of the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each construction subphase. **Table 4.4-19, Estimated Unmitigated Construction Emissions**, nonetheless, conservatively identifies daily emissions associated with construction based on information provided

by the project applicant and on other information provided in the Software Users' Guide [for] URBEMIS2002 for Windows with Enhanced Construction Module (May 2002).[78] (These assumptions have been entered into the spreadsheets that are available for review in **Appendix 4.4** of the EIR.) These results are also based on the assumption that all of the construction equipment in each subphase would operate continuously over an 8-hour period. In reality, this would not occur as most equipment would operate for only a fraction of each workday. Another assumption is that all construction equipment would be properly maintained, grading activities would conform to Rule 403 to control fugitive dust emissions, and that low VOC emission asphalt and architectural coating would be used. As shown in **Table 4.4-19**, the project's construction-related emissions would exceed one or more of the SCAQMD's CO, VOC, NO_x, and PM_{10} thresholds of significance during every subphase of the 51-month project construction period.

It is expected that the project's construction-related activities will either emit the other criteria pollutants (i.e., sulfates, hydrogen sulfide, lead, vinyl chloride, and visibility reducing particles) in nominal quantities (i.e., sulfates), not at all (i.e., hydrogen sulfide, lead, and vinyl chloride), or will be accounted for by the pollutants actually estimated in this analysis (i.e., visibility reducing particles). Note that NO_x and VOC are ozone precursors and NO_2, SO_2, and $PM_{2.5}$ are subset of NO_x, SO_x, and PM_{10}, respectively.

Table 4.4-19
Estimated Unmitigated Construction Emissions

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
A, Weeks 1 thru 19					
Unmitigated Emissions Total	1,211.71	164.86	1,281.31	0.02	1,403.74
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**
Notes: No Demolition, Pavement and Asphalt, or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403.					
B, Weeks 20 thru 25					
Unmitigated Emissions Total	1,534.02	199.59	1,454.73	0.03	1,409.66
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					

78 California Air Resources Board. "URBEMIS2002 Program." [On line] 22 December 2003. < http://www.arb.ca.gov/planning/urbemis/urbemis2002/urbemis2002.htm>.

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
C, Weeks 26 thru 30					
Unmitigated Emissions Total	1,347.01	175.84	1,286.35	0.03	1,178.15
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					
D, Weeks 31 thru 44					
Unmitigated Emissions Total	1,494.80	129.97	1,395.77	0.02	1,406.76
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					
E, Weeks 44 thru 50					
Unmitigated Emissions Total	1,509.17	264.41	1,400.06	0.05	639.35
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	**Yes**
Notes: No Demolition during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt and architectural coatings.					
F, Weeks 51 thru 89					
Unmitigated Emissions Total	278.97	105.94	254.92	0.04	11.46
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	**Yes**	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
G, Weeks 90 thru 94					
Unmitigated Emissions Total	291.2	135.86	244.89	0.04	10.51
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	**Yes**	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
H, Weeks 95 thru 99					
Unmitigated Emissions Total	297.35	193.15	246.40	0.05	10.56
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	**Yes**	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
I, Weeks 100 thru 105					
Unmitigated Emissions Total	655.37	261.91	645.63	0.07	29.06
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	**Yes**	**Yes**	**Yes**	No	No
Notes: No Grading or Demolition During this subphase. Assumes use of low VOC asphalt and architectural coatings.					
J, Weeks 106 thru 107					
Unmitigated Emissions Total	31.16	176.42	7.51	0.04	0.22
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	No	No	**Yes**
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
K, Weeks 108 thru 116					
Unmitigated Emissions Total	296.59	166.52	245.34	0.04	10.54
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	**Yes**	No	No
Notes: No Demolition or Grading during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
L, Weeks 117 thru 157					
Unmitigated Emissions Total	18.69	113.97	4.51	0.03	0.13
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	**Yes**	No	No	No
Note: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					
M, Weeks 158 thru 200					
Unmitigated Emissions Total	11.47	56.58	2.78	0.01	0.08
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	No	No	No
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					
N, Weeks 201 thru 219					
Unmitigated Emissions Total	4.94	29.92	1.20	0.00	0.04
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	No	No	No
Note: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					

Source: Impact Sciences, Inc. Calculations can be found in ***Appendix 4.4****.*

(2) Construction Emissions Conclusions

Because project construction emissions would exceed one or more of the SCAQMD's CO, VOC, NO_x, and PM_{10} thresholds of significance during every subphase of the 51-month project construction period, the emission levels are considered potentially significant and feasible mitigation is required. The effectiveness of the proposed mitigation in reducing these potentially significant adverse air quality impacts is discussed below.

c. Operational Impacts

(1) Daily Emissions

Operational emissions would be generated by area, and mobile, and possibly by stationary, sources as a result of normal day-to-day activities on the project site after occupation.

(a) Point Source Emissions

Point source emissions could be generated, depending upon the types of uses that locate in the commercial area (Area E) of the project site. For this analysis, it is conservatively assumed that the types of stationary sources that could potentially locate in this area could include fast-food restaurants with under-fired charbroilers, dry cleaners, and fuel dispensers at gasoline stations.

If a dry cleaning establishment were to be located on the commercial site, all dry cleaning operations are presumed to occur at existing permitted off-site locations.

PM_{10} and VOC emissions from fast-food restaurants with charbroilers are regulated under SCAQMD Rule 1138,[79] which requires installation of a catalytic oxidizer that can reduce PM_{10} emissions by approximately 89 percent and VOC emissions by 86 percent.

VOC emissions from gasoline station operations are generated from gasoline dispensing, storage tank "breathing," and gasoline spillage. VOC emissions from gasoline dispensing are regulated by SCAQMD Rule 461,[80] which requires vapor recovery systems that can reduce vapor loss during dispensing by as much as 95 percent.

Although the specific uses that would locate at the commercial site are yet unknown, it is assumed for the purposes of this impact analysis, based on common uses in similarly sized commercial centers (located along the Bouquet Canyon, Soledad Canyon and Lyons Avenue commercial corridors), that a fast-food restaurant with an under-fired charbroiler and a gas station would operate at the site. Both of these uses, should they occur, would require SCAQMD permits to operate and would be required to employ best available control technologies (BACT) to control their stationary source emissions before they could receive their permits. Based on information obtained from the SCAQMD,[81] it is assumed that the restaurant would charbroil 233 pounds of 25 percent fat content hamburger meat[82] daily and would operate in conformance with Rule 1138; based on those assumptions, the restaurant would

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79 South Coast Air Quality Management District, Rule 1138. Control Of Emissions From Restaurant Operations (Diamond Bar, California: South Coast Air Quality Management District, Adopted 14 November 1997). See also "Rule 1138." [On line] 22 December 2003. <http://www.aqmd.gov/rules/html/r1138.html>.

80 South Coast Air Quality Management District, Rule 461. Gasoline Transfer And Dispensing (Diamond Bar, California: South Coast Air Quality Management District, Amended 15 June 2001). See also "Rule 461." [On line] 22 December 2003. <http://www.aqmd.gov/rules/html/r461.html>.

81 South Coast Air Quality Management District, Staff Report for Proposed Rule 1138 - Control Of Emissions From Restaurant Operations (Diamond Bar, California: South Coast Air Quality Management District, October 1997).

82 High fat content hamburger meat generates the greatest amount of PM_{10} and VOC emissions of most charbroiled meats. Staff Report for Proposed Rule 1138 - Control Of Emissions From Restaurant Operations, pp. 11–12.

generate 0.84 pounds of PM_{10}[83] and 0.13 pounds of VOC per day.[84] Based on information obtained from the SCAQMD,[85] it is assumed that the gas station would have a through-put of 10,000 gallons per day and would operate in conformance with Rule 461; based on those assumption, the gas station would generate 3.01 pounds of VOC per day.[86]

The above analysis is expected to be consistent with the analysis that would be performed during the SCAQMD permit process; permits would not be issued by the SCAQMD unless these sources comply with SCAQMD rules and regulations, including the use of emission control equipment at the site. Accordingly, based on the above stationary source emissions from these uses and the SCAQMD requirement that the operators employ BACT and other emission controls prior to issuance of a permit to operate from the SCAQMD,[87] stationary source emissions from the fast-food restaurant and gasoline station, as shown in **Table 4.4-20** below, would be minimal and less than significant.

(b) Area and Mobile Source Emissions

Area sources emissions would be generated by the consumption of natural gas for space and water heating devices, wood-burning stoves and fireplaces, and from the operation of gasoline-powered landscape maintenance equipment and consumer products (e.g., hair spray, deodorants, lighter fluid, air fresheners, automotive products, and household cleaners). Mobile emissions would be generated by the motor vehicles traveling to and from the project site. The project's area and mobile source emissions as estimated using URBEMIS2002 are shown in **Table 4.4-20, Estimated Operational Emissions**, below.

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83 This emissions assumes an uncontrolled emission rate of 32.65 pounds of PM_{10} per 1,000 pounds of 25 percent fat hamburger meat and an 89 percent reduction rate. Staff Report for Proposed Rule 1138 - Control Of Emissions From Restaurant Operations, p. 11.

84 This emissions assumes an uncontrolled emission rate of 3.94 pounds of VOC per 1,000 pounds of 25 percent fat hamburger meat and an 86 percent reduction rate. Staff Report for Proposed Rule 1138 - Control Of Emissions From Restaurant Operations, p. 11.

85 South Coast Air Quality Management District, Staff Report for Proposed Rule 461. - Gasoline Transfer And Dispensing (Diamond Bar, California: South Coast Air Quality Management District, August 1995), Telephone voice mail Randy Matsuyama, Air Quality Engineer II, SCAQMD, to Darren W. Stroud, Nossaman, Guthner, Knox & Elliott, LLP, 20 October 2003)

86 This emission assumes an emission rate of 0.417 pounds of VOC/1,000 gallons during gasoline dispensing, 0.027 pounds of VOC/1,000 gallons from storage tank breathing, and 0.232 pounds of VOC/1,000 gallons from gasoline spillage. The emission rate of 0.417 was provided by SCAQMD staff (telephone voice mail Randy Matsuyama, Air Quality Engineer II, SCAQMD, to Darren W. Stroud, Nossaman, Guthner, Knox & Elliott, LLP, 20 October 2003). The emission rate of 0.027 lb/1,000 gallons is based on the emission factor of 0.1 lb/1,000 gallons from page A-2 of the Staff Report for Proposed Rule 461 - Gasoline Transfer and Dispensing Staff Report for the P/V Valve on Vent Pipe (Breathing Loss) calculation and the control efficiency of 73 percent. The emission rate of 0.232 lb/1,000 gallons is based on the emission factor of 0.29 lb/1000 gallon from page A-3 of the Staff Report for Proposed Rule 461 - Gasoline Transfer and Dispensing Staff Report for the Required Check Valve in the Nozzle calculation, and a control efficiency of 20 percent.

87 South Coast Air Quality Management District, Rule 1303 – Requirements (Diamond Bar, California: South Coast Air Quality Management District, Amended 6 December 2002); Rule 1138. Control Of Emissions From Restaurant Operations (Diamond Bar, California: South Coast Air Quality Management District, Adopted 14 November 1997); Rule 461. Gasoline Transfer And Dispensing (Diamond Bar, California: South Coast Air Quality Management District, Amended 15 June 2001).

Table 4.4-20
Estimated Operational Emissions Without Mitigation

Emissions Source	Emissions in Pounds per Day				
	CO	VOC	NO_x	SO_x	PM_{10}
Summertime Emissions					
Stationary Sources	--	3.14	--	--	0.84
Mobile Sources	1,479.54	129.99	132.53	1.29	111.86
Area Sources					
Natural Gas	8.21	1.49	19.32	--	0.04
Wood Stoves	0	0	0	0	0
Fire Places	0	0	0	0	0
Landscape Maintenance	6.77	0.81	0.09	0.17	0.01
Consumer Products	--	62.87	--	--	--
Area Source Subtotal	14.98	65.17	19.41	0.17	0.05
Summertime Emission Totals:	1,494.52	198.30	151.94	1.46	112.75
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	**YES**	**YES**	**YES**	NO	NO
Wintertime Emissions					
Stationary Sources	--	3.14	--	--	0.84
Mobile Sources	1,393.67	119.88	191.06	1.14	111.86
Area Sources					
Natural Gas	8.21	1.49	19.32	--	0.04
Wood Stoves	2,522.13	314.78	49.37	8.23	411.44
Fire Places	1,486.33	1,347.47	15.30	2.35	203.59
Landscape Maintenance	6.77	0.81	0.09	0.17	0.01
Consumer Products	--	62.87	--	--	--
Area Source Subtotal	4,023.44	1,727.42	84.08	10.75	615.08
Wintertime Emission Totals:	5,417.11	1,850.4460	275.14	11.89	727.78
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 4.4****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

The following characteristics of the project and the area around the project that would have a beneficial effect on stationary, area, and mobile source emissions were factored into the URBEMIS2002 model:

- Safe and pedestrian-friendly sidewalks and pathways through Riverpark and leading to off-site locations, such as the commercial uses at Bouquet Junction, Metrolink, Saugus Speedway events, local parks, etc., to encourage walking,
- Street trees to provide shade,
- Interconnected and designated bikeways, and
- Bus transit and Metrolink.

Inputting project land use characteristics, trip generation information from the Riverpark Traffic Study prepared by Austin-Foust Associates, Inc. (October 2003), and the above project characteristics, URBEMIS2002 was used to calculate area and mobile source emissions from the proposed project for both summertime and wintertime emissions. The primary difference between the two inputs is that it is assumed that, in general, fireplaces and wood-burning stoves would generate emissions only during wintertime. The results of these calculations are also presented in **Table 4.4-20**.

As shown in **Table 4.4-20**, the project at buildout and in full operation would generate total summertime emissions of CO, VOC, and NO_x that would exceed SCAQMD recommended thresholds, while the total wintertime emissions would exceed the thresholds for CO, VOC, NO_x, and PM_{10}. The difference between the summertime and the wintertime emissions is primarily due to the assumption the wood-burning fireplaces and stoves would be operating within the project during the winter months. As the amount of emissions under each scenario would exceed the recommended thresholds, project air quality impacts would be significant for both seasons.

(2) Additional Indicators of Potential Air Quality Impacts

As previously discussed, the SCAQMD lists additional criteria indicating when a project may create potential air quality impacts.[88] These criteria are listed below along with an analysis of whether or not the project meets any of them. If a project meets any one of the criteria, project air quality impacts would be significant relative to that criterion.

- 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.

SCAQMD's CEQA Air Quality Handbook suggests that an air quality modeling analysis (i.e., dispersion modeling) may be performed that identifies the project's potential impact on ambient air quality. A project would not create potential significant adverse air quality impacts if the dispersion modeling demonstrates that the project's incremental emissions would not increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[89] The CO modeling analysis for operational-related traffic emissions demonstrates that the project's CO emissions do not exceed this criteria. With respect to the other pollutants (i.e., NO_x, SO_x, VOC, and PM_{10}), SCAQMD staff have stated that air quality dispersion models do not currently exist for general development

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88 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, November 1993), pp. 6-2 – 6-3.

89 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 12-3.

projects that can determine if the project's NO_x, SO_x, VOC, and PM_{10} emissions would increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[90] Therefore, no such air quality dispersion analysis can be undertaken for this project.

Instead, SCAQMD staff state that a project's consistency with the population number and location assumptions identified by SCAG and used in the preparation of the AQMP should be assessed as required by the next criterion:

- Project could result in population increases within an area which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's build-out year.

The 2003 AQMP is designed to accommodate planned growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region by 2010, and to minimize the impact on the economy. Projects that are considered to be consistent with the AQMP do not interfere with attainment and do not contribute to the exceedance of an existing air quality violation because this growth is included in the projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize the long-term attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended thresholds. The following analysis discusses the project's consistency with the AQMP.

Projects that are consistent with the projections of population forecasts identified in the Growth Management Chapter of SCAG's RCPG are considered consistent with the AQMP growth projections. This is because the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP.

As discussed in **Section 4.17, Population, Housing and Employment**, the project is consistent with the future population and employment figures projected for the City because it would permit less residential development on the site than already permitted under the City of Santa Clarita General Plan. Because the project would not increase population levels over those projected for the Valley, the project would be consistent with the AQMP forecasts for this area, would be considered consistent with the air quality-related regional plans, and would not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley area or the Basin.

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90 Interview with Steve Smith, South Coast Air Quality Management District, Diamond Bar, California, February 23, 1996.

Another means of assessing 2003 AQMP consistency for this criterion is to determine how a project accommodates the expected increase in population and employment. Generally, if a project is planned in a way that results in the minimization of vehicle miles traveled (VMT) both within the project and in the community in which it is located, and consequently the minimization of air pollutant emissions, that project is deemed to be consistent with the 2003 AQMP.[91]

As discussed earlier, the project site is in close proximity to the Santa Clarita Metrolink station and is currently served by Santa Clarita Transit. Some project residents are likely to use these mass transit facilities. As such, the project would minimize VMT both within the project and the community, and therefore, air emissions.

- Project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot.

The simplified CALINE4 screening procedure was used to predict post-development CO concentrations 50 and 100 feet from the intersections in the project study area. The results of air emissions modeling for the project study area are shown in **Table 4.4-21, Carbon Monoxide Concentrations with Project Traffic**. Because SCAQMD projects reductions in future one-hour concentrations for the Santa Clarita Valley (SRA 13),[92] projected CO concentrations at some intersections in **Table 4.4-21** are less than the existing concentrations listed in **Table 4.4-17**.

As shown, the state and federal 1- and 8-hour CO standards (1 hour: state- 20.0 ppm; federal 35 ppm and 8 hour: state and federal- 9.0 ppm) would not be exceeded at any of the modeled on- or off-site intersections at project buildout. Therefore, CO hotspots are not predicted to exist near these intersections in the future and the contribution of project traffic-related CO at these intersections would not be considered significant.

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91 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 12-5.

92 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), Table 5-2.

Table 4.4-21
Carbon Monoxide Concentrations with Project Traffic

Intersection	50 Feet		100 Feet	
	1-Hour[1]	8-Hour[2]	1-Hour[1]	8-Hour[2]
Magic Mountain Parkway/Valencia Parkway	7.1	3.9	6.8	3.7
Seco Canyon Road/Bouquet Canyon Road	7.5	4.2	7.1	3.9
Santa Clarita Parkway/Bouquet Canyon Road	7.7	4.3	7.2	4.0
Sierra Highway/Golden Valley Parkway	6.9	3.7	6.6	3.6
Soledad Canyon Road/Rainbow Glen	7.3	4.0	6.9	3.8
Soledad Canyon Road/Whites Canyon Road	7.0	3.8	6.7	3.6
Soledad Canyon Road/Valley Center	6.8	3.7	6.6	3.6

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 4.4****.*
[1] *State standard is 20.0 parts per million. Federal standard is 35 parts per million.*
[2] *State and federal standard is 9.0 parts per million.*

- Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.

The proposed residential and commercial uses on the site would not generate objectionable odors. Residential uses typically do not general objectionable odors and the commercial site is located in an area of similar commercial type uses and would be expected not to generate objectionable odors. The project is immediately south of the Rio Vista Water Treatment Plant, which is owned and operated by the Castaic Lake Water Agency. This plant uses ozone and filtration to treat water and generates no odors. No other adjacent land uses are such that they would generate objectionable odors that would be detected on the project site. Consequently, no significant impacts from such odors are anticipated under this criterion.

- Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety;
- Project could emit a toxic air contaminant regulated by SCAQMD rules or that is on a federal or state air toxic list;
- Project could be occupied by sensitive receptors within one quarter mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401; or
- Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of one in one million.

TAC emissions are not expected to occur in conjunction with operation of the proposed residential development and, as a result, no significant impacts would occur under these criteria. As discussed

above, the commercial uses on the site may include a restaurant with charbroilers and/or a gasoline station,[93] both of which are regulated sources by the SCAQMD.

Charbroilers are not typically considered sources of TACs. Therefore, any charbroiler operated in association with the proposed commercial uses would not be expected to emit TACs that would exceed the SCAQMD's recommended toxics thresholds of significance.

Gasoline stations can emit TACs, generally in the form of benzene from dispensing operations, tank "breathing" losses, and gasoline spillage. However, as shown above, the amount of VOCs, assuming these emissions are benzene, from a gasoline station associated with the project is nominal. Therefore, any gasoline station operated in association with the proposed commercial uses would not be expected to emit TACs that would exceed the SCAQMD's recommended toxics thresholds of significance.

Further, all such stationary sources associated with the project's commercial uses, should they occur, must be permitted and must use toxic best available control technologies (T-BACT) before they can receive a permit,[94] which would reduce TACs to less than significant. The receipt and maintenance of SCAQMD permits represent verification that any such sources would not result in a significant impact under the first two and last criteria.

As to off-site sources of TACs, the project is not located within one-quarter mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401. The Rio Vista Water Treatment Plant located to the north of the project site uses ozone and filtration to treat water in lieu of the more conventional treatment with chlorine and filtration. Ozone water treatment technology is considered safe and does not emit carcinogenic or toxic air contaminants.

Accordingly, as discussed above, the TACs associated with the project's operational-related uses would be minimal and would not be significant.

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93 If a dry cleaning establishment were to locate within the commercial site, all dry cleaning operations are presumed to occur at an existing, off-site, and permitted facility, where criteria and toxic emissions have already been accounted for through the SCAQMD's permitting and CEQA process. Therefore, no dry cleaning-related emissions occur at the site.

94 South Coast Air Quality Management District, Rule 1401 – New Source Review of Toxic Air Contaminants (Diamond Bar, California: South Coast Air Quality Management District, Amended 2 May 2003).

(3) Operational Impacts Conclusion

Operational-related CO, VOC, NO_x, and PM_{10} emissions generated by the project would exceed SCAQMD recommended emission thresholds of significance for these pollutants and, for that reason, they are considered significant. As a result, feasible mitigation is required. The effectiveness of the proposed mitigation in reducing these potentially significant adverse air quality impacts is discussed below.

However, the project would be consistent with the AQMP and, therefore, would not jeopardize the long-term attainment of the air quality standards predicted in the AQMP. The project also does not meet the additional indicators of potential air quality impacts.

6. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT AND/OR THE AIR QUALITY IMPACT ANALYSIS

The SCAQMD has also prepared a list of measures that could be implemented by new projects to reduce the impacts of operation-related emissions. Measures already incorporated in the project include retail services in close proximity to a residential subdivision; constructing off-site bicycle trails linking the project to designated bicycle routes; providing through paseos a safe, pedestrian-friendly environment; bus stops and providing shade trees to reduce building heating/cooling needs.

4.4-1 To the maximum extent feasible, develop and implement a construction management plan, as approved by the City prior to issuance of a grading permit, which includes the following measures recommended by the SCAQMD, or equivalently effective measures approved by the SCAQMD:

a. Configure construction parking to minimize traffic interference.

b. Provide temporary traffic controls during all phases of construction activities to maintain traffic flow (e.g., flag person).

c. Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the degree practicable.

d. Re-route construction trucks away from congested streets.

e. Consolidate truck deliveries when possible.

f. Provide dedicated turn lanes for movement of construction trucks and equipment on and off site.

g. Maintain equipment and vehicle engines in good condition and in proper tune as per manufacturers' specifications and per SCAQMD rules, to minimize exhaust emissions.

h. Suspend use of all construction equipment operations during second stage smog alerts. Contact the SCAQMD at 800/242-4022 for daily forecasts.

i. Use electricity from power poles rather than temporary diesel- or gasoline-powered generators.

j. Use methanol- or natural gas-powered mobile equipment and pile drivers instead of diesel if readily available at competitive prices

k. Use propane- or butane-powered on-site mobile equipment instead of gasoline if readily available at competitive prices.

4.4-2 To the maximum extent feasible, develop and implement a dust control plan, as approved by the City prior to issuance of a grading permit, which includes the measures recommended by the SCAQMD, or equivalently effective measures approved by the SCAQMD, as provided in Rules 403 and 1186 regarding fugitive dust from construction activities.

4.4-3 Comply with Title 24 of the UBC energy conservation requirements.

4.4-4 Restaurants with an under-fired charbroiler shall obtain a permit from the SCAQMD prior to an issuance of an occupancy permit.

4.4-5 Gas stations shall obtain a permit from the SCAQMD prior to issuance of an occupancy permit.

4.4-6 Any dry cleaners proposing to locate on site shall conduct cleaning operations at an off-site previously SCAQMD permitted location. No on-site dry cleaning operations will be permitted to occupy space in the commercial area.

4.4-7 Applicable transit mitigation fees shall be paid at the time of final map recordation.

7. MITIGATION MEASURES PROPOSED BY THIS EIR

a. Mitigation for Construction Impacts

The SCAQMD has prepared a list of measures to reduce the impacts of construction-related emissions to the greatest extent possible. Those that could be feasibly implemented during the development of the project are as follows:

4.4-8 All on- and off-road construction equipment shall to the extent feasible, as determined by the City of Santa Clarita use aqueous fuel.

Aqueous fuel is a stable emulsion of up to 55 percent water and petroleum-based naphtha (a petroleum product from the earliest stages of the refinery process), with trace amounts of bonding and winterizing agents. It can be used to run both gasoline and diesel engines. Aqueous fuel is clean-burning and, based on information provided in the URBEMIS2002 model for its use in construction equipment, it can reduce NO_x emissions by 14 percent and PM_{10} emissions by 63 percent.

Although substantial mitigation is recommended for the project's construction-related emissions, this mitigation measure is based on technology unproven on a large scale and may be presently infeasible.

4.4-9 All on- and off-road construction equipment shall, to the extent feasible as determined by the City of Santa Clarita, employ cooled exhaust gas recirculation technology.

Cooled exhaust gas recirculation (EGR) reduces CO, VOC, NO_x, and PM_{10} emissions as follows: Oxygen is required for fuel to be burnt in a combustion engine. The high temperatures found within combustion engines cause nitrogen in the surrounding air to react with any unused oxygen from the combustion process to form NO_x. EGR technology directs some of the exhaust gases that have already been used by the engine and no longer contain much oxygen back into the intake of the engine. By mixing the exhaust gases with fresh air, the amount of oxygen entering the engine is reduced. Since there is less oxygen to react with, fewer nitrogen oxides are formed; therefore, the amount of nitrogen oxides that a vehicle releases into the atmosphere is decreased. Based on information provided in the URBEMIS2002 model for its use in construction

equipment, cooled exhaust gas recirculation technology can reduce CO and VOC emissions by 90 percent, NO_x emissions by 40 percent and PM_{10} emissions by 85 percent.

Although substantial mitigation is recommended for the project's construction-related emissions, mitigation measures 48 and 49 are based on technology unproven on a large scale and may be presently infeasible.

Because **Mitigation Measures 4.4-8** and **4.4-9** are based on technology unproven on a large scale, these mitigation measures may be infeasible. However, if these mitigation measures are found feasible at the time of construction**,** as shown in **Table 4.4-22, Estimated Mitigated Construction Emissions**, the project's construction-related CO, VOC, NO_x, and PM_{10} emissions would be reduced substantially. In particular, implementation of these mitigation measures, if feasible, would reduce CO emissions to less than significant, and the period of VOC exceedances from 36 months to 26 months. However, even with the implementation of these mitigation measures, if feasible, construction emission thresholds VOC, NO_x, and PM_{10} emissions would still be exceeded. As a result, construction air quality impacts are considered significant.

Table 4.4-22
Estimated Mitigated Construction Emissions

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
A, Weeks 1 thru 19					
Mitigated Emissions Total	133.89	17.87	769.81	0.02	1,352.32
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	Yes	No	Yes
Notes: No Demolition, Pavement and Asphalt, or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403.					
B, Weeks 20 thru 25					
Mitigated Emissions Total	167.34	21.82	839.04	0.02	1,346.08
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	Yes	No	Yes
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					
C, Weeks 26 thru 30					
Mitigated Emissions Total	146.92	19.26	593.07	0.02	1,091.20
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	Yes	No	Yes
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
D, Weeks 31 thru 44					
Mitigated Emissions Total	162.46	20.84	643.49	0.02	1,312.77
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	Yes	No	Yes
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.					
E, Weeks 44 thru 50					
Mitigated Emissions Total	176.12	92.18	647.21	0.04	545.34
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	Yes
Notes: No Demolition during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt and architectural coatings.					
F, Weeks 51 thru 89					
Mitigated Emissions Total	42.41	75.16	119.27	0.02	0.00
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
G, Weeks 90 thru 94					
Mitigated Emissions Total	48.04	105.08	115.32	0.03	0.00
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
H, Weeks 95 thru 99					
Mitigated Emissions Total	54.15	162.36	116.79	0.04	0.00
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	No
Notes: No Grading or Demolition during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
I, Weeks 100 thru 105					
Mitigated Emissions Total	104.74	186.43	302.18	0.06	0.00
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	No
Notes: No Grading or Demolition During this subphase. Assumes use of low VOC asphalt and architectural coatings.					
J, Weeks 106 thru 107					
Mitigated Emissions Total	31.16	176.42	7.51	0.04	0.22
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	No	No	Yes
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					
K, Weeks 108 thru 116					
Mitigated Emissions Total	54.19	135.85	116.34	0.04	0.00
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	Yes	No	No
Notes: No Demolition or Grading during this subphase. Assumes use of low VOC asphalt and architectural coatings.					
L, Weeks 117 thru 157					
Mitigated Emissions Total	18.69	113.97	4.51	0.03	0.13
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	Yes	No	No	No
Note: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					

Subphase/Emissions Source	CO	VOC	NO_x	SO_x	PM_{10}
M, Weeks 158 thru 200					
Mitigated Emissions Total	11.47	56.58	2.78	0.01	0.08
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	No	No	No
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					
N, Weeks 201 thru 219					
Mitigated Emissions Total	4.94	29.92	1.20	0.00	0.04
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	No	No	No	No	No
Note: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.					

Source: Impact Sciences, Inc. Calculations can be found in ***Appendix 4.4****.*

Measures recommended in the SCAQMD's CEQA Air Quality Handbook that cannot be implemented in connection with the proposed project because they are infeasible are listed below along with a discussion of why each measure is infeasible:

- Prohibit truck idling in excess of two minutes: The nature of diesel motors does not lend them to constant turning on and off. Premature wear, and increased air emissions from turning the engines on and off, are common results. It is also extremely difficult to effectively monitor the implementation of this measure on an approximately 700-acre site with contractors who would be concerned about maintaining their equipment.

- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees: SCAQMD Rule 2202 applies to all employers who meet certain criteria for implementing trip reduction measures. The requirement to achieve a specific AVR has been ruled unlawful by the Federal Government and is no longer recommended.

- Implement a shuttle service to and from retail services and food establishments during lunch hour: Construction workers typically take a half-hour lunch at various times of the day and eat on-site food that was either brought by the workers (brown bag) or purchased from mobile caterers who travel to the site.

b. Mitigation for Operational Impacts

The following are additional recommended SCAQMD measures and others that may be feasibly implemented by the project to reduce operational emissions. Other potential measures listed in the CEQA Air Quality Handbook were not applicable to the project due to the type or size of proposed development and were considered infeasible. These measures are identified in the Estimated Emissions Reductions Efficiencies spreadsheet in **Appendix 4.4** along with explanations of why they are infeasible and not applicable to the project.

(1) Area Sources

4.4-10 Utilize low emission water heaters in residential and commercial uses to reduce natural gas consumption and emissions.

4.4-11 Residential uses are to utilize built-in energy-efficient appliances (e.g., stoves, ovens, refrigerators) to reduce energy consumption and emissions.

4.4-12 Residential uses are to utilize energy-efficient and automated controls for air conditioners to reduce energy consumption and emissions.

4.4-13 Wood-burning fireplaces and stoves shall be prohibited in all residential units. Use of wood in fireplaces and wood-burning stoves shall be prohibited through project CC&Rs. Permits shall not be issued by the City of Santa Clarita for wood-burning stoves.

4.4-14 Install special sunlight-filtering window coatings or double-paned windows in residential uses to reduce thermal gain or loss.

4.4-15 Utilize automatic lighting on/off controls and energy-efficient lighting in new residential common area construction (including parking areas) to reduce electricity consumption and associated emissions.

4.4-16 To the extent feasible, orient living spaces in residential structures so they face to the north.

4.4-17 Use light-colored roofing materials in new residential construction as opposed to dark roofing materials. These materials would reflect, rather than absorb, sunlight and minimize heat gains in buildings. This measure would lessen the overall demand for mechanical air conditioning systems.

4.4-18 Multi-family and commercial uses shall use central water heating systems.

(2) Mobile Sources

4.4-19 If Santa Clarita Transit determines that additional fixed route service will be needed near the project site in the future, the project developer(s) shall coordinate with the transit provider to identify and provide for appropriate bus stop/turnout locations.

4.4-20 Synchronize traffic lights on streets impacted by project development.

4.4-21 The project applicant shall construct bicycle facility improvements, such as bike lanes in roadways and wider-than-required sidewalks with bike paths within and adjacent to residential subdivisions at the time the roads are constructed.

4.4-22 Kiosks with local transit and Metrolink information shall be constructed by the project applicant adjacent to selected future bus stops prior to initiation of bus service to the site.

4.4-23 The sellers of new residential units shall distribute brochures and other relevant information published by the SCAQMD or similar organization to new homeowners regarding the importance of reducing vehicle miles traveled, energy saving appliances, and related air quality impacts, as well as information on local opportunities for public transit and ridesharing.

c. Emission Reduction Efficiencies for Operational Emissions

Ranges of emission reduction efficiencies for the above-recommended mitigation measures are identified in Table 11-6 of the SCAQMD's CEQA Air Quality Handbook.[95] The SCAQMD recommends that the low end of the range should be used when selecting the efficiencies for various projects unless otherwise justified.[96] Not all of the recommended measures would measurably reduce all operational-related pollutant levels to less than significant, but their implementation would reduce summertime CO emissions by 4.6 percent, VOC emissions by 17.7 percent, NO_x emissions by 9.3 percent, and PM_{10} emissions by 4.2 percent. The measures would reduce wintertime CO emissions by 75.3 percent, VOC emissions by 91.8 percent, NO_x emissions by 29.5 percent, and PM_{10} emissions by 85.3 percent. The wintertime emissions would be significantly reduced with the mitigation measure that no wood-burning fireplaces or stoves be permitted in the residences. Even with these emissions reductions, project operational air quality impacts would remain significant as shown in **Table 4.4-23, Operational Emissions Reductions** (please see Estimated Emissions Reductions Efficiencies spreadsheets in **Appendix 4.4** for detailed calculations).

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95 No emissions reduction efficiencies are provided for SO_x emissions; however, SO_x emissions of the proposed project would be less than significant.

96 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993).

Table 4.4-23
Operational Emissions Reductions

Emissions Source	Emissions in Pounds per Day				
	CO	VOC	NO_x	SO_x[1]	PM_{10}
Summertime Emissions					
Total Project Emissions	1,494.52	195.16	151.94	1.46	111.91
Reduction in Sta. Source Emissions	6.7	29.1	8.6	--	0.0
Reduction in Mobile Source Emissions	62.1	5.5	5.6	00	4.7
Total Reduced Emissions	1,424.6	160.4	137.7	1.46	107.6
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO
Wintertime Emissions					
Total Project Emissions	5,410.35	1,846.46	275.06	11.72	726.93
Reduction in Sta. Source Emissions	3.7	28.7	8.5	--	00
Reduction from No Wood Burning Fire Places/Stoves	4,008.5	1,659.1	64.7	--	614.2
Reduction in Mobile Source Emissions	58.5	5.0	8.0	--	4.7
Total Reduced Emissions	1,333.9	150.4	193.7	11.72	107.0
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 4.4.***
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *SCAQMD does not provide emission reductions for* SO_x.

8. CUMULATIVE IMPACTS

The CEQA Air Quality Handbook identifies possible methods to determine the cumulative significance of land use projects.[97] All of the SCAQMD's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the AQMP. This EIR employs two of the methods: (1) the SCAQMD method of whether or not the project shows a one percent per year reduction in project emissions of CO, VOC, NO_x, SO_x, and PM_{10} and (2) whether or not the project is consistent with 2003 AQMP, and thus, would not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley area or the Basin.

The assessment of whether or not the project shows a one percent per year reduction in project emissions of CO, VOC, NO_x, SO_x, and PM_{10} differs from the cumulative impacts analysis methodology used in other sections of this EIR in which all foreseeable future development within a given service boundary or geographical area is predicted and its impacts measured. However, this SCAQMD assessment

97 South Coast Air Quality Management District, CEQA Air Quality Handbook (Diamond Bar, California: South Coast Air Quality Management District, April 1993), p. 9-12; Written communication with Steve Smith, South Coast Air Quality Management District, 20 November 2003.

method is consistent with the SCAQMD's overall goal to reduce emissions within the Basin in order to meet the standards set in the 2003 AQMP.

As shown previously in **Table 4.4-23, Operational Emissions Reductions**, above, implementation of the recommended mitigation measures would reduce summertime CO emissions by 4.6 percent, VOC emissions by 17.7 percent, NO_x emissions by 9.3 percent, and PM_{10} emissions by 4.2 percent. The measures would reduce wintertime CO emissions by 75.3 percent, VOC emissions by 91.6 percent, NO_x emissions by 29.5 percent, and PM_{10} emissions by 85.3 percent. Since these represent emission reductions on a daily basis, they would be reduced by at least the summertime percentages on an annual basis, thereby exceeding the SCAQMD's performance standard for annual emissions reductions. The CEQA Air Quality Handbook does not identify any reduction efficiencies for emissions of SO_x. It should be assumed, however, that these measures would reduce emissions of SO_x by a minimum of one percent given that the minimum reduction for other mobile emissions is 4.2 percent. Therefore, the project would meet the annual emission reduction target of one percent and would not be considered cumulatively significant pursuant to the SCAQMD's recommended approach.

Although this method is not included in the CEQA Air Quality Handbook as a way to assess cumulative air quality impacts, it is determined the project is within growth forecasts contained in the Growth Management Chapter of SCAG's RCPG, which forms the basis for the land use and transportation control portions of the 2003 AQMP. Therefore, it would be consistent with the 2003 AQMP, indicating that it would not jeopardize attainment of state and federal ambient air quality standards in the Basin.

Even though the project shows at least a one percent per year reduction in project emissions of CO, VOC, NO_x, and PM_{10}, and likely a similar reduction in SO_x emissions, and even though the project is consistent with 2003 AQMP, as a conservative and "worst-case" approach, the project is considered to result in a significant adverse cumulative air quality impact and feasible mitigation is required.

9. CUMULATIVE MITIGATION MEASURES

Based on the above conservative and "worst-case" approach, cumulative air quality impacts are considered significant; and feasible mitigation measures are required. All known mitigation measures, as discussed above, have been incorporated into this air quality impact analysis to further reduce and control project-specific operational-related emissions. These measures will also help reduce the project's cumulative significant air quality impacts.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Although the recommended mitigation measures, if feasible, would reduce the magnitude of construction-related and operation-related emissions to some extent, no feasible mitigation exists that would reduce all of these emissions to below the SCAQMD's recommended thresholds of significance. The project's construction-related emissions of VOC, NO_x, and PM_{10}, and operation-related emissions of CO, VOC, and NO_x are considered unavoidably significant.

While the project's air emissions would be unavoidably significant, it is important to understand that the project is located in close proximity to job centers, and shopping and recreational amenities so the number of vehicle miles traveled to these locations would be reduced. Furthermore, the site is in close proximity to local transit facilities, as well as to Metrolink, which links the City to many parts of southern California. Consequently, because vehicle miles traveled are reduced, air emissions are reduced as well. The project is also consistent with the 2003 AQMP; therefore, based on SCAQMD methods of analysis, its emissions should not jeopardize the long-term attainment of state and federal ambient air quality standards in the Santa Clarita Valley and the region.

b. Cumulative Impacts

Based upon the SCAQMD's methods of determining whether or not the project shows a one percent per year reduction in project emissions of CO, VOC, NO_x, SO_x, and $PM_{10,}$ the project will not contribute significant cumulative impacts. However, as a conservative and "worst-case" approach, because the project's mitigated operational-related CO, VOC, and NO_x emissions exceed the SCAQMD's recommended daily emission thresholds of significance for these pollutants, the project is considered to result in an unavoidably significant cumulative air quality impact because the South Coast Air Basin is already in non-attainment for ozone (VOC and NO_x as ozone precursors), PM_{10}, and CO (Los Angeles County), any increases in these emissions is considered unavoidable.

4.5 NOISE

1. SUMMARY

Construction of the proposed project would require site preparation, utility infrastructure installation, and roadway and building construction. Each of these construction phases typically involves the use of heavy-duty equipment, including pile drivers associated with the construction of Newhall Ranch Road/Golden Valley Road Bridge, all of which could expose on- and off-site residents, employees, and visitors to temporary noise impacts. Section 11.44.080 of the City of Santa Clarita Noise Ordinance prohibits construction operations to occur within 300 feet of residentially-zoned properties during early morning, evening, and nighttime hours, and all hours on Sundays and major holidays. Nonetheless, project construction noise would intermittently exceed the noise limits adopted for residential and commercial zones in Section 11.44.040 of the Noise Ordinance and the Noise and Land Use Compatibility Guidelines of the City's Noise Element, resulting in temporary, unavoidably significant noise impacts at nearby residences and commercial establishments.

After the project is built out, future traffic on the proposed Newhall Ranch Road, Santa Clarita Parkway, and Golden Valley Road extensions through the site would generate noise that would have a significant impact on project residents located adjacent or near to those roadways because the noise levels would exceed the City's normally acceptable noise standards as defined in its Noise Element and Noise Ordinance. Future traffic on Soledad Canyon Road would also have a significant noise impact on single-family residences within the project that would back to the Santa Clara River. Project-generated traffic would not cause increases in future noise levels at existing off-site sensitive receptors within the project study area to exceed 3.0 dB(A); however, since noise levels at most of these receptors already exceed normally acceptable levels, any increase in noise at these locations is considered significant and unavoidable. Point source noise generated at the project (i.e., noise from normal day-to-day residential and commercial activities) would have a less than significant impact on the mobile home park located to the southeast of the project site and on the Emblem tract to the north of Area D.

Mitigation measures to ensure that operation-related noise would not exceed noise standards adopted by the City through its Noise Element and Noise Ordinance were investigated for this project; however, not all of them are deemed feasible because a large number of units would need to be eliminated from the project site and, consequently, the project as revised would fail to meet most of the project's objectives. Therefore, unavoidable on- and off-site significant noise impacts would result from the proposed project after buildout.

The Saugus Speedway facility, located to the southwest of the site and approximately 1,200 feet from the nearest proposed residential lot on the site, is a special event facility used for exhibitions, swap meets, and special events, including car racing. Many of these activities occur at night. Noise from these activities may intermittently exceed City noise standards for residential uses at the site and could result in temporary significant noise impacts on project residents. No mitigation exists that would reduce these potentially significant temporary, intermittent noise impacts to less than significant; nonetheless, mitigation is included in this impact analysis to inform future residents of Riverpark of the activities that can potentially occur at the Saugus Speedway facility and that these activities may be audible on a temporary and intermittent basis. Informing the residents of the potential temporary significant noise impacts would not reduce the impact to less than significant and, whenever the City's noise threshold would be exceeded, it would result in a significant impact to project residents under the City's thresholds of significance. There is no feasible mitigation for these impacts and they would be unavoidably significant should they occur.

Because noise levels at many sensitive receptors in the project study area already exceed normally acceptable levels under the Noise Element's Noise and Land Use Compatibility Guidelines, any noise increases as a result of cumulative projects would result in significant and unavoidable noise impacts at sensitive receptors along the following roadway segments:

- *Bouquet Canyon Road n/o Newhall Ranch Road,*
- *Bouquet Canyon Road e/o Seco Canyon Road,*
- *Bouquet Canyon Road e/o Santa Clarita Parkway,*
- *Bouquet Canyon Road s/o Soledad Canyon Road,*
- *Golden Valley Road w/o SR-14,**
- *Magic Mountain Parkway west of San Fernando Road*,*
- *Newhall Ranch Road w/o Hillsborough Way,*
- *Newhall Ranch Road west of Bouquet Canyon Road,*
- *Rainbow Glen Drive s/o Soledad Canyon Road,*
- *Seco Canyon Road n/o Bouquet Canyon Road,*
- *Soledad Canyon Road e/o Santa Clarita Parkway,*
- *Soledad Canyon Road e/o Rainbow Glen Drive,*
- *Soledad Canyon Road w/o Whites Canyon,**
- *Valencia Boulevard s/o Magic Mountain Parkway,*
- *Via Princessa e/o Rainbow Glen Drive,*
- *Via Princessa w/o Whites Canyon Road,* and*
- *Whites Canyon Road n/o Soledad Canyon Road*.*

(= The project would not contribute mobile noise to the specified intersections)*

Consequently, the proposed project would result in a significant and unavoidable cumulative noise impact on existing sensitive receptors.

2. METHODOLOGY

a. Introduction to Noise

Noise is usually defined as unwanted sound. It is an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment.

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies; for example, it is less sensitive to low and high frequencies than to medium frequencies that more closely correspond with human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds better with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3.0 dB(A) increase in noise level. In general, changes in a community noise level of less than 3.0 dB(A) are not typically noticed by the human ear.[1] Changes from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A greater than 5.0 dB(A) increase is readily noticeable, while the human ear perceives a 10.0 dB(A) increase in sound level to be a doubling of sound.

Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dB(A) for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB at acoustically "soft" sites.[2] For example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates (i.e., becomes less) at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites,

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1 U.S. Department of Transportation, Federal Highway Administration, Highway Noise Fundamentals, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 81.

2 U.S. Department of Transportation, Federal Highway Administration, Highway Noise Fundamentals, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97. Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely-vegetated soils. Examples of acoustically "soft" or absorptive sites include soft, sand, plowed farmland, grass, crops, heavy ground cover, etc.

respectively.[3] Sound levels can also be attenuated by man-made or natural barriers (e.g., sound walls, berms, ridges), as well as elevational differences, as illustrated in **Figure 4.5-1, Noise Attenuation by Barriers and Elevation Differences**.

Solid walls and berms may reduce noise levels by 5.0 to 10.0 dB(A) depending on their height and distance relative to the noise source and the noise receptor.[4] Sound levels may also be attenuated 3.0 to 5.0 dB(A) by a first row of houses and 1.5 dB(A) for each additional row of houses.[5] The minimum noise attenuation provided by typical structures in California is provided in **Table 4.5-1, Outside to Inside Noise Attenuation**.

Table 4.5-1
Outside to Inside Noise Attenuation (dB(A))

Building Type	Open Windows	Closed Windows
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Convalescent Homes	17	25
Offices	17	25
Theaters	20	30
Hotels/Motels	17	25

Source: Transportation Research Board, National Research Council, Highway Noise: A Design Guide for Highway Engineers, National Cooperative Highway Research Program Report 117.

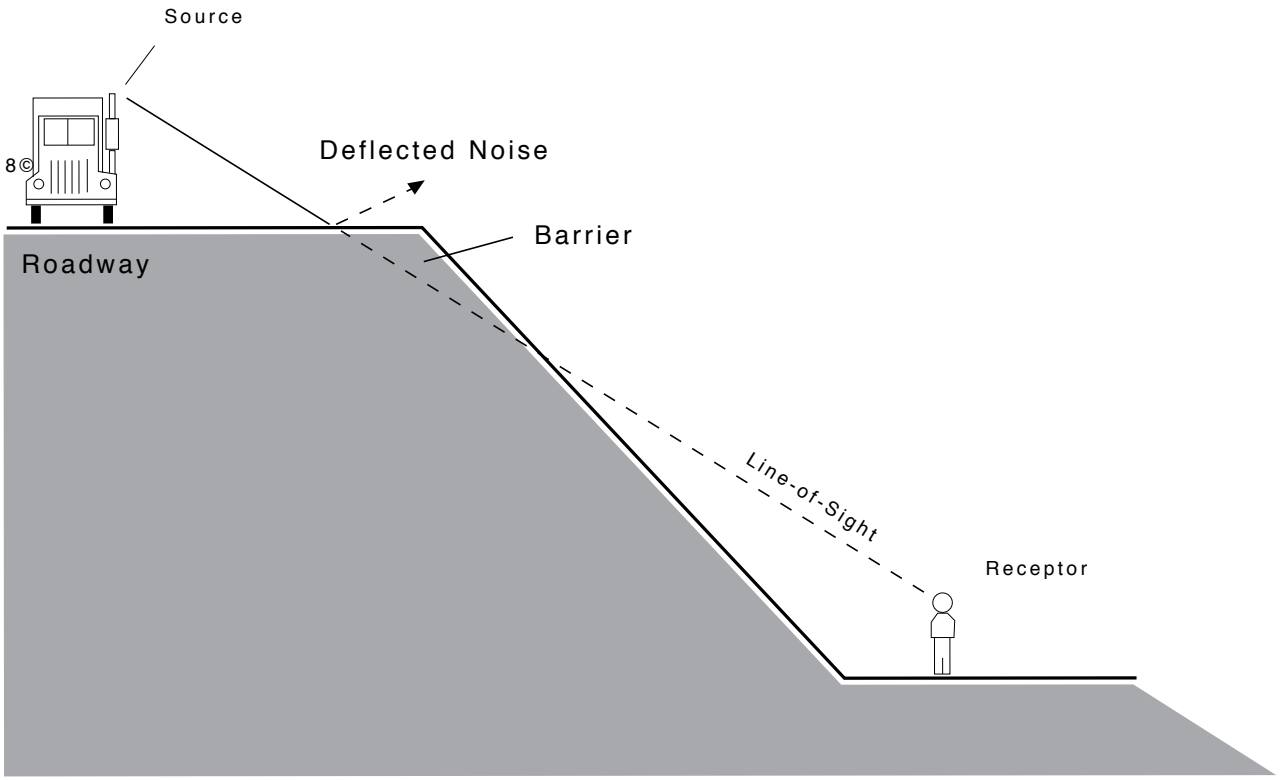
When assessing community reaction to noise, there is an obvious need for a scale that averages varying noise exposure over time and that quantifies the result in terms of a single number descriptor. Several scales have been developed that address community noise level. Those that are applicable to this analysis are the Equivalent Noise Level (Leq) and the Community Noise Equivalent Level (CNEL).[6] Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any time period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods.

3 U.S. Department of Transportation, Federal Highway Administration, Highway Noise Fundamentals, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97.

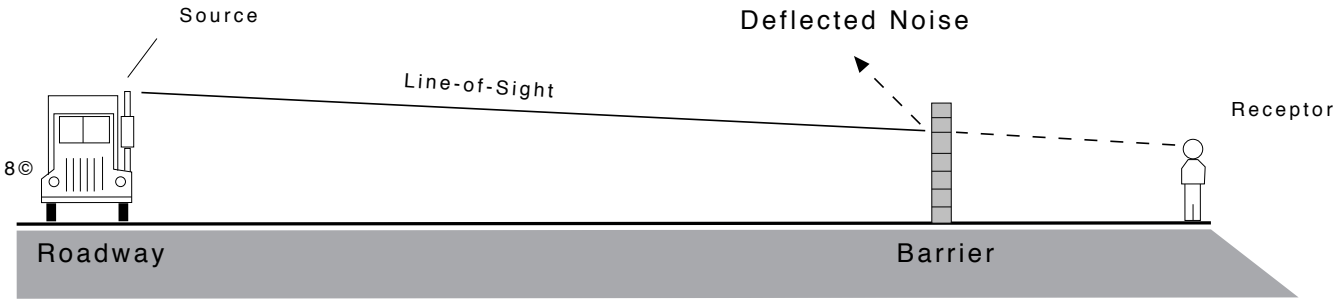
4 U.S. Department of Transportation, Federal Highway Administration, Highway Noise Mitigation, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 18.

5 T. M. Barry and J. A. Reagan, FHWA Highway Traffic Noise Prediction Model, (Washington D.C.: U.S. Department of Transportation, Federal Highway Administration, Office of Research, Office of Environmental Policy, December 1978), NTIS, FHWA-RD-77-108, p. 33.

6 The Noise Element indicates considers both CNEL and Ldn equivalent for purposes of analysis. CNEL, however, is used for the noise impact analysis because it is more conservative than the Ldn and portrays a worst-case noise scenario, and it is commonly used throughout the State of California in noise impact analysis prepared for EIRs.



"Barrier Effect" Resulting from Differences in Elevation.



"Barrier Effect" Resulting from Typical Soundwall.

FIGURE **4.5-1**

Noise Attenuation By Barriers

CNEL is another average A-weighted sound level measured over a 24-hour time period. However, this noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. A CNEL noise measurement is obtained after adding 5.0 decibels to sound levels occurring during the evening from 7 PM. to 10 PM., and 10.0 decibels to sound levels occurring during the nighttime from 10 PM. to 7 AM. The 5.0 and 10.0 decibel penalties are applied to account for peoples' increased noise sensitivity during the evening and nighttime hours. The logarithmic effect of adding these penalties to the peak hour Leq measurement results in a CNEL measurement that is within approximately 3 dB(A) of the peak hour Leq.[7]

b. Noise Analysis Purpose and Methodology

(1) Purpose of Analysis

The purpose of this noise analysis is twofold: (1) to evaluate the proposed project in terms of its design to ensure that land uses are planned appropriately from a noise perspective, and (2) to evaluate the noise impact of the project (during both construction and operation) on the on-site and surrounding (off-site) land uses.

The primary concern regarding on-site noise is the potential for proposed on-site land uses to be exposed to noise levels that exceed adopted or recommended thresholds (discussed later in this EIR section). In essence, the analysis of point and mobile source on-site noise levels deals with the noise-related compatibility of proposed on-site land uses with other on-site and nearby off-site land uses and activities.

Potential noise increases at off-site locations due to future on-site activities and the addition of project-related traffic along roadway segments adjoining noise sensitive uses (i.e., uses that would be most sensitive to an increase in noise levels) were calculated. Noise sensitive uses include residential uses, transient lodging, schools, libraries, churches, hospitals, day care centers, and nursing homes. Noise levels on adjacent roadway segments were modeled both with and without the project's traffic volumes to determine if the project would cause a significant noise impact on existing noise sensitive uses.

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7 California Department of Transportation, Technical Noise Supplement; A Technical Supplement to the Traffic Noise Analysis Protocol, (Sacramento, California: October 1998), pp. N51-N54.

(2) Analysis Methodology

(a) Point Source Noise

Determination of future point source noise levels on the project site and in its vicinity is based upon land use, and available technical reports and literature that are cited throughout this EIR section. On-site point noise sources include proposed on-site activities, such as construction, activities at the proposed commercial center at Bouquet Canyon Road and Newhall Ranch Road, and normal day-to-day residential activities at the site. The existing commercial centers at Bouquet Canyon Road and Newhall Ranch Road represent off-site point sources of noise that would be audible at the proposed commercial center and possibly the apartments in proposed in Area D. Saugus Speedway represents another off-site point source of noise that may be audible at the site from time-to-time, depending upon the events at that location.

(b) Mobile Source Noise

On-Site Mobile Source Noise

Future on-site mobile source noise levels were calculated using the California Department of Transportation (Caltrans) highway noise prediction model, SOUND32, PC Version 1.41. This model was developed by Caltrans using the highway traffic noise prediction method specified in the Federal Highway Administration Highway (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). SOUND32 is based on a three-dimensional grid created for the modeled area (in this case, the modeled area includes the Riverpark site including proposed roadway extensions, and nearby Bouquet Canyon Road and Soledad Canyon Road).[8] In general, model inputs include future peak hour speeds, volumes, and traffic mix on Bouquet Canyon Road, Soledad Canyon Road, the proposed Newhall Ranch Road extension through the site, future Santa Clarita Parkway, and future Golden Valley Road; elevations and geometrics of roadways; distances of proposed on-site sensitive uses from roadway centerlines and their estimated elevations; "hard" or "soft" site conditions that would affect noise drop off rates; any existing natural or proposed constructed barriers between the roadways and proposed sensitive uses that may attenuate noise; and roadway grade corrections, if necessary.[9] On-site noise

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8 The modeled area is smaller than the project study area, and is comprised of the project site and immediately surrounding major roadways. The project study area includes roadways within the Santa Clarita Valley that would be most affected by project traffic.

9 Sound32 does not account for pavement types and conditions; atypical vehicular noise conditions that do not reflect statewide averages per Calveno; "transparent" shielding such as wood fences and heavy brush or trees; reflections off nearby buildings or structures; and meteorological conditions.

impacts were calculated for Santa Clarita Valley build-out conditions to represent a worst-case scenario.

All existing and future roadways, barriers, and sensitive noise receptors for Riverpark were defined in x, y, and z coordinates using a topographic map with a scale of 1"=100'. Peak hour volumes on all roadways at Santa Clarita Valley buildout were provided by the project traffic engineer. Peak hour speeds were based upon the major roadways (i.e., Newhall Ranch Road, Santa Clarita Parkway, Soledad Canyon Road, and Bouquet Canyon Road) operating at level of service (LOS) C, which, when combined with peak hour traffic volumes, represents a worst-case noise scenario. The peak hour speeds at LOS C were provided by the project traffic engineer and are assumed to be 40 miles per hour for all of the major roadways.[10] LOS D or worse corresponds to increased congestion and, therefore, lower traffic speeds and reduced roadway noise. SOUND32 protocol requires that the traffic volumes for peak hour traffic be input into the model, as well as the rate at which the traffic would flow under LOS C conditions. The more realistic speeds would not necessarily be at LOS C and 40 miles per hour, but would be 30 miles per hour (mph) for Newhall Ranch Road, 36 mph for Santa Clarita Parkway and Golden Valley Road, and 33 mph for Soledad Canyon Road due to increased traffic at Santa Clarita Valley buildout.[11] The slower the traffic, the lower the noise volumes. Peak hour vehicle mix in the project study area is assumed to be 2 percent heavy trucks, 8 percent medium trucks, and 90 percent passenger vehicles, which comes from the Highway Capacity Manual (HCM 2000).[12] No sound walls were assumed in the initial model runs. Finally, SOUND32 was calibrated using data obtained from on-site noise measurements.[13]

Off-Site Mobile Source Noise

Future vehicular noise levels at off-site locations along individual roadway segments in the project study area were calculated using future roadway traffic volume data from the Riverpark traffic report prepared by Austin-Foust Associates, Inc. (see **Appendix 4.3**), and the FHWA Highway Traffic Noise Prediction Model, which calculates the average noise level at specific locations based on traffic

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10 Zerfass, Daryl, Austin Foust and Associates, Inc. <daryl@austinfoust.com>. "RE: River Park." 30 April 2003. Rosemarie Mamaghani <rosem@impactsciences.com>.

11 Zerfass, Daryl, Austin Foust and Associates, Inc. <daryl@austinfoust.com>. "RE: River Park." 30 April 2003. Rosemarie Mamaghani <rosem@impactsciences.com>.

12 Heavy trucks are all vehicles with three or more axles designed for the transportation of cargo; generally, the gross weight if greater than 12,000 kg (26,500 lbs.). Medium trucks are all vehicles with two axles and six wheels designed for transportation of cargo. Generally, the gross vehicle weight is greater than 4,500 kg (10,000 lbs.) and less than 12,000 kg (26,500 lbs.). Finally, passenger vehicles are all vehicles with two axles and four wheels designed primarily for transportation of nine or fewer passengers (automobiles). Light weight trucks with a gross vehicular weight of less than 4,500 kg (10,000 lbs.) also fall into this passenger vehicle category.

13 Model calibration was performed algebraically by adding a calibration constant derived from the difference between actual noise measurements taken at the site and noise levels at these locations as calculated by the SOUND32 model.

volumes, average speeds, roadway geometry; distances between the noise source and the receptor; and other noise attenuating conditions at these locations. The average vehicle noise rates (energy rates) utilized in the FHWA model have been modified by Caltrans to reflect average vehicle noise rates identified for California. The Caltrans data show that California automobile noise is 0.8 to 1.0 dB(A) higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dB(A) lower than national levels.[14]

3. PLANS AND POLICIES FOR NOISE CONTROL

Plans and policies that pertain to the noise conditions affecting and affected by the proposed project include (1) the State of California, Department of Health Services, Environmental Health Division Guidelines for Noise and Land Use Compatibility, and (2) the Noise Element of the City of Santa Clarita General Plan and the City's Noise Ordinance. The City has incorporated a modified version of the State's Guidelines for Noise and Land Use Compatibility into its Noise Element (pp. N-6 and N-7) and they are used in this impact analysis as standards (measured in dB(A) CNEL) to measure noise impacts; therefore, application of these guidelines to both on- and off-site project-related noise would meet the City's impact analysis requirements. The Guidelines in the City's Noise Element are referred to as Noise and Land Use Compatibility Guidelines.

a. California Department of Health Services

The State of California, Department of Health Services, Environmental Health Division, has published recommended guidelines for noise and land use compatibility referred to as the Land Use Compatibility Guidelines for Noise (the State Guidelines). The original document with the State Guidelines is no longer available; however, they are also published by the Governor's Office of Planning and Research in the State of California General Plan Guidelines (2003). The General Plan Guidelines are available for review at the Office of Planning and Research website at http://www.opr.ca.gov/publications/PublicationsIndex.shtml#pubs-G. The State Guidelines indicate that residential land uses and other noise sensitive receptors generally should locate in areas where outdoor ambient noise levels do not exceed 65 to 70 dB(A) (CNEL or Ldn). Application of this or a similar compatibility matrix to development projects is not mandated by the Department of Health Services; however, each jurisdiction is required to consider the State Guidelines when developing its general plan noise element and when determining acceptable noise levels within its community.[15] The

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14 Rudolf W. Hendriks, California Vehicle Noise Emission Levels, (Sacramento, California: California Department of Transportation, January 1987), NTIS, FHWA/CA/TL-87/03.

15 State of California, Governor's Office of Planning and Research, State of California General Plan Guidelines, (Sacramento, California: Governor's Office of Planning and Research, October 2003), pp. 87-89.

State Department of Housing and Community Development, however, has required that new multi-family units cannot be exposed to outdoor ambient noise levels in excess of 65 dB(A) (CNEL or Ldn), and, if necessary, sufficient noise insulation must be provided to reduce interior ambient levels to 45 dB(A).[16]

According to the State Guidelines, an exterior noise level of 60 dB(A) CNEL is considered to be a "normally acceptable" noise level for single family, duplex, and mobile homes involving normal, conventional construction, without any special noise insulation requirements. Exterior noise levels up to 65 dB(A) CNEL are typically considered "normally acceptable" for multi-family units and transient lodging without any special noise insulation requirements. Between these values and 70 dB(A) CNEL, exterior noise levels are typically considered "conditionally acceptable" and residential construction should only occur after a detailed analysis of the noise reduction requirements is made and needed noise attenuation features are included in the project design. Exterior noise attenuation features include, but are not limited to, setbacks to place structures outside the conditionally acceptable noise contour, orienting structures so no windows open to the noise source, and/or installing noise barriers, such as berms and/or solid walls. Within a 65 dB(A) exterior noise environment and based on the information provided in **Table 4.5-1**, interior noise levels will typically be reduced to acceptable levels (to at least 45 dB(A)) through conventional construction, but with closed windows and fresh air supply systems or air conditioning.

Under the State Guidelines, an exterior noise level of 70 dB(A) CNEL is typically the dividing line between an acceptable and unacceptable exterior noise environment for all noise residential sensitive uses, including schools, libraries, churches, hospitals, day care centers, and nursing homes of conventional construction. Noise levels below 75 dB(A) CNEL are typically acceptable for office and commercial buildings, while levels up to 75 dB(A) CNEL are typically acceptable for industrial uses

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16 In response to the mandates of Section 5 of the Federal Noise Control Act of 1972, the U.S. Environmental Protection (U.S. EPA) Agency's Office of Noise Abatement and Control published Public Health and welfare Criteria for Noise (EPA, 1973a) and Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA, 1974a). In these documents, the U.S. EPA determined that a yearly average day-night sound level of 45 dB would permit adequate speech communication in the home. EPA also identified an indoor DNL of 45 dB, which translates to a nighttime average sound level of 35 dB, as necessary to protect against sleep interference. Dr. Alice H. Suter. "Administrative Conference of the United States: Noise and Its Effects, (November 1991)." [Online] 6 January 2004. <http://www.nonoise.org/library/suter/suter.htm#effects%20of%20noise%20on%20sleep>.
This requirement is also consistent with the California Noise Insulation Standards of 1988 (California Building Code Title 24, Section 3501 et seq.), which establishes inter-dwelling (between units in a building) and exterior sound transmission control measures. It requires that interior noise levels from the exterior source be reduced to 45 decibels (dB) or less in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings. Measurements are based on a day/night average sound level (Ldn) or the community noise equivalent level (CNEL). Both Ldn and CNEL utilize averaging, not single event exposure.
Assuming a conservative structural noise insulation of 20 dB for typical dwellings, 45 dB corresponds to an outdoor CNEL of 65 dB (see **Table 4.5-1** for noise attenuating properties of typical California building construction).

(for the purposes of this analysis, however, noise impacts will only be evaluated for the noise sensitive uses that are proposed on the site). In unacceptable interior noise environments, additional noise insulation features, such as extra batting or resilient channels[17] in exterior walls, double paned windows, air conditioners to enable occupants to keep their windows closed, solid wood doors, noise baffles on exterior vents, etc., are typically needed to provide acceptable interior noise levels. The best type of noise insulation for a land use should be based on detailed acoustical analyses that identify all practical noise insulation features and that confirm their effectiveness.

b. City of Santa Clarita Noise Element and Noise Ordinance

The Noise Element of the City of Santa Clarita General Plan has incorporated a slightly modified version of the State's Guidelines for Noise and Land Use Compatibility, as well as noise level control standards that directly affect the proposed project.[18] These Guidelines are referred to as Noise and Land Use Compatibility Guidelines in the Noise Element and are illustrated in **Figure 4.5-2, Noise and Land Use Compatibility Guidelines**. All references to the Guidelines from this point forward refer to the Guidelines in the City's Noise Element. The Noise Element is herein incorporated by reference and is available for review at the City of Santa Clarita Planning and Building Services Department. A complete discussion of the project's consistency with General Plan Noise Element Goals and Policies can be found in **Section 4.7, Land Use**.

The City has also adopted an ordinance to control point source noise. This ordinance is also incorporated herein by reference and is available for review at the City's website at http://www.santa-clarita.com/cityhall/admin/code/. Three sections of the ordinance are particularly pertinent to the proposed project: Sections 11.44.040, 11.44.070, and 11.44.080, as amended.

(1) Section 11.44.040

In general, Section 11.40.040, Noise Limits, sets the following noise levels for residential, commercial, and manufacturing uses taking place on private property and for construction activities on private property outside of the hourly limits provided in Section 11.40.080 as shown in **Table 4.5-2, City Ordinance Noise Limits**.

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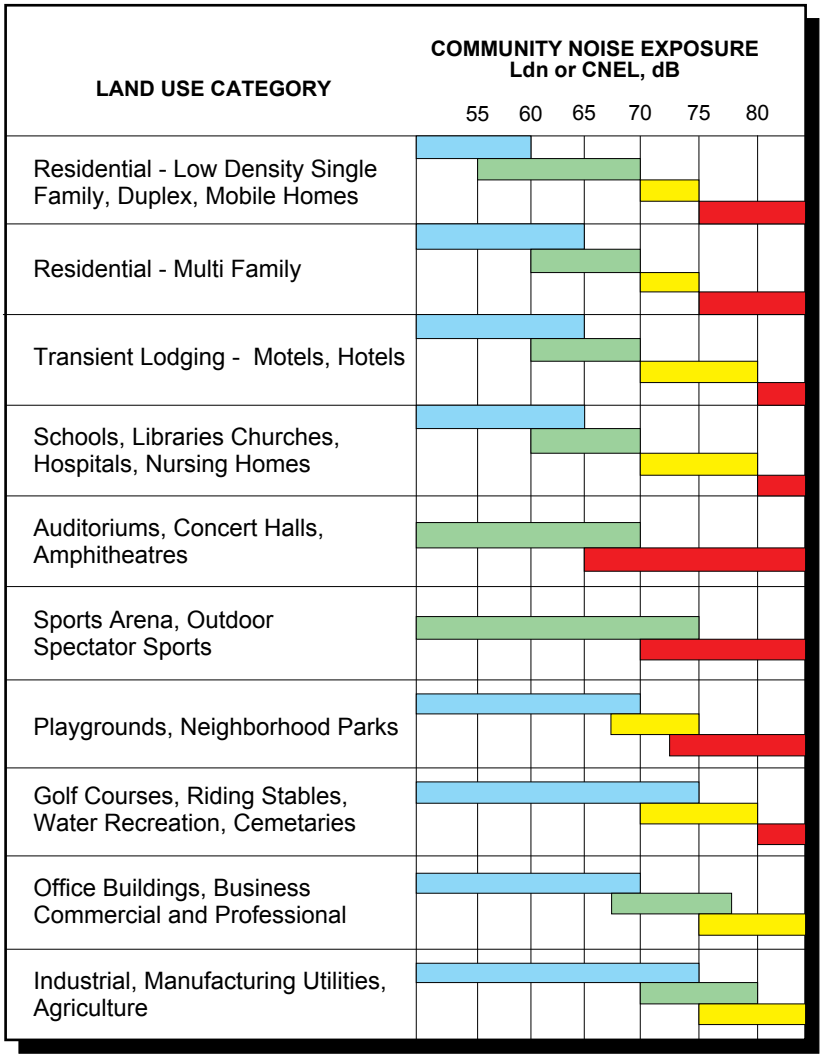
17 A resilient channel is a pre-formed section of sheet metal approximately 0.5-inch deep by 2.5-inches wide by 12-inches long that is installed between wallboard panels and framing to reduce sound transmission through walls. By preventing the wallboard from lying against the studs, the channel inhibits the transmission of sound through the framing.

18 City of Santa Clarita General Plan Noise Element Amendment (Santa Clarita, California: 23 May 2000), p. N-7. The City's General Plan Noise Element may be found at the City of Santa Clarita Planning Department. The City's Noise Ordinance may be found at http://www.santa-clarita.com/cityhall/admin/code/Santa_Clarita_Municipal_Code/Title_11/44/index.html>.



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new constuction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

SOURCE: City of Santa Clarita General Plan Noise Element (May 23, 2000) Exhibit N-2

FIGURE **4.5-2**

Noise and Land Use Compatibility Guidelines

Table 4.5-2
City Ordinance Noise Limits

Region	Time	Exterior Sound Level (dB)
Residential Zone	Day	65
Residential Zone	Night	55
Commercial and Manufacturing	Day	80
Commercial and Manufacturing	Night	70

Wherever a boundary line occurs between a residential property and a commercial/manufacturing property, the noise level of the quieter zone is to be used. Construction work performed in conformance with Section 11.44.080 (below) is exempt from Section 11.44.040.[19]

(2) Section 11.44.070

Section 11.44.070 states, "any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Section 11.44.040 at any property line, or, if a condominium or rental units, within any condominium or rental unit within the complex, shall be a violation of this chapter." Construction work performed in conformance with Section 11.44.080 (below) is exempt from Section 11.44.070.[20]

(3) Section 11.44.080, as Amended

Finally, Section 11.44.080, as amended by Ordinance No. 93-4 and No. 00-3, prohibits construction work requiring a building permit on sites within 300 feet of a residentially-zoned property from operating except between the hours of 7:00 AM and 7:00 PM Monday through Friday, and between 8:00 AM and 6:00 PM on Saturday. Construction work is prohibited on Sundays, New Year's Day, Independence Day, Thanksgiving Day, Christmas Day, Memorial Day, and Labor Day. The Planning and Building Services Department of the City of Santa Clarita may issue a permit for work to be done outside of these hours provided that containment of construction noise is provided. Section 11.44.080, as amended, represents an exception to Section 11.44.040 and 11.44.070 of the Noise Ordinance. [21]

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19 Telephone conversation with Jeff Hogan, City of Santa Clarita Planning and Building Services Department, Santa Clarita, California, December 2003.

20 Telephone conversation with Jeff Hogan, City of Santa Clarita Planning and Building Services Department, Santa Clarita, California, December 2003.

21 Telephone conversation with Jeff Hogan, City of Santa Clarita Planning and Building Services Department, Santa Clarita, California, December 2003.

4. EXISTING CONDITIONS

Vehicular traffic is the dominant source of noise on and in the vicinity of the project site. Other sources of noise in the area that could potentially affect noise levels on the project site include nearby residential and non-residential uses, including the Saugus Speedway facility. These noise sources are discussed below.

a. On-Site Mobile and Point Source Noise

Soledad Canyon Road runs roughly along the southern edge of the site and the proposed development area of the project is separated by approximately 300 feet, at its closest point, from this roadway by the Santa Clara River. Existing ambient[22] noise levels at the project site were measured on the northern river bank closest to Soledad Canyon Road on the morning of November 11, 2002 using a Brüel and Kjaer Type 1 (Model 2238) sound level meter which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The sound meter was equipped with an omni-directional microphone and was calibrated before the day's measurements. A single ground-floor measurement (5 feet above ground) was taken at the monitoring location for approximately thirty minutes. Weather conditions were clear and moderately windy. These measurements were of ambient noise and included blowing wind, vehicular traffic from Soledad Canyon Road, and activities at the Metrolink station to the south. There was no activity at the Saugus Speedway. Measured noise levels ranged from 47 dB(A) Leq to 66 dB(A) Leq, with an average Leq of 58.8 dB(A). The windy conditions at the site at the time of the measurements artificially elevated the noise measurements and noise levels are expected to be slightly lower than what was measured. A subsequent ten-hour noise measurement was taken on the site on June 23, 2003 during calm weather conditions which resulted in a noise level of 56.2 dB(A) Leq. The results of these measurements are provided in **Appendix 4.5** of this EIR.

The project site is undeveloped and generates no point sources of noise with the exception of the activities at the on-site construction storage yard. Activities at the storage yard were not audible outside of the facility on the morning of November 11, 2002.

Off-site nearby noise sources are those generated by activities at the mobile home park to the southeast of the site, the Rio Vista Water Treatment Plant to the north of the site, and the commercial area to the west along Bouquet Canyon Road. Point sources of noise typical of these areas include people talking, doors slamming and tires squealing, truck deliveries, parking lot cleaning, lawn care equipment operation, stereos, domestic animals, etc. Noise levels generated by these sources contribute to the

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22 Ambient noise level is the level of existing noise occurring in the surrounding area, sometimes referred to as background noise.

ambient noise levels that are experienced in all similarly developed areas. Ambient noise levels of similarly developed areas typically do not exceed normally acceptable noise levels from the Guidelines (identified in **Figure 4.5-2**) that the City has incorporated into its Noise Element. No noise from these off-site uses or from the Metrolink Station to the south was distinctly audible during the morning of November 11, 2002. The noise graphs from the ten-hour June 23, 2003 monitoring (provided in **Appendix 4.5**) demonstrated a consistent pattern of activity near to the site between approximately 5:30 PM and 7:00 PM. This pattern is most likely due to activity at the Metrolink site and to increased traffic volumes on Soledad Canyon Road. Noise levels during this 90 minute time period, however, did not exceed 58 dB(A) Leq.

b. Off-Site Noise

Because much of the property is undeveloped, it does not generate point source noise levels that are perceptible at off-site locations. Existing average traffic noise levels at off-site sensitive receptors within the project study area[23] were calculated along roadway segments that would be affected by traffic generated by the proposed project. These sensitive receptors and the calculated existing average traffic noise levels at these receptor sites are listed in **Table 4.5-3, Existing Off-Site Roadway Noise Levels at Noise Sensitive Locations**. The noise levels shown are calculated for the nearest edge of the nearest existing building to the roadway. Buildings located farther from the roadways would have lower noise levels.

Based on the findings presented in **Table 4.5-3**, all locations except for the parks at Bouquet Canyon Road east of Seco Canyon Road and on Newhall Ranch Road west of Hillsborough Way are currently exposed to noise levels that exceed normally acceptable noise levels under the Noise Element Guidelines.

One noise measurement was taken at the intersection of Espuella Drive and Berino Drive within the existing Emblem Tract (Tract No. 28882) to the north of Area D. Specifically, the measurements were taken on June 27, 2003 for a period of 15 minutes between 1:04 and 1:19 PM. The weather was calm and clear, and noise from Bouquet Canyon Road to the west and on local roadways within the tract was audible at the location of measurement. Emblem Elementary School was not in session. Due to intervening topography, noise from Soledad Canyon Road was not distinctly audible. The average noise level at that location was 57.5 dB Leq, which would be the approximate equivalent of 60.3 dB(A) CNEL.

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23 The geographic limits of the project study area is defined in the River Park Traffic Impact Analysis (March 2003) provided in **Appendix 4.3** of this EIR. In general, it includes all roadway segments and intersections that would be affected by project traffic.

The Saugus Speedway facility, located to the southwest of the site and approximately 1,200 feet from the nearest proposed residential lot on the site, is a special event facility used for exhibitions, swap meets, and special events. The special events could range from car races, demolition derbies, concerts, circuses, baseball and football games, fireworks, rodeos, fairs, carnivals, etc. When they do occur at the speedway, many of these events occur at night. The speedway is also often used for filming purposes, with and without explosions, car crashes, racing sequences, etc.

Table 4.5-3
Existing Off-Site Roadway Noise Levels at Noise Sensitive Locations[1]

ROADWAY • Segment[1]	Existing Noise Sensitive Land Uses	dB(A) CNEL
BOUQUET CANYON ROAD		
n/o Newhall Ranch Road	Single-Family Residential	64.6*
n/o Newhall Ranch Road	Multi-Family Residential	73.2*
n/o Newhall Ranch Road	Church	74.2*
e/o Seco Canyon Road	Single-Family Residential	74.9*
e/o Seco Canyon Road	Central Park	66.1
e/o Seco Canyon Road	Saugus High School	68.2*
e/o Seco Canyon Road	Church	72.8*
e/o Santa Clarita Parkway	Single-Family Residential	72.8*
s/o Soledad Canyon Road	Multi-Family Residential	72.7*
GOLDEN VALLEY ROAD		
w/o SR-14	Single-Family Residential	--
MAGIC MOUNTAIN PARKWAY		
w/o San Fernando Road	Multi-Family Residential	68.2*
NEWHALL RANCH ROAD		
w/o Hillsborough Way	Single-Family Residential	65.4*
w/o Hillsborough Way	Park	66.1
w/o Bouquet Canyon Road	Multi-Family Residential	67.2*
RAINBOW GLEN DRIVE		
s/o Soledad Canyon Road	Single-Family Residential	--
SECO CANYON ROAD		
n/o Bouquet Canyon Road	Single-Family Residential	69.8*
n/o Bouquet Canyon Road	Elementary School	69.8*
n/o Bouquet Canyon Road	Park	69.8
n/o Bouquet Canyon Road	Multi-Family Residential	69.8*
SOLEDAD CANYON ROAD		
e/o Santa Clarita Parkway	Mobile Home Park	74.6*
e/o Golden Valley Road	Mobile Home Park	63.8*
e/o Rainbow Glen Drive	Multi-Family Residential	74.7*
e/o Rainbow Glen Drive	Mobile Home Park	76.4*
w/o Whites Canyon	School	69.5*
w/o Whites Canyon	Mobile Home Park	73.9*
VALENCIA BOULEVARD		
s/o Magic Mountain Parkway	Library	73.5*
VIA PRINCESSA		
e/o Rainbow Glen Drive	Single-Family Residential	--
w/o Whites Canyon Road	Single-Family Residential	65.7*
WHITES CANYON ROAD		
n/o Soledad Canyon Road	Single-Family Residential	65.4*
n/o Soledad Canyon Road	Sierra Vista Jr. High School	66.5*
n/o Soledad Canyon Road	Bowman Cont. High School	66.5*
n/o Soledad Canyon Road	Canyon High School	66.5*

n/a = Due to lack of data, noise calculations were not run.
*Source: Impact Sciences, Inc. Calculations are provided in **Appendix 4.5**. Noise levels are calculated for the nearest edge of the nearest existing building to the roadway.*
** Roadway segments that exceed normally acceptable noise levels of the City of Santa Clarita Land Use Compatibility Guidelines for Noise.*
*[1]For roadway segment limits, please refer to Figure 1-1 in the traffic study (**Appendix 4.3**).*

5. PROPOSED IMPROVEMENTS

The structural and roadway improvements that the project applicant proposes to construct are described in **Section 1.0, Project Description**, of this EIR.

6. PROJECT IMPACTS

The proposed project would generate noise during its construction and after its occupation. Thresholds of significance and the potential noise impacts associated with the project are discussed below.

a. Significance Thresholds Criteria

The following thresholds of significance are based on the Noise and Land Use Compatibility Guidelines of the City's Noise Element, as well as the noise standards outlined in the City's Noise Ordinance.

(1) On-Site Thresholds of Significance

(a) Construction Noise

If components of the proposed project were to be subject to project-related construction noise levels originating on or off the project site in violation of City Noise Ordinance standards or in excess of normally acceptable noise levels from the Noise Element Guidelines, a significant on-site noise impact would occur.

(b) Operational Noise

Future point sources of noise on the project site typical of residential areas would include people talking, doors slamming, lawn care equipment operation, stereos, domestic animals, etc. Typical commercial sources of noise include people talking, vehicle doors slamming, auto alarms, parking lot cleaning, etc. All on-site uses would be subject to, and cannot exceed, the City Noise Ordinance.

Future mobile source noise would be from project-generated traffic, as well as from traffic flowing through the site on the proposed Newhall Ranch Road, Santa Clarita Parkway, and Golden Valley Road extensions. The proposed project would result in a significant on-site mobile source noise impact if traffic on adjacent and nearby roadways would cause on-site exterior use locations to be exposed to

continuous noise levels greater than those identified in the Noise Element Guidelines for the affected land use.

(2) Off-Site Thresholds of Significance

(a) Construction Noise

If off-site receptors were subjected to project-related construction noise levels originating on or off the project site in violation of the Noise Element Guidelines, a significant off-site noise impact would occur.

(b) Operational Noise

As stated above, future point sources of noise on the project site will be typical of residential and commercial uses. On-site uses are prohibited from generating noise levels at off-site locations that exceed the maximum levels set by the City Noise Ordinance.

Evaluation of off-site mobile source noise impacts considers the Noise Element Guidelines and community responses to changes in noise levels. As discussed previously, changes in a noise level of less than 3.0 dB(A) are not typically noticed by the human ear.[24] Changes from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A 5.0 dB(A) increase is readily noticeable. Based on this information, significant off-site project operational noise impacts would occur under the following criteria:

- Criterion 1 – an increase of 5.0 dB(A) or greater in noise level occurs from project-related activities if levels remain within the same land use compatibility classification (e.g., noise levels remain within the normally acceptable range); or
- Criterion 2 – an increase of 3.0 dB(A) or greater in noise level occurs from project-related activities which results in a change in land use compatibility classification (e.g., noise levels change from normally acceptable to conditionally acceptable); or
- Criterion 3 – any increase in noise levels occurs where existing noise levels are already considered unacceptable under the Noise Element Guidelines.

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24 Highway Noise Fundamentals, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 81.

b. Project Construction Noise Impacts

Project development activities would occur over several years and would primarily include site preparation (grading and excavation) and construction of internal roadways, driveways, and structures, bank stabilization as well as utility infrastructure installation. Approximately 5.5 million cubic yards of earthen material, plus additional remedial grading, would be graded on site; no earthen materials would be imported to or exported from the site. These activities typically involve the use of heavy equipment, such as scrapers, tractors, loaders, concrete mixers, cranes, etc. Trucks would be used to deliver equipment and building materials, and to haul away waste materials. Smaller equipment, such as jackhammers, pneumatic tools, saws, and hammers would also be used throughout the site during the construction phases. In addition, piles may be driven into the Santa Clara Riverbed over a relatively short period of time during the construction of the Newhall Ranch Road/Golden Valley Road Bridge. This equipment would generate both steady state and episodic noise that would be heard both on and off the project site.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data on the noise-generating characteristics of specific types of construction equipment. These data are presented in **Figure 4.5-3, Noise Levels of Typical Construction Equipment**. As shown, noise levels generated by heavy equipment can range from approximately 68 dB(A) to noise levels in excess of 100 dB(A) when measured at 50 feet. However, these noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6.0 to 7.5 dB(A) per doubling of distance. For example, assuming a "hard" site,[25] a noise level of 68 dB(A) measured at 50 feet from the noise source to the receptor would reduce to 62 dB(A) at 100 feet from the source to the receptor, and further reduce by another 6.0 dB(A) to 56 dB(A) at 200 feet from the source to the receptor.

In general, the first and noisiest stage is site preparation, which usually involves earth moving, construction of bank stabilization and compaction of soils. High noise levels created during this phase would be associated with the operation of heavy-duty trucks, scrapers, graders, backhoes, and front-end loaders. When construction equipment is operating, noise levels can range from 73 to 96 dB(A) at a distance of 50 feet from individual pieces of equipment. During the second stage of construction, foundation forms are constructed and concrete foundations are poured. Primary noise sources include heavy concrete trucks and mixers, cranes, and pneumatic drills. At 50 feet from the source, noise levels in the 70 to 90 dB(A) range are common.

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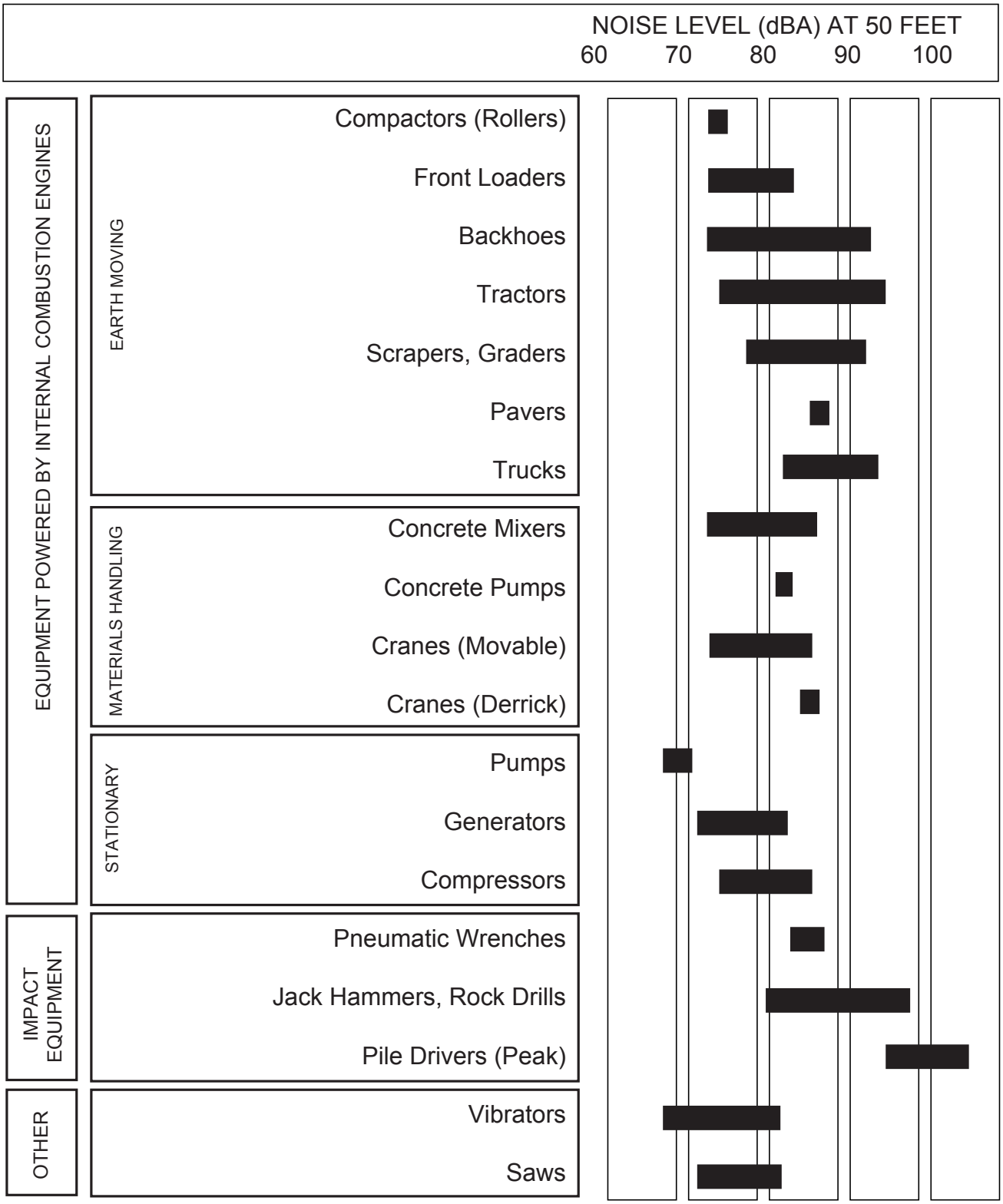
25 Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely-vegetated soils.

The third and fourth stages consist of interior and exterior building construction, and site cleanup. Primary noise sources associated with the third phase include hammering, diesel generators, compressors, and light truck traffic. Noise levels are typically in the 60 to 80 dB(A) range at a distance of 50 feet. The final stages typically involve the use of trucks, landscape rollers and compactors, with noise levels in the 65 to 75 dB(A) range.

Noise levels generated during the construction phases would primarily affect occupants of on-site uses constructed in the project's early development phases. Any on-site location with an uninterrupted line of sight to the construction noise sources could periodically be exposed to temporary noise levels that could exceed normally acceptable noise levels from the Noise Element Guidelines, which would be a significant impact.

The movement of equipment and workers onto the site represents another construction noise source. Land uses along access routes to the construction staging locations may experience temporary, episodic off-site noise increases. The major pieces of heavy equipment would be moved into the site once for each construction phase, and thus would have a less than significant temporary effect on traffic noise levels. The daily transportation of construction workers to the site would be expected to cause, at most, only a slight increase in noise levels along off-site roadways in the project study area. Therefore, construction traffic noise would be less than significant.

Noise from grading and construction activities would also be audible to off-site residents of the mobile home park to the southwest and to the residents of the Emblem tract to the north of Area D. Construction activities could cause normally acceptable noise levels of the Noise Element Guidelines to be intermittently exceeded at the existing mobile home park for the duration of the construction in Areas A2, B, and C. The mobile home units to the south and southeast of these areas would be approximately 1,125 feet from the proposed development area at its closest point, and approximately 1,875 feet from the proposed Santa Clarita Parkway Bridge. The loudest piece of construction equipment at 96 dB(A) at 50 feet would have an audible noise level between 65 and 70 dB(A) at the mobile home park during grading of the development area and construction of nearby bank stabilization assuming a 7.5 dB(A) drop off rate for the soft, sandy, vegetated riverbed. These temporary construction noise impacts would be significant unless mitigated. Construction of the Newhall Ranch Road/Golden Valley Road Bridge would involve pile driving, which would intermittently generate noise levels at approximately 105 dB(A) over a relatively short period of time. Pile driving during construction of the Newhall Ranch Road/Golden Valley Road Bridge would cause noise levels to exceed 80 dB(A) at the closest mobile homes. Mobile homes located further away from the proposed development would experience less noise due to the greater distance from the construction, as well as to



NOTE: Based on limited available data samples.

SOURCE: United States Environmental Protection Agency, 1971, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," NTID 300-1

FIGURE **4.5-3**

Noise Levels of Typical Construction Equipment

the shielding effect of intervening mobile homes (see **Figure 4.5-1** for an illustration of the noise-attenuating effects of intervening barriers). Therefore, pile driving noise impacts would also be significant for the duration of the pile driving unless mitigated.

Residents at the Emblem tract would be exposed to noise from grading operations along the minor ridgeline to the north of Area D. The greatest noise levels would be audible to the residents during grading of the northern slopes of the ridge that face towards the Emblem tract. The on-site ridgeline that separates the Emblem tract and Area D represents an approximate 50- to 150-foot elevational difference between the development portion of Area D and the top of the ridge. There is an approximate 50-foot "window" along the western boundary of Area D where Emblem tract elevations are similar to those proposed in Area D and where there is no distinct topographic barrier between the two tracts. This location has the greatest potential for construction noise generated in Area D and noise from the construction of Newhall Ranch Road to be audible at Emblem tract. Elsewhere, the Emblem tract is separated from Area D by both horizontal distance and the ridgeline, both of which would attenuate construction noise levels at the tract. Nonetheless, there is potential for the residents of the Emblem tract to intermittently perceive noise levels in excess of 65 dB(A) during construction, which would result in a significant, temporary noise impact.

In order to reduce the potential impacts associated with construction activities, Section 11.44.080 of the City's Noise Ordinance restricts construction work requiring a building permit to between the hours of 7:00 AM and 7:00 PM Monday through Friday, and to between 8:00 AM and 6:00 PM on Saturday. The Noise Ordinance also precludes construction activities on Sundays and major holidays. These restrictions do not, however, mitigate the impact of construction noise that would be in excess of normally acceptable noise levels of the Noise Element Guidelines for residents of the Emblem tract or the mobile home park, or for those who may be early residents of Riverpark during construction elsewhere on the site. Therefore, the temporary project construction noise levels would be significant.

c. Project Operational Noise Impacts

As the project builds out, on- and off-site noise impacts would result from project-generated traffic, as well as from human activity on the project site itself. Each of these potential noise impacts is discussed separately below.

(1) Roadway Noise Impacts

As stated in **Section 4.3, Traffic/Access**, of this EIR, the proposed project is projected to generate approximately 13,300 vehicle trips per day on local roadways when it is completed and fully operational. On-site traffic noise would occur in the future after construction of Newhall Ranch Road extension, Santa Clarita Parkway (from Soledad Canyon Road to Newhall Ranch Road), and Golden Valley Road (from Plum Canyon to Newhall Ranch Road) when they become operational. Post-project on-site traffic noise levels were projected using SOUND32, while off-site traffic noise levels in the project study area were projected using the FHWA Highway Traffic Noise Prediction Model.[26] SOUND32 projected on-site noise for the long-term Santa Clarita Valley Build-Out Scenario, while the Highway Traffic Noise Prediction Model was used to project off-site noise for the Alternative Interim Year Scenario[27] and the Santa Clarita Valley Build-Out Scenario. On-site traffic noise impacts are projected for the Santa Clarita Valley Build-Out Scenario because on-site noise impact mitigation must mitigate, if feasible, for impacts at jurisdictional buildout rather than at interim build-out conditions.

(a) On-Site Traffic Noise Impacts

Findings of the SOUND32 analysis, provided in **Appendix 4.5** of this EIR, show that the residential uses adjacent to the Newhall Ranch Road, Santa Clarita Parkway, and Golden Valley Road extensions would be exposed to traffic noise levels in excess of normally acceptable noise levels in the Noise Element Guidelines (i.e., traffic noise levels would exceed 60 dB(A) CNEL for single-family residences and 65 dB(A) for multi-family residences) for vehicles traveling on these roadways (see **Table 4.5-4, On-Site Noise Levels Under Proposed Plan With Roadways Operating at LOS C and at Realistic Speeds**). Lots identified in **Table 4.5-4** were selected because of their proximity to on-site and off-site major roadways. Furthermore, the single-family residences with rear yards facing the Santa Clara River would also experience noise levels in excess of 60 dB(A) CNEL from traffic along Soledad Canyon Road. Traffic noise from Newhall Ranch Road and Santa Clarita Parkway would also be significantly audible at these residences as shown by the particularly higher noise levels at Lots 2, 3, 4, and 338 to 346. Lots 314 through 338 would particularly be exposed to vehicular noise from traffic on the Santa Clarita Parkway over the bridge. The curve of this roadway would cause sound to radiate, or spread towards the residences in the southeastern portion of Area A-2. Construction of 6-foot masonry walls along interior rear yards of homes (e.g., along the rear yards of Lots 295 to 303) would help reduce noise levels, but they would not reduce the noise impact to less than significant (**Figure 4.5-4**).

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26 As previously discussed, the FHWA Noise Prediction Model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified by the Caltrans to reflect average vehicle noise rates identified for California.

27 The Alternative Interim Year Scenario was used in this impact analysis because it assumes construction of Santa Clarita Parkway through the site.

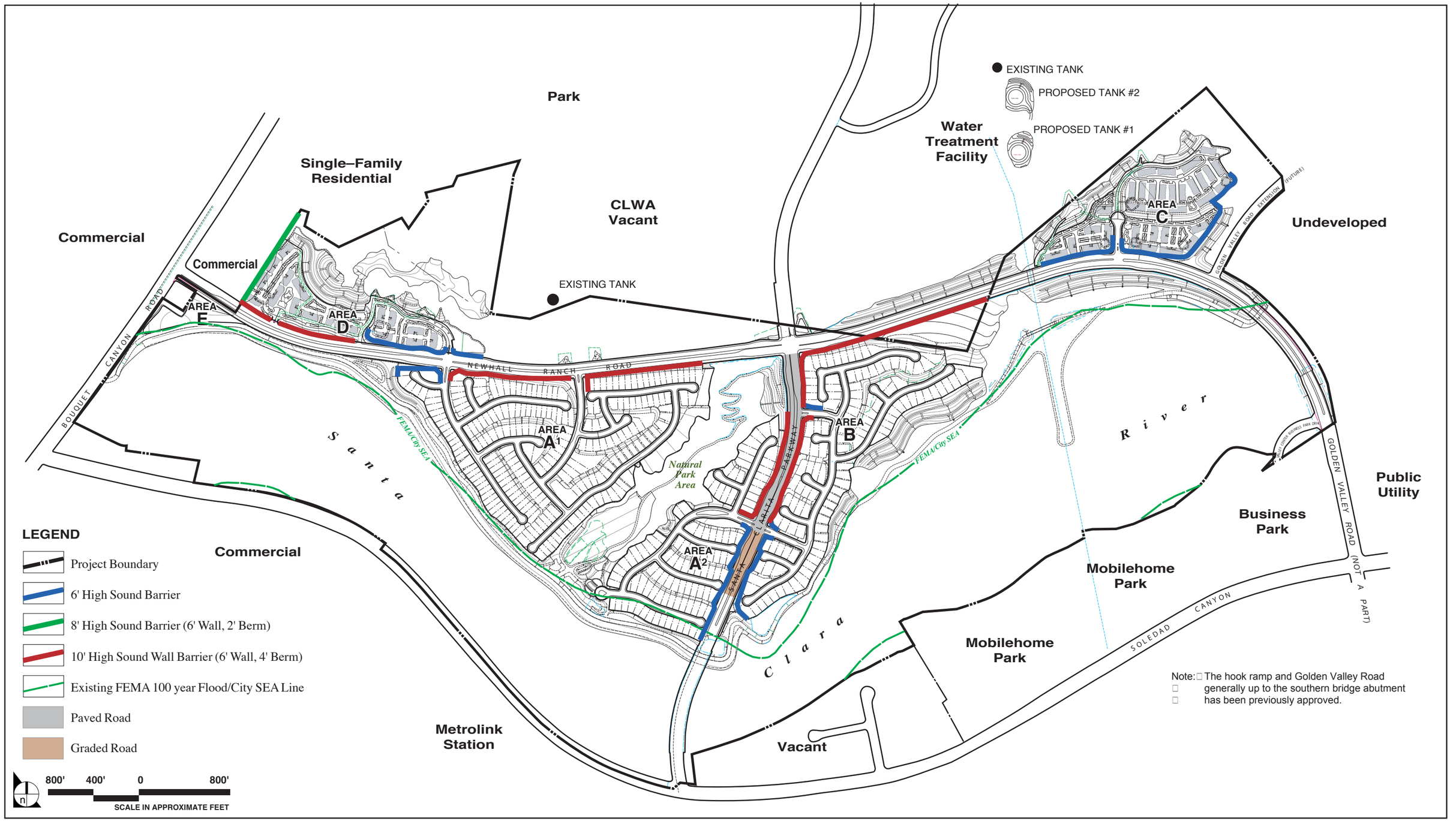

FIGURE **4.5-4**

Proposed Sound Walls

112-16•02/04

Table 4.5-4
On-Site Noise Levels Under Proposed Plan
With Roadways Operating at LOS C and at Realistic Speeds

			LOS C[1]			Realistic Speeds[1]		
Lot No.	Land Use	TOS (CNEL)	Leq	CNEL	Exceeds TOS By (dB)	Leq	CNEL	Exceeds TOS By (dB)
1	Single Family	60	65.9	66.7	6.7	64.3	65.1	5.1
2	Single Family	60	63.3	64.1	4.1	61.7	62.5	2.5
3	Single Family	60	64.5	65.3	5.3	62.8	63.6	3.6
4	Single Family	60	63.9	64.7	4.7	62.3	63.1	3.1
7	Single Family	60	62.5	63.3	3.3	60.9	61.7	1.7
8	Single Family	60	62.1	62.9	2.9	60.5	61.3	1.3
12	Single Family	60	61.3	62.1	2.1	59.8	60.6	0.6
13	Single Family	60	61.1	61.9	1.9	59.5	60.3	0.3
17	Single Family	60	60.5	61.3	1.3	58.9	59.7	-0.3
29	Single Family	60	59.7	60.5	0.5	58.3	59.1	-0.9
55	Single Family	60	64.1	64.9	4.9	62.6	63.4	3.4
56	Single Family	60	66.6	67.4	7.4	65.2	66.0	6.0
57	Single Family	60	58.4	59.2	-0.8	57.0	57.8	-2.2
58	Single Family	60	57.9	58.7	-1.3	56.6	57.4	-2.6
60	Single Family	60	58.6	59.4	-0.6	57.2	58.0	-2.0
61	Single Family	60	58.6	59.4	-0.6	57.2	58.0	-2.0
62	Single Family	60	57.7	58.5	-1.5	56.2	57.0	-3.0
64	Single Family	60	56.9	57.7	-2.3	55.5	56.3	-3.7
66	Single Family	60	56.3	57.1	-2.9	54.9	55.7	-4.3
69	Single Family	60	58.6	59.4	-0.6	57.1	57.9	-2.1
70	Single Family	60	57.7	58.5	-1.5	56.1	56.9	-3.1
158	Single Family	60	67.0	67.8	7.8	65.6	66.4	6.4
161	Single Family	60	58.3	59.1	-0.9	57.0	57.8	-2.2
162	Single Family	60	54.6	55.4	-4.6	53.1	53.9	-6.1
165	Single Family	60	59.2	60.0	0.0	58.1	58.9	-1.1
170	Single Family	60	59.8	60.6	0.6	58.5	59.3	-0.7
176	Single Family	60	59.4	60.2	0.2	58.0	58.8	-1.2
203	Single Family	60	59.5	60.3	0.3	58.2	59.0	-1.0
228	Open Space	65	60.0	60.8	-4.2	56.9	57.7	-7.3
251	Single Family	60	57.8	58.6	-1.4	56.6	57.4	-2.6
252	Single Family	60	59.0	59.8	-0.2	57.9	58.7	-1.3
255	Single Family	60	58.8	59.6	-0.4	57.6	58.4	-1.6
259	Single Family	60	60.3	61.1	1.1	59.0	59.8	-0.2
260	Single Family	60	63.8	64.6	4.6	62.5	63.3	3.3
261	Single Family	60	62.7	63.5	3.5	61.4	62.2	2.2
262	Single Family	60	61.9	62.7	2.7	60.5	61.3	1.3
264	Single Family	60	60.8	61.6	1.6	59.5	60.3	0.3
269	Single Family	60	59.7	60.5	0.5	58.5	59.3	-0.7

Lot No.	Land Use	TOS (CNEL)	LOS C[1]			Realistic Speeds[1]		
			Leq	CNEL	Exceeds TOS By (dB)	Leq	CNEL	Exceeds TOS By (dB)
270	Single Family	60	59.9	60.7	0.7	58.7	59.5	-0.5
288	Single Family	60	60.0	60.8	0.8	58.8	59.6	-0.4
292	Single Family	60	63.9	64.7	4.7	63.1	63.9	3.9
294	Single Family	60	61.1	61.9	1.9	60.3	61.1	1.1
295	Single Family	60	65.1	65.9	5.9	64.3	65.1	5.1
314	Single Family	60	70.9	71.7	11.7	70.0	70.8	10.8
337	Single Family	60	71.5	72.3	12.3	70.6	71.4	11.4
338	Single Family	60	72.1	72.9	12.9	71.2	72.0	12.0
338	Single Family	60	72.2	73.0	13.0	71.2	72.0	12.0
341	Single Family	60	66.4	67.2	7.2	65.5	66.3	6.3
344	Single Family	60	63.5	64.3	4.3	62.4	63.2	3.2
346	Single Family	60	62.3	63.1	3.1	61.2	62.0	2.0
348	Single Family	60	61.4	62.2	2.2	60.3	61.1	1.1
350	Single Family	60	59.9	60.7	0.7	58.2	59.0	-1.0
352	Single Family	60	60.5	61.3	1.3	59.3	60.1	0.1
368	Single Family	60	65.5	66.3	6.3	64.6	65.4	5.4
376	Single Family	60	62.9	63.7	3.7	62.0	62.8	2.8
377	Single Family	60	63.7	64.5	4.5	62.8	63.6	3.6
378	Single Family	60	66.3	67.1	7.1	65.4	66.2	6.2
385	Single Family	60	59.2	60.0	0.0	58.3	59.1	-0.9
420	Single Family	60	59.7	60.5	0.5	58.2	59.0	-1.0
422	Single Family	60	59.4	60.2	0.2	58.3	59.1	-0.9
424	Single Family	60	59.3	60.1	0.1	58.1	58.9	-1.1
427	Single Family	60	61.9	62.7	2.7	60.7	61.5	1.5
429	Single Family	60	63.2	64.0	4.0	61.8	62.6	2.6
434	Single Family	60	62.0	62.8	2.8	61.0	61.8	1.8
442	Single Family	60	68.7	69.5	9.5	67.7	68.5	8.5
448	Single Family	60	55.6	56.4	-3.6	54.4	55.2	-4.8
449	Single Family	60	57.5	58.3	-1.7	56.4	57.2	-2.8
456	Single Family	60	58.0	58.8	-1.2	57.0	57.8	-2.2
458	Single Family	60	61.5	62.3	2.3	60.6	61.4	1.4
475	Single Family	60	59.9	60.7	0.7	58.2	59.0	-1.0
519A	Multi-family	65	60.0	60.8	-4.2	58.4	59.2	-5.8
519B	Multi-family	65	57.5	58.3	-6.7	55.7	56.5	-8.5
519C	Multi-family	65	59.6	60.4	-4.6	57.9	58.7	-6.3
519D	Multi-family	65	56.4	57.2	-7.8	54.8	55.6	-9.4
521A	Multi-family	65	71.4	72.2	7.2	70.4	71.2	6.2
521B	Multi-family	65	66.4	67.2	2.2	64.9	65.7	0.7
524B	Multi-family	65	65.2	66.0	1.0	63.7	64.5	-0.5
524C	Multi-family	65	72.5	73.3	8.3	70.8	71.6	6.6
524D	Multi-family	65	70.2	71.0	6.0	69.0	69.8	4.8
525A	Multi-family	65	59.6	60.4	-4.6	57.9	58.7	-6.3

Lot No.	Land Use	TOS (CNEL)	LOS C[1]			Realistic Speeds[1]		
			Leq	CNEL	Exceeds TOS By (dB)	Leq	CNEL	Exceeds TOS By (dB)
525B	Multi-family	65	62.6	63.4	-1.6	61.0	61.8	-3.2
525C	Multi-family	65	64.0	64.8	-0.2	62.4	63.2	-1.8
525D	Multi-family	65	64.0	64.8	-0.2	62.4	63.2	-1.8
525E	Multi-family	65	63.4	64.2	-0.8	61.8	62.6	-2.4
525F	Multi-family	65	63.3	64.1	-0.9	61.9	62.7	-2.3
525G	Multi-family	65	64.8	65.6	0.6	63.3	64.1	-0.9

Source: Impact Sciences, Inc. July 2003. Calculations are provided in ***Appendix 4.5****.*
TOS – threshold of significance; SCV – Santa Clarita Valley
[1] *Conventional and realistic speeds were provided by Austin-Foust and Associates, Inc. Conventional speeds, as required under SOUND32 protocol, is 40 mph for all roadways. According to Austin-Foust and Associates, Inc., the more realistic speeds during peak hour traffic would be 30 mph for Newhall Ranch Road, 36 mph for Santa Clarita Parkway and Golden Valley Road, and 33 mph for Soledad Canyon Road at buildout.*
[2] *519A and B are located between the proposed sound wall and the two easternmost apartment buildings that back onto Newhall Ranch.*
519C and D are located between the proposed sound wall and the two apartment buildings that back onto Golden Valley Road.
521A is located at the service road entrance to Lot 521.
521B is located between the easternmost apartment building and Newhall Ranch Road.
524B is located between the proposed sound wall and the westernmost apartment building.
524C is located between the proposed sound wall and the center apartment building.
524D is located between the proposed sound wall and the easternmost apartment building.
525A is located along the western boundary of Lot 525 and adjacent to the existing commercial center.
525B is located at the southwestern corner of Lot 525 and within the proposed sound wall along Newhall Ranch Road.
525C, D and E are located at the proposed clubhouse/leasing office.
525F and G located at the southerly faces of the apartment buildings located to the east of the proposed clubhouse/leasing office.

This roadway noise would result in a significant impact unless further mitigation is in place. Such mitigation may include higher sound walls than what the applicant is proposing, significant redesign of the site so that exterior use areas (e.g., rear yards and side yards) do not have direct lines-of-sight to these roadways, and/or setting the residences further back from the major roadways through the site.

Area C (multi-family residential) would not be significantly impacted because, although noise levels within some portions of Area C closest to Newhall Ranch Road would exceed 65 dB(A), no outdoor use area (i.e., a recreational area) is proposed in those portions that would be exposed to noise levels in excess of 65 dB(A). The recreational area in Area D (multi-family residential) north of the proposed leasing office/club house could potentially be exposed to noise levels in excess of 65 dB(A) and, since this is an outdoor use area, this exposure would result in a significant noise impact unless mitigated.

When the lower, more realistic travel speeds for Newhall Ranch Road, Santa Clarita Parkway, and Soledad Canyon Road were input into the SOUND32 model, it was demonstrated that the noise levels at the evaluated lots were reduced by the following averages:

- Newhall Ranch Road west of Santa Clarita Parkway – 1.5 dB(A);

- Newhall Ranch Road east of Santa Clarita Parkway – 1.25 dB(A);
- Santa Clarita Parkway – 1.0 dB(A); and
- Soledad Canyon Road – 1.5 dB(A).

The reduced speeds, however, did not reduce the noise levels at most affected residential lots to less than significant.

Noise levels at the proposed park facility would be less than 70 dB(A) CNEL and, therefore, less than significant.

(b) Off-Site Traffic Noise Impacts

The potential noise impact of adding project traffic to project study area roadways was calculated using a methodology similar to that used in **Section 4.3, Traffic/Access**, in which the analysis is based on the difference between the projected traffic volumes for the project study area with and without the proposed project under the Alternative Interim Year scenario. The noise levels that would be generated by these traffic volumes adjacent to noise sensitive land uses are identified in **Table 4.5-5, Predicted Off-Site Roadway Noise Levels at Noise Sensitive Locations at Project Buildout**. As shown, the project contribution to noise levels at these land uses would be 0.2 dB(A) or less. Noise levels at noise-sensitive uses along many of the roadway segments affected by project traffic already exceed normally acceptable noise levels under the Noise Element Guidelines; therefore, project noise impacts and any other noise increases at these locations would be unmitigable and unavoidably significant. The affected roadway segments include:

- Bouquet Canyon Road n/o Newhall Ranch Road,
- Bouquet Canyon Road e/o Seco Canyon Road,
- Bouquet Canyon Road e/o Santa Clarita Parkway,
- Bouquet Canyon Road s/o Soledad Canyon Road,
- Newhall Ranch Road w/o Hillsborough Way,
- Newhall Ranch Road w/o Bouquet Canyon Road,
- Rainbow Glen Drive s/o Soledad Canyon Road,
- Seco Canyon Road n/o Bouquet Canyon Road,
- Soledad Canyon Road e/o Santa Clarita Parkway,
- Soledad Canyon Road e/o Rainbow Glen Drive, and
- Valencia Boulevard s/o Magic Mountain Parkway.

Table 4.5-5
Predicted Off-Site Roadway Noise Levels at Noise Sensitive Locations at Project Buildout

OFF-SITE ROADWAY • Segment[1]	Existing Noise Sensitive Land Use	With Project CNEL	W/Out Project CNEL	Increase in CNEL	Criteria 1 or 2 Significant Impact?	Criterion 3 Significant Impact?
BOUQUET CANYON ROAD						
n/o Newhall Ranch Road	Single-Family Residential	63.8	63.6	0.1	NO	YES
n/o Newhall Ranch Road	Multi-Family Residential	72.4	72.3	0.1	NO	YES
n/o Newhall Ranch Road	Church	73.4	73.2	0.1	NO	YES
e/o Seco Canyon Road	Single-Family Residential	74.8	74.7	0.1	NO	YES
e/o Seco Canyon Road	Central Park	65.9	65.9	0.1	NO	NO
e/o Seco Canyon Road	Saugus High School	68.0	67.9	0.1	NO	NO
e/o Seco Canyon Road	Church	72.6	72.6	0.1	NO	YES
e/o Santa Clarita Parkway	Single-Family Residential	72.6	72.6	0.1	NO	YES
s/o Soledad Canyon Road	Multi-Family Residential	72.5	72.4	0.1	NO	YES
GOLDEN VALLEY ROAD						
w/o SR-14	Single-Family Residential	69.6	69.6	0.0	NO	YES
MAGIC MOUNTAIN PARKWAY						
w/o San Fernando Road	Multi-Family Residential	73.1	73.1	0.0	NO	YES
NEWHALL RANCH ROAD						
w/o Hillsborough Way	Single-Family Residential	68.4	68.2	0.2	NO	YES
w/o Hillsborough Way	Park	69.1	68.9	0.2	NO	NO
w/o Bouquet Canyon Road	Multi-Family Residential	70.2	70.0	0.2	NO	YES
RAINBOW GLEN DRIVE						
s/o Soledad Canyon Road	Single-Family Residential	65.9	65.8	0.1	NO	YES
SECO CANYON ROAD						
n/o Bouquet Canyon Road	Single-Family Residential	70.8	70.7	0.1	NO	YES
n/o Bouquet Canyon Road	Elementary School	70.8	70.7	0.1	NO	YES
n/o Bouquet Canyon Road	Park	70.8	70.7	0.1	NO	YES
n/o Bouquet Canyon Road	Multi-Family Residential	70.8	70.7	0.1	NO	YES
SOLEDAD CANYON ROAD						
e/o Santa Clarita Parkway	Mobile Home Park	73.7	73.6	0.0	NO	YES
e/o Golden Valley Road	Mobile Home Park	63.4	63.3	0.1	NO	YES
e/o Rainbow Glen Drive	Multi-Family Residential	74.7	74.7	0.1	NO	YES
e/o Rainbow Glen Drive	Mobile Home Park	76.4	76.4	0.1	NO	YES
w/o Whites Canyon	School	69.8	69.8	0.0	NO	YES
w/o Whites Canyon	Mobile Home Park	74.2	74.1	0.0	NO	YES
VALENCIA BOULEVARD						
s/o Magic Mountain Parkway	Library	73.6	73.5	0.1	NO	YES
VIA PRINCESSA						
e/o Rainbow Glen Drive	Single-Family Residential	65.3	65.2	0.0	NO	YES
w/o Whites Canyon Road	Single-Family Residential	65.6	65.5	0.0	NO	YES
WHITES CANYON ROAD						
n/o Soledad Canyon Road	Single-Family Residential	66.9	66.9	0.0	NO	YES
n/o Soledad Canyon Road	Sierra Vista Jr. High School	68.1	68.1	0.0	NO	YES
n/o Soledad Canyon Road	Bowman Cont. High School	68.1	68.1	0.0	NO	YES
n/o Soledad Canyon Road	Canyon High School	68.1	68.1	0.0	NO	YES

Source: Impact Sciences, Inc. Calculations are provided in ***Appendix 4.5****.*

[1] *For roadway segment limits, please refer to Figure 1-1 in the traffic study (****Appendix 4.3****).*

Residents in the Emblem tract to the north would experience traffic noise along Newhall Ranch Road. As previously mentioned, there is an approximate 50-foot wide "window" between Area D and the Emblem tract to the north. This window is in the northwestern corner of Area D and approximately 800 feet from the proposed Newhall Ranch Road extension. Noise levels at the southwestern corner of Area D would be 64 dB(A) at 150 feet from the centerline of Newhall Ranch Road. Because sound generated by a line source typically attenuates at a rate of 3.0 dB(A) per doubling of distance from the source to the receptor for hard sites, Newhall Ranch Road noise would attenuate to 59 to 60 dB(A) CNEL by the time it reaches the boundary of the Emblem tract. These noise levels are less than existing ambient noise levels in that tract.[28] Newhall Ranch Road traffic noise would attenuate even further as a result of structures that would be located between Newhall Ranch Road and the "window" into the Emblem tract, thereby breaking the line of sight into the Emblem tract to the north.

(2) Point Source Noise Impacts

Point source noises typical of residential areas include people talking, doors slamming, lawn care equipment operation, stereos, domestic animals, etc. These noise sources contribute to the ambient noise levels experienced in all residential areas. Noise levels generated by these sources would typically not exceed the City's Noise Ordinance or normally acceptable noise levels of the Noise Element Guidelines for residential land uses due to their intermittent and instantaneous nature. Furthermore, given the distances, it is unlikely that they would be audible at off-site residential locations, including the Emblem Tract and the mobile home park.

The residential stationary source activities in Area D would be audible in the Emblem tract at the northwestern corner of Area D. These noises would include people talking, doors slamming and tires squealing, truck deliveries, car vacuums and washing, lawn care equipment operation, stereos, etc. Noise levels generated by these sources contribute to the ambient noise levels that are experienced in all similarly developed areas and typically do not exceed the City Noise Ordinance standards or the Noise Element Guidelines. Therefore, the project's stationary source activities at this location would have a less than significant stationary source noise impact on the Emblem tract.

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28 Noise levels at the intersection of Espuella and Berino Drives were at 57.5 dB(A) Leq average (see **Appendix 4.5** for the noise measurements). This would correlate to approximately 60.3 dB(A) CNEL when adjusted for evening and nighttime noise sensitivities.

Point source noises typical of commercial uses include people talking, doors slamming, truck deliveries, air conditioning units, and parking lot cleaning. There are no existing on- or off-site sensitive noise receptors in close proximity to the proposed commercial center; therefore, no potential point source noise impacts from the proposed commercial center could occur.

Point source noises from the existing commercial center would not be audible at the project site with the exception of truck traffic noise behind the commercial buildings at the northeastern corner of Bouquet Canyon Road and Newhall Ranch Road. This area is expected to be utilized by delivery trucks, garbage trucks, and employee parking. Loading dock activities would also occur behind these buildings. These noise sources are of brief duration and intermittent throughout the day, including during early morning hours. Even so, noise levels from these activities could intermittently exceed the City's Noise Ordinance standards at the proposed apartment units to the east in Area D and could result in a significant impact on residents in the apartments unless mitigated.

(3) Saugus Speedway Facility Noise Impacts

The Saugus Speedway facility is a special event facility used for exhibitions, swap meets, and special events, including car races, demolition derbies, concerts, circuses, baseball and football games, fireworks, rodeos, fairs, carnivals, etc. Although there is no way to predict noise levels from any one event at the speedway, operators of the speedway attempt to keep noise levels at the speedway to 95 dB(A) or less.[29]

Assuming a racing event at the speedway with a noise level of 95 dB(A) at 50 feet, future Riverpark residents would experience noise levels ranging from approximately 65 to 70 dB(A) for the duration of the event. These noise levels assume a drop off rate of 6.0 dB(A) per doubling of distance. Noise from these permitted activities would be partly "drowned out" by traffic noise on Soledad Canyon Road; nonetheless, there is a potential for a significant noise impacts on future project residents from activities at the speedway when they do occur, particularly during nighttime events when noise sensitivities are at their greatest. Residents experiencing the greatest amount of noise at the speedway would be those with homes that would back onto the Santa Clara River (i.e., Lots 3 through 35, 202, 203, and 338 through 352). Residents living further away and shielded by intervening homes would experience less noise. Noise from these activities may intermittently exceed noise standards and could result in temporary significant noise impacts on project residents. No mitigation exists that would reduce these potentially significant temporary, intermittent noise impacts to less than significant and,

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29 Burbank, Terri <sspeedwy@pacbell.net>. "RE: Saugus Speedway." 14 May 2003. Rosemarie Mamaghani <rosem@impactsciences.com>.

thus, they would be unavoidable. Nonetheless, mitigation is included in this impact analysis to inform future residents of Riverpark of the activities that can potentially occur at the Saugus Speedway facility and that these activities may be audible on a temporary and intermittent basis.

7. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

4.5-1 Lots 1 and 2 (Area A1): A 6-foot high continuous solid masonry wall along the rear yard lot lines of Lots 1 and 2 and wrapping around Lot 1 to "C" Street.

4.5-2 Lots 56, 57, and 60 to 72 (Area A1): A 7-foot high masonry wall and 3-foot high continuous berm along the rear yards of Lots 56, 57, and 60 to 72, wrapping around the rear yard of Lot 56 as it backs on to "A" Street.

4.5-3 Lots 158 to 176 (Area A1): A 7-foot high masonry wall and 3-foot high continuous berm along Newhall Ranch Road and the western lot line of Lot 176.

4.5-4 Lot 132 (Area A1): A 6-foot high continuous solid masonry wall along Newhall Ranch Road extending approximately 200 feet easterly from the 10-foot wall/berm at the northeastern corner of Lot 158.

4.5-5 Lots 251 to 260 (Area A2): A 7-foot high masonry wall and 3-foot high continuous berm along the western edge of Santa Clarita Parkway from a point across from "Q" Street to the southeastern corner of Lot 251, wrapping continuously around the southern lot line of Lot 251.

4.5-6 Lots 294, 295, 313, 314, 337, and 338 (Area A2): A 6-foot high continuous solid masonry wall along the property lines of Lots 294, 295, 313, 314, 337, and 338 along Santa Clarita Parkway at the proposed pad elevations for each lot.

4.5-7 Lots 368, 375 to 378 (Area B): A 6-foot high continuous solid masonry wall along the side and rear of Lot 368, and the rear lot lines of Lots 375 to 378.

4.5-8 Lot 457 (Area B): A 6-foot high continuous solid wall along the southern rear yard of Lot 457 that backs onto "R" Street.

4.5-9 Lots 441, 442, 448, 449, 456, and 457 (Area B): A 7-foot high masonry wall and 3-foot high continuous berm along Santa Clarita Parkway along Lots 441, 442, 448, 449, 456, and 457. The

berm/masonry wall also "wraps around" the northern boundary of Lot 441 as it backs onto "Q" Street.

4.5-10 Lot 434 (Area B): A 6-foot high continuous solid masonry wall along the southern boundary of Lot 4334 as it backs onto "Q" Street.

4.5-11 Lots 421 to 434 (Area B): A 7-foot high masonry wall and 3-foot high continuous berm along the rear lot lines of Lots 421 to 434 that back onto Santa Clarita Parkway and Newhall Ranch Road.

4.5-12 Area B: A 7-foot high masonry wall and 3-foot high continuous berm along Newhall Ranch Road from the northeastern corner of Lot 421 to the northwestern corner of Lot 513.

4.5-13 Lot 521 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 521 with Newhall Ranch Road and "wrapping around" the driveway entrance for a distance of approximately 150 feet.

4.5-14 Lot 519 (Area C): A 6-foot high continuous solid masonry wall at the top of slope along the frontage of Lot 519 with Newhall Ranch Road and Future Golden Valley Road, and "wrapping around" the driveway entrance for a distance of approximately 150 feet.

8. MITIGATION MEASURES PROPOSED BY THIS EIR

a. Construction Noise Mitigation

4.5-15 Pursuant to Section 11.44.080 of the City's Noise Ordinance, no construction work shall occur within 300 feet of occupied residences except between the hours of 7:00 AM and 7:00 PM Monday through Friday, and between 8:00 AM and 6:00 PM on Saturday. No construction work shall occur on Sundays, New Year's Day, Independence Day, Thanksgiving Day, Christmas Day, Memorial Day, and Labor Day.

4.5-16 When construction operations occur within 300 feet of on- or off-site occupied residences, and when it is determined by City staff during routine construction site inspections that the construction equipment could generate a noise level at those residences that would be in excess of normally acceptable noise levels of the City's Noise and Land Use Compatibility Guidelines, implement appropriate additional noise reduction measures. These measures shall include

among other things changing the location of stationary construction equipment, shutting off idling equipment, notifying residents in advance of construction work, and installing temporary acoustic barriers around stationary construction noise sources.

4.5-17 Locate construction staging areas on site to maximize the distance between staging areas and occupied on- and off-site residences, including those within the adjacent mobile home park and the Emblem tract.

b. Operational Noise Mitigation

In addition to the traffic mitigation measures included in **Section 4.3, Traffic/Access**, the following measures are recommended to ensure that operational noise levels, experienced at buildout with future traffic volumes, do not exceed the normally acceptable noise levels set forth in the Noise Element Guidelines:

4.5-18 Lot 60 (Area A1): A 6-foot high continuous masonry wall shall be constructed along the western side yard of Lot 60.

4.5-19 Balconies are considered exterior living areas and must also meet the exterior noise standard. Therefore, balconies shall either be discouraged on residential units where they would be exposed to exterior noise levels greater than the 60 dB(A) CNEL standard for single-family residences or the 65 dB(A) CNEL standard for multi-family residences through architectural or site design, or balconies in such areas shall be enclosed by solid noise barriers, such as 3/8-inch glass or 5/8-inch Plexiglas to a height specified by a qualified noise consultant.

4.5-20 Interior noise environments of all residential units within the project shall not exceed 45 dB(A).

4.5-21 Prior to issuance of building permits, a detailed acoustic analysis shall be performed for all residence in areas subject to noise levels in excess of normally acceptable noise levels for that use. The analysis shall be based upon final site grades, building orientation, and noise exposure, and shall specify all practical noise insulation features necessary to ensure interior residential noise environments do not exceed 45 dB(A). These noise insulation features may include, but are not limited to, the following:

(a) All windows, both fixed and operable, shall consist of either double-strength glass or double-paned glass. All windows facing sound waves generated from the mobile source noise shall be manufactured and installed to specifications that prevent any sound from window vibration caused by the noise source.

(b) Doors shall solid core and shall be acoustically designed with gasketed stops and integral drop seals.

(c) If necessitated by the architectural design of a structure, special insulation or design features shall be installed to meet the required interior ambient noise level.

(d) The exterior walls of living areas shall be of a special type construction and/or include special insulation, depending on the maximum ambient noise levels generated at any time in a particular area.

4.5-22 Air conditioning units shall be installed to serve all living areas of all residences with direct lines of sight to Newhall Ranch Road, Santa Clarita Parkway, Golden Valley Parkway, or Soledad Canyon Road.

4.5-23 Delivery Truck Noise Impacts on Lot 525 (Area D): A minimum 6-foot-high solid masonry wall with a 2-foot berm shall be constructed along the western edge of Lot 525 (multi-family, Area D) between the off-site commercial use to the west and the apartment units.

4.5-24 Prior to final map approval, another noise impact analysis on the tract shall be performed by a qualified acoustical consultant to ensure noise levels within the project are consistent with this analysis.

4.5-25 Prior to sale of any single-family residential lot within Riverpark, future homeowners shall be informed via language in the disclosure documents the presence of the Saugus Speedway facility, the types of events that can potentially occur at the speedway, the expected frequency of their occurrence, and that noise from events at the speedway may be intermittently audible at their properties during daytime, evening, and late night hours.

Additional mitigation measures were investigated to bring future on-site outdoor noise levels to within normally acceptable noise levels under the Noise Element Guidelines; however, they are deemed infeasible because a large number of units would need to be eliminated from the project. Consequently, the project as revised would fail to meet most of the project's objectives. In accordance with CEQA Guidelines Section 15126.6(a), an alternative to the proposed project has been analyzed in this EIR that would meet the normally acceptable noise levels set for in the Noise Element Guidelines and that would "…avoid or substantially lessen any of the significant [noise] effects of the project." This analysis can be found in **Section 6.0, Alternatives** of this EIR.

9. CUMULATIVE IMPACTS

Given the low level of point source noise that would be generated by on-site uses, cumulative noise impacts would primarily occur as a result of increased traffic on local roadways due to the proposed project and other developments in the project study area as identified in **Section 4.3, Traffic/Access**, of this EIR. Cumulative noise impacts have been assessed based on the difference between noise generated by existing traffic volumes and traffic volumes projected for the long-range buildout of the Santa Clarita Valley with construction of the proposed Golden Valley Road, Santa Clarita Parkway, and Newhall Ranch Road. Santa Clarita Valley build-out traffic noise impacts were also projected for the "with project" and the "without project" scenarios in **Table 4.5-6, Predicted Cumulative Roadway Noise Levels at Noise Sensitive Locations**. Due to changes in the future traffic distribution patterns in the project study area as a result of new roadway construction consistent with the City's Circulation Element, roadway volumes and associated noise levels may eventually go down on some roadway segments.

As shown in **Table 4.5-6**, cumulative development would result in noise level increases of up to 5.4 dB(A) CNEL in the project study area. The noise levels shown are calculated for the nearest edge of the nearest existing building to the roadway. Buildings located further away from the roadway would have lower noise levels. Operation of the proposed Newhall Ranch Road, Santa Clarita Parkway, Golden Valley Road extensions and bridges, and other roadways proposed in the project study area would result in a redistribution of traffic, as well as a decrease in traffic volumes and associated noise levels on Bouquet Canyon Road north of Newhall Ranch Road and on Soledad Canyon Road east of the proposed Santa Clarita Parkway Bridge.

As previously mentioned, changes in a noise level of less than 3.0 dB(A) are not typically noticed by the human ear, while changes from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A 5.0 dB(A) increase is readily noticeable. Based on this information, the same noise thresholds of significance for the project are also applied to cumulative project noise increases. These include:

- Criterion 1 - An increase of 5.0 dB(A) or greater in noise level if levels remain within the same land use compatibility classification (e.g., noise levels remain within the normally acceptable range); or
- Criterion 2 - An increase of 3.0 dB(A) or greater in noise level which results in a change in land use compatibility classification (e.g., noise levels change from normally acceptable to conditionally acceptable).
- Criterion 3 - any increase in noise levels occurs where existing noise levels are already considered unacceptable under the Noise Element Guidelines.

Table 4.5-6
Predicted Cumulative Roadway Noise Levels at Noise Sensitive Locations

ROADWAY • Segment[1]	Existing Noise Sensitive Land Uses	Valley Buildout CNEL	Existing Conditions CNEL	Decrease/ Increase in CNEL	Change in Land Use Classifi.?	Significant Under Criterion 1?	Significant Under Criterion 2?	Significant Under Criterion 3?
BOUQUET CANYON ROAD								
n/o Newhall Ranch Road	Single-Family Residential	64.4	64.6	-0.2	NO	NO	NO	YES
n/o Newhall Ranch Road	Multi-Family Residential	73.0	73.2	-0.2	NO	NO	NO	YES
n/o Newhall Ranch Road	Church	74.0	74.2	-0.2	NO	NO	NO	YES
e/o Seco Canyon Road	Single-Family Residential	75.7	74.9	0.8	YES	NO	NO	YES
e/o Seco Canyon Road	Central Park	66.9	66.1	0.8	NO	NO	NO	NO
e/o Seco Canyon Road	Saugus High School	68.9	68.2	0.8	NO	NO	NO	NO
e/o Seco Canyon Road	Church	73.5	72.8	0.8	NO	NO	NO	YES
e/o Santa Clarita Parkway	Single-Family Residential	73.1	72.8	0.3	NO	NO	NO	YES
s/o Soledad Canyon Road	Multi-Family Residential	73.4	72.7	0.7	NO	NO	NO	YES
GOLDEN VALLEY ROAD								
w/o SR-14	Single-Family Residential	69.7	--	--	--	--	--	YES
MAGIC MOUNTAIN PARKWAY								
w/o San Fernando Road	Multi-Family Residential	73.6	68.2	5.4	YES	NO	YES	YES
NEWHALL RANCH ROAD								
w/o Hillsborough Way	Single-Family Residential	69.7	65.4	4.3	NO	NO	YES	YES
w/o Hillsborough Way	Park	70.4	66.1	4.3	YES	NO	NO	YES
w/o Bouquet Canyon Road	Multi-Family Residential	71.3	67.2	4.1	YES	NO	YES	YES
RAINBOW GLEN DRIVE								
s/o Soledad Canyon Road	Single-Family Residential	67.5	--	--	--	--	--	YES

ROADWAY • Segment[1]	Existing Noise Sensitive Land Uses	Valley Buildout CNEL	Existing Conditions CNEL	Decrease/ Increase in CNEL	Change in Land Use Classifi.?	Significant Under Criterion 1?	Significant Under Criterion 2?	Significant Under Criterion 3?
SECO CANYON ROAD								
n/o Bouquet Canyon Road	Single-Family Residential	70.9	69.8	1.1	YES	NO	NO	YES
n/o Bouquet Canyon Road	Elementary School	70.9	69.8	1.1	YES	NO	NO	YES
n/o Bouquet Canyon Road	Park	70.9	69.8	1.1	YES	NO	NO	YES
n/o Bouquet Canyon Road	Multi-Family Residential	70.9	69.8	1.1	YES	NO	NO	YES
SOLEDAD CANYON ROAD								
e/o Santa Clarita Parkway	Mobile Home Park	73.8	74.6	-0.8	NO	NO	NO	YES
e/o Golden Valley Road	Mobile Home Park	63.9	63.8	0.1	NO	NO	NO	NO
e/o Rainbow Glen Drive	Multi-Family Residential	75.3	74.7	0.6	YES	NO	NO	YES
e/o Rainbow Glen Drive	Mobile Home Park	77.0	76.4	0.6	NO	NO	NO	YES
w/o Whites Canyon	School	70.4	69.5	0.9	YES	NO	NO	YES
w/o Whites Canyon	Mobile Home Park	74.8	73.9	0.9	NO	NO	NO	YES
VALENCIA BOULEVARD								
s/o Magic Mountain Parkway	Library	74.2	73.5	0.7	NO	NO	NO	YES
VIA PRINCESSA								
e/o Rainbow Glen Drive	Single-Family Residential	67.1	--	--	--	--	--	YES
w/o Whites Canyon Road	Single-Family Residential	67.6	65.7	1.9	NO	NO	NO	YES
WHITES CANYON ROAD								
n/o Soledad Canyon Road	Single-Family Residential	67.2	65.4	1.8	NO	NO	NO	YES
n/o Soledad Canyon Road	Sierra Vista Jr. High School	68.3	66.5	1.8	NO	NO	NO	YES
n/o Soledad Canyon Road	Bowman Cont. High School	68.3	66.5	1.8	NO	NO	NO	YES
n/o Soledad Canyon Road	Canyon High School	68.3	66.5	1.8	NO	NO	NO	YES

-- = Due to lack of traffic model data, noise levels could not be calculated.

Source: Impact Sciences, Inc. Calculations are in ***Appendix 4.5****.*

[1] *For roadway segment limits, please refer to Figure 1-1 in the traffic study (****Appendix 4.3****).*

a. Impact Analysis Using Criterion 1

No roadway segment would meet Criterion 1 because no proposed land uses would experience an increase of 5.0 dB(A) or more and remain within the same land use compatibility classification (i.e., normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable as shown in **Figure 4.5-2, Noise and Land Use Compatibility Guidelines**).

b. Impact Analysis Using Criterion 2

Using Criterion 2, noise levels at the following roadway segments would increase by 3.0 dB(A) or more, as well as result in a change in land use compatibility classification:

- Magic Mountain Parkway west of San Fernando Road,
- Newhall Ranch Road west of Hillsborough Way, and
- Newhall Ranch Road west of Bouquet Canyon Road.

Noise levels along these roadway segments would result in significant noise impacts under Criterion 2, unless mitigated.

c. Impact Analysis Using Criterion 3

Because noise levels already exceed normally acceptable levels under the Noise Element's Noise and Land Use Compatibility Guidelines, any noise increases as a result of cumulative projects would result in significant and unavoidable noise impacts at sensitive receptors along the following roadway segments:

- Bouquet Canyon Road n/o Newhall Ranch Road,
- Bouquet Canyon Road e/o Seco Canyon Road,
- Bouquet Canyon Road e/o Santa Clarita Parkway,
- Bouquet Canyon Road s/o Soledad Canyon Road,
- Golden Valley Road w/o SR-14*,
- Magic Mountain Parkway west of San Fernando Road*,
- Newhall Ranch Road w/o Hillsborough Way,
- Newhall Ranch Road west of Bouquet Canyon Road,
- Rainbow Glen Drive s/o Soledad Canyon Road,
- Seco Canyon Road n/o Bouquet Canyon Road,

- Soledad Canyon Road e/o Santa Clarita Parkway,
- Soledad Canyon Road e/o Rainbow Glen Drive,
- Soledad Canyon Road w/o Whites Canyon*,
- Valencia Boulevard s/o Magic Mountain Parkway,
- Via Princessa e/o Rainbow Glen Drive,
- Via Princessa w/o Whites Canyon Road*, and
- Whites Canyon Road n/o Soledad Canyon Road*.

(= The project would not contribute mobile noise to the specified intersections)*

10. CUMULATIVE MITIGATION MEASURES

Significant cumulative noise impacts already exist at the following locations:

- Bouquet Canyon Road n/o Newhall Ranch Road,
- Bouquet Canyon Road e/o Seco Canyon Road,
- Bouquet Canyon Road e/o Santa Clarita Parkway,
- Bouquet Canyon Road s/o Soledad Canyon Road,
- Golden Valley Road w/o SR-14,
- Magic Mountain Parkway west of San Fernando Road,
- Newhall Ranch Road w/o Hillsborough Way,
- Newhall Ranch Road west of Bouquet Canyon Road,
- Rainbow Glen Drive s/o Soledad Canyon Road,
- Seco Canyon Road n/o Bouquet Canyon Road,
- Soledad Canyon Road e/o Santa Clarita Parkway,
- Soledad Canyon Road e/o Rainbow Glen Drive,
- Soledad Canyon Road w/o Whites Canyon,
- Valencia Boulevard s/o Magic Mountain Parkway,
- Via Princessa e/o Rainbow Glen Drive,
- Via Princessa w/o Whites Canyon Road, and
- Whites Canyon Road n/o Soledad Canyon Road.

Project traffic noise contribution at these sensitive receptors would be 1.0 dB(A) or less; nonetheless, because noise levels meet Criterion 3 and already exceed normally acceptable noise levels, they are significant and unavoidable, resulting in unavoidable significant cumulative impacts.

11. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Mitigation measures recommended to reduce construction-related noise impacts would reduce the magnitude of those impacts; however, the potential for construction-related noise levels to exceed normally acceptable noise levels in the Noise Element Guidelines would remain. Therefore, construction-related noise impacts are considered unavoidably significant. Even with construction of the sound walls as proposed and with implementation of the mitigation measures recommended in this section, the project would result in unavoidably significant long-term mobile source noise impacts both on and off the project site. In addition, should they occur, on-site noise levels in excess of 55 dB(A) CNEL from activities at Saugus Speedway would be unavoidably significant under Section 11.44.040 of the Noise Ordinance.

b. Project Cumulative Impacts

The proposed project would result in a significant and unavoidable cumulative noise impact on existing sensitive receptors.

4.6 BIOLOGICAL RESOURCES

1. SUMMARY

A total of 14 different plant communities were identified and characterized during the field investigations Two of these communities, southern willow scrub and southern riparian scrub, are considered of special status by resource agencies. In addition, six special-status plants and eleven special-status wildlife species were identified as occurring on the site. None of these species are currently listed as Threatened or Endangered by state or federal resource agencies. In addition, a total of 87 oak trees under the jurisdiction of the City's Oak Tree Ordinance occur on the site. A total of approximately 14,000 linear feet of the project site occurs along the Santa Clara River. Four ephemeral and two intermittent drainages also occur on the site. A total of approximately 345 acres of Santa Clara River or drainage habitat is within the Army Corps of Engineers (ACOE) and/or California Department of Fish and Game (CDFG) regulatory jurisdiction. The Santa Clara River also functions as an east-west movement corridor for a variety of wildlife species.

Approximately 361 acres of the project site occurs within the City of Santa Clarita Significant Ecological Area (SEA). A total of 37.0 acres of habitat within this SEA (representing approximately 10 percent of the total habitat within SEA boundaries on the project site) will be disturbed or converted to urban development as a result of project implementation resulting in permanent impact. Approximately 13 of those acres (4 percent of the SEA total) will only be temporarily disturbed as a result of proposed bank stabilization activities and will be replaced upon completion of the bank stabilization.

A Natural River Management Plan (NRMP) that analyzes impacts associated with the implementation of various public improvements (bank stabilization, trails, bridges, utility crossings, etc.) along and within portions of the Santa Clara River adjacent to Newhall Land properties (including the Riverpark project site) was prepared in 1997 and approved in 1998. To minimize impacts of the project on biological resources, the applicant has proposed measures from the NRMP be incorporated into the project design.

The principal direct impact of implementation of the proposed project is to convert approximately 317 acres of the project site (about 46 percent) from an undeveloped to a developed and partially restored condition. A total net loss of 280 acres of wildlife habitat/natural open space as a result of conversion of undeveloped property to a developed condition will occur. Significant impacts would occur to special-status plant communities, special-status plant and wildlife species, and as a result of the loss of land within the City of Santa Clarita SEA (Santa Clara River). Significant impacts resulting from project implementation would be mitigated in part by preserving over 400 acres of the site as open space and as a result of incorporating mitigation measures adopted as part of the NRMP into the

project design plan. Impacts that would remain significant after mitigation would be the total net loss of 280 acres of wildlife habitat/natural open space as a result of conversion of undeveloped property to developed, impacts to the SEA and associated riverine habitat (as identified by the resource line) and riverbed, and impacts to adjacent upland habitat within 100 feet of the riparian resource line.

2. INVESTIGATIVE METHODS

a. Literature Review

In order to use published information to preliminarily identify special-status plant and animal species (those species considered Rare, Threatened, Endangered, or otherwise sensitive by various state and federal resource agencies) that have been known to historically occur in the vicinity of the project site, the 2002 update of the California Natural Diversity Data Base (CNDDB) as well as the 2002 California Native Plant Society (CNPS) electronic data base, for the Newhall and Mint Canyon California USGS 7.5-minute quadrangle maps were reviewed. Other data sources reviewed included: (1) the Federal Register listing package for each federally listed Endangered or Threatened species potentially occurring on the project site or in the project vicinity; (2) literature from scientific sources pertaining to habitat requirements of special-status species potentially occurring on the project site; (3) other environmental or biological documentation of the project site (if available on the particular subject) or properties in the immediate vicinity; and (4) distributional information contained in Hall (1981) and Williams (1986) to determine the potential for common and special-status mammals to occur on the project site; Grinnel and Miller (1984) and Garrett and Dunn (1981) for common bird occurrences; Stebbins (1985) for reptiles and amphibians; California Department of Fish and Game (CDFG 2003), Sawyer, Keeler-Wolf (1995), Holland (1986) and Munz (1974) for plant community descriptions occurring within the project vicinity; and Pavlik (1992) and Skinner and Pavlik (1994) for oak tree information.

Sources used to determine the sensitivity status of biological resources are: Plants – U.S. Fish and Wildlife Service (USFWS 1993 and 1996), California Department of Fish and Game (CDFG 2003), CNDDB 2002, and (CNPS) (Skinner and Pavlik 1994-1999); Wildlife – USFWS (1994 and 1996), CDFG (2003), CNDDB (2002), Williams (1986), and Remsen (1978); Habitats – California Department of Fish and Game (CDFG 2003) (pers. comm. Keeler-Wolf) and Sawyer, Keeler-Wolf (1995).

(1) Background

On November 30, 1998, the ACOE, CDFG, and the California Regional Water Quality Control Board (RWQCB) approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP

is a long-term, master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and portions of two of its tributaries. More specifically, the NRMP governs a portion of the main-stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and portions of San Francisquito Creek and the Santa Clara River South Fork, Los Angeles County, California. The project site is located within the portion of the river now governed by the NRMP.

In connection with this approval, the following permits were issued by the following agencies:

- Army Corps of Engineers (ACOE) – Permit No. 94-00504-BAH under Section 404 of the Federal Clean Water Act. Section 404 of the Federal Clean Water Act allows for certain activities that result in the discharge of fill or dredged materials into "Waters of the U.S." or in this case the Santa Clara River. Prior to issuing this permit, the ACOE had completed an endangered species consultation (pursuant to Section 7 of the federal Endangered Species Act) with the United States Fish and Wildlife Service.

- California Department of Fish and Game (CDFG) – 1603 Streambed Alteration Agreement No. 5-502-97 and Incidental Take Permit No. 2081-1998-49-5. In summary, the Streambed Alteration Agreement allows for activities that alter the "…natural flow or change the bed, channel or bank of the river…" The Incidental Take Permit applies to all state listed species pursuant to Fish and Game Code Section 2081(b).

- California Regional Water Quality Control Board (Los Angeles Region) – Order No. 99-104 related to waste discharge associated with the improvements included in the NRMP.

The NRMP was prepared in response to an ACOE request to prepare a long-range management plan for projects and activities potentially affecting the Santa Clara River and San Francisquito Creek. More specifically, the NRMP, and its certified EIS/EIR (NRMP EIS/EIR), analyze impacts associated with the implementation of various infrastructure improvements (bank stabilization, bridges, utility crossings, storm drain outlets, etc.) along and within portions of the Santa Clara River adjacent to Newhall Land properties, including the Riverpark project site. The NRMP, and its EIR/EIS, are available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California, and are incorporated in this EIR by reference.

Due to the discovery in 2001 of a southwestern arroyo toad (*Bufo californicus*) within the NRMP boundaries (in a location west of the confluence of San Francisquito Creek and the Santa Clara River, approximately 1.5 miles west of the Riverpark project site), additional Section 7 (of the Endangered Species Act) consultation between the ACOE and the U.S. Fish and Wildlife Service was initiated. Prior to initiating this consultation, the ACOE and CDFG had removed certain stretches of the Santa Clara River and San Francisquito Creek from the consultation area as these areas lacked the necessary habitat requirements for the arroyo toad. The areas covered by the NRMP but designated as "no may effect" included the Santa Clara River 1,000 feet upstream of the Bouquet Canyon Road Bridge (including most

of the Riverpark site), San Francisquito Creek north of the Newhall Ranch Road Bridge and the South Fork of the Santa Clara River south of the Valencia Boulevard Bridge. This consultation, along with the preparation of a Biological Opinion (dated November 15, 2002) (**Appendix 4.6**), resulted in the issuance of a modification to the 1998 ACOE Section 404 Permit (issued June 23, 2003) (**Appendix 4.6**) that includes provisions for the protection of the arroyo toad in the affected NRMP area. (The Biological Opinion and the Section 404 modification are incorporated in this EIR and are also available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California.)

(2) Implementation of the NRMP

The permits issued by the affected agencies (ACOE, CDFG, RWQCB) allow Newhall Land or its designee to engage in construction and maintenance activities for the various infrastructure improvements included within the NRMP. Within the Riverpark site, those improvements include the bank stabilization, toe or erosion protection, various outlet structures, and the Newhall Ranch Road/Golden Valley Road Bridge. The NRMP, through its permits and EIR/EIS, includes certain requirements/ conditions and mitigation measures associated with the implementation of the approved improvements.

Prior to initiating an individual project under the NRMP, such as the Riverpark bank stabilization or the Newhall Ranch Road/Golden Valley Road Bridge, Newhall Land (or its designee) must submit to the ACOE and CDFG a Verification Request Letter (VRL), VRL Variance or Request for Amendment and accessory documentation (maps, exhibits, photographs, etc.) showing that the particular planned improvement is consistent with the NRMP and the accessory agency permits.

Upon submittal of the VRL, the ACOE and CDFG have 45 days in which to make their determination on the individual project's consistency with the NRMP and accessory agency permits. The ACOE and CDFG approvals of the request constitute the final approvals from ACOE, CDFG and RWQCB to initiate construction of the project.

(3) Application of the NRMP to the Riverpark Project

As indicated above, various infrastructure improvements and subsequent maintenance activities are governed by and permitted through the approved NRMP and accessory agency permits. Those

improvements addressed by the NRMP, and its EIS/EIR, that are located on the Riverpark project site include:

Bridges –

- Newhall Ranch Road/Golden Valley Road Bridge (6-lane), 550 feet long, 110 feet wide.
- Santa Clarita Parkway Bridge (6-lane), 500-1,000 feet long, 110 feet wide.

Bank Stabilization (including accessory storm drain outlets) –

- Approximately 2,500 feet of ungrouted rip-rap from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.
- Approximately 11,000 feet of buried bank protection from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.

The NRMP EIS/EIR reviewed and evaluated the biological context and impacts of these river-related improvements and imposed conditions to mitigate their potential impacts. The applicable improvements proposed by the Riverpark project will be finally permitted under the NRMP, via the VRL process described above, and will be subject to NRMP's conditions/mitigation. To the extent that the Riverpark project improvements differ from those approved in the NRMP, those differences will be discussed in the applicable EIR sections.

b. Field Surveys

General biological field surveys were conducted by qualified biologists on the project site and in the vicinity in spring and summer of 2002 and spring 2003 to inventory observable wildlife, map and characterize on-site habitats, and to evaluate the potential of the site to support special-status species. Focused presence/absence surveys conducted specifically for this project were for the following: special-status plants (April 2002; April, May, and June 2003); protocol coastal California gnatcatcher (*Polioptila californica californica*) (2002-2003); protocol unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni*) (spring 2003); protocol arroyo toad (*Bufo microscaphus californicus*) (spring 2002, 2003); and special-status birds other than the coastal California gnatcatcher (spring 2003). General surveys were conducted for mammals in spring 2003. All surveys were conducted according to published CNPS, CDFG and/or USFWS survey protocols for the appropriate target species. Technical reports documenting the methods and results of these focused surveys are included within **Appendix 4.6**. Focused presence/absence surveys conducted on Newhall properties that include the Riverpark project site include annual avian surveys since 1993 and annual arroyo toad surveys, including California red-

legged frog (*Rana aurora draytonii*) since 2001. Technical reports documenting the methods and results of these focused surveys are included within **Appendix 4.6**.

During all general and focused surveys, direct observations of reptiles, birds, and mammal species were recorded, as was wildlife sign such as scat and tracks. In addition to species actually detected, expected use of the site by various wildlife species was evaluated from habitat analysis, combined with known habitat preferences of locally occurring wildlife species.

Names used to describe plant communities, where applicable, follow the nomenclature of California Department of Fish and Game (CDFG 2003) which is based, in part, on the descriptions contained within A Manual of Vegetation by Sawyer, Keeler-Wolf (1995). Common plant names are taken from Hickman (1993) Roberts (1989), Beauchamp (1986), Munz (1974), and Abrams (1923 and 1944). References used for the nomenclature of wildlife include: The Society for the Study of Amphibians and Reptiles (2000), the American Ornithologists' Union (2000), and Jones et al. (1982) for mammals.

3. EXISTING CONDITIONS

The Riverpark project site is located on the Newhall 7.5-minute USGS quadrangle map in northern Los Angeles County (**Figure 4.6-1**). The site is located within the City of Santa Clarita and is surrounded by a mixture of urban development and vacant land. The property is generally situated south of the Castaic Lake Water Agency Rio Vista Water Treatment Plant, east of Bouquet Canyon Road and north of Soledad Canyon Road (**Figure 4.6-2**). A portion of the Santa Clara River is included within the project site and runs along the southern boundary of the site.

Topography across the Riverpark site varies and includes the Santa Clara River, terraces above the river, relatively flat graded and disked areas, and gently to steeply sloping hillsides. Elevation at the project site ranges from approximately 1200 feet to 1620 feet above mean sea level. The project site includes a total area of approximately 695 acres. Habitat on the Riverpark site varies in quality from relatively high biological value, particularly within the Santa Clara River channel on the western portion of the site, to highly disturbed areas of low biological value such as in upland areas along the edge of the Santa Clara River.

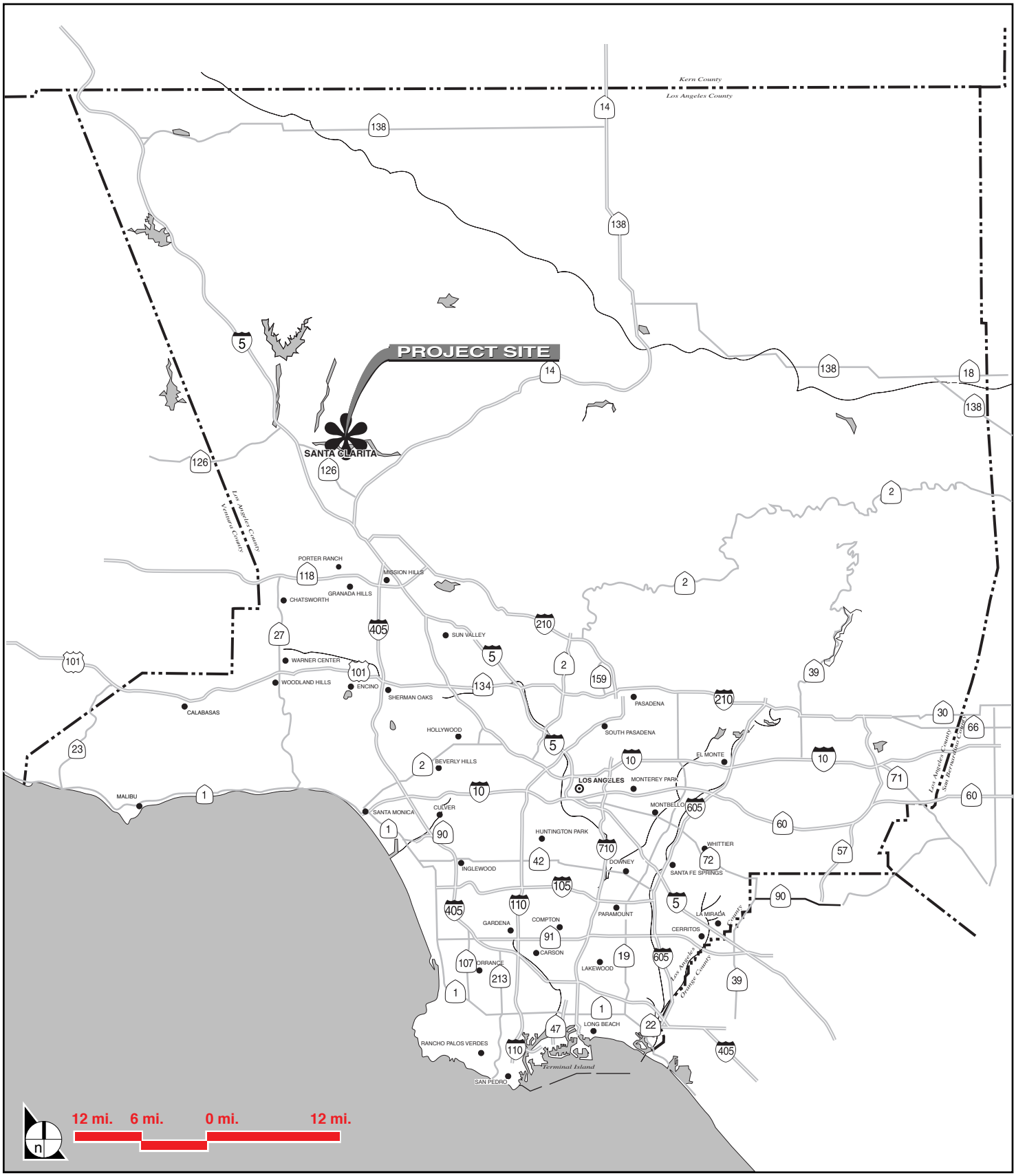
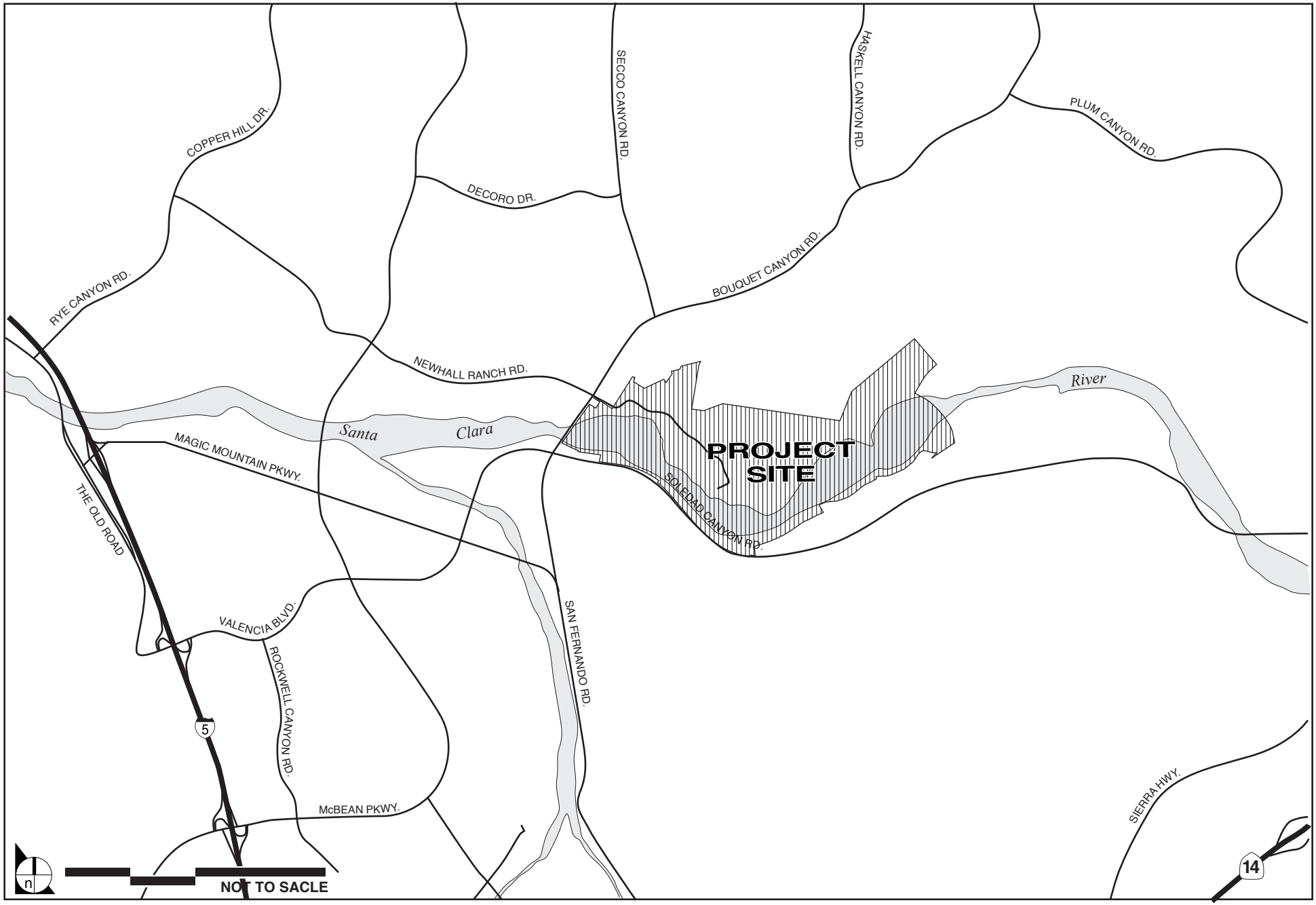


FIGURE **4.6-1**

Regional Location

112-16•10/03



SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **4.6-2**

Project Vicinity

112-16•08/03

4. BIOLOGICAL RESOURCES

The plant and wildlife resources that characterize the Riverpark project site are discussed below. Those resources considered "common" are discussed first; resources considered of special-status by local, state, and/or federal resource agencies are discussed under the **Special-Status Biological Resources** heading of this document.

a. Plant Communities

A total of 14 different plant communities were identified and characterized during the field investigations (see **Figure 4.6-3 [Map Box]**). Five of the plant community descriptions in this report follow CDFG (2003) and/or Holland (1986). The remaining nine described communities do not fit a defined plant community classification and are, therefore, defined by their dominant species and sometimes obvious associate species where two habitat types may intergrade. A complete list of plant species observed on the Riverpark site is provided in tabular form in **Appendix 4.6**.

The 14 plant communities present on site include the following: (1) disked fields, (2) non-native grassland, (3) non-native grassland with scattered shrubs, (4) planted sage scrub, (5) Riversidian sage scrub, (6) chamise chaparral, (7) coastal sage chaparral scrub, (8) holly-leaf cherry, (9) mulefat scrub, (10) southern willow scrub, (11) southern riparian scrub, (12) riverwash, (13) mixed oak/grass, and (14) developed with mixed trees. A series of dirt roads occur on the project site within several of the plant communities. The areas associated with these roads, which comprise approximately 7.2 acres of the project site, is not described as a separate plant community, since they are void of vegetation. The plant communities vary in structure and quality on the site due to disturbance history and edaphic factors (such as topography, soil type, soil moisture, and aspect). Each of these communities is discussed in detail below. Those communities that are also considered of special status by resource agencies are discussed further under the **Special-Status Biological Resources** heading.

(1) Disked Fields

Some areas of the project site are agricultural fields that are periodically disturbed by disking for agricultural or fire control purposes. These fields have been disked on an annual basis or as necessary to accommodate agricultural use of portions of the property. At the time of the surveys, these fields had grass cover and ruderal vegetation with native and non-native species. Species observed include brome grasses (*Bromus diandrus, B. madritensis* ssp. *rubens*), hare barley (*Hordeum murinum*), shortpod mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), goosefoot (*Chenopodium album,*

C. californicum), rancher's fireweed (*Amsinkia menziesii*), poverty weed (*Iva axillaris* ssp. *robustior*), and jimson weed (*Datura wrightii*). Approximately 92.0 acres (12.6 percent of total project area) of the site includes disked fields.

(2) Non-Native Grassland

This community occurs on relatively flat terrain and occasionally on gentle slopes throughout the Riverpark site. It occurs in various upland locations as 22 fragmented segments with contiguous areas ranging in size from approximately 0.2 to 6.9 acres. Annual introduced grasses up to approximately 0.5 meter in height are dominant in the non-native grassland on site. Non-native grasslands typically occur on fine-textured, usually clay soils, that are moist to wet in the winter, but dry in the summer and fall (Holland 1986). Grass species recorded in this assemblage on site include several brome species and wild oats (*Avena fatua, A. barbata*). Introduced herbaceous species present include red-stemmed filaree, small-seed sandmat (*Chamaesyce polycarpa*), and shortpod mustard. Scattered native plants recorded in the non-native grasslands include wishbone bush (*Mirabilis californica*), California fuschia (*Epilobium canum*), tansy phacelia (*Phacelia tanacetifolia*), and California thistle (*Cirsium occidentalle* var. *californicum*). The area of non-native grassland totals approximately 67.9 acres (9.3 percent of total project area) of the Riverpark site.

(3) Non-Native Grassland with Scattered Shrubs

Sparsely scattered native shrubs occur in a few of the predominantly non-native grassland areas. These areas are distinct enough to be considered a separate plant association from other non-native grasslands. Species observed include California buckwheat (*Eriogonum fasciculatum*), goldenbush (*Ericameria palmeri* var. *pachylepis*), skunkbush (*Rhus trilobata*), and California sagebrush (*Artemisia californica*). This plant association totals approximately 12.1 acres (1.7 percent of total project area) on site.

(4) Planted Sage Scrub

In the northwestern portion of the Riverpark project site, several slopes have been previously cut or graded for the installation of water lines and slope drains. These relatively steep slopes were restored by hydroseeding native shrubs using primarily California buckwheat. Some California sagebrush is also present. These areas are distinct from surrounding scrub communities as they support relatively few plant species and have not established a vegetative understory. The area of planted scrub on-site totals approximately 37.0 acres (5.1 percent of total project area).

Figure 4.6-3

See VTTM 52325 in Map Box

(DEIR Map 16)

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(5) Riversidian Sage Scrub

This community is a xeric type of coastal sage scrub generally found south of Point Conception in California (Holland 1986), particularly along the coastal side of the Santa Susana, Santa Monica, San Gabriel and San Bernardino mountain ranges. It supports low, soft-woody shrubs up to one meter in height. Plant growth occurs in late winter and spring after the rains, with most species flowering in spring and summer. Typical stands are relatively open and dominated by California sagebrush, California buckwheat, and annual grasses such as foxtail chess (*Bromus madritensis* ssp. *rubens*), each attaining 20 percent or greater cover. Riversidian sage scrub (RSS) is found on xeric sites such as steep slopes, severely drained soils, or relatively clayey soils that are slow to release moisture. It typically intergrades with several Southern California chaparrals.

Although the majority of the plant species identified within this community on site are those typically associated with RSS, it should be noted that the project site occurs within a region where intergrading occurs with Venturan coastal sage (VSS). Many of the sage scrub plant species observed on site are also associated with VSS but the total composition of sage scrub plant species on the site is more closely associated with RSS than VSS.

This community is found on sloping terrain throughout the site. The dominant species is California buckwheat (*E. f.* var. *foliolosum*). Less dominant species include thickleaf yerba santa (*Eriodictyon crassifolium* var. *nigrescens*), California sagebrush, purple sage (*Salvia leucophylla*), black sage (*S. mellifera*), white sage (*S. apiana*), goldenbush, encelias (*Encelia actoni, E. californica*), chaparral mallow (*Malicothamnus fasciculatus*), Our Lord's candle (*Yucca whipplei*), linear-leaved stillingia (*Stillingia linearifolia*), California-aster (*Lessingia filaginifolia* var. *filaginifolia*), California broom (*Lotus scoparius*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), giant wild-rye (*Leymus condensatus*), and cotton-thorn (*Tetradymia comosa*). Introduced annual grasses prevalent in the understory are dominated by foxtail chess and wild oats. Native needle grasses (*Nassella cernua, N. lepida*) are present in the interstitial spaces of the shrubs. Herbaceous understory species include non-native shortpod mustard, red-stemmed filaree, and tocalote (*Centaurea melitensis*), as well as native wishbone bush, fascicled tarweed (*Hemizonia fasciculata*), woolly-fruited lomatium (*Lomatium dasycarpum* ssp. *dasycarpum*), malacothrix (*Malacothrix saxatilis* var. *tenuifolia*), and chia (*Salvia columbariae*). Riversidian sage scrub covers approximately 143.4 acres (19.7 percent of total project area) of the project site.

It should be noted that the eastern most 80 acres (approximately) is included in a much larger area that is currently being proposed by the Fish and Wildlife Service (FWS) as critical habitat for the coastal California gnatcatcher. However, at this time it is only being proposed. Although the RSS that occurs on

the project site is considered suitable habitat for the coastal California gnatcatcher, no coastal California gnatcatchers were found on the project site during FWS protocol surveys, as noted later in this Draft EIR.

(6) Chamise Chaparral

This type of chaparral is found in small, scattered patches on flat to sloping terrain, mostly in the northeastern part of the Riverpark site. Chamise chaparral is the most common type of chaparral in Southern California and is dominated by chamise (*Adenostoma fasciculatum*) shrubs from 1 to 3 meters in height. This community is often dense and impenetrable and has a sparse understory (Holland 1986). It is adapted to repeated fires and is found on shallow, dry soils on xeric slopes and ridges. Growth is greatest in the spring and reduced in the summer; flowering occurs from late winter to early summer. Typically, several other native shrubs occur in this chaparral association. However, on the Riverpark site, the small patches of this community consist almost exclusively of chamise. Approximately 2.2 acres (0.3 percent of total project area) of chamise chaparral are present on the Riverpark site.

(7) Coastal Sage Chaparral Scrub

In some areas of the site, primarily on west-facing slopes, chamise chaparral and Riversidian sage scrub intergrade. Where these different plant communities blend, characteristics of each component can be observed. Although plant and wildlife species that would be associated with the individual communities can be found within this plant community, it is considered a different habitat type than either of its individual components because of the change in plant species composition.

The overstory within this habitat type is relatively open, and the understory generally supports annual grasses and herbaceous species. Plant species observed in this area include chamise, California buckwheat, California sagebrush, chaparral mallow, and black sage. This mixed plant community totals approximately 8.6 acres (1.2 percent of total project area) on the site.

(8) Holly-leaf Cherry

A stand of holly-leaf cherry scrub occurs in the northeastern portion of the Riverpark site. It occurs on relatively flat terrain on the low terraces of a canyon that leads to the Santa Clara River. The stand is dominated by relatively large, mature shrubs of holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*) 3 to 5 meters in height. Other shrub associates present include skunkbrush and spiny redberry (*Rhamnus crocea*). Native understory species present include woolly star (*Eriastrum densifolium* ssp. *elongatum*), scarlet bugler (*Penstemon centranthifolius*), and linear-leaved stillingia. Additional understory species

include red-stemmed filaree, lastarriaea (*Lastarriaea coriacea*), valley lessingia (*Lessingia glandulifera* var. *glandulifera*), Mediterranean schismus (*Schismus barbatus*), beavertail cactus, and primroses (*Camissonia micrantha*, *C. californica*). Approximately 12.9 acres (1.8 percent of total project area) supports this community.

(9) Mulefat Scrub

Several very small patches of this community occur primarily in the western portion of the Riverpark site, adjacent to the river floodplain. Mule fat scrub typically is a tall, semi-woody and herbaceous riparian scrub, and is nearly monotypic. An early seral community, it often grades to riparian woodland or forest (Holland 1986). The dominant species found in this community is native mule fat (*Baccharis salicifolia*). The understory supports mostly introduced species such as brome grasses and shortpod mustard. Approximately 1.2 acre (0.2 percent of total project area) of mule fat scrub occurs on the Riverpark site.

(10) Southern Willow Scrub

Several small patches of this community occur within four tributary drainages of the Santa Clarita River on the Riverpark site. Willow scrub is a broad-leaved, winter-deciduous riparian community, typically too dense to allow understory development. It is a relatively early seral community, often succeeding to cottonwood-sycamore forests (Holland 1986). On the project site, this community includes arroyo willow (*Salix lasiolepis*), narrow-leaf willow (*S. exigua*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Mexican elderberry (*Sambucus mexicana*), tree tobacco (*Nicotiana glauca*), mule fat, and western poison oak (*Toxicodendron diversilobum*). The understory is sparse or absent, but includes Mexican rush (*Juncus mexicanus*), western rageweed (*Ambrosia psilostachya*), and giant wild rye. This community totals approximately 1.9 acres (0.3 percent total area) on the Riverpark site.

(11) Southern Riparian Scrub

This community is found within the Santa Clara River floodplain, on relatively flat terraces immediately adjacent to the riverbed. The vegetation consists of a combination of mule fat scrub and southern willow scrub species including mule fat, arroyo willow, narrow-leaf willow, red willow (*Salix laevigata*), Fremont cottonwood, scale-broom (*Lepidospartum squamatum*) and the highly invasive non-native tamarisk (*Tamarix* sp.) and giant reed (*Arundo donax*). Additional native species occurring in the southern riparian scrub include Great Basin sagebrush (*Artemisia tridentata*), shad-scale (*Atriplex canescens* ssp. *linearis*), Mexican elderberry, thickleaf yerba santa, cholla (*Opuntia prolifera*), and mugwort (*Artemisia douglasiana*).

Approximately 161.4 acres (22.2 percent of total project area) of this riparian community is present on site.

Riparian habitat can exist in a variety of conditions, much of which depends on the amount of available water and the extent of exotic invasive plants. Generally, a perennial source of water would allow for increased plant growth. A similar, but more developed riparian habitat occurs within the Santa Clara River downstream from the project site, west of the Bouquet Canyon Road Bridge. The portion of the Santa Clara River at and downstream of the confluence of Bouquet Canyon Creek, immediately west of the project site, is provided with a permanent source of recycled water from the Saugus Water Reclamation Plant (Plant No. 26). Additional water in this stretch comes in the form of runoff from adjacent development and Bouquet Creek. Consequently, the quality of the habitat differs from that on and adjacent to the project site. Generally, the amount of surface water and the amount of riparian vegetation is greater downstream of the site and Bouquet Creek than on the site.

(12) Riverwash

The stretch of the main channel of the Santa Clara River that occurs within the project site boundaries is sparsely vegetated and subject to scouring by seasonal storm flows. Soils are sandy riverwash and gravel, and in places form sand bars and low terraces within the channel. During site surveys, scattered elements of southern riparian scrub vegetation (see above) were observed. Shrub species found in the drier portions of the riverbed include mule fat, tamarisk, scale-broom, giant reed, California broom, woolly star, and California buckwheat. Smaller species growing in the riverbed include buckwheat (*Eriogonum baileyi*), Mediterranean schismus, cryptantha (*Cryptantha micrantha*), hairy goldenaster (*Heterotheca sessiliflora* ssp. *fastigiata*), tumble mustard (*Sisymbrium altrissimum*), foxtail chess, slender pectocarya (*Pectocarya linearis* ssp. *ferocula*), and annual bur-sage (*Ambrosia acanthicarpa*). Fremont cottonwood and willows are scattered individually or in small clumps in the channel; no riparian forest associations are present. Because of the dynamic nature of vegetation growth within the river channel (vegetation species, density, and extent can vary depending upon frequency and extent of scouring water flows and periods of low water or drought), the plant composition within the river channel can change from year to year. Riverwash totals approximately 176.2 acres (24.2 percent of total project area) of the project site.

(13) Mixed Oak/Grass

Small patches of oak trees occur in the central part of the Riverpark site, mostly on or at the base of north-facing and west-facing slopes. Typically, oak woodlands have a single dominant oak species, but at the

Riverpark site, four species are present and three co-dominate. These species include coast live oak (*Quercus agrifolia* var. *agrifolia*), the winter-deciduous Valley oak (*Q. lobata*), one blue oak (*Q. douglasii*), and scrub oak (*Q. berberidifolia*). Coast live oaks can reach 10 to 25 meters in height, and typically occur away from the direct influence of the ocean in shaded canyons and on north-facing slopes (Holland 1986). Valley oaks are California's largest broad-leaved tree, reaching 15 to 35 meters in height. Scrub oak is a shrubby oak that grows 2 to 5 meters in height, and is relatively common within its range. This species typically occurs in alluvial soils in valleys and also on slopes in the southern coast ranges. A few large and mature individual Valley oaks are scattered across the site. The shrub layer in the mixed oak/grass is poorly developed and the herbaceous layer often includes annual grasses that have replaced the native perennial grasses once commonly associated with this community. This community, as it occurs on site, has not been described as a sensitive habitat; however, all individual oak trees of the genus *Quercus* are protected by City ordinance. Approximately 2.3 acres (0.3 percent of total project area) of mixed oak/grass occur on site.

(14) Developed Area with Mixed Trees

A canyon area located in the central part of the site is currently occupied by buildings, trailers, and equipment storage areas. Many large and mature native and non-native trees occur in this developed area, some of which may be plantings and some of which occur naturally. Native species observed include western sycamore (*Platanus racemosa*), southern California black walnut (*Juglens californica*), Fremont cottonwood, and Mexican elderberry. Non-native species include eucalyptus (*Eucalyptus* ssp.), Peruvian pepper tree (*Schinus molle*), and various conifers. The developed area with mixed trees totals approximately 8.3 acres (1.1 percent of total project area) on the Riverpark site.

b. Common Wildlife Resources

Discussed below are representative common wildlife species (those not provided a sensitivity status by regulatory agencies) that were observed on the project site during the field surveys. Because wildlife typically utilize a variety of plant communities, wildlife species observed or likely to occur on the site are described by taxonomic group. A complete list of wildlife species observed on the Riverpark site is provided in tabular form in **Appendix 4.6**. Special-status wildlife species present or potentially occurring on the project site are discussed under the **Special-Status Biological Resources** heading.

(1) Amphibians and Reptiles

The Santa Clara River is ephemeral along portions of its reach with a perennial input of urban runoff in various places. Water generally occurs only after recent rains within the reach of the Santa Clara River occurring on the project site. During years of sufficient rainfall, water within the river channel may be present into spring and early summer, providing habitat for amphibians within the project reach.

Amphibian populations on the project site are expected to be low on the site, due in large measure to the lack of persistent or permanent surface water in the drainages and within the Santa Clara River channel on a year-round basis. However, as some amphibious species may move considerable distances from breeding sites during the non-breeding season, there is potential for a few amphibian species to occur. Western toad and Pacific chorus frog, both of which are abundant locally in disturbed sites and even urban situations, would be expected to occur on the project site. On two occasions during the spring and summer of 2003, passers-by claimed to have detected vocalizations of amphibious species on the western end of the project site and reported them to CDFG. A survey was immediately conducted to determine the amphibian species occurring within the area. The only species detected and documented during both surveys were the common western toad and Pacific chorus frog (Crawford 2003c and d). No other amphibian species were observed or detected during these site surveys.

Common reptile species observed on the project site include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), San Diego alligator lizard (*Elgaria malticarinata webbii*), western skink (*Eumeces skiltonianus*), common kingsnake (*Lampropeltis getulus*), and southern Pacific rattlesnake (*Crotalus viridis helleri*).

(2) Birds

The diversity of structure and plant communities present on site provides both forage and nesting habitat for several locally occurring common bird species. Some species are known to be closely associated with specific plant communities, whereas other species utilize a variety of habitat types for foraging and breeding. Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*), spotted towhee (*Pipilo erythrophthalmus*) and California towhee (*P. crissalis*) were regularly observed in the scrub habitats. In open scrub and grassland habitats, species including Say's phoebe (*Saynoris saya*), northern mockingbird (*Mimus polyglottos*), morning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), and white-throated swift (*Aeronautes saxatalis*) were observed. Representative species detected in the woodland areas include Anna's hummingbird (*Calypte anna*), house finch (*Carpodacus mexicanus*), bushtit

(*Psaltriparus minimus*), Nuttall's woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), scrub jay (*Aphelocoma coerulescens*), and black-headed grossbeak (*Pheucticus melanocephalus*).

Because of the presence of large agricultural areas, open fields, and open space areas in the region, in addition to open oak woodland habitat on site, a number of raptor (birds-of-prey) species occur in the project vicinity. Some of these species, including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*), were observed foraging over the open grassland and scrub habitat on the site. Though only one actual nesting, by the special-status raptor species white-tailed kite (Guthrie 1999), was observed, several additional common raptor species potentially nest on site.

(3) Mammals

A variety of mammal species occur in the vicinity of the site. Large species including mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), and bobcat (*Lynx rufus*) were detected by scat and tracks during the site surveys. Dusky-footed woodrat (*Neotoma fuscipes*) nests were observed adjacent to two of the on-site canyons. Desert cottontail (*Sylvilagus auduboni*), California ground squirrel (*Spermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*) were abundant in many of the more open areas of the site. Additional species observed during night surveys or detected by scat were common raccoon (*Procyon lotor*), domestic cat (*Felis cattus*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginana*), deer mouse (*Peromyscus maniculatus*) and brush rabbit (*Sylvilagus bachmani).* Several other small rodent species are expected to also occur on site in each of the habitat types present. A few common bat species including big brown bat (*Eptesicus fuscus*) and California myotis (*Myotis californicus*) also potentially forage and temporarily roost on site. However, as the site does not support ideal roosting habitat and is not situated adjacent to permanent open water, most bat species known to occur in the project vicinity would not be expected to utilize on-site resources on more than an infrequent basis. Most of the locally occurring bat species typically feed on insects over aquatic habitats.

c. Special-Status Biological Resources

The following is a discussion of special-status plant and animal species observed and potentially occurring on the Riverpark site. Results and conclusions are based on habitat types present on the site, a review of the CNDDB (2002) and CNPS (2002) databases and other pertinent literature, known geographic ranges of these species, and data collected during general and focused field surveys. Also included in this section is a discussion of plant communities on the project site that are considered unique, of relatively limited distribution, or that are under the jurisdiction of state and/or federal resource agencies.

(1) Plant Species

Special-status plant species include those that are: (i) state or federally listed as Rare, Threatened, or Endangered; (ii) proposed for state or federal listing as Rare, Threatened, or Endangered; (iii) federal candidate species for listing, or (iv) considered Federal Species of Concern. Plants included on Lists 1, 2 or 4 of the CNPS inventory are also considered of special status. CNPS List 1, List 2, and List 4 species are included because the CNPS is a recognized authority by the CDFG on the status of Rare plant populations in California and because the criteria for plant species to be placed on List 1, List 2, and List 4 are similar to criteria that CDFG and USFWS use for species considered as candidates for listing or that are already listed as Threatened or Endangered (List 1 and List 2), or have populations that are in decline such that they warrant further observation (List 4). Because CNPS List 3 species are defined by the CNPS as those plants about which more information is needed in order to assign to either List 1, 2, or 4 and would generally not meet the definition of "Rare, Threatened, or Endangered" as defined by CEQA, species on this list are not considered of "special status".

The focused special-status plant surveys that were conducted in 2002 were carried out in late April (surveys were conducted only during April since there was a very low rainfall that year in Southern California that resulted in annual plants having a particularly short-lived blooming period) and the surveys conducted in 2003 were carried out in April, May and June to accommodate the blooming periods of various species potentially occurring in the region or previously reported in the CNDDB.

Table 4.6-1, **Special-Status Plant Species Known to Occur the Riverpark Area**, addresses 27 special-status plant species that are known to occur in the project vicinity and were consequently the focus of on-site surveys. The list was compiled based on occurrence records of species in the project vicinity, documented geographic distributions of these species, and known habitat requirements. Those species observed on the site, or those not observed but for which suitable habitat occurs, are discussed in more detail below.

Table 4.6-1
Special-Status Plant Species Known to Occur in the Riverpark Area

Common Name *Scientific Name*	Sensitivity Status			Habitat	Growth Form (Blooming)	On-Site Status
	Federal	State	CNPS			
Braunton's milk-vetch *Astragalus brauntonii*	FE	--	1B	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland / recent burns or disturbed areas, carbonate soils.	PH-b (March-July)	No suitable habitat on site. Not observed during focused plant surveys.
Nevin's barberry *Berberis nevinii*	FE	CE	1B	Chaparral, coastal scrub, cismontane woodlands, riparian scrub.	Sh-e (March-April)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	--	--	1B	Chaparral, coastal sage scrub.	PH-b (Mar-May)	Species identified on site during focused plant surveys.
Plummer's mariposa lily *Calochortus plummerae*	--	--	1B	Chaparral, cismontane woodlands, coastal scrub, lower coniferous forests, and grasslands; valley granitic soils.	PH-b (May-July)	Species identified on site during focused plant surveys.
Late-flowering mariposa lily *Calochortus weedii* var. *vestus*	--	--	1B		PH-b (May-July)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Peirson's morning-glory *Calystegia peirsonii*	--	--	4	Chaparral, chenopod scrub, coastal scrub.	PH-r (May-June)	Species identified on site during focused plant surveys.
Southern tarplant *Centromadia parryi* ssp. *Australis*	--	--	1B	Chaparral, coastal scrub; sandstone rocky outcrops.	Sh-d (July-November)	No suitable habitat occurs on site. Not observed during focused plant surveys.
San Fernando Valley spineflower *Chorizanthe parryi* ssp. *Fernandina*	FC	CE	1B	Coastal scrub; sandy soils.	AH (April-June)	Suitable habitat occurs on site, but not observed during focused plant surveys.

Table 4.6-1 (continued)
Special-Status Plant Species Known to Occur in the Riverpark Area

Common Name *Scientific Name*	Sensitivity Status			Habitat	Growth Form (Blooming)	On-Site Status
	Federal	State	CNPS			
Santa Susana tarplant *Deinandra minthornii*	--	CR	1B	Chaparral, coastal scrub; sandstone rocky outcrops.	Sh-d (July-November)	No suitable habitat occurs on site. Not observed during focused plant surveys.
Dune larkspur *Delphinium parryi* ssp. *blockmaniae*	--	--	1B	Maritime chaparral, coastal dunes.	PH (April-May)	Species identified on site during focused plant surveys.
Slender-horned spineflower *Dodecahema leptoceras*	FE	CE	1B	Chaparral, coastal scrub (alluvial fan), cismontane woodland, sandy soils.	AH (April-June)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Blochman's dudleya *Dudleya blochmaniae* ssp. *Blochmaniae*	[FSC]	--	1B	Coastal bluff scrub, Coastal scrub; rocky, often clay or serpentine soils.	PH (April-June)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Many-stemmed dudleya *Dudleya multicaulis*	[FSC]	--	1B	Chaparral, coastal scrub, and grasslands; often associated with clay soils.	PH (May-July)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Conejo dudleya *Dudleya parva*	FT	--	1B	Chaparral, coastal scrub, often associated with clay soils.	PH (May-July)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Palmer's grappling hook *Harpagonella palmeri* var. *palmeri*	--	--	4	Chaparral, coastal scrub, valley and foothill grasslands.	AH (March-April)	Species identified on site during focused plant surveys.
Round-leaved filaree *Erodium macrophyllum*	--	--	2	Cismontane woodland, valley and foothill grassland; clay soils.	AH (March-May)	No suitable habitat on site. Not observed during focused plant surveys.
Los Angeles sunflower *Helianthus nuttallii* ssp. *Parishii*	--	--	1A	Coastal salt and freshwater marshes and swamps.	PH	No suitable habitat on site. Not observed during focused plant surveys.

Table 4.6-1 (continued)
Special-Status Plant Species Known to Occur in the Riverpark Area

Common Name *Scientific Name*	Sensitivity Status			Habitat	Growth Form (Blooming)	On-Site Status
	Federal	State	CNPS			
Southern California black walnut *Juglans californica* var. *californica*	--	--	4	Chaparral, cismontane woodland, coastal scrub.	T-d	Species observed during focused plant surveys.
Southwestern spiny rush *Juncus acutus* ssp. *Leopoldii*	--	--	4	Coastal dune (mesic), meadows (alkaline seeps), coastal salt marsh.	PH-r (May-June)	No suitable habitat on site. Not observed during focused plant surveys.
Davidson's bush mallow *Malacothamnus davidsonii*	--	--	1B	Chaparral, cismontane woodland, coastal sage scrub, riparian woodland.	Sh-d (June-Jan)	Suitable habitat occurs on site, but not observed during focused plant surveys.
Spreading navarretia *Navarretia fossalis*	FT	--	1B	Chenopod scrub, marshes and swamps, playas, vernal pools.	AH (April-June)	No suitable habitat on site. Not observed during focused plant surveys.
Chaparral nolina *Nolina cismontana*	--	--	1B	Chaparral, coastal scrub, sandstone gabbro soils.	SH-e (April-June)	No suitable habitat on site. Not observed during focused plant surveys.
Short-joint beavertail cactus *Opuntia basilaris* var. *brachyclada*	--	--	1B	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland.	Sh-ss (April-June)	Suitable habitat occurs on site, but not observed during focused plant surveys.
California Orcutt grass *Orcuttia californica*	FE	CE	1B	Vernal pools.	AH (April-Aug)	No suitable habitat on site. Not observed during focused plant surveys.
Lyon's pentachaeta *Pentachaeta lyonii*	FE	CE	1B	Chaparral, coastal scrub, valley and foothill grassland; volcanic endemic soils.	AH (Mar-Aug)	No suitable habitat occurs on site. Not observed during focused plant surveys.
Pringle's yampah *Perideridia pringlei*	--	--	4	Chaparral, cismontane woodland, coastal scrub, pinyon and juniperwoodlands; serpentinite, clay soils.	PH (April-Aug)	No suitable habitat on site. Not observed during focused plant surveys.

Table 4.6-1 (continued)
Special-Status Plant Species Known to Occur in the Riverpark Area

Common Name *Scientific Name*	Sensitivity Status			Habitat	Growth Form (Blooming)	On-Site Status
	Federal	State	CNPS			
Rayless ragwort *Senecio aphanactis*	--	--	2	Cismontane woodland, coastal scrub/alkaline.	AH (January-April)	Marginal suitable habitat on site. Not observed during focused plant surveys.

Key:
Status: Listing status definitions are provided in **Appendix 4.6.**
Federal: FE = Federal Endangered; FC = Federal Candidate

State: CE = California Endangered; CR = California Rare
CNPS: List 1A = Presumed extinct
List 1B = Plants Rare and Endangered in California and elsewhere
List 2 = Plants Rare, Threatened, or Endangered in California, but more common elsewhere
List 4 = Plants of limited distribution – A watch list

Growth Form:

AH =	Annual Herb	Sh = Shrub	-r = rhizommatous
PH =	Perennial Herb	-b = bulb	-e = evergreen
T =	Tree	-d = deciduous	-ss = stem succulent

(a) Species Observed On Site

Slender mariposa lily (*Calochortus clavatus* var. *gracilis*), ***CNPS List 1B.*** Approximately 80 individual plants were found in 12 locations, mostly on north-facing slopes and ridges. **Figure 4.6-3 (Map Box)** illustrates the locations of all the recorded populations. The plants were most often found on sandy clay soils in openings within coastal sage scrub. Elevations ranged from 1,235 feet to 1,350 feet. Most plants were flowering during at least one field observation.

Plummer's mariposa lily (*Calochortus plummerae*), ***CNPS List 1B.*** There were seven individual plants found in three locations, mostly on south-facing slopes and ridges. **Figure 4.6-3** illustrates the locations of all the recorded populations. The plants were located on sandy clay soils with gravel and stones associated with coastal sage scrub. Elevations ranged from 1,225 feet to 1,335 feet. All plants were flowering, and some were fruiting, during field observation.

Dune larkspur (*Delphinium parryi*), ***CNPS List 1B.*** There were approximately 445 individual plants of this species noted in eight locations on north-facing slopes. **Figure 4.6-3** illustrates the locations of all the

recorded populations. The plants were observed in openings within coastal sage scrub. Elevations ranged from 1,250 feet to 1,320 feet. Most plants were flowering during field investigations.

Peirson's morning-glory (*Calystegia peirsonii*), ***Federal Species of Concern, CNPS List 4.*** Approximately 4,400 individuals of this species were observed in 29 locations on site. **Figure 4.6-3** illustrates the locations of all the recorded populations. All of the populations were located on relatively gentle slopes (generally south-facing) or in flat areas. On site, the plants are associated with various grassland and coastal sage scrub species in sandy to gravelly/stoney soils. Location elevations range from 1,250 feet to 1,450 feet. Most plants were in vegetative form and some were flowering during field investigations.

Palmer's grappling hook (*Harpagonella palmeri*), ***CNPS List 4.*** Approximately 2,640 individuals of this species were located in eleven locations on south-facing slopes and ridges. The plants were found in on sandy clay soils with gravel, stones and rocks in sparsely vegetated and exposed areas within coastal sage scrub. Elevations ranged from 1,320 feet to 1,430 feet. Most plants had flowers and fruit during the field investigation.

California black walnut (*Juglans californica*), ***CNPS List 4.*** Three populations of walnut trees, consisting of four, five, and twelve individual trees respectively, were detected during the surveys. All three populations occur in the area of the site presently occupied by buildings in a valley in the central part of the site (**Figure 4.6-3**). The walnut trees occur on relatively flat terrain at an elevation of about 1,200 feet. Some of these trees may have been planted, while others appeared to have grown naturally.

Oak trees (*Quercus* spp.) ***City of Santa Clarita Oak Tree Preservation and Protection Policy***. All eligible trees of the genus *Quercus* are subject to the provisions of Resolution No. 90-177 of the City Council of the City of Santa Clarita. The horticultural surveys completed for the project site revealed 87 oak trees qualified for jurisdiction under the City's ordinance. Specific locations of oak trees as well as other characteristics are addressed in the horticultural report, **Appendix 4.6**.

(b) Species Not Observed but for which Suitable Habitat Occurs

Slender-horned spineflower (*Dodecahema leptoceras*), ***Federal Endangered, California Endangered, CNPS List 1B.*** The holly-leaf cherry scrub community found in the northeastern corner of the site has several understory species that are associates of the slender-horned spineflower, as observed previously by FLx from a known population in the region (FLx pers. comm.). At this specific location on the project site, the soils are medium to coarse terrace/riverwash sands, also similar to areas where slender-horned spineflower is found. A known location (not on Newhall Land property) of this species was checked in

April 2003 as a reference; the species had germinated and some plants were flowering. Therefore, if slender-horned spineflower exists on the project site, it should have been observed in 2003, but it was not found (FLx 2003) (Hendrickson 1996).

A known off-site population of the sensitive San Fernando Valley spineflower was also field-checked as a reference population in April 2003. This species had germinated and was observed flowering. Although potential habitat exists for this plant on the project site, the species was not found. The technical report, prepared by FLx (2002-2003), discusses the methods and results of plant surveys on more detail, and it is located in **Appendix 4.6**.

Suitable habitat occurs on the site for ten other special-status plant species. However, none of these species were observed on the site during focused surveys that were conducted during the blooming periods of each species. Had any of these species occurred on the site during the time the surveys were conducted, they likely would have been observed.

(2) Wildlife Species

The term special-status wildlife includes those species that are state or federally listed as Threatened or Endangered, have been proposed or are candidates for listing as Threatened or Endangered, are considered State Species of Special Concern, CDFG Special Animals, California Protected or Fully Protected Species, and/or are Federal Species of Concern.

Eleven special-status species were observed during site surveys: sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperi*), white-tailed kite (*Elanus leucurus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), loggerhead shrike (*Larius ludovicianus*), yellow warbler (*Dendroica petechia brewsteri*), summer tanager (*Piranga rubra*), Southern California rufous-crowned sparrow (*Aimophila ruficeps*), Bell's sage sparrow (*Amphispiza belli belli*), tricolored blackbird (*Agelaius tricolor*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*). However, a total of 51 potential species are addressed in this report based on an evaluation of on-site habitats compared with each species' life history requirements, occurrence records of species in the project vicinity, and documented geographic distribution of each species. All special-status wildlife species addressed in this report are listed in **Table 4.6-2, Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area**. Those species observed or with habitat occurring on the project site are discussed in more detail below.

Table 4.6-2
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	On-Site Status
INVERTEBRATES				
Crustacea Order Anostraca	(fairy shrimp)			
San Diego fairy shrimp *Branchinecta sandiegoensis*	FE	--	Vernal pools.	No indication of vernal or other seasonal pools were detected during site surveys. Soils present on site are not suitable to support vernal/seasonal pools.
Riverside fairy shrimp *Streptocephalus woottoni*	FE	--	Vernal pools.	No indication of vernal or other seasonal pools were detected during site surveys. Soils present on site are not suitable to support vernal/seasonal pools.
Insecta Order Lepidoptera	(butterflies and moths)			
San Emigdio blue butterfly *Plebulina emigdionis*	[FSC]	--	Often near streambeds, washes or alkaline areas. Associated with *Atriplex canescens.*	No recent documented occurrences in the area. However, suitable habitat is present on site as low numbers of the host plant *Atriplex canescens* were recorded. Not observed during focused surveys. (Bruyea 2003)
FISHES				
Arroyo chub *Gila orcutti*	[FSC]	CSC	Slow-moving or backwater sections of warm to cool streams with mud or sand substrates.	The riverbed was dry during time of survey. However, during years with sufficient rainfall, the on-site portion of river channel is known to support variable flows, at which time it is expected arroyo chubs occurring elsewhere in the river and would be able to occur on site.
Santa Ana sucker *Catastomus santaanae*	FT	CSC	Occupies small-to medium-sized perennial streams with water ranging in depth from a few centimeters to a meter or more.	The riverbed was dry during time of survey. However, during years with sufficient rainfall, the on-site portion of river channel is known to support variable flows, at which time it is expected suckers occurring elsewhere in the river would be able to occur on site. Resource agencies have classified only certain populations of this species as threatened. The population in the Santa Clara River system is not included in this Threatened status.
Steelhead rainbow trout (Southern California ESU) *Oncorhynchus mykiss*	FE	CSC	Clean, clear, cool, well-oxygenated streams. Need relatively deep pools in migration and gravelly substrate in which to spawn.	Steelhead have not been identified in the Santa Clara River east of Piru Creek that is approximately 10 miles west of the subject site.
Unarmored three-spine stickleback *Gasterosteus aculeatus williamsoni*	FE	CE, CFP	Slow-moving and backwater areas.	The riverbed was dry during time of survey. However, during years with sufficient rainfall, the on-site portion of river channel is known to support variable flows, at which time it is expected unarmored three-spine sticklebacks occurring elsewhere in the river would be able to occur or pass through the stretch of the river that occurs on site. This species has been observed in ponded water within tire tracks on or near the middle to eastern end of the project site (exact location cannot be determined). (Courtois 1999)

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	On-Site Status
AMPHIBIANS				
Coast range newt *Taricha torosa torosa*	--	CSC (SLO south)	Grasslands and woodlands; breeds in ponds, reservoirs, and slow-moving streams.	This species requires perennial sources of water require at least a year to metamorphose from its fully aquatic larval stage. Perennial water does not occur on site. Species was not observed during on-site field investigations.
Western spadefoot *Scaphiopus hammondii*	[FSC]	CSC, CP	Open areas in lowland grasslands, chaparral, and pine-oak woodlands; require temporary rain pools that last approximately three weeks and lack exotic predators.	No indication of vernal or other seasonal rain pools were detected during site surveys and soils present on site are not suitable to support vernal/seasonal pools. Species was not observed during on-site field investigations.
Arroyo toad *Bufo microscaphus californicus*	FE	CSC, CP	Restricted to rivers that have shallow, gravely pools adjacent to sandy terraces that have a nearly complete closure of cottonwoods, oaks, or willows, and almost no herbaceous cover; require shallow pools with minimal current, little to no emergent vegetation, and a sand or pea gravel substrate overlain with flocculent silt for egg deposition.	Focused surveys following U.S. Fish and Wildlife Service protocol were conducted in the river on the project site in 2002 and 2003 with no indication of species presence. An associated habitat analysis determined project site upland habitat to be of low value to this species.
California red-legged frog *Rana aurora draytonii*	FT	CSC, CP	Permanent water sources such as ponds, lakes, reservoirs, streams, and adjacent riparian woodlands.	Permanent water source doesn't exist on site. A pond occurs approximately 200 yards west of the project site and the Bouquet Canyon Road Bridge. Focused surveys for species were conducted in the river on the project site in 2001 and 2002 with no indication of species presence.

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	On-Site Status
REPTILES				
Southwestern pond turtle *Clemmys marmorata pallida*	[FSC]	CSC, CP (full species)	Streams, ponds, freshwater marshes, and lakes with growth of aquatic vegetation.	The riverbed was dry during site surveys. Though variable flows are known to occur seasonally, such flows are generally swift and little to no ponding occurs on site. This species was not observed during site surveys.
San Diego horned lizard *Phrynosoma coronatum blainvillii*	[FSC]	CSC, CP (full species)	Relatively open grasslands, scrublands, and woodlands with fine, loose soil.	Suitable habitat occurs on site in association with open scrub and riverbank habitats. Species is known to occur in the project region. This species was not observed during site surveys.
California horned lizard *Phrynosoma coronatum frontale*	[FSC]	CSC, CP (full species)	Exposed gravelly-sandy soils with minimal shrubs, riparian woodland clearings, dry chamise chaparral, and annual grasslands with scattered seepweed or saltbush.	Suitable habitat occurs on site in association with open scrub and riverbank habitats. Species is known to occur in the project region. This species was not observed during site surveys.
Coastal whiptail *Cnemidophorus tigris multiscutatus*	[FSC]	--	Open areas in semiarid grasslands, scrublands, and woodlands.	Suitable habitat occurs on site in association with open scrub and riverbank habitats. Species is known to occur in the project region. This species was not observed during site surveys.
Silvery legless lizard *Anniella pulchra pulchra*	[FSC]	CSC	Stabilized dunes, beaches, dry washes, pine, oak, and riparian woodlands, and chaparral; associated with sparse vegetation with sandy or loose, loamy soils.	Suitable habitat occurs on site in association with open scrub and riverbank habitats. Occurrence of species has not been recently reported in the site vicinity and species not observed on site during field surveys.
Two-striped garter snake *Thamnophis hammondii*	[FSC]	CSC, CP	Perennial and intermittent streams having rocky or sandy beds and artificially-created aquatic habitats (man-made lakes and stock ponds); requires dense riparian vegetation.	The riverbed was dry during site surveys. Though variable flows are known to occur seasonally, such flows are generally swift and little to no ponding occurs on site. This species not observed during site surveys.

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	 State	Habitat Requirements	On-Site Status
BIRDS				
Western least bittern (nesting) *Ixobrychus exilis hesperis*	[FSC], MNBMC	CSC	This bittern's habitat is centered on dense emergent wetlands of cattails and tules for nearly all of its needs.	No suitable habitat present on site. Not observed during focused bird surveys.
White-tailed kite (nesting) *Elanus leucurus*	MNBMC	CFP	Open vegetation and uses woodlands for cover.	Species known from area and suitable foraging habitat and limited nesting habitat occurs on site. One nest observed by this species (Guthrie 1999) during focused bird surveys.
Northern harrier (nesting) *Circus cyaneus*	--	CSC	Coastal salt marsh, freshwater marsh, grasslands, and agricultural fields.	Suitable nesting habitat does not occur on the project site, but could occasionally forage on/over the site. Not observed during focused bird surveys.
Sharp-shinned hawk (nesting) *Accipiter striatus*	--	CSC	Nests in woodlands and forages over dense chaparral and scrublands.	Marginal nesting habitat occurs in limited areas on the project site; could occasionally forage on/over the site. One observation was made during focused bird surveys. (Guthrie 1995)
Cooper's hawk (nesting) *Accipiter cooperi*	--	CSC	Dense stands of live oaks and riparian woodlands.	Marginal nesting habitat occurs in limited areas on the project site; could occasionally forage on/over the site. Several individual observations were made by Guthrie in 1995–1998 and 2000. No nesting observations were made during surveys.
Ferruginous hawk (wintering) *Buteo regalis*	[FSC], MNBMC	CSC	Grasslands, agricultural fields, and open scrublands.	Infrequent seasonal migrant. Suitable foraging area present. Not observed during focused bird surveys.
Golden eagle (nesting & wintering) *Aquila chrysaetos*	--	CSC,CFP	Mountains, deserts, and open country. Nest habitat consists primarily of cliffs and rocky ledges, sometimes trees and rarely ground and man-made structures.	Suitable nesting habitat is very limited on site, but species is known from the project vicinity and may periodically forage on site. Not observed during focused bird surveys.
Merlin (wintering) *Falco columbarius*	--	CSC	Coastlines, wetlands, woodlands, agricultural fields, and grasslands.	Marginal suitable/typical habitat present on the site. Not observed during focused bird surveys.
Prairie falcon (nesting) *Falco mexicanus*	--	CSC	Grasslands, savannas, rangeland, agricultural fields, and desert scrub; requires sheltered cliff faces for shelter and nesting.	Suitable nesting habitat does not occur on the project site, but could occasionally forage on/over the site. Not observed during focused bird surveys.

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	 State	Habitat Requirements	On-Site Status
BIRDS				
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	FC, MNBMC (full species)	CE	Nests along the broad, lower flood-bottoms of larger river systems; riparian forests and riparian jungles of willow, often mixed with cottonwoods, with understory of blackberry, nettles, or wild grape.	Typical nesting habitat is not present on site. Very few occurrences of species recorded from project region. One individual observed during focused surveys and thought to be a migrant. (Guthrie 1997)
Western burrowing owl (burrow sites) *Athene cunicularia hypugea*	[FSC], MNBMC	CSC	Grasslands and open scrub, particularly with ground squirrel burrows.	Few suitable burrow sites present on the project site and disturbance may be too great in more suitable open areas. Not observed during focused bird surveys.
Long-eared owl (nesting) *Asio otus*	--	CSC	Dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations.	Suitable nesting habitat is not present on the project site, but could occasionally forage on/over the site. Not observed during focused bird surveys.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	FE	CE	Riparian woodlands that contain water and low willow thickets.	Suitable habitat not present on site. Not observed during focused bird surveys.
California horned lark *Eremophila alpestris actia*	--	CSC	Grasslands, disturbed areas, agriculture fields, and beach areas.	Some suitable foraging habitat occurs in open areas on site. The site is heavily disturbed in the open areas and this species is a ground nester. Not observed during focused bird surveys.
Bank swallow (nesting) *Riparia riparia*	--	CT	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Limited suitable habitat on site and no recent records of occurrence in the area. Not observed during focused bird surveys.
Coastal California gnatcatcher *Polioptila californica californica*	FT	CSC	Coastal sage scrub in areas of flat or gently sloping terrain.	Marginal habitat occurs in limited areas on the project site; however this species has been documented in the project area. Not observed during focused bird surveys.

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	 State	Habitat Requirements	On-Site Status
BIRDS				
Loggerhead shrike *Lanius ludovicianus*	[FSC], MNBMC	CSC	Grasslands with scattered shrubs, trees, fences or other perches.	Suitable nesting and foraging habitat present. Species documented in project area and observed during 1993 focused bird surveys (Guthrie 1993) and 2003 coastal California gnatcatcher focused surveys.
Least Bell's vireo (nesting) *Vireo bellii pusillus*	FE, MNBMC	CE	Riparian vegetation with extensive willows below 2,000 ft.	Marginal suitable habitat occurs in limited areas on the project site. Not observed during focused bird surveys.
Yellow warbler (nesting) *Dendroica petechia brewsteri*	--	CSC	Riparian thickets and woodlands.	Nesting habitat exists along portions of the Santa Clara River and within the large drainage channel. Several individuals observed during spring and early summer, most considered migrants but some were present into June and July in 1995 and 1996.
Yellow-breasted chat (nesting) *Icteria virens*	--	CSC	Riparian thickets and riparian woodlands with a dense understory.	Suitable nesting habitat is not present on site. Not observed during focused bird surveys.
Summer tanager (nesting) *Piranga rubra*	--	CSC	Cottonwood-willow riparian habitats, especially older, dense stands along rivers and streams.	Marginal nesting habitat exists along portions of the Santa Clara River and within the large drainage channel. One individual observed on one occasion, not seen on subsequent visits; considered a migrant.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	[FSC]	CSC	Coastal sage scrub.	Observed on site during general wildlife surveys and focused bird surveys. Suitable nesting and foraging habitat present.
Bell's sage sparrow (nesting) *Amphispiza belli belli*	[FSC], MNBMC	CSC	Saltbush scrub and chaparral.	Suitable nesting habitat occurs in limited areas on the project site, species is known from the project vicinity and may periodically forage on site. Observed during focused bird surveys. (Crawford 2003)
Tricolored blackbird (nesting colony) *Agelaius tricolor*	[FSC], MNBMC	CSC	Freshwater marshes and riparian scrub.	Limited nesting and forging habitat present. Although several red-winged blackbirds were observed on few occasions, one tricolored blackbird was observed during focused bird surveys. (Guthrie 1995)

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	On-Site Status
MAMMALS				
Yuma myotis *Myotis yumanensis*	[FSC]	CSC	Found in a variety of habitats; optimal habitats are open forests and woodlands with sources of water over which to feed.	Though this species is expected to be relatively common along the Santa Clara River, the reach of the river on the project site does not support water for most of the year. This species may periodically fly over the site, but it is expected to frequent more suitable habitat that occurs off site. This species was not observed during site surveys.
Spotted bat *Euderma maculata*	[FSC]	CSC	Deserts, scrublands, chaparral, and coniferous woodlands.	Limited suitable habitat occurs on the project site. Very few spotted bats have been recorded from the project vicinity. This species was not observed on the site.
Pale big-eared bat *Corynorhinus townsendii pallescens*	[FSC] (Full Species)	CSC (Full Species)	Utilizes a variety of communities, including conifer and oak woodlands and forests, arid grasslands and deserts, and high-elevation forests and meadows.	Though this species is expected to be relatively common along the Santa Clara River, the reach of the river on the project site does not support water for most of the year. This species may periodically fly over the site, but it is expected to frequent more suitable habitat that occurs off site. This species was not observed during site surveys.
Pallid bat *Antrozous pallidus*	--	CSC	Arid habitats, including grasslands, shrublands, woodlands, and forests; prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	Suitable foraging and limited roosting habitat occurs on site for this species. Pallid bats have been recorded from project region but not observed on the site.
Western mastiff bat *Eumops perotis*	[FSC] (ssp. *californicus*)	CSC	Primarily arid lowlands and coastal basins with rugged, rocky terrain, along with suitable crevices for day-roosts.	Very limited suitable roosting habitat present on site. Some limited foraging opportunities if species occurs in vicinity; however, this species was not observed on the site during surveys.
San Diego desert woodrat *Neotoma lepida intermedia*	--	CSC	Chaparral, coastal sage scrub, understory of tree thickets.	Suitable habitat occurs on the site. San Diego desert woodrat was observed on site during site surveys.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	[FSC]	CSC	Chaparral and coastal sage scrub.	Suitable habitat occurs on the site. Black-tailed jackrabbits were observed on site during site surveys.

Table 4.6-2 (continued)
Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area

Common Name *Scientific Name*	Status Federal	 State	Habitat Requirements	On-Site Status
MAMMALS				
Ringtail *Bassariscus astutus*	--	CFP	Prefers a mixture of forest and shrubland habitats in close association with rocky areas or riparian habitats.	Limited suitable habitat on site; presence was not detected during site surveys.
American badger *Taxidea taxus*	--	CSA	Drier open stages of shrub, forest, and herbaceous habitats with friable soils.	Limited suitable habitat on site; presence was not detected during site surveys.
Mountain lion *Felis concolor browni*	--	CFP	Occurs in a variety of scrub and forested habitats.	The Santa Clara River is a known movement corridor for large mammals such as the mountain lion. This species is known to occur in the project region. No suitable denning sites are present on the property, though this site may be part of a local lion's home range.

KEY:

(nesting) = For most taxa the CNDDB is interested in sightings for the presence of resident populations. For some species (primarily birds), the CNDDB only tracks certain parts of the species range or life history (e.g., nesting locations). The area or life stage is indicated in parenthesis after the common name.

Status:

Federal -- U.S. Fish and Wildlife Service
FE: Federally Endangered
FT: Federally Threatened
FPE: Federally Proposed Endangered
FPT: Federally Proposed Threatened
FC: Federal Candidate for listing as Threatened or Endangered

MNBMC: Migratory Non-game Birds of Management Concern (not shown for Federally listed or proposed Threatened or Endangered species)

[FSC]: Federal Species of Concern
Species denoted with this term primarily include those considered C2 species under the old classification system. This term is only to be used as a "term-of-art" and is not to imply any legal protection or inclusion on the Federal ESA list.

State -- California Department of Fish and Game
CE: California Endangered
CT: California Threatened
CFP: California Fully Protected
CP: California Protected
CSC: California Species of Special Concern
CSA: California Special Animal (species with no official federal or state status, but are included on CDFG's Special Animals list)

(a) Special-Status Wildlife Species Observed on the Site

Sharp-shinned hawk (*Accipiter striatus*); ***California Species of Special Concern.*** This raptor is a fairly common migrant and winter resident in the project region. It is known to roost in intermediate to high-canopy forests and typically forages in openings at edges of woodlands, agricultural fields, and shorelines (CDFG 1990a). Sharp-shinned hawks most commonly prey on small birds, but will also take small mammals, reptiles, and insects. This species typically nests in the northern forests of the state and is not expected to nest on the site. One individual was observed during focused bird surveys (Guthrie 1995).

Cooper's hawk (*Accipiter cooperi*); ***California Species of Special Concern.*** Cooper's hawk is primarily a yearlong resident where it occurs, which includes the project vicinity. It typically nests in dense woodlands near open water or riparian areas. Cooper's hawks typically prey on small birds, but will also take small mammals and reptiles that it usually spots while utilizing patchy woodlands and edge habitats (CDFG 1990a). Suitable dense nesting habitat is lacking on the project site; however, suitable foraging habitat is present. Cooper's hawks are relatively common in the site vicinity and were observed on several occasions during focused surveys (Guthrie 1995–1998 and 2000).

White-tailed kite (*Elanus leucurus*); ***California Fully Protected, Migratory Non-Game Birds of Management Concern.*** White-tailed kite utilizes a variety of habitats, but is generally associated with riparian woodlands situated near open grassland an/or agricultural fields. This species is a yearlong resident in coastal and valley lowlands. White-tailed kites are known to occur in the vicinity of the project area, and since suitable nesting and foraging habitat is present on site, this species has a high potential to nest on site. During the ten years of focused bird surveys conducted on the project site, there was one nesting observation by Guthrie in 1999 in a large cottonwood along the north side of the Santa Clara River just upstream of Bouquet Canyon Bridge.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) ***California Endangered.*** Yellow-billed cuckoo populations occur in the West in a few scattered locations in Southern California, Arizona, and New Mexico. Yellow-billed cuckoos inhabit riparian forests, particularly cottonwood and willow, overgrown pastures, and orchards. Marginal habitat occurs along portions of the Santa Clara River. One individual was observed on one occasion and was considered to be a migrant (Guthrie 1997).

Loggerhead shrike (*Lanius ludovicianus*); ***California Species of Special Concern, Federal Species of Concern.*** This bird is a resident species in Southern California. It inhabits grasslands, agriculture, chaparral, and desert scrub; it is absent only from the mountainous zones. Population declines due to urbanization have been noted. Loggerhead shrikes feed on small reptiles and insects, which they often

impale on sticks or thorns before eating. The loggerhead shrike was observed on the project site during two focused surveys (Guthrie 1993, Crawford 2003). Suitable nesting and foraging habitat occurs on site.

Yellow warbler (*Denroica petechia brewsteri*); ***California Species of Special Concern.*** Yellow warblers prefer wet riparian thicket habitat but are also found in large cottonwoods in drier riparian areas. One to several yellow warblers have been observed on the project site during focused surveys by Guthrie during the years 1993, 1995, 1996–1998 and 2002. A drop in number after May indicates that most birds were migrants. However, in 1995 and 1996, one to four individuals were observed into early July and were presumably breeders (Guthrie 1997). No nesting observations were made during site surveys.

Summer tanager (*Piranga rubra*); ***California Species of Special Concern.*** This species is typically known as a migrant in Southern California, but is known to nest along the Colorado River and in scattered desert areas. The summer tanager requires riparian woodlands or forest dominated by cottonwoods (*Populus* spp.) and willows (*Salix* spp.) (Garret and Dunn 1981). Marginal habitat occurs along the Santa Clara River (scattered willow and cottonwood trees) and within the large canyon in the central portion of the project site. Only one individual was observed during field surveys (Guthrie 2003) and was not observed on subsequent site visits. Therefore, it is considered to be a migrant and not nesting on the project site.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*); ***California Species of Special Concern, Federal Species of Concern.*** This species most commonly nests and forages in mixed chaparral and coastal sage scrub habitats that occur on relatively steep, often rocky hillsides. A few individual rufous-crowned sparrows were observed in coastal sage scrub habitat during focused coastal California gnatcatcher surveys (Crawford 2002 and 2003) and focused bird surveys (Guthrie 2003). No nests were observed; however, suitable nesting habitat does exist on some of the heavily scrub vegetated slopes on the site.

Bell's sage sparrow (*Amphispiza belli belli*); ***California Species of Special Concern, Federal Species of Concern.*** The Bell's sage sparrow has a spotty distribution; breeding range is along the coastal slopes from Trinity County south into northwestern Baja California. Locally, it can be found in chaparral habitats, especially chamise chaparral. This race is essentially sedentary. Male sage sparrows show high site tenacity to breeding territory, even when the habitat is altered dramatically (Ehrlich et al. 1988). This bird was observed on the on the project site during the 2003 focused California gnatcatcher surveys.

Tricolored blackbird (*Agelaius tricolor*); ***California Species of Special Concern.*** The tricolored blackbird is a resident in California. It is common locally throughout the Central Valley and in coastal districts from Sonoma County south. Tricolored blackbirds nest near fresh water, preferably in emergent wetland with

tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Limited nesting habitat occurs on the project site; however, during years of greater rainfall, nesting habitat is increased. One tricolored blackbird was observed on one occasion on site within the Santa Clara River (Guthrie 1995).

San Diego desert woodrat (*Neotoma lepida intermedia*); ***California Species of Special Concern, Federal Species of Concern.*** The San Diego desert woodrat is associated with moderate to dense scrub canopies, rock crevices, and in other protected areas where nest-building materials are available. This species is highly adaptable and may depend upon succulents for water. Desert woodrats have a high potential to occur in the dense, undisturbed chamise chaparral and coastal sage scrub habitats on the project site. Scat of this species was detected in this habitat and the type and location of the midden further confirmed the presence of this species.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); ***California Species of Special Concern, Federal Species of Concern.*** The black-tailed jackrabbit occurs in a variety of habitats including deserts, pastures, row crops and open scrub. They feed on several species of grasses and herbs, including many cultivated crops (Jameson and Peeters 1988). Several jackrabbits were observed in the riverbed, open terraces, and disked fields during the 2002 general site survey and 2003 focused mammal survey. The jackrabbit occupies areas on site that are occasionally disturbed by natural means or disking operations, such as the riverbed and disked fields. Because of the regular disturbance to these areas, the on-site habitat for the jackrabbit is considered to be moderate in quality.

(b) Special-Status Wildlife Species Not Observed But With Habitat Occurring On Site

Arroyo chub (*Gila orcutti*); ***California Species of Special Concern, Federal Species of Concern*; Santa Ana sucker** (*Catastomus santaanae*); ***Federally Listed Threatened Species, California Species of Special Concern*; Unarmored three-spine stickleback** (*Gasterosteus aculeatus williamsoni*); ***Federally Listed Endangered Species, California Listed Endangered Species.*** As discussed in the site description, the portion of the Santa Clara River that occurs within the project boundaries did not support any flowing or standing water at the time of surveys. Although during certain years water can be present into June or July (Guthrie 1993, 1995, 1998), the river is typically dry during the summer months, especially during drier than normal years as was the case in 2002. However, during the rainy season (primarily winter) the watershed east of the project site drains enough water into the river to deliver what are sometimes substantial flows through the project area. As these three special-status fish species are all known to occur in the Santa Clara River (Courtois 1999, Crawford 2003) both upstream and downstream of the

project site, it is expected that all three species could potentially be present within the stretch that passes through the site during times when appropriate water depths are present.

Coast horned lizard (*Phrynosoma coronatum*); ***California Protected Species, California Species of Special Concern, Federal Species of Concern***. The Riverpark project site is situated in an area where the documented ranges of two subspecies of coast horned lizard, San Diego horned lizard (*P.c. blainvillii*) and California horned lizard (*P.c. frontale*), overlap. Both of these species are afforded the same sensitivity status by CDFG. Coast horned lizards feed almost exclusively on native harvester ants and occur in a variety of habitats including scrub, grassland, sandy washes, and woodland—typically where there are sands or other fine loose soils where they can bury themselves. This species was not detected during the site surveys. However, patches of suitable habitat exist in coastal sage scrub, chaparral, and open river terrace habitats on the Riverpark site. In addition, native harvester ants were present on the project site.

Coastal whiptail (*Cnemidophorus tigris multiscutatus*); ***Federal Species of Concern***. This subspecies of western whiptail is most commonly associated with arid to semiarid, open scrub habitats where it has room for running. It may also be found in woodlands and streamside habitats, but generally avoids densely vegetated areas. The Riverpark project site is situated within documented range of this species and there are suitable areas of open scrub habitat on site; however, none were observed during site surveys.

Pallid bat (*Antrozous pallidus*); ***California Species of Special Concern***. The pallid bat is a locally common species of grasslands, shrublands, woodlands, and forests. It is most common in open, dry habitats with rocky areas for roosting (CDFG 1990b). Prey include insects and spiders that are often taken on the ground. Permanent roosts are typically in caves or mines where the pallid bat can retreat from high temperatures. Night roosts may be in more open habitat. Suitable permanent roosts for this species were not detected on the Riverpark site. However, suitable foraging and night roosts are present.

(3) Sensitive Plant Communities Present On Site

CDFG Wildlife and Habitat Data Analysis Branch has developed a "List of California Terrestrial Natural Communities." The most recent version of this list, dated September 2003, is derived from the CNDDB and is intended to supersede all other lists developed from the CNDDB. It is based on the detailed classification put forth in A Manual of California Vegetation (Sawyer and Keeler-Wolf 1995).

The primary purpose of the CNDDB classification is to assist in the characterization and rarity of various vegetation types. For the purposes of this Draft EIR, plant communities denoted on the list as Rare in the

September 2003 version, or that are otherwise regulated by local, state, and/or federal resource agencies, are considered of "special status".

As previously described, two plant communities occur on the Riverpark site that are considered sensitive by CDFG. A brief description of these communities follows. These habitats are discussed in greater depth under the **Plant Communities** heading of this section.

Southern willow scrub. Southern willow scrub is known to support a high number of both resident and migrating special-status wildlife species, particularly birds. For this reason, and because of the decline in the amount and quality of riparian habitats remaining in California, this community is denoted by the CDFG as special status. The majority of this plant community also occurs within CDFG jurisdiction pursuant to Section 1600 of the Fish and Game Code.

Southern riparian scrub. Most forms of southern riparian scrub in Southern California are denoted by CDFG as special status because they are declining in acreage and because of the large number of common and special-status wildlife species that are often associated with this community. The majority of this plant community occurs within CDFG and ACOE jurisdiction.

d. Jurisdictional Waters, Streambed and Riparian Resources

The portion of the Santa Clara River and seven small ephemeral drainages that occur on site are under the jurisdictional authority of various federal and state regulatory agencies. Impacts to "Waters," streambeds and adjacent riparian vegetation, as defined in the regulations cited below, typically require authorizations from the agencies. The regulatory agencies and the limits of their jurisdiction are discussed below.

(1) U.S. Army Corps of Engineers (ACOE)

Federal regulations of "Waters of the U.S." stem from Section 10 of the Federal Rivers and Harbors Act of 1899, enacted to regulate activities within navigable waters. In 1972, the federal Clean Water Act was passed. This act regulates discharges into "Waters of the U.S." Section 404 of this act regulates activities including fills placed into wetlands that are adjacent to navigable waters.

"Waters of the U.S." are defined in 33 CFR 328.3(a) as:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters;
- Which are or could be used by interstate or foreign travelers for recreational or other purposes;
- From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
- Which are used or could be used for industrial purpose by industries in interstate commerce;
- All impoundments of waters otherwise defined as "Waters of the U.S." under the definition;
- The territorial seas;
- Tributaries of "Waters of the U.S.";
- Wetlands adjacent to "Waters of the U.S."

ACOE jurisdiction in non-tidal waters typically extends to the ordinary high water mark (OHWM). The OHWM for intermittent streams, for example, can be determined by "the fluctuations of water as indicated by physical characteristics such as clear, natural lines impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 CFR 328.3(e)]. In arid areas of the southwest, the OHWM may occur at a lower level than where the typical physical indicators are present, due to unusually high flows, not occurring on a typical annual cycle. (Allen, et al. 2001).

Most impacts to areas delineated as "Waters of the U.S.", if determined to be jurisdictional by the ACOE, requires a project to obtain approval under the authority of the Clean Water Act and its implementing regulations.

(2) California Department of Fish and Game (CDFG)

The State of California regulates water resources under Sections 1600 to 1619 of the Fish and Game Code of California. Section 1602 mandates that:

> *"An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake or dispose of debris, waste, or other material…where it may pass into any river stream, or lake…."*

Unless certain requirements are met CDFG considers most natural drainages to be streambeds unless it can be demonstrated otherwise. Streambeds are defined in the California Code of Regulations Title 14, Chapter 1, Section 1.72 as follows:

> *"A stream is a body of water that follows at least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."*

CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses, and is often extended to the limit of riparian habitats that are located contiguous to the water resource and that function as part of the watercourse system. In this analysis, the area generally corresponding to the limit of riparian habitats located contiguous to the water resource is also referred to as the "resource line." Section 2785(e) of the Fish and Game Code of California states:

> *"Riparian habitat means lands which contain habitat which grows close to and which depends on soil moisture from a nearby freshwater source."*

(3) Regional Water Quality Control Board (RWQCB)

Section 401 of the Federal Clean Water Act authorizes the State of California to certify federal permits and licenses. The state's implementing regulations to conduct certifications are codified under the California Code of Regulations Title 23 Waters, Sections 3830–3869. Projects qualifying for an ACOE Section 404 Permit must submit materials for review to the appropriate RWQCB and request a Section 401 Certification. Much of the same information (project description, potential impacts, mitigation measures) necessary to apply for ACOE Section 404 and CDFG Section 1603 Permits is required for the Section 401 Certification.

Direct and indirect impacts on wetland and riparian areas may be subject to the jurisdiction of several state and federal agencies, including the CDFG, the Los Angeles RWQCB and the ACOE. Areas potentially under the jurisdiction of these agencies are briefly discussed below. A jurisdictional delineation of waters and streambeds associated with the Santa Clara River has been completed and confirmed by the agencies, as part of the Natural River Management Plan and subsequent permits.

(4) Summary of Jurisdiction

The on-site portion of the Santa Clara River is approximately 14,155 linear feet and supports southern riparian scrub vegetation (161.4 acres), southern willow scrub vegetation (1.9 acres), mulefat scrub vegetation (1.2 acres) and riverwash (176.2 acres), as described earlier in this document. A jurisdictional

delineation for the Santa Clara River was conducted in association with the development of the NRMP. Within the reach of the Santa Clara River that occurs on the project site, the boundary of jurisdiction for ACOE and CDFG were determined to be the same. Based on that delineation, the total area under ACOE and CDFG jurisdiction within the Santa Clara River is 340.7 acres.

The Santa Clara River and its associated ephemeral drainages flow through the project site. There are a total of seven drainages located on the project site (**Figure 4.6-4**). Drainages 1 and 5 are intermittent streambeds, while Drainages 2, 3, 4, 6, and 7 are ephemeral streambeds. Because Drainages 2, 3, 4, and 5 do not connect to the Santa Clara River or any other "navigable waters", as defined by the Clean Water Act, these drainages are, therefore, not under the jurisdiction of the ACOE. The following briefly describes each of these drainages and the amount of ACOE and/or CDFG jurisdiction associated with each drainage.

Drainage 1 is an intermittent stream, which occurs within the main canyon located in the center of the project site. It consists of one main channel and a small tributary channel that occur within a disturbed area of the site. The tributary channel is approximately 260 feet in length and the main channel is approximately 2,728 feet in length. This drainage is located within a disturbed area that has been developed for many years. Because the channel discharges into the Santa Clara River, it is considered a "Waters of the U.S.," as defined by the Clean Water Act and, therefore, under the regulatory jurisdiction of the ACOE. The CDFG also has jurisdiction of the streambed and associated riparian vegetation. The ACOE jurisdiction is approximately 0.4 acre and the CDFG jurisdiction is approximately 2.7 acres.

Drainage 2 is an ephemeral streambed, which consists of one main channel and a smaller tributary channel. The total length of the main channel is approximately 784 feet and the tributary is approximately 336 feet. The total amount of CDFG jurisdiction is approximately 0.7 acre.

Drainage 3 is an ephemeral streambed totaling approximately 210 feet in length. CDFG jurisdiction totals approximately 0.2 acre.

Drainage 4 is an ephemeral streambed, which consists of one main channel and a smaller tributary channel. The length of the main channel within the project boundary is approximately 1040 feet, and the tributary is approximately 104 feet. A total of approximately 0.38 acre is within CDFG jurisdiction. Drainage 4 continues north of the project boundary and grading limits.

FIGURE **4.6-4**

Drainage Locations

112-16•02/04

Drainage 5 is an intermittent stream. The channel is well defined in the upper reaches of the streambed, but is less defined in the lower reaches. In some areas of the lower reaches, there are no obvious channels or banks. The length of the drainage within the project boundary and the grading limits is approximately 1,040 feet. A total of approximately 0.16 acre is within CDFG jurisdiction.

Drainage 6 occurs at the eastern edge of the project site and is essentially in a natural condition. This drainage consists of one main channel and two smaller tributary channels. The total length of the main channel and two tributaries is approximately 1,418 feet. Part of drainage 6 is outside the project boundary and the grading limits. The length of the main channel within the project boundary and the grading limits is approximately 572 feet. Only one of the two tributaries are within the project boundary and the grading limits. The length of the tributary within the project boundary and the grading limits is approximately 104 feet. Because the channel discharges into the Santa Clara River, this drainage is under ACOE jurisdiction. Total ACOE jurisdiction within the project boundary and grading limits is approximately 0.18 acre; the total CDFG jurisdiction is approximately 0.37 acre.

Drainage 7 is a barely-defined ephemeral streambed 200 feet in length and 1 to 2 feet wide, or less than 0.1 acre in size. This drainage appears erosional in character within a broad swale with very little gradient.

The total length of all seven drainages within the project boundary and grading limits is approximately 7,250 feet. The total amount of acreage under jurisdiction of the CDFG within the project boundary and grading limits is approximately 4.51 acres. The total amount of acreage under jurisdiction of the ACOE is approximately 0.58 acre. The combined acreage of both CDFG and ACOE jurisdictional resources is approximately 5.09 acres.

e. Wildlife Movement Corridors

Over the past several decades, the Santa Clarita Valley has seen extensive urban development. The Riverpark project site is located within the center of the City of Santa Clarita with existing development generally occurring to the north, south, east, and west (**Figure 4.6-5**). Undeveloped property is located south of the Soledad Canyon Road corridor, which is south of the Riverpark site; however, most of this property is covered by a specific plan and development of this property is anticipated in the future. In addition, development will continue in the nearby Plum Canyon area to the north of the site (City of Santa Clarita General Plan, Land Use Map, 2003). As such, the upland portions of the project site no longer function as a north-south corridor between the Santa Clara River and upland open space areas. The Santa Clara River, however, passes through the site and functions as an east-west corridor.

Habitat used by wildlife as movement corridors link together large areas of open space that are otherwise separated by rugged terrain, changes in vegetation, by human disturbance, or by the encroachment of urban development. The fragmentation of natural habitat creates isolated 'islands' of vegetation that may not individually provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic exchange with separate population; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire, flood, or disease) will result in population or species extinction; and (3) serving as travel paths for individual animals as they wander about or disperse from their home ranges in search of food, water, mates, and other needs.

The low hills, ridgelines and canyons occurring on the project site are similar in character and biotic communities to the larger foothills extending from the Santa Clara drainage into the Angeles National Forest and northward to the San Andreas rift zone. Lower elevations on the La Liebre and Sierra Pelona ranges support vast expanses of coastal scrub and chaparral formations, varying in composition according to slope angle, orientation, soil characteristics and disturbance history. Plants and animals within this system historically would have been able to maintain populations at fairly constant carrying capacity levels because support resources are relatively evenly distributed, with no particular concentration areas.

Alluvial scrub and riparian species populations are arrayed along marginal terraces and channels, so their populations tend to be rather linear, often with low within-site densities but extensively distributed geographically. Aquatic species in habitats such as this portion of the Santa Clara River are adapted to persisting in systems that periodically undergo high-energy seasonal flows, scouring, siltation and summer drying. Their populations generally are capable of rapid movement and colonization of surface water systems, with individual densities and species diversity ebbing and flowing with the seasonal changes in the river.

The major habitat corridor passing through the site is the Santa Clara River. It is known to be an important migration and genetic dispersion corridor for many wildlife species occurring in the area. Its headwaters are located in the San Gabriel Mountains to the east of the project site and the River empties into the Pacific Ocean approximately 50 miles to the west. Along this stretch, the Santa Clara River is adjoined in numerous places with large open spaces and is a primary seasonal movement route for aquatic taxa, riparian obligate species (resident and migratory), and larger, more mobile terrestrial animals.

Legend:

- Project Boundary
- Wildlife Movement Corridors

NOT TO SCALE

FIGURE **4.6-5**

Wildlife Movement Corridors

112-16•11/03

It also functions as a dispersal and linkage route for juvenile and displaced individuals of species that maintain metapopulations within the low elevation ranges of coastal Southern California. Existing development in the surrounding area further increases the importance of this east/west corridor as several larger species such as deer, coyote, bobcat, and fox are forced toward the river channel for refuge and to access otherwise disjunct foraging areas.

f. Significant Ecological Area (SEA) 23 – Santa Clara River SEA

The portion of the Santa Clara River within the project site was originally designated as SEA 23 by the County of Los Angeles. Because this area in now incorporated within the City of Santa Clarita, the County no longer has SEA jurisdiction over this portion of the river. However, the City of Santa Clarita has adopted their own policies with respect to SEAs, such as the stretch of the Santa Clara River contained in the Riverpark site (**Figure 4.6-6**). The City of Santa Clarita uses the Federal Emergency Management Agency 100-year storm limit line as the limits of the Santa Clara River SEA. A complete discussion of these City policies can be found in **Section 4.7, Land Use**, of this Draft EIR.

5. PROJECT IMPACTS

a. Methodology

Direct impacts of a proposed project on biological resources can take several forms, but typically involve the loss, modification, or disturbance of natural habitat (i.e., plant communities or other naturally occurring areas) which in turn, directly affects plant and wildlife species dependent on that habitat. To determine areas of expected impact on biological resources, proposed grading plans were evaluated and compared with vegetation and wildlife maps. The level of significance of potential impacts on habitat areas is determined by an evaluation of the overall biological value of a habitat area with respect to significance threshold criteria (described below). The relative value of each of the plant communities present on site is measured by such factors as its disturbance history, biological diversity, importance to particular plant and wildlife species, uniqueness or sensitivity status, as well as the surrounding environment and the presence of special-status resources. The significance of impacts with respect to direct impacts on individuals or populations of plant and animal species takes into consideration the number of individual plants or animals potentially affected, how common or uncommon the species is both on the project site and from a regional perspective, and the sensitivity status if the species is considered of special status by resource agencies. These factors are evaluated based on the results of on-site biological surveys and studies, results of literature and database reviews, discussions with biological experts, and established and recognized ecological and biodiversity theory and assumptions.

It should be noted that this portion of the EIR addresses the direct and indirect biological impacts of the proposed project resulting from the conversion of land to development-related land uses. The impacts generated by the hydrological changes to the river corridor resulting from the installation of bank stabilization, toe or erosion protection, and the Newhall Ranch Road/Golden Valley Road Bridge across the Santa Clara River are addressed in **Section 4.20, Floodplain Modifications**.

b. Significance Threshold Criteria

(1) CEQA Guidelines

Significant impacts on biological resources posed by the proposed project were determined from criteria stated in CEQA Guidelines. Appendix G (Environmental Checklist) of the CEQA Guidelines states that a project could have a significant impact on biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when the project has the potential to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community; or
- reduce the number or restrict the range of an Endangered, Rare, or Threatened species.

EXISTING TANK

PROPOSED TANK #2

PROPOSED TANK #1

EXISTING TANK

BOUQUET CANYON ROAD

NEWHALL RANCH ROAD

GOLDEN VALLEY ROAD EXTENSION (FUTU

City of Santa Clarita SEA

Natural Park Area

SANTA CLARITA PARKWAY

Santa Clara River

SOLEDAD CANYON ROAD

LEGEND

Project Boundary

City of Santa Clarita Significant Ecological Area (SEA)

800' 400' 0 800'

SCALE IN APPROXIMATE FEET

FIGURE **4.6-6**

City of Santa Clarita Significant Ecological Area (SEA)

112-16•10/03

(2) Thresholds Specific to City of Santa Clarita

(a) Santa Clarita General Plan

Several policies within the City's General Plan provide for the preservation and protection of sensitive habitat and wildlife areas. In particular, Policy 5.3 of the General Plan provides for the utilization of creative site planning to avoid and minimize disturbance to Significant Ecological Areas and other sensitive habitat. Policy 3.5 of the Open Space and Conservation Element recommends that only passive and compatible recreation uses be allowed within a SEA. Policy 5.8 provides for the preservation and protection of designated wildlife movement corridors from undue encroachment and disruption. Policy 3.10 of the Open Space and Conservation Element also provides for the preservation of wildlife corridors through the use of adequate setbacks. The General Plan also discusses the provision for trails. Please see **Section 4.7, Land Use**, for a complete discussion regarding the project's consistency with the Open Space and Conservation and Parks and Recreation Elements Goals and Policies, concerning resource protection and trails.

(b) City Oak Tree Ordinance

City of Santa Clarita Ordinance No. 89-10, as well as the Oak Tree Preservation and Protection Guidelines developed by the City, provide for the protection of oak trees within the City limits. This ordinance establishes that it shall be the policy of the City to require the preservation of healthy oak trees and that removal, cutting, pruning, relocation, damage, or encroachment into the protected zone of any oak trees measuring six inches or larger in circumference (at DBH) on public or private property can only be done in accordance with a valid oak tree permit issued by the City. Impacts to trees that fall within the criteria set by the ordinance are considered potentially significant.

An oak tree report was prepared in May 2003, and a subsequent addendum dated September 18, 2003, for oak trees within the project site. This report is included in its entirety in **Appendix 4.6**.

(3) Additional Area-Specific Thresholds

Significance criteria defined in the CEQA Guidelines address relatively broad biological issues that are not always specific to the unique biological resources of a given site or location. As such, an EIR can refine the criteria used to define significance based on the unique conditions that occur on a project site

when particular circumstances justify criteria more stringent than, or in addition to, thresholds of significance already in place. In the case of this project, the protection of riparian resources and the riparian/upland ecotone was considered an important issue.

The structural diversity of the various riparian and aquatic vegetation communities in the Santa Clara River drainage provides habitat for a large variety of plant and wildlife species, including a number of special-status species. Each of these species, particularly wildlife, has differing home range and natural history requirements. While some species are riparian-obligate (i.e., satisfy their forage, cover, and breeding habitat needs almost entirely within riparian vegetation communities), other species utilize both the riparian habitat as well as adjacent upland vegetation as part of their home range. A number of studies have found that even the more riparian-dependent wildlife species also require adjacent upland habitats to meet home range foraging and breeding requirements (Doyle 1990; Schaefer and Brown 1992), indicating that the overall viability of riparian associated wildlife species extends beyond the riparian canopy and includes adjacent upland habitat.

However, the characteristics, quality, and extent of upland habitat that is necessary to protect the diversity of wildlife species dependent upon riparian habitat may differ depending on the geographic region and the particular requirements of the riparian species to be protected. Previous studies have recommended preserving (and restoring, if necessary) a minimum of at least 100 feet of high quality upland habitat (upland preserve zone), as measured from the outer edge of the riparian habitat associated with the Santa Clara River ("resource line"), to adequately provide for the foraging and breeding habitat requirements of riparian-associated wildlife and to maintain species diversity within the riparian ecosystem, inclusive of the riparian/upland ecotone (Impact Sciences 1997). No development or recreational uses would be appropriate in this upland habitat. Because most of the upland habitat currently adjacent to the riparian edge is comprised of agricultural and disturbed/ruderal fields and is, therefore, considered of relatively low biological value, the applicant would need to revegetate these areas with appropriate native upland habitat (i.e., Great Basin sage scrub, coastal sage scrub, or scrub/grassland mix) that either historically occurred in the area or that would be of higher biological value to riparian and upland wildlife species.

Consequently, the following additional threshold has been established for this project:

- Preservation of less than 100 feet of high quality upland vegetation (after planting), as measured from the outer edge of the riparian resource associated with the Santa Clara River to adjacent urban

development, will be presumed to be a significant impact on the riparian ecosystem associated with the Santa Clara River.

c. Construction Impacts

The impacts associated with the NRMP activities, including those that would occur on the Riverpark site, were addressed, mitigated and permitted through the EIS/EIR prepared by ACOE and CDFG for the NRMP. To minimize impacts of the project on biological resources, the applicant has proposed that the below measures from the NRMP be incorporated into the project design:

a) Construction activities in the riverbed shall be restricted to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base of the rip-rap gunite or soil cement bank protection from where it intercepts the river bottom; (2) 100 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letter submitted to the ACOE and CDFG for individual project approval. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas.

b) All native riparian trees in temporary construction areas with a 4-inch dbh or greater shall be replaced at a 3:1 ratio using 1 to 5 gallon container plants in the temporary construction areas in the winter following the construction disturbance. The growth and survival of the replacement trees shall meet the performance standards specified in later mitigation measures. In addition, the growth and survival of the planted trees shall be monitored for five years in accordance with the methods and reporting procedures specified in a later mitigation measure.

c) Native vegetation within temporary construction areas shall be mulched and spread over the temporary impact areas once construction is completed in order to facilitate revegetation. Areas temporarily disturbed by construction activities shall also be weeded annually, as needed, for up to five years following construction. These areas shall be annually monitored for five years after construction to document colonization by weeds and native plants. Weeds shall be removed by hand, an approved herbicide application, and/or by equipment. In the event that native plant cover does not reach 50 percent of the pre-construction native plant cover within three years, the applicant shall revegetate the temporary construction area in accordance with the methods specified in later mitigation measures. Annual monitoring reports on the status of the natural recovery of temporarily disturbed areas shall be submitted to the ACOE and CDFG as part of the Annual Mitigation Status Report and Mitigation Accounting Form to be submitted to the ACOE and CDFG by April 1st of each year.

d) Permanent removal of riparian habitats shall be replaced by creating riparian habitats of similar functions and values in the project area. Wetland restoration shall be in-kind and at a 1:1 replacement ratio [except as indicated in Item f)] below for new habitat installed two years in advance of the removal of habitat at the construction site. If replacement habitat cannot be installed two years in advance of the project, the ratios listed below will apply. As described in Item c), lower replacement ratios may be appropriate if a ACOE-approved hydrogeomorphic method (HGM) of assessing replacement ratios indicates lower ratios would ensure replacement of habitat values and functions.

Timing of Mitigation	Value of Habitat Affected*	Proposed Ratio Required for Revegetation
Habitat installation completed 2 years or more prior to construction impact	N/A	1:1
Habitat installation completed less than 2 years in advance of impact	Low Medium High	1:1 2:1 3:1

* High (NRMP EIS/EIR mapping units 1, 2, 3, 6), Medium (NRMP EIS/EIR mapping units 4, 7), Low (NRMP EIS/EIR mapping units 5, 8)

e) Creation of new riparian habitats shall occur at suitable sites in or adjacent to the watercourses included in the NRMP. Habitat restoration sites in the riverbed shall only be located in areas where the predominant habitats present are dry open floodplain, weedy herbaceous, or their functional equivalent. The highest priority habitat restoration sites should be new riverbed areas created during the excavation of uplands for bank protection. Restoration sites may also occur at locations outside the riverbed where there are appropriate hydrologic conditions to create a self-sustaining riparian habitat and where upland and riparian habitat values are absent or very low. All sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian habitat. Candidate restoration sites shall be selected by the applicant described in the Annual Mitigation Status Report that will be submitted to the ACOE by April 1st of each year. Sites will be approved when restoration plans are submitted to the ACOE and CDFG as part of the Verification Request Letters submitted for individual projects, or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.

f) Replacement habitat shall be designed to replace the functions and values of the habitats being removed. At this time, the replacement habitat shall be restored in accordance with the acreage replacement ratios described in Item a). The replacement habitats shall have similar dominant trees and understory shrubs and herbs as the affected habitats. In addition, the replacement habitats shall be designed to replicate the density and structure of the affected habitats once the replacement habitats have reached mature status. Replacement ratios that are lower than those listed in Item a) may be used if a ACOE-approved HGM is applied in which habitat functions and values of both the affected habitat and the replacement habitat are quantified.

g) Average plant spacing shall be determined based on an analysis of habitats to be replaced. Typical plant spacing is presented below for use in developing willow-cottonwood woodland habitat as an example only. The applicant shall develop similar tree spacing specifications for habitats to be restored. Plant spacing specifications shall be reviewed and approved by the ACOE and CDFG when restoration plans are submitted to the ACOE as part of the Verification Request Letters submitted to the ACOE and CDFG for individual projects or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.

Species	Average Plant Spacing (feet)	Height (feet)	
		After 3 years	After 5 years
Arroyo willow	8	10	15
Black willow	8-10	12	18
Sandbar willow	8	4	6
Red willow	8	9	15
Cottonwood	20	7	12

h) Each tree and shrub species used in restoration shall have a minimum of 80 percent survival after three years and 70 percent survivorship after five years. Key indicator tree species to be used in the riparian restoration program shall achieve a minimum growth at the end of three years and five years as described above in Item e). Performance standards for cover shall be developed for each

individual habitat type being created, based on the observed natural cover in undisturbed habitats in the project area. These standards shall be approved by the ACOE and CDFG after they have reviewed the Annual Mitigation Status Report and Mitigation Accounting Form Minimum growth, survivorship, and cover performance at the mitigation sites shall be measured based on random samples taken during years three and five at each individual mitigation site, or at other sampling intervals if the ACOE' hydrogeomorphic methodology is used by the applicant.

i) If the minimum growth, survivorship, and/or cover are not achieved at the time of the three and five year evaluations, then the applicant shall be responsible for taking the appropriate corrective measures as to achieve the specified growth, survivorship, and/or cover criteria. The applicant shall be responsible for any costs incurred during the revegetation or in subsequent corrective measures. If acts of God (flood, fires, or drought) occur after the vegetation has met the three-year criteria for growth, survival, and cover, the applicant will not be responsible for replanting damaged areas. If these events occur prior to the plants meeting the three-year criteria, the applicant shall be responsible for replanting the area one time only.

j) The applicant shall be responsible for weeding all restoration sites to prevent an infestation of non-native weeds for a period of five years after the initial habitat restoration, regardless of the success of the planted species. The cover of non-native plant species at the mitigation sites shall not exceed 10 percent at any time, within this five-year period.

k) Temporary irrigation shall be installed, as necessary, for plant establishment. Irrigation shall continue as needed to meet the three- and five-year performance criteria regarding survivorship and growth. Irrigation shall be terminated in the winter to provide the least stress to plants. Removal of the irrigation system shall occur in conjunction with an appropriate "weaning" procedures to minimize plant stress. Irrigation shall be terminated at the earliest opportunity after achieving the five-year criteria.

l) As an alternative to the restoration of habitats to compensate for permanent removal of riparian habitats, the applicant (at the discretion of the ACOE and CDFG) may remove exotic plant species from the project area in locations: (1) where there is an infestation of exotics such as *Arundo donax* such that the natural habitat functions and values are substantially degraded and at risk, and where the cover of exotics is equal to or exceeds 25 percent of the ground; or (2) other areas where exotic removal would be strategic in a watershed approach to weed management, as determined by the ACOE and CDFG. The weed removal sites shall be selected in logical manner to ensure that the eradication of weeds from specific sites will contribute to the overall control of exotics in the NRMP watercourses. Removal areas shall be kept free of exotic plant species for five years after initial treatment. In addition, native riparian vegetation must become established through natural colonization and meet the revegetation plant cover goals established by the ACOE and CDFG under Item f) after five years.

m) The removal program shall utilize methods and procedures approved by the ACOE and CDFG to remove exotics, including but not limited to, mechanical equipment in specific areas, handcutting, and the application of herbicides to stumps. Exotic plant species removal credit will be given as shown below (except when weed removal is used to mitigate for loss of habitat for sensitive riparian bird species where the ACOE and CDFG may require higher ratios). Weed eradication plans shall be submitted to the ACOE and CDFG for approval as part of the Verification Request Letters submitted to the ACOE and CDFG. The plans shall describe the proposed methods and the conditions of the site to be treated. A monitoring program shall be implemented to document the effectiveness of the removal and the natural establishment of native vegetation in the weeded area.

	Mitigation Ratios for Exotic Removal	
Value of Riparian Habitat to be Removed	**2 Years in Advance**	**< 2 Years in Advance**
High (NRMP EIS/EIR mapping units 1, 2, 3, 6)	3:1	4:1
Medium (NRMP EIS/EIR mapping units 4, 7)	2:1	3:1
Low (NRMP EIS/EIR mapping units 5, 8)	1:1	2:1

n) Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, and/or bank protection, all construction sites and access roads within the riverbed, as well as all riverbed areas within 300 feet of the construction site and access road, shall be inspected by a qualified biologist for the presence of arroyo toads, unarmored three-spine stickleback and arroyo chub. The ACOE and the CDFG shall be notified of the inspection and shall have the option of attending. If either agency is not represented, the biologist shall file a written report of the inspection with the agency not in attendance within 14 days of the survey and no sooner than 30 days prior to any construction work in the riverbed.

o) Construction work areas and access roads shall be cleared of the species listed above immediately before the prescribed work is to be carried out, immediately before any equipment is moved into or through the stream or habitat areas, and immediately before diverting any stream water. The removal of such species shall be conducted by a qualified biologist using procedures approved by the ACOE and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas. A plan to relocate these species shall be submitted to the ACOE and CDFG for review and approval no later than 30 days prior to construction. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.

p) All stream flows traversing a construction site or temporary access road shall be diverted around the site and under access roads (using a temporary culverts or crossings that allow fish passage). A temporary diversion channel shall be constructed using the least damaging method possible, such as blading a narrow pilot channel through an open sandy river bottom. The removal of wetland and riparian vegetation to construct the channel shall be avoided to the greatest extent feasible. The temporary channel shall be connected to a natural channel downstream of the construction site prior to diverting the stream. The integrity of the channel and diversion shall be maintained throughout the construction period. The original stream channel alignment shall be restored after construction, provided suitable conditions are present at the work site after construction. A temporary stream diversion plan shall be included in the Verification Request Letters submitted to the ACOE and CDFG. This procedure can only be implemented if: (1) there are assurances by the applicant that the fully protected unarmored three-spine stickleback will not be taken or possessed; or (2) USFWS personnel or their agents implement this measure.

q) A qualified biologist shall be present when any stream diversion takes place, and shall patrol the areas both within, upstream, and downstream of the work area to rescue any species stranded by the diversion of the stream water. Species that are collected shall be relocated to suitable downstream of the work area. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.

r) The removal of any riparian habitat suitable for breeding, nesting, foraging, and temporary usage during migration by special-status species from the project footprint (i.e., boundaries of temporary and permanent impacts) shall be mitigated through the creation or enhancement of similar riparian habitat at an approved mitigation site, or by the removal of exotic species from an area of existing similar habitat. The requirement for replacing suitable habitat by either creating new habitat or removing exotic species from existing habitat shall follow the replacement ratios and timing requirements in later mitigation measures. Habitat to be created to mitigate for the loss of riparian habitat shall be designed specifically to replicate the appropriate species mixture and vegetative structure for these species. Existing habitat to be weeded as mitigation for the loss of riparian habitat must be located adjacent to similar habitat that is to be replaced and infested with invasive weeds. The first priority for habitat mitigation for sensitive bird species will be the creation or restoration of habitat rather than weed removal. The final habitat replacement or exotic removal plans for impacts to these types of habitats shall be reviewed by the ACOE and CDFG.

s) Beginning 30 or more days prior to the removal of any suitable riparian habitat that will occur during the riparian bird breeding and nesting season of March 15th through September 1st, the applicant shall arrange for weekly bird surveys to detect the above riparian bird species in the habitats to be removed, and any other such habitat within 300 feet of the construction work areas. The surveys

shall be conducted by a qualified biologist using CDFG and/or USFWS survey protocols. The surveys shall continue on a weekly basis, with the last survey being conducted no more than 7 days prior to the initiation of construction work.

t) In the event that a special-status species is observed in the habitats to be removed or in other habitats within 300 feet of the construction work areas, the applicant has the option of delaying all construction work in the suitable habitat or within 300 feet of the suitable habitat until after September 1st, or continuing the surveys in order to locate any nests. If an active nest is found, clearing and construction within 300 feet of the nest shall be postponed until the nest is vacated and juveniles have fledged, and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the ecological sensitivity of the area.

u) Locating and determining the status of a nest shall be performed in accordance with approved procedures by the USSFWS and CDFG. The ACOE and CDFG shall be notified at least 14 days prior to the first scheduled survey and shall have the option of attending. Results of the surveys, including surveys to locate nests, shall be provided to the ACOE and CDFG no later than 5 days prior to construction. The results shall include a description of any nests located and measures to be implemented to avoid nest sites. No surveys will be necessary if the work is completed outside of the riparian bird breeding and nesting season, i.e., from September 1st through March 15th.

v) Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to capture and relocate individual San Diego and California horned lizard, silvery legless lizard, coastal western whiptail, pallid bat, San Diego black-tailed jackrabbit, and San Diego desert woodrat in order to avoid or minimize take of these sensitive species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Pre-construction surveys shall only be conducted in areas dominated by Riversidian coastal sage scrub or coastal sage – chaparral scrub or if construction will occur within 300 feet of native upland habitat. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

w) Construction activities shall be limited to the following areas of temporary disturbance: (1) an 85 foot-wide zone that extends into the river from the base of the rip-rap or gunite bank protection where it intercepts the river bottom; (2) 60 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letters for individual projects that are submitted to the CDFG and ACOE. Any variation from these limits shall be noted, with a justification for a variation. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed, and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas. The boundaries of the construction site and any temporary access roads within the riverbed shall be marked in the field with stakes and flagging. No construction activities, vehicular access, equipment storage, stockpiling, or significant human intrusion shall occur outside the work area and access roads.

x) Equipment shall not be operated in areas of ponded or flowing water unless there are no practicable alternative methods to accomplish the construction work, and only after prior approval by the CDFG and the ACOE. Approval shall be acquired by submitting a request to CDFG and ACOE no later than 30 days prior to construction. The request must contain a biological evaluation demonstrating that no sensitive fish, amphibians, and/or reptiles are currently present, or likely to be present during construction, at the construction site or along access roads.

y) Temporary sediment retention ponds shall be constructed downstream of construction sites that are located in the riverbed under the following circumstances: (1) the construction site contains flowing or ponded water that drains off site into the undisturbed streamflow or ponds, as allowed for certain areas under Item a) above; or (2) streamflow is diverted around the construction site, but the work is

occurring in the period November 1st through April 15th when storm flows could inundate the construction site. The sediment ponds shall be constructed of riverbed material and shall prevent sediment-laden water from reaching undisturbed ponds or streamflows. To the extent feasible, ponds shall be located in barren or sandy river bottom areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-construction grades and substrate conditions within 30 days after construction has ended at that particular site. The location and design of sediment retention ponds shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared by the applicant for all construction activities that require a NPDES General Construction Activity Storm Water Permit.

z) Installation of bridges, culverts, or other structures shall not impair movement of fish and aquatic life. Bottoms of temporary culverts shall be placed at or below channel grade. Bottoms of permanent culverts shall be placed below channel grade.

aa) Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur.

bb) Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 Permit or 1603 Agreement.

cc) Silt settling basins, installed during the construction process, shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.

dd) If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-project topographic conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-project grade, to the extent practical, unless it is represents a wetland restoration area.

ee) Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.

ff) Staging/storage areas for construction equipment and materials shall be located outside of the ordinary high water mark.

gg) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

hh) Stationary equipment such as motors, pumps, generators, and welders which may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks shall be allowed in the riverbed.

ii) The applicant shall use best efforts to ensure that no debris, bark, slash sawdust, rubbish, cement or concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature, shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the permit. When construction operations are completed, any excess materials or debris shall be removed from the work area.

jj) No equipment maintenance shall be done within or near any stream where petroleum products or other pollutants from the equipment may enter these areas with stream flow.

kk) If water diversions are required to perform work within the Santa Clara River, the applicant shall utilize provisions for the protection of arroyo toad, unarmored three-spine stickleback, arroyo chub, Santa Ana sucker, southwestern pond turtle and two-striped garter snake, including securing appropriate Endangered species permits. Those provisions are as follows:

- Prior to initiating construction, the site shall be inspected by a qualified biologist for the presence of the species listed above. The ACOE and the Department will be notified of the inspection and will have the option of attending. If either agency is not represented, the biologist will file a written report of the inspection with the agency not in attendance within ten days of completion of the survey. If any of the species listed above are present, the following conditions will apply:

  - The site shall be surveyed and cleared of the species listed above immediately before the work is to be carried out, immediately before any equipment is moved into or through the stream, and immediately before diverting any stream water. Any species found shall be moved out of the construction area and replaced in the stream in a manner or place to assure their survival.

  - Blocking nets, or fences with 1/4 inch square mesh, 18 inches high and buried 6 inches, shall be placed upstream and downstream of the work area to assure that none of the species move into the area.

ll) A qualified biologist will be present at the moment any stream diversion takes place and will patrol the areas, both within and downstream of the work area, to rescue any species stranded by diversion of stream water. If the possibility exists that additional downstream sections of the stream will be dewatered, additional biologists will be available for downstream patrol. This rescue patrol will continue until all dewatered portions of the stream are determined to be cleared.

mm) Once the construction site or a portion of the site and work area boundary has been determined to contain none of the species listed above, the site shall be fenced with construction fencing along the riverside- and construction personnel and equipment will not enter the river beyond the fence.

nn) A water control system will be installed to intercept stream flow upstream of the site and carry it around the site. The system will be completed before turning water into it. The process of turning water into the bypass system shall be done so as to minimize sediment movement.

- The Operator will use best efforts to insure that no debris, bark, slash, sawdust, rubbish, cement, concrete, or washings thereof, oil or petroleum products, or other organic material from construction or associated activity will be allowed to enter into or be placed where it may be washed by rainfall or runoff into the river. Sediment management best management practices shall be used during construction.

- Impacts to Endangered species may require appropriate Endangered species permits.

oo) Pilot channels constructed to divert flows around work areas shall be sized to maintain existing water velocities, with wide, shallow channels being utilized. The channel should be kept as small as possible, extending no more than 25 feet upstream and downstream of the work area. Construction of pilot channels should start downstream. Once water is diverted into the new channel, the original channel should be visually inspected and any stranded fish shall be removed and returned to the water downstream of the diversion. Once the diversion is no longer needed, the area shall be restored as closely as practical to its original configuration.

pp) The use of a pump to divert flows around a work site is also acceptable. The pump must have at least a 1/4-inch screen. Water should be discharged downstream, within 25 feet of the work area. Any dams installed across flowing water for the diversion shall be removed upon completion of construction and the area shall be restored as closely as practical to its original configuration.

qq) The Operator shall utilize a Maintenance Notification and Emergency Maintenance Notification forms (Exhibits 1 and 2 of the NRMP) to alert the ACOE and the Department of work to be

performed. In non-emergency situations, the form should be filled out and faxed or mailed to the ACOE and the Department at least two weeks in advance of the work. If the work may adversely impact Endangered species, the ACOE, the Department and LACDPW shall meet in the field to resolve the issue. LACDPW may contact the ACOE and the Department to identify areas of potential Endangered species habitat. If the ACOE and the Department believe the work may adversely impact Endangered species or its habitat resources or the LACDPW wishes to consult with the ACOE and the Department, a field meeting will be scheduled. At the field meeting, the ACOE and the Department will provide information regarding Endangered or Threatened species that could be impacted by the project. If take of an Endangered species will occur, the appropriate Endangered species permits will be required. To the extent that a USFWS Section 7 and a CDFG Section 2081 Memorandum of Agreement have been completed for the species present, the mitigation measures shall be implemented and construction may proceed as outlined in these documents.

rr) The notification is provided to demonstrate consistency with the policies of the NRMP. In non-emergency situations, the ACOE and the Department must respond to the notification within 20 working days if they believe that the work is inconsistent with the NRMP, at which time a field meeting will be scheduled to review the site and determine how the work may proceed. If the ACOE and the Department do not respond within 20 working days, the work shall proceed as described in the notification. However, appropriate Endangered species permits will be required for impacts to Endangered species.

It should be noted that some of the activities permitted through the NRMP on the Riverpark site have been scaled back as part of the Riverpark project, and those improvements would now have less of an impact than would have occurred if constructed as described in the NRMP. More specifically, in the area of A1, the "top of bank stabilization" proposed with the project has been set back anywhere from 50-320 feet from where the NRMP permitted the stabilization. Additionally, the Riverpark project does not include bank stabilization from the eastern terminus of the "toe protection" to the western bridge abutment for the Newhall Ranch Road/Golden Valley Road Bridge. Under the NRMP, bank stabilization was permitted in this area. Finally, the project does propose two encroachments beyond the bank stabilization line permitted by the NRMP. One is necessary to save a Heritage oak tree (Tree No. 74) and encroaches up to 80 feet beyond the NRMP bank stabilization line. The second encroachment occurs at the Newhall Ranch Road/Golden Valley Road Bridge and is necessary to accommodate a change in the alignment for the bridge from what was shown in the NRMP and to accommodate a trail connection from the Class 1 bike trail on Newhall Ranch Road to the Santa Clara River Trail. The top of bank stabilization in this area encroaches up to 230 feet from what was shown and permitted in the NRMP. It should also be noted that while the NRMP addresses many of the biological impact issues addressed in this section, the City of Santa Clarita is conducting its own impact analysis of this project, which includes floodway and erosion protection, through this EIR.

The following section focuses on the effects of implementation of the proposed project on plant communities, common and special-status plant and wildlife species, special-status habitats, and wildlife movement corridors and whether these effects exceed the thresholds of significance. Because most

biological resources, particularly plants and wildlife, are dependent upon the condition, extent, and character of specific ecosystems and habitat types, impacts on these resources are generally discussed in terms of the effect of project-related activities on natural habitat areas, (i.e., on plant communities). However, direct impacts with respect to specific plant and wildlife resources (e.g., active nests, dens, and individual plants and animals) are also evaluated and discussed when impacts on these resources, in and of themselves, could be considered significant or conflict with local, state and federal statutes or regulations.

The principal direct impact of implementation of the proposed project is to convert approximately 317 acres of the project site (about 46 percent) from an undeveloped to a developed and partially restored condition. The approximate acreage and percentage of each of the vegetation/habitat types expected to be disturbed on the site as a result of project implementation are provided in **Table 4.6-3**, **Riverpark Habitat Acreages and Impacts**, and are described below. Only those plant communities directly impacted are discussed.

(1) Plant Communities

(a) Disked Field

The direct impact of implementation of the proposed project on this habitat type is to convert 83.5 acres to residential use and 1.2 acres to graded slopes. This combined loss represents about 90.7 percent of this habitat type on the site.

The existing habitat is highly disturbed by on-going disking activities. Consequently, this habitat type is considered of low biological resource value. Although there are areas of ruderal vegetation, non-native, and native grasses for a portion of the year, there is no available habitat on the site for animals to nest, roost or find shelter and little opportunity for insectivores to forage. Because of the low biological value of these disked areas, and because no special-status resources occur in these areas, the loss of this land use would not be a significant impact.

Table 4.6-3
Riverpark Habitat Acreages and Impacts

Vegetation Type	Vegetation Map ID	Existing Area (acres)	Temporary Project Impact Area (acres) due to Road/Bridge Construction	Temporary Project Impact Area (acres) due to Trail Construction	Temporary Project Impact Area (acres) due to Commercial Development	Temporary Project Impact Area (acres) due to Residential Development	Temporary Project Impact Area (acres) due to Graded Open Spaces	Temporary Project Impact Area (acres) Total	Permanent Project Impact Area (acres) due to Road/Bridge Construction	Permanent Project Impact Area (acres) due to Trail Construction	Permanent Project Impact Area (acres) due to Commercial Development	Permanent Project Impact Area (acres) due to Residential Development	Permanent Project Impact Area (acres) due to Graded Open Spaces	Permanent Project Impact Area (acres) Total	Undisturbed Area (acres) w/ Project
Disked Field	DF	92	0.1	0	0	0	1.2	1.3	18.2	3.2	0	47.7	14.5	83.6	7.2
Non-native Grassland and Non-native Grassland with Scattered Shrubs	NNG and NNGW/ SHRUBS	80	5.2	0	0.3	1.0	5.1	11.6	24.3	0.2	1.8	20.7	5.7	52.7	15.7
Planted Sage Scrub	PS	37.0	0	0	0	0.3	0.8	1.1	14.1			6.2	2.5	22.8	13.1
Riversidian Sage Scrub	RSS	143.4	2.9	0.1	0	1.6	5.5	10.1	20.6	0.6	0	52.5	21.8	95.5	37.8
Chamise Chaparral	CHC	2.2	0	0	0	0.1	0	0.1	0	0	0	1.9	0	1.9	0.2
Coastal Sage - Chaparral Scrub	SCS	8.6	0	0	0	0.4	0.3	0.7	0.7	0.1	0	1.5	1.6	3.9	4
Holly-leafed Cherry Scrub	HLCS	12.9	7.6	0	0	0.7	0	8.3	1.7	0	0	1.2	0	2.9	1.7
Mule Fat Scrub	MFS	1.2	0	0	0	0	0	0	0.3	0	0	0.8	0	1.1	0.1
Southern Willow Scrub	SWS	1.9	0	0	0	0.1	0	0.1	0.3	0	0	0.8	0.3	1.4	0.4
Southern Riparian Scrub	SRS	161.4	1.7	0	0	0	5.7	7.4	5.3	4	1.1	0	11	21.4	132.6
Riverwash	RW	176.2	6.7	0.1	0	0	3.5	10.3	1.3	0.3	0	0	1.3	2.9	163
Mixed Oak Woodland	MOW	2.3	0	0	0	0	0.1	0.1	0	0	0	0.1	0.3	0.4	1.8
Developed Area with Mixed Trees	MT	8.3	0	0	0	0	1.9	1.9	0	0	0	0	4	4	2.4
TOTALS		727.4	24.2	0.2	0.3	4.2	24.1	53	86.8	8.4	2.9	133.4	63	294.5	380

(b) Non-Native Grassland and Non-native Grassland with Scattered Shrubs

The direct impact of implementation of the proposed project to these two habitat types is to convert 38.8 acres to residential and 7.8 acres to graded slope areas. This combined loss represents about 76.4 percent of these habitat types on the site.

Due to the severely disturbed and fragmented nature of the grassland on the site and its dominance by non-native species, most of the grassland vegetation on the site was considered of relatively low botanical value at the time of the general field surveys.

Peirson's morning glory (*Calystegia peirsonii*) and Palmer's grappling hook (*Harpagonella palmeri*) were identified in two locations in the non-native grassland vegetation during focused surveys. These species are listed by CNPS as List 4 species (a "watch" list to which vulnerability to threats are considered low). An estimated 16 of the 29 locations (approximately 3,900 of the estimated 6,920 number of plants) within the non-native grassland habitat will be impacted. No other special-status plant or wildlife species are known to occur within the non-native grassland community on the site. Various raptor species may forage over these grassland communities on the site in search of rodents or other prey. However, no active raptor nests were observed on the site or immediate vicinity that would rely on these particular on-site communities as an important source of prey to support a nest. In addition, no raptor species residing in the Santa Clarita region forage exclusively on grassland habitat; most raptor species known to occur in this area forage over a variety of habitat types in order to increase their chances to obtain prey.

Because the remaining grassland areas on the project site do not currently support populations of special-status wildlife species and because of the low sensitivity status of Peirson's morning glory and Palmer's grappling hook, the loss of these plants would not be considered a substantial adverse effect on a special-status species. Also, the loss of grassland habitat would not substantially affect raptor species that potentially utilize this community as foraging habitat. Because of the relatively low botanical value of this community on the site, and because non-native grasslands are fairly common in the region, the permanent loss of 67.9 acres of non-native grassland will not substantially affect special-status plant or wildlife resources and will not cause a population of plant or wildlife species to drop below self-sustaining levels. Therefore, the loss of this habitat would not be a significant impact.

(c) Planted Sage Scrub

The impact of implementation of the proposed project on this habitat type would be to permanently convert approximately 22.8 acres for the construction of the extension of Newhall Ranch Road and

approximately 1.1 acres for graded slopes. This combined loss represents about 64.6 percent of this habitat type on the site. This habitat type has little diversity due to the relatively few species present and no established vegetative understory. Therefore, this plant community on the project site currently has relatively low biological value.

Because this community on the project site does not currently support populations of special-status plant or wildlife species, and because of the relatively low biological value of this community on the site, the permanent loss of 24 acres of planted sage scrub will not substantially affect special-status resources and will not cause a population of plant or wildlife species to drop below self-sustaining levels. Therefore, the loss of this habitat would not be a significant impact.

(d) Riversidian Sage Scrub

Implementation of the proposed project will result in the permanent loss of approximately 95.5 acres of Riversidian sage scrub due to residential development and approximately 10.1 acres to graded slopes. This loss represents approximately 73.6 percent of the total Riversidian sage scrub vegetation present on the site.

The various densities of Riversidian sage scrub vegetation on the site provide habitat for a variety of plant and animal species including several special-status species. Five special-status plants (slender mariposa lily, Plummer's mariposa lily, dune larkspur, Peirson's morning-glory, Palmer's grappling hook) and two special-status bird species (southern California rufous-crowned sparrow and loggerhead shrike) were observed within portions of the Riversidian sage scrub on the project site. The conversion of Riversidian sage scrub on the site will result in the loss of populations of the five special-status plant species. Specific impacts to these special-status plant species are discussed later in this section.

Most of the Riversidian sage scrub patches were in relatively good condition at the time of the on-site surveys, with the exception of an herbaceous understory that was partially comprised of non-native species; therefore, this habitat on the site is considered of moderate to high biological value. However, because this habitat type is not considered as special-status by CDFG, and because the loss of Riversidian sage scrub would not, therefore, be considered a substantial adverse effect on a sensitive natural community identified by the DFG or USFWS, the loss of the Riversidian sage scrub would not be considered a significant impact.

(e) Chamise Chaparral

The direct impact of implementation of the proposed project on chamise chaparral vegetation is to permanently convert 1.9 acres of this habitat to residential and approximately 0.1 acre to graded slopes. This loss represents approximately 90.9 percent of the total chamise chaparral vegetation present on the site. No special-status plant or animal species were observed within chaparral vegetation during site surveys. Typically, chamise chaparral habitat is comprised of more than one plant species. Since the chaparral present on site is nearly monotypic (comprised of a single species), consisting almost exclusively of chamise, and because of the relatively small amount on the site, this habitat type is considered to be of low to moderate biological value.

Because no special-status species were observed in this habitat type during surveys, because chaparral is not considered by resource agencies as sensitive or declining, and because the amount of habitat affected is small, the loss of approximately 2 acres of chaparral is not considered a substantial loss of wildlife habitat and will not significantly reduce the number or restrict the range of a special-status species. Therefore, this loss is not considered a significant impact.

(f) Coastal Sage Chaparral Scrub

Implementation of the proposed project will result in the permanent loss of 3.9 acres of this habitat type present on the site to residential and 0.7 acre to graded slope. This loss represents approximately 53.5 percent of this habitat type present on the site. The coastal sage chaparral scrub vegetation provides habitat for a variety of plant and animal species; one individual slender mariposa plant, a special-status species, was observed within this community. The slender mariposa lily is not considered a common understory component of coastal sage chaparral scrub, but where it occurs it is typically found within scrub habitat types, depending on soil conditions. Most of the coastal sage chaparral scrub patches were in relatively good condition at the time of the on-site surveys.

Because coastal sage chaparral scrub is not considered by resource agencies as sensitive, the loss of approximately 3.9 acres of this plant community on the site is not considered a substantial loss of wildlife habitat and will not significantly reduce the number or restrict the range of a special-status species. Therefore, this loss is not considered a significant impact. The loss of special-status species, including the slender mariposa lily, as a result of the conversion of coastal sage chaparral scrub on the site are addressed later in this section.

(g) Holly-leaf Cherry

The direct and permanent loss of approximately 1.2 acres of holly-leaf cherry scrub to residential, 1.7 acres to road and bridge construction and 0.7 acre to graded slopes would occur with the implementation of the project. This combined loss represents approximately 67.9 percent of the holly-leaf cherry scrub on the site.

Because holly-leaf cherry scrub on the project site is not known to support special-status plant or wildlife species, and because this plant community is not considered to be sensitive by resource agencies, the loss of 3.6 acres of this habitat type is not considered a significant impact.

(h) Mulefat Scrub

Implementation of the proposed project will result in the permanent loss of 0.8 acre of this habitat type present on the site to residential and 0.3 acre to the construction of road and bridges. This loss represents approximately 91.2 percent of this habitat type present on the site. This habitat type is located in five locations along the edge of the Santa Clara River near the western end of the project site. All of the mulefat scrub on the site consists of small, degraded patches ranging in size from 0.1 to 0.4 acre. No special-status plants or wildlife were observed on the site associated with this habitat type. Consequently, the mulefat scrub on the site is considered of relatively low biological value.

Because of the relatively low biological value of the mulefat scrub on the site, and because of the overall small amount of habitat that will be removed relative to existing habitat within the region, the loss of 1.2 acres of mule fat scrub on the project site is not considered a substantial loss of wildlife habitat and will not substantially affect special-status species. Therefore, this loss is not considered a significant impact.

(i) Southern Willow Scrub

The direct and permanent loss of approximately 1.1 acres of southern willow scrub to residential, 0.3 acre to construction of road and bridges and 0.1 acre to a graded slope would occur with the implementation of the project. This loss represents about 78.9 percent of the southern willow scrub on the site. During the field investigation, the southern willow scrub habitat appeared to be in a healthy mature condition; therefore, it is considered of moderate to high biological value.

Southern willow scrub on the project site is not known to support special-status plant or wildlife species. Due to the sensitivity status of this community by the state, the fact that the majority of this vegetation

type will be removed due to the development of the residential area, and because this habitat is under the jurisdiction of the ACOE and/or CDFG, the loss of this habitat type on the site would be considered a potentially significant impact. However, the project design will incorporate NRMP measures d) through m) above. All riparian vegetation areas that will be temporarily disturbed as a result of grading, bank stabilization, or other construction activities will be planted and restored pursuant to NRMP measures a) through c) above. With these measures incorporated into the project design, the loss of this habitat type on the site is not considered a significant impact.

(j) Southern Riparian Scrub

The direct and permanent loss of approximately 4 acres of southern riparian scrub would occur due to the construction of the pedestrian and equestrian trails, 5.3 acres to construction of road and bridge, 1.1 acres to commercial development, 11.0 acres to graded open space. This loss represents about 13.3 percent of the southern riparian scrub on the site. An additional 5.7 acres would be temporarily impacted during the construction phase of the buried bank stabilization and 1.7 acres due to road and bridge construction. The project design proposes to re-vegetate these areas for erosion control purposes (please see the heading **5, Mitigation Measures**, for a discussion on how this temporary impact will be mitigated to a level that is less than significant.) The majority of this habitat that would be permanently removed occurs along the western portion of the site in Area A1.

The project design proposes to preserve in perpetuity approximately 133.6 acres of southern riparian scrub on the site. This majority of the portion of the project site that occurs within the Santa Clara River, including areas of riverwash, will be conveyed to the City of Santa Clarita for continued use as natural open space.

Southern riparian scrub on the project site supports special-status wildlife species. For this reason, as well as because of the sensitive nature of this plant community, its overall high biological value, the amount of this habitat that will be removed, and because this habitat is under the jurisdiction of the ACOE and/or CDFG, the permanent loss of 21.2 acres of this habitat type and the temporary impact to an additional 6.5 acres of this habitat type would be considered a potentially significant impact. However, the project design will incorporate NRMP measures d) through m) above. All riparian vegetation areas that will be temporarily disturbed as a result of grading, bank stabilization, or other construction activities will be planted and restored pursuant to NRMP measures a) through c) above. With these measures incorporated into the project design, the loss of this habitat type on the site is not considered a significant impact.

(k) Riverwash

The direct and permanent loss of approximately 0.3 acre of riverwash would occur due to the construction of the pedestrian and equestrian trails, 1.3 acres to construction of road and bridge, 1.3 acres to graded open space. An additional 6.7 acres would be temporarily impacted due to the construction of road and bridges, 0.1 acre due to trail construction and 3.5 acres due to graded open space. This combined impact represents about 7.5 percent of the riverwash on the site. The project design proposes to re-vegetate the areas that will be temporarily impacted for erosion control (please see heading 5, Mitigation Measures, for further discussion on how this temporary impact will be mitigated to a level that is less than significant.). The habitat that would be permanently removed occurs along the western portion of the site associated with the bank stabilization adjacent to Bouquet Canyon Bridge.

As with the southern riparian scrub habitat, the riverwash area is typically dry in the late spring and summer months. During unusual weather events, water can be present into July. During years when vegetation amounts are greater, the potential for this habitat type to support special-status species is greater. Some special-status species that were observed within the Santa Clara River by Guthrie can be presumed to occur within this habitat. As many as seven special-status bird species could occur within this area.

Because of the potential to support special-status species during high water levels, and because this habitat is within the jurisdiction of ACOE and CDFG, the permanent loss of 2.9 acres of riverwash and the temporary impact to an additional 10.3 acres of riverwash on the project site would be considered a substantial adverse effect on a sensitive natural community regulated by the CDFG and/or ACOE and a potentially substantial adverse effect on a special-status species. Therefore, this loss would be considered a potentially significant impact. However, the project design will incorporate NRMP measures d) through m) above. All riparian vegetation areas that will be temporarily disturbed as a result of grading, bank stabilization, or other construction activities will be planted and restored pursuant to NRMP measures a) through c) above. With these measures incorporated into the project design, the permanent loss of and temporary impacts to this habitat type on the site is not considered a significant impact.

(l) Mixed Oak/Grass

The project site contains approximately 2.3 acres of mixed oak/grass habitat. Implementation of the proposed project would convert approximately 0.4 acre to residential use and graded open space. Approximately 0.1 acre would be temporarily impacted due to graded open space. Also, individual trees located in various locations on the project site would be impacted. As stated in **Appendix 4.6**, a total of

15 oak trees will be removed (two of which are dead); of these, 12 will be relocated to remaining open space or landscaped areas. A total of 70 trees will be retained within open space areas on the project site. Of the trees to remain on the project site, the protected zone of 3 additional oak trees would be encroached upon as a result of project implementation. Of the 10 heritage oak trees on the site, 5 will be retained in place, 2 dead heritage oak trees will be removed and 3 are proposed for relocation to preserved open space areas within the project site.

Although no special-status plant or wildlife species were observed in this particular habitat during site surveys, mixed oak/grass areas provide habitat for a variety of common wildlife species. In particular, the large mature trees within this habitat type can be important to a number of raptor species known to occur in this region for both foraging, perching, and nesting. The loss of 0.5 acre is a relatively small amount in terms of habitat for common wildlife species and is not considered a significant impact from a habitat perspective. The loss of oak trees and required mitigation is addressed later in this section.

(m) Developed Area with Mixed Trees

The direct and permanent loss of approximately 4.0 acres of mixed trees to graded open space and 1.9 acres to graded slopes would occur with the implementation of the project. This loss represents about 71.1 percent of the mixed trees on the site.

This area on the project site has a large component of non-native species and is not known to support special-status plant or wildlife species, California black walnut (a CNPS list 4 species). Approximately half of the individual black walnut trees will be removed due to implementation of the proposed project. This portion of the site is also characterized by a large amount of trash, debris, and some building. Because of the relatively low status of a CNPS list 4 species and because of the relatively low biological value of this habitat in terms of plant species composition, the loss of 5.8 acres of this habitat is not considered a significant impact to this plant community. However, the large mature trees within this habitat type could be important to a number of raptor species for both foraging, perching, and nesting. Specific impacts to nesting birds are discussed later in this report. Because of the existing areas of mature trees within the vicinity of the project site (to the north and south) the permanent loss of this foraging, perching and nesting habitat for raptor species is not considered significant. The combined loss of 5.9 acres is a relatively small amount in terms of habitat for common wildlife species and is not considered a significant impact from a habitat perspective; however, the loss of oak trees would be addressed through issuance of an oak tree permit, as provided by the City of Santa Clarita Oak Tree Ordinance. The loss of oak trees (trees numbered 10, 11 and 12) and impacts to individual special-status plant species are addressed later in this section.

(2) Wildlife Habitat/Natural Open Space

As previously discussed, each of the vegetation communities on the project site provides habitat for a variety of common wildlife species and even some special-status species. When viewed individually, the loss of most of a vegetation community on the project site may not represent a substantial loss of wildlife habitat or the loss of a plant community considered sensitive by resource agencies. However, most wildlife species depend on a variety of habitat types to meet various ecological and life history requirements (i.e., food, shelter, nesting). The total loss of all the vegetation communities on the site is approximately 280 acres. Based on the evaluation of the relative value of on-site habitats discussed earlier in this document, it is assumed that the habitats on the site, when considered together, have a greater value to wildlife and the area's ecosystem than separately or individually. Therefore, the net loss of 280 acres of currently undeveloped land represents a substantial loss of habitat for wildlife species and natural open space and is considered a significant impact.

(3) Common Wildlife

Construction activity and grading operations of the proposed project could temporarily disturb common wildlife species on the site. Some species would be expected to relocate to other areas of similar habitat within the local area. However, wildlife that emigrate from the site are vulnerable to mortality by predation, potential conflicts with people and cars, and unsuccessful competition for food and territory. In addition, species of low mobility (particularly amphibians and reptiles) could be eliminated during site preparation and construction.

Replacement of existing vegetation with structures and ornamental landscaping would eliminate natural communities on developed portions of the site and result in a reduction in native wildlife species diversity. A number of animal species would be replaced with a fauna composed of species more tolerant of, or even dependant upon, urban settings.

Because of the relatively common nature of wildlife species that would be displaced or lost as a result of construction activities and the introduction of less-desirable non-natural vegetation, project implementation is not expected to cause a current fish or wildlife population on or adjacent to the project site to drop below self-sustaining levels. Therefore, no significant impacts on common wildlife reptile, amphibian, or mammal species are expected to occur.

However, a number of bird species could be adversely affected as a result of implementation of the proposed project. The proposed project includes removal of mature trees from the property.

Construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during that year's nesting season. Depending on the number and extent of bird nests on the site that may be disturbed or removed, the loss of active bird nests would be a potentially significant impact. However, the project design will incorporate NRMP measures r) through u) above. Therefore, with these measures incorporated into the project design, no significant impacts will occur to nesting bird species. The Migratory Bird Treaty Act and the California Fish and Game Code prohibit the take—defined as destroy, harm, harass, etc.—bird nests with eggs or young.

(4) Special-Status Plant and Wildlife Resources

(a) Special-Status Plant Species

Six special-status plant species were observed on the project site. Three of these species, **southern California black walnut**, **Palmer's grappling hook**, and **Peirson's morning-glory**, are CNPS List 4 species and occur in relatively small numbers on the site. Portions of these populations will be removed as a result of project implementation. Because CNPS List 4 plants are not considered "Rare" from a statewide perspective, are not defined as "Rare, Threatened, or Endangered" pursuant to the California Endangered Species Act, are not eligible for state listing as "Threatened" or "Endangered", and vulnerability or susceptibility to threats to these species on a statewide basis are considered low at this time (CDFG 2000), the loss of any individuals of these species would not be considered a substantial adverse effect on a special-status species nor would it be expected to reduce regional populations of the species to below self-sustaining numbers. Therefore, the loss of these plants would not be considered a significant impact.

Approximately 80 individual **slender mariposa lily** plants within twelve populations were identified on the project site during field investigations. The implementation of the proposed project would result in the loss of three populations (approximately 24 individual plants or 15 percent of the total population on the site). CNPS lists this species as 1B (Rare, Threatened, or Endangered in California and elsewhere). The loss of these plants would represent a substantial adverse effect on a special-status species and, therefore, would be considered a significant impact.

There were approximately seven individual **Plummer's mariposa lily** plants within three populations identified on the project site during field investigations. The implementation of this project would result in the loss of all seven plants. Although the number of plants could be considered minor (only seven individual plants), CNPS lists this species as 1B. The loss of these plants would thus represent a

substantial adverse effect on a special-status species and, therefore, would be considered a significant impact.

There were approximately 445 individual **Parry's larkspur** plants within eight populations identified on the project site during field investigations. CNPS lists this species as 1B. The implementation of this project would result in the loss of three populations (approximately 170 individual plants). Because of the sensitivity status of this species and because it would meet the definition of "Rare" pursuant to CEQA, the loss of these plants would represent a substantial adverse effect on a special-status species and, therefore, would be considered a significant impact.

The remaining plant species addressed in **Table 4.6-1** were not observed on the site during focused surveys conducted during a time when these plants, had they occurred, should have been observed. Consequently, these species are not expected to occur on the site and, therefore, no significant impact to these species will occur.

The proposed project has been designed in a manner to minimize oak tree impacts. Most of the small canyon located in the middle of the project site where the majority of the oak trees are located (67 of the total 87 oak trees located on site) will be preserved as parkland/open space.

The City's Unified Development Code establishes requirements for the protection of oak trees that are two inches in diameter or greater as measured at four and one half feet above natural grade. The City requires a permit for cutting, moving, removal, or encroachment into the protective zone (drip zone plus five feet) of such trees. The oak tree map found in **Appendix 4.6** depicts the oak trees proposed to be preserved, removed, relocated, and those trees that may be encroached upon by project grading. A more detailed discussion of the oak trees on the site and expected impacts to these trees can be found in **Appendix 4.6, Oak Tree Report Riverpark Project**, and the associated addendum**.**

As stated in **Appendix 4.6**, a total of 15 oak trees will be removed; of these, 12 will be relocated to remaining open space or proposed landscape areas. A total of 70 trees will be retained in their present locations within open space areas on the project site. Of the trees to remain on the project site, the protected zone of three oak trees would be encroached upon as a result of project implementation. Of the 10 Heritage oak trees on the site, 5 will be retained in place, 2 dead Heritage oak trees will be removed and 3 are proposed for relocation to preserved open space areas within the project site.

Despite project design measures to minimize impacts on oaks, 3 trees will be permanently removed and others (relocation or encroachment upon trees) could be adversely impacted. Because of the sensitivity

status of oak trees in the City of Santa Clarita, the risks associated with relocation, the removal of 3 oak trees, the relocation of 12, and the encroachment into the protected zone of 3 oak trees would be considered a significant impact.

Richard Johnson and Associates conducted a recent study of oak trees that were translocated within other Newhall Land properties to determine the success of the trees after several years. The translocations date back to 1988. Of the 28 trees that were surveyed, 16 had increased in health while the remaining 12 remained in a similar health or in the same condition as when transplanting occurred. A copy of this report is included in the **Appendix 4.6**.

(b) Special-Status Wildlife

The potential direct impacts on special-status wildlife species occurring, or potentially occurring on the project site are discussed below in terms of the actual loss of active nests, dens, and individual animals. Impacts with respect to the loss of nesting or foraging habitat of special-status wildlife species are addressed under the **Plant Communities** heading.

Species Observed on the Site

During construction and site preparation activities, special-status species, such as **southern California rufous-crowned sparrow, loggerhead shrike, northern harrier** and **Bell's sage sparrow** occurring within habitat proposed for conversion are expected to displace to remaining undisturbed Riversidian sage scrub habitat on site, or immediately adjacent off site. However, construction and site preparation activities within Riversidian sage scrub habitat, if conducted during the nesting season of this species, could result in the direct loss of active nests, including eggs, young, or incubating adults.

Depending on the number and extent of nests on the site that may be disturbed or removed should they occur prior to project implementation, the loss of active nests of these species, if they occurred, would be considered a substantial effect on these special-status species and, therefore, a potentially significant impact.

The **San Diego black-tailed jackrabbit** is a California Species of Special Concern mammal and was observed on the project site during the 2002 general survey and the 2003 focused mammal survey. This species is known to occur within the region of the project site in areas such as open scrub habitat, ruderal, disked and agricultural fields. Where this species occurs within the region, it is common and found in relatively high numbers in some locations (e.g., coastal Orange County and the high desert of northern

Los Angeles County). The habitat on the project site for this species is considered of moderate quality. Most individual jackrabbits are expected to disperse to remaining open space areas and the actual number of individual animals that would be lost due to grading and/or construction activities is expected to be low. Because this species is not state or federally listed as Endangered or Threatened, because it is considered relatively abundant in suitable habitat areas within its range, and because the direct loss of individual jackrabbits is expected to be low, it is expected that the regional population would not drop below a self-sustaining level with the implementation of this project. Therefore, the loss of any individual jackrabbits associated with the implementation of this project would not be considered a significant impact.

Special-Status Wildlife Species Not Observed but with High Potential of Occurring

Fifteen butterfly taxa are considered to be locally sensitive in the region. One species, **San Emigdio blue** (*Plebulina emigdionis*), has a reasonable chance of occurring on the proposed project site or may occur in the future in areas subject to disturbance. Focused butterfly surveys, with particular focus on the San Emigdio blue, were conducted on the project site in 2003; none were observed.

The San Emigdio blue is primarily dependent upon a relatively narrow range of larval food plants and/or adult nectar sources associated with plants that occur in natural areas of the site. Therefore, their distribution may be relatively limited throughout the region. However, these species can be relatively common where appropriate food plants and other habitat features are present. The food plant for this species (*Atriplex canescens*) is located in the southern riparian scrub habitat on site. Impacts to potential habitat for this species include approximately 27.7 acres of southern riparian scrub.

Given the amount of suitable habitat present and that no species were observed on the site during field surveys, only a relatively low number of individuals could be expected to occur there. The loss of relatively low number of individuals that might occur in the 27.7 acres of impacted habitat is not considered a substantial adverse effect because it is not expected to cause regional populations of this species to decrease below self-sustaining levels. Therefore, this potential loss of butterflies would not be considered a significant impact.

The **unarmored three-spine stickleback**, **arroyo chub,** and **arroyo toad** are known to occur within the Santa Clara River in the vicinity of the project site. Focused surveys for these species were conducted in 2003 and no individuals were observed within the project boundary. However, during and just after large rainfall events and when water flows are sufficient, the two fish species could move through this stretch of the river as part of their transitory movements from known breeding populations upstream.

Consequently, direct mortality of individuals of these species, though unlikely due to the intermittent nature of the water flows through the project site, could occur during these conditions as a result of bank stabilization or site preparation and construction activities associated with the Newhall Ranch Road/Golden Valley Road Bridge.

The "Biological Opinion" written by the USFWS for the NRMP states that it is unlikely for the arroyo toad to occur from a point approximately 1,000 feet east of the Bouquet Canyon Bridge due to the lack of suitable habitat. Most of the project is outside of this "may affect" area, as indicated by the Biological Opinion. Therefore, it is unlikely that impacts would occur to individual arroyo toads.

The loss, though unlikely, of **arroyo chub** to bank stabilization and/or construction activities, depending on the number occurring on the site, could be considered a potentially significant impact to the population. The **unarmored three-spine stickleback** is considered a federally listed Endangered species and the loss, though unlikely, of these individuals, if present during construction, could also be considered a substantial adverse effect on the population of these special-status species and, therefore, would be a potentially significant impact. However, the project design will incorporate NRMP measures n) through q) above. With these measures incorporated into the project design no significant impacts will occur to these special-status fish species.

San Diego horned lizard, **California horned lizard**, **silvery legless lizard**, **coastal western whiptail**, **white-tailed kite**, **northern harrier**, **Cooper's hawk**, **California horned lark**, **pallid bat,** and **San Diego desert woodrat**, all California Species of Special Concern, could potentially occur within various habitat types on site, including oak woodland, Riversidian sage scrub, non-native grassland, and southern riparian scrub. Although none of these species were observed during the 2002 and 2003 general biological surveys or focused surveys for various species on the site, suitable habitat exists for these species and they are known to occur in similar habitat in the vicinity.

Should these species occur on the site during project implementation, direct mortality of individuals of these species could occur as a result of site preparation and development activities. If large numbers of individuals of these species would be affected such that the mortality would be considered a substantial adverse effect on a special-status species, this mortality would be considered a significant impact. Measures to minimize direct mortality of individual animals during the construction phase of the project are described in the various mitigation measures below.

The remaining special-status wildlife species addressed in **Table 4.6-2** have a low to moderate potential of occurring on the site. Implementation of NRMP measure v) above would minimize mortality of

individuals of these species should they occur on the site during construction and/or grading activities. Because none of the remaining special-status wildlife species addressed in **Table 4.6-2** were observed during the project site surveys, and because these species would likely only occur on the site in the future in low numbers (due to overall habitat quality and quantity for these particular species), the potential loss of any individuals of these species would not be considered a substantial adverse effect on regional populations of these species; therefore, the direct loss of individuals of these species, if they occurred, would not be considered a significant impact.

(5) Jurisdictional Resources

(a) Regulatory Framework

Direct and indirect impacts on the Santa Clara River and adjacent riparian areas are likely subject to the jurisdiction of several state and federal agencies, including the ACOE, the CDFG, and the Los Angeles RWQCB. The NRMP and subsequent programmatic permits have been prepared and adopted by these state and federal agencies. These programmatic permits designate what types and quantities of impacts are permitted, with specified mitigation measures for the various types of impacts. Permitted activities include stream bank protection, trails, stormwater treatment and outfall structures, utility crossings, and related facilities.

As previously stated, the Santa Clara River, and six small drainages run through portions of the project site. A jurisdictional delineation was conducted for the River within the project site in 1997 as part of the NRMP to determine the areas under jurisdiction of the ACOE as "Waters of the U.S." and CDFG under Section 1600 of the California Fish and Game Code. The portion of this project within and along the banks of the Santa Clara River would be impacted as a result of the construction of buried bank stabilization and the Newhall Ranch Road/Golden Valley Road Bridge crossing. This area is also addressed in the NRMP. The implementation of the project would result in the following impacts to "Waters of the U.S.":

(b) Impacts on Jurisdictional Resources

Permanent Impacts within Jurisdictional Area from Buried Bank Stabilization and Impacts Associated with Newhall Ranch Road/Golden Valley Road Bridge

Approximately 9 acres of the riverbed (southern riparian scrub and riverwash habitat within the jurisdictional delineation) would be filled for bank stabilization and for the construction of Newhall

Ranch Road/Golden Valley Road Bridge. However, approximately 3 acres of upland habitat would be located within the new bank stabilization area and could be excavated to create new riverbed habitat as part of the mitigation program described in the section that follows. The net result of these actions would be a potential permanent net loss of approximately 6 acres of ACOE and CDFG jurisdictional southern riparian scrub and riverwash habitat. The loss of habitat under the jurisdiction of ACOE and CDFG is considered a significant impact under CEQA. Impacts to specific plant communities that are under the jurisdiction of these agencies are addressed within the appropriate plant community section of this draft EIR.

Temporary Construction Impacts within Jurisdictional Area from Buried Bank Stabilization and Impacts Associated with Newhall Ranch Road/Golden Valley Road Bridge

Approximately 11.1 acres of the riverbed (southern riparian scrub and riverwash habitat) within the jurisdictional line would be temporarily disturbed due to installation of the bank stabilization and bridge. Impacts to specific plant communities that are under the jurisdiction of ACOE and CDFG are addressed within the appropriate plant community section of this draft EIR. The NRMP measures that are incorporated into the project design that will minimize to a less than significant level are also discussed in these sections.

Permanent Impacts within the Riverpark Project Resource Line from Buried Bank Stabilization and Impacts Associated with Newhall Ranch Road/Golden Valley Road Bridge

Approximately 16.1 acres of the riverbed within the resource line (any riparian habitat directly associated with the Santa Clara River, but not necessarily within the jurisdictional delineation) would be filled for the construction of Newhall Ranch Road/Golden Valley Road Bridge. The majority of the habitat that would be permanently removed occurs along the western portion of the site near Bouquet Canyon Bridge. The loss of habitat within the resource line would be considered a significant impact under CEQA. Impacts to specific plant communities that are under the jurisdiction of ACOE and CDFG are addressed within the appropriate plant community section of this draft EIR. The NRMP measures that are incorporated into the project design that will minimize to a less than significant level are also discussed in these sections.

Temporary Construction Impacts within the Resource Line from Buried Bank Stabilization and Impacts Associates with Newhall Ranch Road/Golden Valley Road Bridge

Approximately 21.8 acres of the riverbed within the resource line would be temporarily disturbed due to installation of the bank protection and bridge. Impacts to specific plant communities that are under the jurisdiction of ACOE and CDFG are addressed within the appropriate plant community section of this

draft EIR. The NRMP measures that are incorporated into the project design that will minimize to a less than significant level are also discussed in these sections.

Implementation of this project would also result in impacts to ACOE and CDFG jurisdictional areas associated with six drainage channels in the upland portion of the project site. The impacts to these channels are summarized below:

Channel #1 – All 0.4 acre within ACOE jurisdiction and all 2.7 acres within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Channel #2 – All 0.7 acre within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Channel #3 – All 0.2 acre within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Channel #4 – All 0.4 acre within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Channel #5 – All 0.2 acre within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Channel #6 – All 0.2 acre within ACOE jurisdiction and all 0.4 acre within CDFG jurisdiction would be impacted as a result of the implementation of this project.

Impacts to specific plant communities that are under the jurisdiction of ACOE and CDFG are addressed within the appropriate plant community section of this draft EIR. The NRMP measures that are incorporated into the project design that will minimize to a less than significant level are also discussed in these sections.

(6) Impacts on Habitat Adjacent to Santa Clara River Riparian Area

As previously discussed, the upland habitat communities immediately adjacent to the river corridor are important to riparian wildlife species that also utilize these areas as part of their life history requirements. In general, upland habitat within 100 feet from the riparian resource edge associated with the river is considered of highest value with respect to riparian wildlife species and is necessary to maintain species

diversity within the riparian ecosystem and adequately buffer this ecosystem from adjacent incompatible land uses.

As stated in the significance threshold criteria, providing an upland preserve area of less than 100 feet (in areas where at least 100 feet of upland habitat from the riparian resource currently occurs) of high quality habitat would be presumed to be a significant impact on the riparian ecosystem associated with the Santa Clara River. Based on an analysis of the approximately 14,155 linear feet of riparian edge within the project, the following indicates the linear footage that meets, exceeded, or did not meet the 100-foot width threshold:

- 2,910 linear feet (20.6 percent) meets or exceeds 100 feet in width;
- 470 linear feet (3.3 percent) is between 50 and 100 feet in width; and
- 10,775 linear feet (76.1 percent) is between 0 and 50 feet in width.

As shown, 79.4 percent of the area would not meet the 100-foot threshold setback. However, many of the proposed areas in which 100 feet of preserved upland habitat is not met, these areas are characterized with high bluffs that begin less than 100 feet of the riparian resource line or are disturbed due to past agricultural operations. In addition, 2,100 linear feet of the area within the 100-foot threshold setback that would be impacted is due to the construction of Newhall Ranch Road. The placement of the extension of this road within the project site is limited because of the existing termination point.

A portion of the 100-foot riparian/upland area to be impacted consists of ruderal habitat that has been historically disturbed by agricultural operations and dirt stockpiling. Under the proposed project, the remaining area within the 100-foot riparian upland preserve zone would be restored as high quality upland habitat. An additional 85 acres of disturbed or degraded upland habitat would also be preserved at various locations beyond the 100-foot threshold line. While active habitat restoration within areas of low biological value would enhance the upland area adjacent to the river, an overall minimum of 100 feet project-wide would still not be preserved. Therefore, this impact on the riparian ecosystem is still considered significant.

Portions of the proposed recreational trail will be constructed within 100 feet of the riparian resource edge (i.e., within the upland preserve zone). Construction of the trail will result in the permanent loss of approximately 10 acres of upland habitat. Placement of the trail within the 100-foot threshold will fragment the upland habitats in this area, essentially isolating the remaining upland areas between the trail and proposed development. For species dependent upon upland habitats adjacent to the river, this

will decrease the amount of contiguous habitat available to them as foraging or cover habitat. Because of its linear nature, the trail may even serve as a barrier to upland movement for some species. Fragmentation of upland habitats adjacent to the river may lower the value of these areas as movement corridor habitat for species utilizing the river and associated vegetation as a regional habitat linkage. Because of the loss of upland habitat values, the placement of the trail within the 100-foot setback threshold is considered a significant impact.

The majority of Area B of the proposed project occurs on a bluff overlooking the Santa Clara River. Because the bluff occurs adjacent to the river, the 100-foot upland preserve zone occurs within the upland portion on top of the bluff. The impacts to the 100-foot upland preserve zone within Area B would occur in this area on top of the bluff. The position of this upland zone at the top of steep cliffs of the bluff limit the use of this upland area by riparian species such as small mammals and some birds.

The presence of the trail in close proximity to the Santa Clara River would also allow greater access to this sensitive resource area by humans and domestic animals. Impacts of the trail with respect to increased human and domestic animal activity are discussed in more detail under the Indirect Impacts section.

(7) Project Design Features That Minimize Impacts to Santa Clara River Riparian Resources and Adjacent Upland Habitat

Notwithstanding the significant impacts indicated above, it is important to identify several project design features and actions that the applicant has included into the project design plan to lessen the magnitude of impacts to riparian and related upland resources. These features and actions include:

- Movement of proposed development, including certain buried bank stabilization activities, further away from the river than permitted by the Natural River Management Plan (NRMP) and described in its associated EIS/EIR. Elimination of bank stabilization in areas of the project where stabilization was permitted by the NRMP.
- Construction and placement of a fenced barrier along the outer edge of the upland area to minimize encroachment and disturbance to these areas and the riparian resource as a result of adjacent urban development. This barrier shall consist of a wood ranch-rail type fence, approximately 4 - 5 feet in height and buried to a depth of not less than 1 foot, with hedge-like plantings of native vegetation on both sides of its entire length. The fence design shall ultimately allow wildlife to pass through so as not to inhibit wildlife movement along and to/from the river corridor.
- Bank stabilization will be set back from most of the resources to minimize alteration of the existing riparian vegetation and banks of the river channel. In those areas that would impact riparian and upland vegetation, all vegetation will be replaced with native plant species similar to that being removed immediately after the completion of the bank stabilization. All graded areas for the buried bank stabilization will be returned to naturalized contours, not to exceed 4:1 slope angles, and will be vegetated entirely with native species as part of the upland buffer zone enhancement. Where slope angles occur within the setback, and alluvial or riparian scrub are not appropriate for vegetation

cover due to drainage, coastal sage scrub, approximating existing formations locally, may be substituted.

- Planting remaining upland habitat areas within 100 feet of the riparian resource edge with native upland species similar to that which historically occurred in the area (likely to be either coastal sage scrub or alluvial scrub). The area shall be planted at a density to achieve a minimum of 40 percent plant cover (with a maximum of 70 percent) by the dominant or co-dominant plant species of that particular plant community, or as determined by a qualified plant biologist. The area shall be maintained by the applicant as high quality upland habitat for a minimum of 5 years after planting.

As indicated above, the NRMP proposes a series of activities along the Santa Clara River and its tributaries, including the installation of bank protection at various locations through the Riverpark site. The NRMP was the subject of an EIS/EIR prepared jointly by the United States ACOE and CDFG, and that EIS/EIR and the NRMP were certified and approved by those agencies in 1998. Master permits were then issued by the ACOE and DFG for the NRMP activities, including those proposed for the Riverpark site.

As part of the Riverpark project, the applicant has elected to move certain components of the project further away from the river, and has eliminated bank stabilization in certain areas, than what was permitted by the NRMP, thereby, reducing the amount of riparian area impacted by development when compared with the riparian area that could be developed under the NRMP. As shown in **Figure 4.6-7**, a total of 13.2 net acres of riparian area that could be developed under the NRMP-related permits would no longer be developed if the Riverpark project were developed as proposed. There are two small areas where the proposed project encroaches within the approved development line as presented in the NRMP. One area of proposed development encroaches approximately 80 feet into the NRMP area in an effort to preserve a Heritage oak tree. The other encroachment is due to the construction of Newhall Ranch Road and encroaches approximately 200 feet.

As shown in **Table 4.6-3**, of the area to be permanently impacted between 0 and 100 feet from the riparian resource area (approximately 47 acres), approximately 40 percent of the impacted area (19.1 acres) would be impacted by the installation of regional roads/bridges and the River Trail.

Permanent alteration of approximately 47.4 acres (15,396 linear feet) of ACOE and CDFG jurisdictional area will result from project implementation. The impacts to the Santa Clara River are considered permanent for this evaluation because the channel and banks will be re-contoured. However, the basic shape and size of the channel and banks will not be changed. While these actions do not eliminate or completely avoid the significant impacts that would occur to riparian and related upland areas due to the project, they do partially lessen the impact of development.

(8) Wildlife Movement Corridors

The proposed project design would preserve the integrity of the Santa Clara River as a wildlife movement corridor and minimize impacts on local and regional wildlife movement by maintaining nearly all of the Santa Clara River as open space. As previously discussed NRMP measures a) through m) will be incorporated into the project design and will minimize the impacts to riparian vegetation and replace any vegetation temporary or permanently removed. Therefore, the riparian vegetation that will be removed as a result of project implementation will not substantially affect the ability of resident and non-resident species to use the river as a movement corridor. It is acknowledged that some wildlife species also utilize adjacent upland habitats as foraging areas during periods of active movement, particularly during periods of high water flows. As proposed, the project plan will preserve and restore various amounts of upland habitat, up to approximately 126 feet in Area B (which includes the bluff area) adjacent to the river system that will allow some species, especially larger mammals, to use these adjacent upland areas as movement corridors.

Newhall Ranch Road (Newhall Ranch Road/Golden Valley Road Bridge). The bridge is proposed to be approximately 800 feet in length and a maximum of 116 feet in width. It will average approximately 11-22 feet in height above the riverbed with an estimated 9 vertical support columns or piers extending into the riverbed. The piers will be approximately 80 feet apart from one another. When confronted with bridges or overpasses along a preferred movement corridor, wildlife, particularly larger mammals, will move under these structures as long as there is adequate vertical and horizontal spacing, a natural (dirt, sand, vegetation) substrate on which to travel while under the structure, and an openness effect that allows the animal to detect light, open space and habitat at the exiting end of the structure. The proposed Newhall Ranch Road/Golden Valley Road Bridge will adequately meet these requirements and is not expected to significantly alter wildlife movement along the river during dry periods because it is similar to other existing upstream and downstream bridges. Consequently, implementation of the proposed project will not substantially interfere with the movement of any terrestrial wildlife species; therefore no significant impacts on terrestrial wildlife movement corridors will occur. Potential impacts on fish movement are discussed under impacts to fish species.

(9) Significant Ecological Areas

A total of 37.0 acres of habitat within Santa Clara River SEA (representing approximately 10 percent of the total habitat within SEA boundaries on the project site) will be disturbed or converted to urban development as a result of project implementation resulting in permanent impact. Approximately 13.0 of those acres (4 percent of the SEA total) will only be temporarily disturbed as a result of proposed bank stabilization activities and will be replaced upon completion of the bank stabilization.

LEGEND:

- PROJECT BOUNDARY
- TOP OF BANK LINING PER NRMP
- RIVER PARK TOP OF BANK LINING
- TOE PROTECTION
- AREA SETBACK/PROJECT TOP OF BANK LINING VS. NRMP TOP OF BANK LINING (576,740 S.F. = 13.2 A.C.)
- AREA ENCROACHMENT/PROJECT TOP OF BANK LINING VS. NRMP TOP OF BANK LINING (120,555 S.F. = 2.8 A.C.)

400 200 0 800

SCALE IN APPROXIMATE FEET

SOURCE: PSOMAS – February 2004

FIGURE **4.6-7**

Riverpark Bank Lining

Proposed development plans also call for the construction of a bridge across the river as an extension of Within the SEA boundaries, a total of 9.0 acres of disked field, 0.5 acres of non-native grassland, 2.0 acres of river wash and 14.5 acres of southern riparian scrub habitat representing a total of 24.0 acres of SEA habitat (10 percent of the total SEA habitat within the project site), will be permanently lost as a result of the project. The locations of these impacts are generally along the northern bank of the Santa Clara River west of the proposed Santa Clarita Parkway Bridge and primarily as a result of the proposed bank stabilization and traffic improvements. Impacts to riparian habitat within the SEA as a result of trails, project construction and grading activities, and bank stabilization and bridge maintenance activities, are the same as those discussed above.

Because of the relatively small amount of each habitat type within the SEA to be removed, and because the habitat areas to be removed are disjointed and spread out over the entire SEA area within the project site boundary, the permanent loss of 24.0 acres of habitat within the SEA boundaries is not expected to detract from the overall integrity and value of the SEA, in and of itself. In particular, this loss of area will not adversely affect the unarmored three-spine stickleback, the state and federally listed Endangered fish species for which the SEA was originally designed to protect (County of Los Angeles General Plan). In addition, the project plan will preserve and enhance various amounts of upland habitat, up to approximately 126 feet in Area B (which includes the bluff area), adjacent to the river that will serve as a buffer between habitats within the SEA and adjacent urban development. Impacts to riparian plant communities within the SEA are addressed within the appropriate plant community section of this draft EIR. However, because of the overall sensitivity of SEAs, and because any permanent loss of habitat within a SEA will effectively reduce the overall size of the SEA, the permanent net loss of 24.0 acres within the Santa Clara River SEA is considered a significant impact.

d. Operational Impacts

Indirect impacts on biological resources would occur to those habitat areas surrounding the project site after the completion of the proposed project. It is expected that implementation of the proposed project would result in indirect impacts to biological resources in the following ways:

- An increased human and domestic animal presence in the area and noise associated with this presence;
- Increase in populations of non-native plant species;
- Increased light and glare;
- Stormwater runoff; and
- Construction activities.

Indirect impacts associated with the proposed project are not quantifiable but are reasonably foreseeable. As such, the discussion that follows provides a common-sense identification of the types of secondary impacts and their relative magnitude such that decision makers and the general public are aware of the indirect impact potential associated with implementation of the proposed project. This type of analysis is consistent with the requirements of CEQA.

(1) Increased Human and Domestic Animal Presence

Implementation of the proposed project would increase human and domestic animal presence in the area. Increased recreational and other human activity around these habitats could: (1) displace a number of wildlife species, (2) increase the amount of refuse and pollutants in the area, (3) compact soils, and (4) trample ground-dwelling flora and fauna, and increases human activities adjacent to the river could also deter some animals, especially larger more secretive mammal species, such as coyote and mountain lion, from utilizing these habitats.

Off-road vehicle use in the riverbeds can also be expected to increase in proportion to population increases in the area. With no physical constraints in place to contain equestrians on designated trails or to exclude off-road vehicles, additional recreational use increases the likelihood of intrusion into sensitive habitat areas, trampling of habitats, noise disturbances to wildlife (especially if within the breeding season of birds and raptors) which can result in nest abandonment, and introduction of non-native plant species. Depending upon the season and location, this additional use can also cause increased erosion, siltation, and disruption of the hydrologic regime of the creek and river, possibly resulting in disturbance of downstream breeding ponds for special-status fish species, including the unarmored three-spine stickleback. Wildlife using the riparian ecosystem as movement corridors may also be disturbed and inadvertently flushed from hiding places, causing animals to avoid the area and potentially decrease use of the area as a movement corridor.

Increased use of the site by domestic animals can disturb nesting or roosting sites and disrupt the normal foraging activities of wildlife in adjacent habitat areas. Should this activity occur frequently, and over a long time period, these disturbances may have a long-term effect on the behavior of both common and special-status animals and can result in their extirpation from the area. Feral cats, as well as house cats, can cause substantial damage to the species composition of natural areas through predation, including populations of special-status species. Increased urban development can lead to higher numbers of cowbirds (which are highly adapted and attracted to urban settings) adjacent to and within the riparian areas, leading in turn to higher levels of nest parasitism of songbirds including common and sensitive bird species.

While it is acknowledged that the river already receives a certain amount of equestrian and off-road vehicle use, as well as domestic animal use, an increase in these uses as a result of project implementation, taken together, could substantially effect the quality of these areas as wildlife habitat, would potentially interfere with the movement of wildlife, and would potentially reduce the population of wildlife species, including special-status bird and fish species. Therefore, the increased use of the river areas by humans and domestic animals is considered a significant impact.

(2) Increase in Populations of Non-Native Species

Non-native plant and wildlife species (e.g., tamarisk, giant cane, salt cedar, European starlings, house sparrows, red foxes, etc.) are typically attracted to developed and urban environments and potentially displace native species because of their ability to compete more effectively for resources. Non-native plants tend to be more adaptable to urban settings and adjacent open space areas and can out-compete native plants for available resources.

However, historical and ongoing development in the vicinity of the project site has likely supported continual and ongoing increases and proliferation of non-native plant and wildlife species populations in remaining natural habitats. Because the project site is essentially surrounded by various levels of development, non-native and urban-adapted plant and wildlife species already occur on the project site and surrounding area (most were observed during various on-site surveys). Consequently, the proposed project is not expected to substantially increase the distribution of non-native plants and wildlife in the remaining open spaces in the project site area and therefore will not substantially or adversely affect common or special-status plant or wildlife populations in the area beyond what they are currently exposed. Therefore, impacts on the remaining natural areas as a result of potential increases in non-native plants and wildlife resulting from project implementation are not expected to be significant.

(3) Increased Light and Glare

The development of a residential community would increase the number of nighttime light and glare sources on the site over current levels, which are relatively low. Nighttime illumination is known to adversely affect some species of animals in natural areas. Nighttime light can disturb breeding and foraging behavior and can potentially alter breeding cycles of birds, mammals, and nocturnal invertebrates. Light could deter some animal species, especially the larger mammals, from using the Santa Clara River as a wildlife movement corridor. If uncontrolled, such light could adversely impact the composition and behavior of the animal species that occur in these areas. Because of the potential disruption to breeding and foraging behavior of wildlife species remaining on, adjacent to, and in

proximity to the project site, increased nighttime lighting and glare is considered a potentially significant impact of the proposed project.

(4) Stormwater and Urban Runoff

Over-irrigation of landscaped areas, especially when combined with the use of chemicals, could lead to runoff that contains pesticides, herbicides, nitrates, and other contaminants. Any runoff that flows into the riparian corridor that contains high levels of nutrients, particularly fertilizers and waste products such as nitrogen and phosphorous, can result in eutrophication (excessive nutrient buildup). This in turn can result in depletion of available oxygen due to increased Biological Oxygen Demand (BOD) and reduce available dissolved oxygen for fish and other aquatic organisms. Other chemicals, pesticides, and herbicides can also adversely affect aquatic systems.

Paved surfaces could also contribute runoff into the riparian corridor during storm events. Depending on the magnitude and frequency of storm events and the overall level of the water quality, this runoff can cause increased eutrophication, depleted oxygen levels, long-term build-up of toxic compounds and heavy metals, and other adverse effects to biological resources associated with aquatic systems.

Since the use of chemicals and the extent of over-irrigation for landscaping within common and residential areas cannot be determined prior to project implementation, impacts related to stormwater and irrigation runoff could substantially affect special-status species potentially occurring downstream from the project site, substantially diminish habitat for fish, wildlife, or plants, and substantially degrade the quality of the environment. Therefore, these impacts would be considered potentially significant.

(5) Construction Activities

Construction and grading activities associated with project implementation that are proposed adjacent to or within the Santa Clara River ecosystem could adversely affect sensitive vegetation and wildlife within portions of the ecosystem not directly affected. These activities can result in the following impacts: displacement and disturbance of certain species of wildlife from noise and human activity that could result in possible nest or den abandonment during the breeding season of both common and special-status species; siltation and erosion into creek and river drainages that could adversely affect fish spawning and movement; excessive dust accumulation on vegetation that could result in the degradation or loss of some plant species; and soil compaction around remaining trees. Because these activities could substantially degrade biological resources within the ecosystem and possibly reduce the number of special-status species, these impacts, while temporary, are considered potentially significant. Any such actions with the potential to affect UTS may also require USFWS permitting pursuant to Section 10(a) under ESA.

6. MITIGATION MEASURES

a. Mitigation Measures Proposed by Project

To minimize significant impacts of the project on biological resources, the applicant has proposed that the following measures from the NRMP be incorporated into the project:

4.6-1

a) Construction activities in the riverbed shall be restricted to the following areas of temporary disturbance: (1) an 85-foot-wide zone that extends into the river from the base of the rip-rap gunite or soil cement bank protection from where it intercepts the river bottom; (2) 100 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letter submitted to the ACOE and CDFG for individual project approval. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas.

b) All native riparian trees in temporary construction areas with a 4-inch dbh or greater shall be replaced at a 3:1 ratio using 1 to 5 gallon container plants in the temporary construction areas in the winter following the construction disturbance. The growth and survival of the replacement trees shall meet the performance standards specified in later mitigation measures. In addition, the growth and survival of the planted trees shall be monitored for five years in accordance with the methods and reporting procedures specified in a later mitigation measure.

c) Native vegetation within temporary construction areas shall be mulched and spread over the temporary impact areas once construction is completed in order to facilitate revegetation. Areas temporarily disturbed by construction activities shall also be weeded annually, as needed, for up to five years following construction. These areas shall be annually monitored for five years after construction to document colonization by weeds and native plants. Weeds shall be removed by hand, an approved herbicide application, and/or by equipment. In the event that native plant cover does not reach 50 percent of the pre-construction native plant cover within three years, the applicant shall revegetate the temporary construction area in accordance with the methods specified in later mitigation measures. Annual monitoring reports on the status of the natural recovery of temporarily disturbed areas shall be submitted to the ACOE and CDFG as part of the Annual Mitigation Status

Report and Mitigation Accounting Form to be submitted to the ACOE and CDFG by April 1st of each year.

d) Permanent removal of riparian habitats shall be replaced by creating riparian habitats of similar functions and values in the project area. Wetland restoration shall be in-kind and at a 1:1 replacement ratio [except as indicated in Item f)] below for new habitat installed two years in advance of the removal of habitat at the construction site. If replacement habitat cannot be installed two years in advance of the project, the ratios listed below will apply. As described in Item c), lower replacement ratios may be appropriate if a ACOE-approved hydrogeomorphic method (HGM) of assessing replacement ratios indicates lower ratios would ensure replacement of habitat values and functions.

Timing of Mitigation	Value of Habitat Affected*	Proposed Ratio Required for Revegetation
Habitat installation completed 2 years or more prior to construction impact	N/A	1:1
Habitat installation completed less than 2 years in advance of impact	Low Medium High	1:1 2:1 3:1

* High (NRMP EIS/EIR mapping units 1, 2, 3, 6), Medium (NRMP EIS/EIR mapping units 4, 7), Low (NRMP EIS/EIR mapping units 5, 8)

e) Creation of new riparian habitats shall occur at suitable sites in or adjacent to the watercourses included in the NRMP. Habitat restoration sites in the riverbed shall only be located in areas where the predominant habitats present are dry open floodplain, weedy herbaceous, or their functional equivalent. The highest priority habitat restoration sites should be new riverbed areas created during the excavation of uplands for bank protection. Restoration sites may also occur at locations outside the riverbed where there are appropriate hydrologic conditions to create a self-sustaining riparian habitat and where upland and riparian habitat values are absent or very low. All sites shall contain suitable hydrological conditions and surrounding land uses to ensure a self-sustaining functioning riparian habitat. Candidate restoration sites shall be selected by the applicant described in the Annual Mitigation Status Report that will be submitted to the ACOE by April 1st of each year. Sites will be approved when restoration plans are submitted to the ACOE and CDFG as part of the Verification Request Letters submitted for individual projects, or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.

f) Replacement habitat shall be designed to replace the functions and values of the habitats being removed. At this time, the replacement habitat shall be restored in accordance with the acreage replacement ratios described in Item a). The replacement habitats shall have similar dominant trees and understory shrubs and herbs as the affected habitats. In addition, the replacement habitats shall be designed to replicate the density and structure of the affected habitats once the replacement habitats have reached mature status. Replacement ratios that are lower than those listed in Item a) may be used if a ACOE-approved HGM is applied in which habitat functions and values of both the affected habitat and the replacement habitat are quantified.

g) Average plant spacing shall be determined based on an analysis of habitats to be replaced. Typical plant spacing is presented below for use in developing willow-cottonwood woodland habitat as an example only. The applicant shall develop similar tree spacing specifications for habitats to be restored. Plant spacing specifications shall be reviewed and approved by the ACOE and CDFG when restoration plans are submitted to the ACOE as part of the Verification Request Letters submitted to the ACOE and CDFG for individual projects or as part of the Annual Mitigation Status Report and Mitigation Accounting Form.

Species	**Average Plant Spacing (feet)**	**Height (feet)**	
		After 3 years	After 5 years
Arroyo willow	8	10	15
Black willow	8-10	12	18
Sandbar willow	8	4	6
Red willow	8	9	15
Cottonwood	20	7	12

h) Each tree and shrub species used in restoration shall have a minimum of 80 percent survival after three years and 70 percent survivorship after five years. Key indicator tree species to be used in the riparian restoration program shall achieve a minimum growth at the end of three years and five years as described above in Item e). Performance standards for cover shall be developed for each individual habitat type being created, based on the observed natural cover in undisturbed habitats in the project area. These standards shall be approved by the ACOE and CDFG after they have reviewed the Annual Mitigation Status Report and Mitigation Accounting Form Minimum growth, survivorship, and cover performance at the mitigation sites shall be measured based on random samples taken during years three and five at each individual mitigation site, or at other sampling intervals if the ACOE' hydrogeomorphic methodology is used by the applicant.

i) If the minimum growth, survivorship, and/or cover are not achieved at the time of the three and five year evaluations, then the applicant shall be responsible for taking the appropriate corrective

measures as to achieve the specified growth, survivorship, and/or cover criteria. The applicant shall be responsible for any costs incurred during the revegetation or in subsequent corrective measures. If acts of God (flood, fires, or drought) occur after the vegetation has met the three-year criteria for growth, survival, and cover, the applicant will not be responsible for replanting damaged areas. If these events occur prior to the plants meeting the three-year criteria, the applicant shall be responsible for replanting the area one time only.

j) The applicant shall be responsible for weeding all restoration sites to prevent an infestation of non-native weeds for a period of five years after the initial habitat restoration, regardless of the success of the planted species. The cover of non-native plant species at the mitigation sites shall not exceed 10 percent at any time, within this five-year period.

k) Temporary irrigation shall be installed, as necessary, for plant establishment. Irrigation shall continue as needed to meet the three- and five-year performance criteria regarding survivorship and growth. Irrigation shall be terminated in the winter to provide the least stress to plants. Removal of the irrigation system shall occur in conjunction with an appropriate "weaning" procedure to minimize plant stress. Irrigation shall be terminated at the earliest opportunity after achieving the five-year criteria.

l) As an alternative to the restoration of habitats to compensate for permanent removal of riparian habitats, the applicant (at the discretion of the ACOE and CDFG) may remove exotic plant species from the project area in locations: (1) where there is an infestation of exotics such as *Arundo donax* such that the natural habitat functions and values are substantially degraded and at risk, and where the cover of exotics is equal to or exceeds 25 percent of the ground; or (2) other areas where exotic removal would be strategic in a watershed approach to weed management, as determined by the ACOE and CDFG. The weed removal sites shall be selected in logical manner to ensure that the eradication of weeds from specific sites will contribute to the overall control of exotics in the NRMP watercourses. Removal areas shall be kept free of exotic plant species for five years after initial treatment. In addition, native riparian vegetation must become established through natural colonization and meet the revegetation plant cover goals established by the ACOE and CDFG under Item f) after five years.

m) The removal program shall utilize methods and procedures approved by the ACOE and CDFG to remove exotics, including but not limited to, mechanical equipment in specific areas, handcutting, and the application of herbicides to stumps. Exotic plant species removal credit will be given as shown below (except when weed removal is used to mitigate for loss of habitat for sensitive riparian

bird species where the ACOE and CDFG may require higher ratios). Weed eradication plans shall be submitted to the ACOE and CDFG for approval as part of the Verification Request Letters submitted to the ACOE and CDFG. The plans shall describe the proposed methods and the conditions of the site to be treated. A monitoring program shall be implemented to document the effectiveness of the removal and the natural establishment of native vegetation in the weeded area.

Value of Riparian Habitat to be Removed	Mitigation Ratios for Exotic Removal	
	2 Years in Advance	< 2 Years in Advance
High (NRMP EIS/EIR mapping units 1, 2, 3, 6)	3:1	4:1
Medium (NRMP EIS/EIR mapping units 4, 7)	2:1	3:1
Low (NRMP EIS/EIR mapping units 5, 8)	1:1	2:1

n) Prior to initiating construction for the installation of bridges, storm drain outlets, utility lines, and/or bank protection, all construction sites and access roads within the riverbed, as well as all riverbed areas within 300 feet of the construction site and access road, shall be inspected by a qualified biologist for the presence of arroyo toads, unarmored three-spine stickleback and arroyo chub. The ACOE and the CDFG shall be notified of the inspection and shall have the option of attending. If either agency is not represented, the biologist shall file a written report of the inspection with the agency not in attendance within 14 days of the survey and no sooner than 30 days prior to any construction work in the riverbed.

o) Construction work areas and access roads shall be cleared of the species listed above immediately before the prescribed work is to be carried out, immediately before any equipment is moved into or through the stream or habitat areas, and immediately before diverting any stream water. The removal of such species shall be conducted by a qualified biologist using procedures approved by the ACOE and CDFG, and with the appropriate collection and handling permits. Species shall be relocated to nearby suitable habitat areas. A plan to relocate these species shall be submitted to the ACOE and CDFG for review and approval no later than 30 days prior to construction. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.

p) All stream flows traversing a construction site or temporary access road shall be diverted around the site and under access roads (using a temporary culverts or crossings that allow fish passage). A temporary diversion channel shall be constructed using the least damaging method possible, such as blading a narrow pilot channel through an open sandy river bottom. The removal of wetland and riparian vegetation to construct the channel shall be avoided to the greatest extent feasible.

The temporary channel shall be connected to a natural channel downstream of the construction site prior to diverting the stream. The integrity of the channel and diversion shall be maintained throughout the construction period. The original stream channel alignment shall be restored after construction, provided suitable conditions are present at the work site after construction. A temporary stream diversion plan shall be included in the Verification Request Letters submitted to the ACOE and CDFG. This procedure can only be implemented if: (1) there are assurances by the applicant that the fully protected unarmored three-spine stickleback will not be taken or possessed; or (2) USFWS personnel or their agents implement this measure.

q) A qualified biologist shall be present when any stream diversion takes place, and shall patrol the areas both within, upstream, and downstream of the work area to rescue any species stranded by the diversion of the stream water. Species that are collected shall be relocated to suitable downstream of the work area. Under no circumstances shall the unarmored three-spine stickleback be collected or relocated, unless USFWS personnel or their agents implement this measure.

r) The removal of any riparian habitat suitable for breeding, nesting, foraging, and temporary usage during migration by special-status species from the project footprint (i.e., boundaries of temporary and permanent impacts) shall be mitigated through the creation or enhancement of similar riparian habitat at an approved mitigation site, or by the removal of exotic species from an area of existing similar habitat. The requirement for replacing suitable habitat by either creating new habitat or removing exotic species from existing habitat shall follow the replacement ratios and timing requirements in later mitigation measures. Habitat to be created to mitigate for the loss of riparian habitat shall be designed specifically to replicate the appropriate species mixture and vegetative structure for these species. Existing habitat to be weeded as mitigation for the loss of riparian habitat must be located adjacent to similar habitat that is to be replaced and infested with invasive weeds. The first priority for habitat mitigation for sensitive bird species will be the creation or restoration of habitat rather than weed removal. The final habitat replacement or exotic removal plans for impacts to these types of habitats shall be reviewed by the ACOE and CDFG.

s) Beginning 30 or more days prior to the removal of any suitable riparian habitat that will occur during the riparian bird breeding and nesting season of March 15th through September 1st, the applicant shall arrange for weekly bird surveys to detect the above riparian bird species in the habitats to be removed, and any other such habitat within 300 feet of the construction work areas. The surveys shall be conducted by a qualified biologist using CDFG and/or USFWS survey protocols. The surveys shall continue on a weekly basis, with the last survey being conducted no more than 7 days prior to the initiation of construction work.

t) In the event that a special-status species is observed in the habitats to be removed or in other habitats within 300 feet of the construction work areas, the applicant has the option of delaying all construction work in the suitable habitat or within 300 feet of the suitable habitat until after September 1st, or continuing the surveys in order to locate any nests. If an active nest is found, clearing and construction within 300 feet of the nest shall be postponed until the nest is vacated and juveniles have fledged, and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest site shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the ecological sensitivity of the area.

u) Locating and determining the status of a nest shall be performed in accordance with approved procedures by the USSFWS and CDFG. The ACOE and CDFG shall be notified at least 14 days prior to the first scheduled survey and shall have the option of attending. Results of the surveys, including surveys to locate nests, shall be provided to the ACOE and CDFG no later than 5 days prior to construction. The results shall include a description of any nests located and measures to be implemented to avoid nest sites. No surveys will be necessary if the work is completed outside of the riparian bird breeding and nesting season, i.e., from September 1st through March 15th.

v) Thirty days prior to construction activities in areas of the "upland impact zone" associated with individual NRMP projects, a qualified biologist shall conduct a survey to capture and relocate individual San Diego and California horned lizard, silvery legless lizard, coastal western whiptail, pallid bat, San Diego black-tailed jackrabbit, and San Diego desert woodrat in order to avoid or minimize take of these sensitive species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Pre-construction surveys shall only be conducted in areas dominated by Riversidian coastal sage scrub or coastal sage – chaparral scrub or if construction will occur within 300 feet of native upland habitat. Results of the surveys and relocation efforts shall be provided to CDFG in the Annual Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

w) Construction activities shall be limited to the following areas of temporary disturbance: (1) an 85 foot-wide zone that extends into the river from the base of the rip-rap or gunite bank protection where it intercepts the river bottom; (2) 60 feet on either side of the outer edge of a new bridge or bridge to be modified; (3) 50-foot-wide corridor for all utility lines; and (4) 20-foot-wide temporary access ramps and roads to reach construction sites. The locations of these temporary construction sites and the routes of all access roads shall be shown on maps submitted with the Verification Request Letters for individual projects that are submitted to the CDFG and ACOE. Any variation

from these limits shall be noted, with a justification for a variation. The construction plans should indicate what type of vegetation, if any, would be temporarily disturbed, and the post-construction activities to facilitate natural revegetation of the temporarily disturbed areas. The boundaries of the construction site and any temporary access roads within the riverbed shall be marked in the field with stakes and flagging. No construction activities, vehicular access, equipment storage, stockpiling, or significant human intrusion shall occur outside the work area and access roads.

x) Equipment shall not be operated in areas of ponded or flowing water unless there are no practicable alternative methods to accomplish the construction work, and only after prior approval by the CDFG and the ACOE. Approval shall be acquired by submitting a request to CDFG and ACOE no later than 30 days prior to construction. The request must contain a biological evaluation demonstrating that no sensitive fish, amphibians, and/or reptiles are currently present, or likely to be present during construction, at the construction site or along access roads.

y) Temporary sediment retention ponds shall be constructed downstream of construction sites that are located in the riverbed under the following circumstances: (1) the construction site contains flowing or ponded water that drains off site into the undisturbed streamflow or ponds, as allowed for certain areas under Item a) above; or (2) streamflow is diverted around the construction site, but the work is occurring in the period November 1st through April 15th when storm flows could inundate the construction site. The sediment ponds shall be constructed of riverbed material and shall prevent sediment-laden water from reaching undisturbed ponds or streamflows. To the extent feasible, ponds shall be located in barren or sandy river bottom areas devoid of existing riparian scrub, riparian woodland, or aquatic habitat. The ponds shall be maintained and repaired after flooding events, and shall be restored to pre-construction grades and substrate conditions within 30 days after construction has ended at that particular site. The location and design of sediment retention ponds shall be included in the Storm Water Pollution Prevention Plan (SWPPP) prepared by the applicant for all construction activities that require a NPDES General Construction Activity Storm Water Permit.

z) Installation of bridges, culverts, or other structures shall not impair movement of fish and aquatic life. Bottoms of temporary culverts shall be placed at or below channel grade. Bottoms of permanent culverts shall be placed below channel grade.

aa) Water containing mud, silt, or other pollutants from construction activities shall not be allowed to enter a flowing stream or be placed in locations that may be subject to normal storm flows during periods when storm flows can reasonably be expected to occur.

bb) Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 Permit or 1603 Agreement.

cc) Silt settling basins, installed during the construction process, shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.

dd) If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-project topographic conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-project grade, to the extent practical, unless it is represents a wetland restoration area.

ee) Temporary structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.

ff) Staging/storage areas for construction equipment and materials shall be located outside of the ordinary high water mark.

gg) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

hh) Stationary equipment such as motors, pumps, generators, and welders which may be located within the riverbed construction zone shall be positioned over drip pans. No fuel storage tanks shall be allowed in the riverbed.

ii) The applicant shall use best efforts to ensure that no debris, bark, slash sawdust, rubbish, cement or concrete or washing thereof, oil, petroleum products, or other organic material from any construction, or associated activity of whatever nature, shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, watercourses included in the permit. When construction operations are completed, any excess materials or debris shall be removed from the work area.

jj) No equipment maintenance shall be done within or near any stream where petroleum products or other pollutants from the equipment may enter these areas with stream flow.

kk) If water diversions are required to perform work within the Santa Clara River, the applicant shall utilize provisions for the protection of arroyo toad, unarmored three-spine stickleback, arroyo chub, Santa Ana sucker, southwestern pond turtle and two-striped garter snake, including securing appropriate Endangered Species Permits. Those provisions are as follows:

- Prior to initiating construction, the site shall be inspected by a qualified biologist for the presence of the species listed above. The ACOE and the Department will be notified of the inspection and will have the option of attending. If either agency is not represented, the biologist will file a written report of the inspection with the agency not in attendance within ten days of completion of the survey. If any of the species listed above are present, the following conditions will apply:

  – The site shall be surveyed and cleared of the species listed above immediately before the work is to be carried out, immediately before any equipment is moved into or through the stream, and immediately before diverting any stream water. Any species found shall be moved out of the construction area and replaced in the stream in a manner or place to assure their survival.

  – Blocking nets, or fences with 1/4 inch square mesh, 18 inches high and buried 6 inches, shall be placed upstream and downstream of the work area to assure that none of the species move into the area.

ll) A qualified biologist, approved by the City, will be present at the moment any stream diversion takes place and will patrol the areas, both within and downstream of the work area, to rescue any species stranded by diversion of stream water. If the possibility exists that additional downstream sections of the stream will be dewatered, additional biologists will be available for downstream patrol. This rescue patrol will continue until all dewatered portions of the stream are determined to be cleared.

mm) Once the construction site or a portion of the site and work area boundary has been determined to contain none of the species listed above, the site shall be fenced with construction fencing along the riverside- and construction personnel and equipment will not enter the river beyond the fence.

nn) A water control system will be installed to intercept stream flow upstream of the site and carry it around the site. The system will be completed before turning water into it. The process of turning water into the bypass system shall be done so as to minimize sediment movement.

- The Operator will use best efforts to insure that no debris, bark, slash, sawdust, rubbish, cement, concrete, or washings thereof, oil or petroleum products, or other organic material from construction or associated activity will be allowed to enter into or be placed where it may be washed by rainfall or runoff into the river. Sediment management best management practices shall be used during construction.

- Impacts to Endangered species may require appropriate Endangered Species Permits.

oo) Pilot channels constructed to divert flows around work areas shall be sized to maintain existing water velocities, with wide, shallow channels being utilized. The channel should be kept as small as possible, extending no more than 25 feet upstream and downstream of the work area. Construction of pilot channels should start downstream. Once water is diverted into the new channel, the original channel should be visually inspected and any stranded fish shall be removed and returned to the water downstream of the diversion. Once the diversion is no longer needed, the area shall be restored as closely as practical to its original configuration.

pp) The use of a pump to divert flows around a work site is also acceptable. The pump must have at least a 1/4-inch screen. Water should be discharged downstream, within 25 feet of the work area. Any dams installed across flowing water for the diversion shall be removed upon completion of construction and the area shall be restored as closely as practical to its original configuration.

qq) The Operator shall utilize a Maintenance Notification and Emergency Maintenance Notification forms (Exhibits 1 and 2 of the NRMP) to alert the ACOE and the Department of work to be performed. In non-emergency situations, the form should be filled out and faxed or mailed to the ACOE and the Department at least two weeks in advance of the work. If the work may adversely impact Endangered species, the ACOE, the Department and LACDPW shall meet in the field to resolve the issue. LACDPW may contact the ACOE and the Department to identify areas of potential Endangered species habitat. If the ACOE and the Department believe the work may adversely impact Endangered species or its habitat resources or the LACDPW wishes to consult with the ACOE and the Department, a field meeting will be scheduled. At the field meeting, the ACOE and the Department will provide information regarding Endangered or Threatened species that could be impacted by the project. If take of an Endangered species will occur, the appropriate Endangered

Species Permits will be required. To the extent that a USFWS Section 7 and a CDFG Section 2081 Memorandum of Agreement have been completed for the species present, the mitigation measures shall be implemented and construction may proceed as outlined in these documents.

rr) The notification is provided to demonstrate consistency with the policies of the NRMP. In non-emergency situations, the ACOE and the Department must respond to the notification within 20 working days if they believe that the work is inconsistent with the NRMP, at which time a field meeting will be scheduled to review the site and determine how the work may proceed. If the ACOE and the Department do not respond within 20 working days, the work shall proceed as described in the notification. However, appropriate Endangered Species Permits will be required for impacts to Endangered species.

7. MITIGATION MEASURES PROPOSED BY THIS EIR

The following discussion describes measures proposed within this Draft EIR to avoid, minimize, or reduce significant or potentially significant impacts on biological resources. These measures are also designed to ensure compliance with state and federal statutes and regulations regarding special-status plant and animal species.

a. Resource Management and Monitoring Plan

4.6-2 Prior to issuance of a Grading Permit for the project, the applicant shall obtain the services of a qualified biologist who must, at a minimum, have a degree in botany, biology, wildlife biology or ornithology and experience in developing management plans for the flora and fauna, plant community and wildlife habitats found in the Southern California area, to develop a RMMP to serve as a guideline for managing and monitoring mitigation areas for specific species, plant communities, jurisdictional resource areas, and habitats. The RMMP shall be submitted to the City of Santa Clarita Planning and Building Services at least 30 days prior to issuance of a Grading Permit for the project, and shall include the following:

a. A **Planting Plan**, at a minimum, that lists all appropriate native plants to be included in all revegetation mitigation areas. The planting plan shall be developed by a qualified biologist as approved by the City.

b. **Procedures** regarding the removal of non-native vegetation, planting of native vegetation, translocation of trees, planting of container stock, irrigation, and equipment use.

c. **Maps** that illustrate the specific location of mitigation areas.

d. **Procedures outlining monitoring and maintenance activities** including frequency and timing of monitoring visits, plant maintenance, and irrigation maintenance.

e. **Specific criteria** that will specify what goals must be accomplished at each mitigation area before the mitigation is deemed a success.

f. **Adaptive Management and Contingency actions** that will specify what actions will be taken in the event success criteria are not met.

g. **The source of funding** that will be required to successfully carry out all procedures outlined in the RMMP.

4.6-3 Unless directed otherwise by a lead agency, responsible agency, or regulatory agency, the monitoring of results will be maintained for a period of five years. The frequency of monitoring visits may vary by task category, but generally quarterly visits are conducted for the first three years followed by two subsequent annual visits. An annual report shall be produced by the biologist conducting the monitoring activities and will be provided to the lead agency and appropriate regulatory agencies.

b. ACOE Waters of the U.S. and CDFG Streambeds

4.6-4 Newhall shall prepare an amendment or variance to the NRMP and mitigate in accordance with the above requirements.

c. Special-Status Plant Species

(1) Parry's larkspur, Slender and Plummer's mariposa lilies

4.6-5 To minimize direct loss of Parry's larkspur, slender and Plummer's mariposa lilies in areas subject to disturbance, additional field surveys to determine amount of area covered by these species and approximate densities shall be conducted during the appropriate blooming period for these species prior to site preparation and/or grading activities in areas potentially supporting this species. Locations of individual plants or plant populations shall be appropriately flagged, and (1) seeds from a representative mix of individual plants shall be

collected and sown in appropriate habitats, or on cut slopes, and (2) the bulbs shall be harvested and transplanted to areas of appropriate habitat which are not subject to further disturbance. The goal will be to produce replacement populations of in-kind plants reaching maturity, at a ratio of 1:1 with respect to the number and density of plants (estimated) to be lost. The areas to be preserved and maintained as open space within the Riverpark project site contain habitat suitable to support these species. All seed collecting, planting, and transplanting procedures shall be identified in the RMMP and appropriate management, monitoring, success criteria, and adaptive management guidelines for the mitigation of impacts to these species shall also be identified.

(2) Oak Trees

4.6-6 While the majority of oak trees on the site will be retained in place, three live trees will be removed and 12 will be relocated. Appropriate approvals shall be obtained prior to oak trees being removed, subject to the Oak Tree Preservation Ordinance (Ordinance 89-1) and the City of Santa Clarita Oak Tree Preservation and Maintenance Guidelines. Prior to grading, oak trees near construction/grading areas that will not be removed will be protected during the grading and construction phases of the project by appropriate fencing that extends 5 feet beyond the tree canopy's dripline, or 15 feet from the trunk, whichever is greater.

4.6-7 Additional specific mitigation measures are described in detail in the Oak Tree Report produced by Tree Life Concern, Inc. (**Appendix 4.6**) and listed below. The mitigation measures described in this report are supported by the City's Oak Tree Specialist and exceed the requirements of the City of Santa Clarita tree ordinance.

Equipment damage to the limbs, trunks and roots must be avoided. Even slight trunk injuries can result in long-term, life threatening pathogenic maladies. No storage of equipment or debris within the Protective Zone (dripline plus 5 feet) will be allowed. No dumping of construction wastewater i.e., paint, stucco, concrete, clean-up, etc. within Protective Zones, Generally, fencing shall be placed at the Protective Zone of any oak or groups of oaks within 50 feet of proposed construction activity. Protective Fencing must remain in place during construction projects and shall not be moved or removed without prior written approval from the Department of Community Development under the direct supervision of the Project Consulting Arborist.

Protective Fencing shall be at least 4 feet in height with a visible sign attached at 50 feet intervals which reads: [WARNING - THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF SANTA CLARITA COMMUNITY DEVELOPMENT DEPARTMENT]

If possible, complete pruning of the larger California Live or Valley oaks, is recommended for health and weight reduction (inspect for occupied woodpecker nests prior to removal of larger dead snags). Any cuts over 2 feet in diameter would require a "Pruning Permit" from the City. After pruning, the installation of support cables to prevent future main crotch failures is recommended (refer to the Summary of Field Inspection for specific tree and cable numbers). All cables should be a minimum of 5/16 inch diameter EHS (Extra High Strength) and attached with 5/8-inch diameter, galvanized thru-bolts. Heavy-duty 3/8-inch thimbles are to be utilized at each attachment point. These recommendations are presented for consideration by the City, current and/or future property owners.

Care should be taken to avoid placing any sprinklers within watering distance to the trunk of an oak tree. Generally, sprinklers should not reach within 15 feet of a mature oak trunk. Grass or ground covers must never be planted next to the trunks. Too much moisture near the base of an oak is generally believed to be their leading cause of death in residential settings. Oak Root Fungus is the result of over-watering. Oak trees survive and thrive on annual rainfall alone and generally do not need supplemental irrigation except during periods of drought. Watering should take place at or near the dripline. Landscape plans should leave the area within the dripline of an oak tree in a native or natural setting.

Care must be taken to limit grade changes near the trunk areas. The grade should not be lowered or raised around the trunks of trees. This can lead to plant stress from oxygen deprivation or Oak Root Fungus at the root collar.

Mitigation for the tree removal s/relocations includes the dedication of a 24acre property with oak tree habitat. This property is directly adjacent to the 4.25-acre active neighborhood park and contains a majority of the oak trees on the project site. The proposed mitigation (dedication of 24 acres of oak habitat open space and the transplanting of oak trees on site including the costs associated with the corresponding five-year maintenance plan of said trees) for oak tree impacts is consistent with the provisions of the City's Oak Tree Preservation Ordinance.

Protective fencing shall be installed around all oaks not listed for removal. Place protective fencing at the PZ as shown on the TLM. The fencing can be repositioned as needed to allow for grading near the oaks listed as "impacted". The project arborist must be present during the fence placement. Final fencing locations shall be inspected by the City prior to the commencement of development activities. Regular inspections of this fencing shall occur during site development.

An Oak Tree Information Packet including the City of Santa Clarita Oak Tree Protection and Preservation Guidelines must be available on site during construction. The property owner and contractor should be familiar with the contents of these documents.

Vehicle travel along dirt roadways to and from the site may create a heavy coating of dust on the foliage of nearby oaks. These oaks should be hosed off periodically during construction activities.

All work performed within the Protective Zone (dripline plus 5 feet) of any oak shall be accomplished by utilizing hand tools only and must be 'monitored' by the project's Oak Tree Consultant.

All roots over 1.5-inch diameter will be clean cut at a 45-degree angle and treated by the Consulting Arborist.

No oaks outside the property line are to be impacted by this construction project.

The leaf-litter build-up under the canopies of the oaks on this site is ideal for healthy tree growth and root development. Do not alter or remove if possible. A three-inch layer of mulch may be advisable in settings where leaf-litter has been lost.

Do not remove the aluminum tags numbering each oak on this site.

No construction materials are to be stored or discarded within the PZ of any oak. Rinse water, concrete residue, liquid contaminates (paint, thinners, gasoline, oils, etc.) of any type shall not be deposited in any form at the base of an oak.

No vehicles shall be parked within the PZ of an oak. No construction vehicles are to be parked under the shade (within the PZ) of an oak.

(a) Oak Transplantation

The oak trees listed for transplanting shall be professionally "boxed" and relocated on site to the designated "storage area" (see TLM). A qualified transplant company shall perform the relocations (it is anticipated that Valley Crest Tree Company will be performing the relocations). To enhance the success of each tree for long-term survival the relocations will be monitored by the Project Arborist. The size of box for each tree will be determined by the Arborist and Valley Crest representative. Consideration will be given to the buttress spread, as well as the trunk diameter. Generally, the larger the box, the greater

the probability of success. In every case where a decision is to be made between a smaller size box and a larger box, i.e., 180- or 192-inch box, the box of choice will be the 192-inch box.

Under the direction of the Project Arborist, side-boxing/root-pruning operations shall take place during the months of November through January. These trees will then be maintained in situ for a 90-day period prior to bottom-board installation and relocation to the "storage site".

A "storage site" has been designated (see TLM) with a permanent water supply, which will be accessible to each boxed tree.

The Project Arborist (in conjunction with the relocation company) will determine if and when fungicides, fertilizer or soil amendments are needed. Each tree will be monitored for any condition that may require a specific treatment to enhance survivability before, during and after relocation.

Prior to side-boxing and root pruning the soil moisture content must be sufficient to maintain the rootball intact during this process.

Each oak should be lightly pruned at this point to remove deadwood, stubs, broken limbs, crossing limbs or for clearance purposes. The pruning will be monitored.

The excavation process will first begin with a back-hoe. As roots are encountered the back-hoe will be removed and roots 2 inches or larger will be hand excavated and clean-cut with a handsaw. The exposed cuts will be treated with a Bordeaux linseed oil solution to help prevent desiccation. All roots shall be clean cut with pruning shears or by handsaw. Root balls that are exposed to full sun will be tarped until the side-box wall is installed.

After side-boxing/root-pruning operations the trees will remain in place for approximately 90 days before the bottom boards are installed.

The boxed trees will be hoisted by the box itself (not by the trunk) and carried to the storage area.

The orientation of each oak (north, south, east, west) will be carefully maintained during the storage process. The project arborist will mark each box for proper direction while in storage. This is important to prevent damage from sunburn.

Valley Crest shall guy-wire each tree as needed into the box and/or into the ground as needed. The storage area is notoriously windy and extra attention will be paid to securing the trees until planting. The guy-wires will be placed through hose-sections where they are in contact with the tree.

When planting the oaks, the planter-hole (pit) location will be partially filled with loosened native soil. The size of the hole will be 2 feet larger than the box size. If drainage is determined to be a concern, PVC drain tubes will be installed in a rectangular fashion with breather ports attached at four locations. The bottom of the pit will be filled with 8 inches of gravel and a layer of permeable soil-cloth will be placed over the gravel.

An 8-inch layer of native soil will then be placed over the cloth and the tree install backfilled. This will allow for monitoring any possible water pooling at the base of each tree. Unamended native soil will be utilized for the backfill unless a soil analysis indicates that amendments will be required.

A soil analysis will be performed at the planting site 30 days prior to relocation. The backfill soil will be compacted to normal (native-soil compaction).

The height of the root ball is critically important in the long-term survival of a transplanted oak. Each rootball will be placed at least 6 inches above existing grade. This will allow for settling and ensure that water does pool at the root collar.

Soil watering-basins will be constructed to properly irrigate the entire rootball of each tree. The trees will be monitored by relocation company and the Project Arborist on a weekly basis to determine current condition and maintenance requirements.

4.6-8 All revegetation, restoration, and enhancement measures within mixed oak woodlands shall be documented in the Resource Management and Monitoring Plan and shall include, at a minimum, the following: (1) the location of the planting/revegetation areas (to be coordinated with the City; (2) the species of oaks and other plant species to be planted within the protected zone of the oaks; (3) planting procedures; (4) a schedule and action plan to maintain the plantings; and (5) a list of criteria by which to measure success of the plantings, as well as contingency measures if the plantings are not successful.

d. Special-Status Wildlife

Mitigation measures to avoid take of state and federally listed Threatened and/or Endangered species have been identified in the NRMP EIS/EIR and in the Section 1603 Streambed Alteration Agreement issued by CDFG for the NRMP. A detailed program of mitigation measures is set forth in the NRMP Section 1603 Streambed Alteration Agreement and a blanket Section 7 Endangered Species Permit has been issued in conjunction with the NRMP. In addition, compliance with the California Endangered Species Act will occur, as applicable.

Mitigation measures included in the NRMP EIS/EIR and Section 1603 authorization include the following:

- Surveys and site inspections for the least Bell's vireo (vireo) and unarmored three-spine stickleback (UTS) by qualified biologists;
- Installation of blocking nets as specified by FWS for the UTS;
- Specific stream diversion practices utilizing qualified biologists for the UTS; and
- Limitations on construction activities during the nesting season near occupied habitat for the vireo.

e. Increased Human and Domestic Animal Presence

4.6-9 Pets and other domestic animals shall be prohibited with fencing and signage from the open space areas and in any revegetation areas on the project site unless restrained by leash and only in designated areas.

4.6-10 Fencing of sufficient height and design (i.e., ranch-rail) shall be constructed between the edge of the fuel modification zone and the river corridor to deter humans and domestic animals from entering open space habitat areas.

4.6-11 Native shrubs such as laurel sumac, California coffeeberry, toyon, and coast prickly-pear shall be planted along the fence to further deter access. Final fence design shall be approved by and the City Planning and Building Services Department.

4.6-12 Human access into the open space areas shall only occur in designated locations (i.e., existing and future trails). All motorized vehicles are prohibited from entering the preserved natural open space areas with the exception of emergency or maintenance vehicles. Applicant shall post signage reflecting the above requirement.

4.6-13 Prohibitions against human, domestic animal, and motorized vehicle use in preserved natural open space areas shall be established by the covenants conditions and restrictions (CC&Rs) recorded with the City Planning and Building Services Department.

4.6-14 Interpretative signs shall be constructed and placed in appropriate areas, as determined by the City Planning and Building Services Department, that explain the sensitivity of natural habitats and the need to minimize impacts on these natural areas. The signs will state that they are entering a protected natural area and that all pedestrians must remain on designated trails, all pets are to be restrained on a leash, and that it is illegal to harm, remove, and/or collect native plants and animals. The project applicant shall be responsible for installation of interpretive signs and fencing.

f. Lighting and Glare

4.6-15 All street, residential, and parking lot lighting shall be downcast luminaries or directional lighting with light patterns directed away from natural areas. Covenants, Codes and Restrictions (CC&Rs) shall require the exterior lighting within the residential area be limited to low voltage.

g. Construction-Related Activities

The following measures shall be implemented to minimize impacts on remaining biological resources on the site as a result of construction and grading activities and to ensure that potential impacts on these resources will remain less than significant.

4.6-16 A qualified biologist shall be retained, as determined by the City of Santa Clarita, as a construction monitor to ensure that incidental construction impacts on biological resources are avoided, or minimized, and to conduct pre-grading field surveys for special-status plant and wildlife species that may be destroyed as a result of construction and/or site preparation activities. Responsibilities of the construction monitor include the following:

- The construction monitor shall attend pre-grade meetings to ensure that timing/location of construction activities do not conflict with mitigation requirements (e.g., seasonal surveys for plants and wildlife).

- Mark/flag the construction area in the field with the contractor in accordance with the final approved grading plan. Haul roads and access roads shall only be sited within the grading areas analyzed in the project EIR.

- Supervise cordoning of preserved natural areas that lie outside grading areas identified in the project EIR (e.g., with temporary fence posts and colored rope).

- Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity. Any construction activity areas immediately adjacent to riparian areas or other special-status resources should be flagged or temporarily fenced by the monitor, at his/her discretion.

- Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. The monitor should also discuss procedures for minimizing harm/harassment of wildlife encountered during construction.

- Periodically visit the site during construction to coordinate and monitor compliance with the above provisions.

4.6-17 Construction personnel shall be prohibited from entry into areas outside the designated construction area, except for necessary construction related activities, such as surveying. All such construction activities shall be coordinated with the construction monitor.

4.6-18 Standard dust control measures shall be implemented to reduce impacts on nearby plants and wildlife. This includes replacing ground cover in disturbed areas as quickly as possible; water active sites at least twice daily; suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph; and restricting traffic speeds on all unpaved roads to 15 mph or less in areas within 200 feet of vegetation.

4.6-19 Upon completion of construction, the contractor shall be held responsible to restore any haul roads and access roads that are outside of approved grading limits. This restoration shall be done in consultation with the construction monitor.

In addition, impacts to biological resources as a result of construction and grading activities will be mitigated by implementation of NRMP measures w) through uu) above.

g. Level of Significance After Mitigation

All impacts that are associated with the implementation of this proposed project can be mitigated to a level less than significant except the following:

- The total net loss of 280 acres of wildlife habitat/natural open space as a result of conversion of undeveloped property to developed. Though over 400 acres of the site will remain as open space and some of the habitat can be restored and enhanced within remaining open space areas of the site, there will still be a net loss of habitat for wildlife and open space that cannot be replaced. In effect, while habitat types similar to that impacted can be preserved, planted and/or restored elsewhere, no measures are available that will mitigate a mathematical net loss of 280 acres of open space land as a result of conversion of this land to a developed condition. This net loss represents a significant unavoidable impact.

Impacts to SEA and associated riverine habitat (as identified by the resource line) and riverbed. While riparian vegetation can be planted and enhanced along preserved portions of the river, there will still be a net loss of 25.5 acres of SEA and associated riparian habitat and riverbed that ultimately cannot be replaced. In effect, while habitat types similar to that impacted can be preserved, planted and/or restored elsewhere, no measures are available that will mitigate a mathematical net loss of 25.5 acres of open space land as a result of conversion of this land to a developed condition. This net loss represents a significant unavoidable impact.

- Impacts to adjacent upland habitat within 100 feet of the riparian resource line. While the 100-foot setback threshold will be upheld in several areas along the river, this threshold will not be met along substantial portions of the project. Those portions of the project site that provide less than 100 feet of preserve upland habitat adjacent to the resource line represent a significant unavoidable impact.

8. CUMULATIVE IMPACTS

The proposed project would contribute to the projected urban development in the region. Increasing urbanization of the area will impact biological resources by reducing total habitat area, limiting species diversity, and restricting movement corridors to narrower areas. However, as noted in the assessment of project impacts, this project preserves portions of the riparian habitat which is most significant to biological resources and, by removing land from agricultural uses and providing for revegetation of some such areas, may enhance the habitat in some ways over its existing condition when such revegetation occurs.

This cumulative impact analysis is divided into two parts, the first part being the assessment of the proposed project's impact in combination with the impacts generated by the City's construction of Santa Clarita Parkway through the project site, including the construction of an additional bridge across the Santa Clara River. The second part of the cumulative analysis addresses the cumulative impacts of the proposed project in combination with several other projects proposed or under construction in the Santa Clarita Valley.

a. Cumulative Impacts of the Proposed Project Including the Extension of Santa Clarita Parkway to Soledad Canyon Road

As proposed by the City of Santa Clarita General Plan, a future extension of Santa Clarita Parkway from the terminus in the project to Soledad Canyon Road, including a bridge over the Santa Clara River will be constructed. This cumulative project is not proposed as part of the Riverpark project, but it would traverse portions of the project site. For this reason, the construction of Santa Clarita Parkway is evaluated separately from other cumulative projects. The impact of the proposed project on biological habitats, inclusive of the bridge, is provided below on **Table 4.6-4**.

As shown in **Table 4.6-4**, the construction of the Santa Clarita Parkway extension from the terminus within the project site southerly to Soledad Canyon Road (including the bridge over the Santa Clara River) would result in additional impacts to 4.6 acres of existing habitat, some of which is considered sensitive. Impacts directly related to the Parkway extension would occur primarily to disked fields (1.4 acres), southern riparian scrub (1.5 acres) and riverwash (1.7 acres) habitat types. This area would be converted to roadway and bridge land uses. Given the sensitivity of the habitats affected, such impacts would be considered cumulatively significant when combined with the impacts of the proposed project. Given the similarity of habitat of this area when compared with the project site, impacts to sensitive species would be similar in magnitude. In some cases depending on the species in question, the impacts could be significant.

Table 4.6-4
Riverpark Habitat Acreages and Impacts of the Project Plus Santa Clarita Parkway Bridge to Soledad Canyon Road

Vegetation Type	Vegetation Map ID	Existing Proposed Project Area Including Areas of Off-Site Grading (in acres)	Proposed Project Temporary Impact Area (in acres) and % of Total		Proposed Project Permanent Impact Area (in acres) and % of Total		Temporary Impact of Santa Clarita Parkway	Permanent Impact of Santa Clarita Parkway	Impact of the Proposed Project plus Santa Clarita Parkway	Area Disturbed by Off-Site Grading (in acres)	Undisturbed Area w/in Project[1] (in acres)
Disked Field	DF	92	1.3	1.4%	83.5	90.8%		1.4	86.2	0	7.2
Non-native Grassland and Non-native Grassland with Scattered Shrubs	NNG and NNGW/SHRUBS	80	11.6	14.5%	52.7	65.9%			64.3	18.9	15.7
Planted Sage Scrub	PS	37.0	1.1	3.0%	22.8	61.6%			23.9		13.1
Riversidian Sage Scrub	RSS	143.4	10.1	7.0%	95.5	66.6%			105.6	2.3	37.8
Chamise Chaparral	CHC	2.2	0.1	4.5%	1.9	86.4%			2		0.2
Coastal Sage Chaparral Scrub	SCS	8.6	0.7	8.1%	3.9	45.3%			4.6		4
Holly-leafed Cherry	HLCS	12.9	8.3	64.3%	2.9	22.5%			11.2	7.6	1.7
Mule Fat Scrub	MFS	1.2		0.0%	1.1	91.7%			1.1		0.1
Southern Willow Scrub	SWS	1.9	0.1	5.3%	1.4	73.7%			1.5		0.4
Southern Riparian Scrub	SRS	161.4	7.4	4.6%	21.4	13.3%	0.4	1.1	30.3	0.3	132.6
Riverwash	RW	176.2	10.3	5.8%	2.9	1.6%	0.4	1.3	14.9	2.9	163
Mixed Oak/Grass	MOW	2.3	0.1	4.3%	0.4	17.4%			0.5		1.8
Developed Area with Mixed Trees	MT	8.3	1.9	22.9%	4	48.2%			5.9		2.4
TOTALS		**727.4**	**53.0**	**7%**	**294.4**	**40%**	**0.8**	**3.8**	**352.0**	**32.0**	**380**

[1] *Assumes the future extension of Santa Clarita Parkway as undisturbed.*

(1) Impacts to Special-Status Plants and Animals

Impacts to sensitive animals would be similar to the impacts created by the proposed project. Species potentially directly impacted by Santa Clarita Parkway include the riparian species such as the unarmored three-spine stickleback, least Bell's vireo, and Santa Ana sucker, and upland species such as San Diego horned lizard, California horned lizard, Cooper's hawk, California horned lark and San Diego black-tailed jackrabbit. Given the similarity of habitat of this area when compared with the proposed project site, impacts to sensitive species would be proportionally similar in magnitude. In some cases depending on the species in question, the impacts could be significant.

The construction of the Santa Clarita Parkway Bridge and roadway would also impact oak resources. Specifically, two Valley oak trees would be impacted (one removed and one encroached upon), one of which is a Heritage oak tree. Such a cumulative impact would be considered significant.

(2) Impacts to Jurisdictional Resources

Construction of the Santa Clarita Parkway Bridge and roadway would impact resources under the jurisdiction of the ACOE and CDFG. Specifically, impacts to 0.1 acre of land under ACOE jurisdiction would occur and impacts to 0.1 acre of land under CDFG jurisdiction would occur. Such impacts would be considered significant.

(3) Impacts to Wildlife Movement

As indicated in the impact analysis of the proposed project, the proposed project design would generally preserve the integrity of the Santa Clara River as a wildlife movement corridor by maintaining the majority of the Santa Clara River as open space. It is acknowledged that some wildlife species also utilize adjacent upland habitats as foraging areas during periods of active movement, particularly during periods of high water flows. The project plan will preserve and restore various amounts of upland habitat adjacent to the river system that will allow some species, especially the larger mammals such as mountain lion, coyote, bobcat, and fox, to use these adjacent upland areas as movement corridors.

Like the proposed project this additional cumulative project would result in the construction of another bridge across the river. The Santa Clarita Parkway Bridge is proposed to be approximately 800 feet in length and up to 116 feet in width. It will average approximately 20 feet in height above the riverbed with up to 9 vertical support columns extending into the riverbed. The columns will be approximately 100 to 120 feet apart from one another. As indicated for the proposed project, when confronted with bridges or overpasses along a preferred movement corridor, wildlife, particularly larger mammals, will move under these structures as long as there is adequate vertical and horizontal spacing, a natural (dirt, sand, vegetation) substrate on which to travel while under the structure, and an openness effect that allows the animal to see light, open space and habitat at the exiting end of the structure. The proposed Santa Clarita Parkway Bridge will, like the proposed project, adequately meet these requirements and is not expected to significantly alter wildlife movement along the river. Consequently, implementation of the proposed project, in combination with the Santa Clarita Parkway Bridge, will not substantially interfere with the movement of any terrestrial wildlife species; therefore no significant impacts on terrestrial wildlife movement corridors will occur.

(4) Indirect Impacts

Indirect impacts on biological resources would occur to those habitat areas surrounding the Santa Clarita Parkway Bridge site after its completion. Like the proposed project, it is expected that implementation of this cumulative project would result in indirect impacts to biological resources through:

- an increased human and domestic animal presence in the area and noise associated with this presence;
- increasing distribution and proliferation of exotic non-native plant and wildlife species;
- increased light and glare;
- stormwater runoff; and
- construction activities.

Indirect impacts associated with this cumulative project are not quantifiable but are reasonably foreseeable. Such impacts would come primarily through an increase in vehicular traffic across the bridge route itself and the increase light and glare cause by its use. Stormwater runoff from the bridge and roadway would also occur. Various pollutants related to vehicular traffic (e.g., rubber from tires, hydrocarbons from engine exhaust, etc.) would be expected to wash off the road surface into the river and degrade habitat if left unmitigated. Construction activities themselves would also be expected to temporarily and permanently impact habitat along the river corridor. As with the proposed project alone, impacts cause by this cumulative project would, in combination with the proposed project, result in significant indirect biological impacts.

(5) Impacts to SEA 23

A total of 2.8 acres of habitat within Santa Clara River SEA will be disturbed or converted to urban use as a result of Santa Clarita Parkway Bridge construction. Approximately 0.5 acre will be temporarily disturbed as a result of proposed bank stabilization activities and will be replaced upon completion of the bank stabilization to protect the bridge structure. Within the SEA boundaries, a total of 1.5 acres of riverwash, 0.2 acre of southern riparian scrub, and 0.5 acres of disked field representing a total of 2.2 acres of SEA habitat will be permanently lost as a result of this cumulative project. The locations of these impacts are generally along the northern and southern bank of the Santa Clara in the central portion of the project site. Impacts to riparian habitat within the SEA as a result of project construction, grading activities, bank stabilization and bridge maintenance activities, are the same as those discussed previously.

Because of the relatively small amount of each habitat type within the SEA to be removed, like with the proposed project, the permanent loss of an additional 2.2 acres of habitat within the SEA boundaries is not expected to detract from the overall integrity and value of the SEA, in and of itself. In particular, this loss of area will not adversely affect the unarmored three-spine stickleback, the state and federally listed Endangered fish species for which the SEA was originally designed to protect. However, because of the overall sensitivity of SEAs, and because any permanent loss of habitat within a SEA will effectively reduce the overall size of the SEA, any net loss of land within a SEA is considered a significant impact. Therefore, the permanent loss of an additional 2.2 acres of SEA habitat is considered a significant cumulative impact.

b. Cumulative Impacts of the Proposed Project Plus Other Larger Projects

Proposed and reasonably foreseeable projects are briefly described below. Where the potential impacts are known, the impacts likely to be associated with these projects are first identified. The potential for these impacts to combine with similar impacts due to the proposed project is also evaluated. This list of projects is not intended to include all projects that are proposed in the Santa Clarita Valley. Instead, the analysis focuses on those projects that support or would potentially affect similar plant communities, jurisdictional resources, and special-status plant and animal species that occur on the Riverpark site within the Santa Clarita Valley. In particular, those projects that are adjacent to or that otherwise may affect resources associated with the Santa Clara River were included.

(1) Cross Valley Connector (Newhall Ranch Road including the Newhall Ranch Road/Golden Valley Road Bridge)

This project would involve the extension of Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge. Newhall Ranch Road would be extended by approximately 2.0 miles to the east of Bouquet Canyon Road including a bridge over the Santa Clara River connecting with Golden Valley Road. The proposed typical section of the alignment would include a six-lane roadway of approximately 120 feet in width, with a 14-foot median island and pedestrian and bicycle lanes. The proposed Golden Valley Road segment would require the construction of a bridge across the Santa Clara River and would traverse undeveloped open space (e.g., vacant lot, natural riverbed, scrub habitat) parallel to an overhead power line corridor. The proposed roadway is included as Major Arterial Highways in the City's General Plan.

(2) Tesoro del Valle (Upper San Francisquito Creek)

The approved project presently under construction is a master planned community of about 2,500 units on a 1,795-acre site on the west side of San Francisquito Creek. The development would include single- and multi-unit residences, commercial sites, schools, parks, and a fire station. About 1,002 acres of the site would remain in open space, and about 672 acres would remain in a natural undeveloped condition. The project required a General Plan Amendment from Los Angeles County, a Conditional Use Permit, and other local approvals. The project requires substantial grading of hills and the removal of upland habitats and numerous oak trees. The project encroaches into San Francisquito Creek at two locations. About 3.5 acres of the creek will be filled for slopes and a bridge crossing. The lower slopes will contain rip-rap bank protection. Runoff from the project will be directed to water quality basins where aquatic vegetation will be maintained to uptake urban stormwater pollutants before the stormwater is discharged into the creek.

Development of the Tesoro del Valle and the projects along San Francisquito Creek associated with the approved Valencia Company 404 Permit could combine to cause the following potentially significant cumulative impacts: (1) loss of riparian habitat along the margins of the creek; (2) disturbance of riparian wildlife breeding, foraging, and movement due to the proximity of urban development and short-term construction activities; (3) potential degradation of water quality in San Francisquito Creek due to urban stormwater runoff; (4) localized alteration in channel velocities in areas where the existing channel is narrowed; (5) loss of native upland habitats due to land development; (6) permanent loss of prime farmlands; (7) modification of visual qualities due to urban development, bank protection, and bridges; and (8) potential disturbance to habitat for the unarmored three-spine stickleback.

(3) Newhall Ranch Specific Plan

The recently approved Newhall Ranch Specific Plan, approximately 12,000 acres in size and located several miles west of the project site generally between Interstate 5 and the Los Angeles/Ventura County line, has a high diversity of biological resources, including sensitive species and habitats. In addition, portions of the Specific Plan area are important wildlife corridors and habitat linkages between large contiguous blocks of open area. These include the Santa Clara river corridor and the area located in the southern portion of the parcel in the Santa Susana Mountains (referred to as the High Country Special Management Area on the Specific Plan site). Both of these areas have been identified and designated as Significant Ecological Areas by Los Angeles County and have been preserved as such by the Specific Plan, although modified as described herein.

The Newhall Ranch Specific Plan area contains habitat of varying 'conservation value' quality. Studies of the site were used to identify those areas with higher value in terms of conservation biology, and to develop a plan to manage habitats present to minimize impacts to the most sensitive biological resources.

The Newhall Ranch Specific Plan applicant, also The Newhall Land and Farming Company, proposes to preserve as undeveloped land a total of approximately 6,831 acres (or 57 percent of the site); however, portions of development of the Newhall Ranch Specific Plan would occur in some sensitive upland and riparian habitats. Buildout of the Newhall Ranch Specific Plan would result in the construction of approximately 21,000 new homes and several million square feet of supporting commercial and industrial development. Due to the conversion of approximately 5,132 acres of habitat that are in a largely natural condition to a suburban and urban condition, implementation of the Newhall Ranch Specific Plan would substantially diminish habitat for wildlife and plants. Implementation of the Newhall Ranch Specific Plan would also significantly impact sensitive wildlife species, significantly impact the ability of animals to move across portions of the site, and significantly impact several sensitive upland habitat types. All of these are considered unavoidable significant impacts that cannot be fully mitigated.

As indicated in this subsection, several large development projects are proposed for the Los Angeles/Ventura County region. All of these proposed developments would remove natural habitat. The Newhall Ranch Specific Plan will convert approximately 5,132 acres of land from a largely natural, albeit partially disturbed, habitat condition, to that of a suburban/urban environment. That conversion, when added to all the other such conversions of open area that are proposed, will permanently decrease the amount of land available for natural habitats and the flora and fauna that inhabit them. Neither implementation of the project nor any other similar large scale project proposed on the edge of the existing urban environment cannot mitigate from a biological perspective the permanent conversion of large blocks of open area. It is for this reason that the cumulative impact is considered unavoidably significant.

(4) West Creek Project

The proposed West Creek project is located on the west side of San Francisquito Creek, north of Newhall Ranch Road and south of the Copperhill Road Bridge. The proposed project consists of a maximum total of 2,545 residential units, along with a total of 180,000 square feet of neighborhood serving commercial uses, an elementary school and other related development. Circulation will be provided by a series of internal collector roadways that connect to the previously approved extension of Copper Hill Drive, a public street that represents the primary roadway providing ingress and egress to the site. Private recreational facilities will be provided in the central portion of the project site and a network of hiking/biking trails will extend both throughout the project site and along San Francisquito Creek. Buried bank stabilization has been installed along the west side of San Francisquito Creek and the Decoro

Drive Bridge over the creek has been completed. The project site lies partially within Significant Ecological Area 19.

Development of the West Creek project and the other projects along San Francisquito Creek could combine to cause the following potentially significant cumulative impacts: (1) loss of riparian habitat along the margins of the creek; (2) disturbance of riparian wildlife breeding, foraging, and movement due to the proximity of urban development and short-term construction activities; (3) potential degradation of water quality in San Francisquito Creek due to urban stormwater runoff; (4) localized alteration in channel velocities in areas where the existing channel is narrowed; (5) loss of native upland habitats due to land development; (6) permanent loss of prime farmlands; (7) modification of visual qualities due to urban development, bank protection, and bridges; and (8) potential disturbance to habitat for the unarmored three-spine stickleback.

(5) Gate King Project

The applicant is proposing to subdivide a 584-acre site into 60 lots and is requesting General Plan Amendments to change the land use designations in several areas of the site. The site is situated in the southern portion of Santa Clarita, within the community of Newhall. The proposal involves amending the land use designation on about 223 acres, or about 38 percent of the site. The proposed changes would eliminate the residential (RE) and commercial (CC) designations from the site, and would increase the area designated IC from 337.5 acres to about 344 acres. The area designated open space (OS) would increase from 93.2 acres to about 240 acres. The project site includes an estimated 10,680 live oaks and an additional 1,041 oaks that are either dead or have experienced severe fire damage. The proposed development would directly remove 1,000 oaks, or about 9 percent of the total number of oaks on site. Oaks to be removed include 696 coast live oaks and 304 scrub oaks. The 696 coast live oaks to be directly removed do not include 64 trees that were previously removed without City oak tree removal permits. In addition to the oaks that would be directly removed by grading, 336 oaks, or about 3 percent of the site total, could be indirectly affected by site grading and development because of their proximity to areas proposed for grading.

(6) Transit Mix Soledad Canyon Mine

Transit Mix, Inc. has proposed a new aggregate mine for a hillside at the entrance to Soledad Canyon. The surface mine would encompass about 300 acres on mostly private land. A joint EIR/EIS was prepared by the Bureau of Land Management and Los Angeles County Department of Regional Planning. The project would result in significant impacts to upland habitats.

Use of groundwater at the mine site could affect the amount of surface water at the mouth of Soledad Canyon where a population of the unarmored three-spine stickleback is present. A long-term significant impact to this species is not anticipated because the applicant has agreed to a continuous water quality and depth-monitoring program designed to detect and prevent any adverse impacts from groundwater pumping.

(7) Valencia Commerce Center

This project consists of a light industrial and commercial development over 1,500 acres on undeveloped farmlands north of State Route 126, west of Interstate 5, and immediately east and downslope of the Regional Post office. Castaic Creek traverses the site. A 404 Permit was issued for this project by the ACOE to line the existing banks with gunite bank protection. Castaic Creek contains dense riparian woodland and supports the least Bell's vireo and arroyo toad. As such, construction of the Valencia Commerce Center and the development projects associated with the proposed Valencia Company 404 Permit could cause the following potentially significant cumulative impacts: (1) loss of riparian habitat from the study area; (2) disturbance of riparian wildlife due to the proximity of urban development; (3) potential degradation of water quality in the Santa Clara River due to urban stormwater runoff; (4) permanent loss of prime farmlands; (5) temporary and permanent disturbance to habitat for the least Bell's vireo; and (6) modification of visual qualities due to urban development, bank protection, and bridges.

(8) Castaic Junction Project

The 114.2 gross-acre project site is located within unincorporated Los Angeles County in the Santa Clarita Valley. The irregularly-shaped parcel is immediately south of the intersection of Henry Mayo Road and The Old Road. North of this intersection is the I-5/SR-126 interchange. The southern project boundary is defined by the Santa Clara River. The project applicant proposes to subdivide the parcel into 27 lots and to develop them with 1,377,200 square feet of light industrial building area (lots 1, 8-17, 19, 20, and 24-27), 446,600 square feet of office space (lots 2-7), and 55,700 square feet of retail space (lots 18, and 21- 23), totally 1,879,500 square feet. Under the proposed zoning of M 1-1/2 (Restricted Heavy Manufacturing), the site could be developed with any use with the exception of those listed in Section 22.32.100 of the Planning and Zoning Code, and as permitted under Section 22.32.110 et seq. of the Code; however, it is the intent of the project applicant to develop the site with light industrial, warehouse, office, and retail uses.

The Holser Fault traverses the western portion of the site. The site is within the 100-year floodplain of the Santa Clara River and a portion of it is within Significant Ecological Area (SEA) 23, which includes the Santa Clara River and the habitat for the protected unarmored three-spine stickleback.

(9) Castaic Lake Water Agency Reclaimed Water Master Plan

Castaic Lake Water Agency (CLWA) has prepared a Reclaimed Water Master Plan as part of their plan to increase the amount and reliability of the overall water supply. The project would use effluent from County Sanitation Districts of Los Angeles' two local wastewater treatment plants (Saugus and Valencia). Treated wastewater would be diverted from discharge to the river and instead, conveyed by pipelines to customers of reclaimed water such as golf courses, landscaped areas, and certain industrial uses. At this time, CLWA has approval from the Regional Board and Sanitation Districts to reclaim up to 1,700 acre-feet per year. The Master Plan indicates that up to 10,000 acre-feet per year may be feasibly reclaimed and used in the study area in the next 10 years.

Diverting effluent from the river could reduce surface flows, groundwater recharge, and habitat for the unarmored three-spine stickleback. The significance of this impact is unknown pending further environmental studies. However, it is likely that diversion from the river will only offset the past, present, and future increases in imported water use in the region that result in steadily increasing discharges of treated wastewater into the river. Hence, the effects on surface water, groundwater, and aquatic habitat may be negligible. To the extent that this conclusion is supported by future studies, no significant cumulative impact is anticipated with the proposed project.

(10) Los Angeles County Sanitation Districts' Facilities Plan

The Districts operate two wastewater treatment plants in the study area, the Saugus Plant and the Valencia Plant, which discharge about 16 million gallons a day of tertiary treated water into the Santa Clara River where it supports riparian vegetation and the unarmored three-spine stickleback. The Districts issued a Notice of Preparation in August 1996 for a Facilities Plan EIR. The plan will address the overall wastewater conveyance, treatment, and disposal needs of the Districts through the year 2015. The plan is expected to include specific facility improvements such as new and enlarged pipelines, plant expansion, modified operations, new treatment methods, and physical improvements to the two plants. The plan could be considered growth inducing, instead of a reaction to proposed development. The plan will not specifically address reclaimed water projects. The plan is being prepared due to the increasing amount of wastewater being produced in the region as the urban population increases.

The proposed facilities plan is not expected to result in any significant impacts beyond localized and temporary impacts due to physical improvements to the systems. Hence, the potential for significant cumulative impacts with the proposed project is considered very low.

(11) North Valencia II Specific Plan

This approved project entails the annexation of 596.2 acres of land and the entitlement to develop the undeveloped portion of the annexation area (391.2 acres). Approximately 205 acres of this area is already developed with commercial and industrial uses. The remaining portions of the Newhall Ranch Specific Plan area are presently under development. The project approvals allow the developer to construct 1,900 dwelling units (1,400 single-family detached, 500 multi-family attached), 210,000 square feet of commercial/retail uses, a 15.9-acre community park, 20-acre school site, 4.1 acres of private neighborhood parks, 93.4 acres of natural open space and over 9 miles of trails and paseos. The 596.2-acre project includes approximately 391.2 acres of Specific Plan area and 205 acres of existing industrial and commercial development in the Valencia Industrial Center. The Significant Ecological Area in the project area is the San Francisquito Creek. The General Plan states that, "…[t]his area was designated as an SEA primarily because of the threat of loss of suitable habitat for the unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni)*, a federally and state listed endangered species."

The project is a diverse and balanced mix of land uses ranging from commercial retail to high density multi-family and low to medium density single-family residential uses. These uses provide land uses which support the local vicinity and region (e.g., new housing would be provided to support existing and new employment opportunities expected to occur in the Santa Clarita Valley); commercial land uses which provide services for new residents; neighborhood parks and a school site to provide local recreational and educational support for new and existing residents. The trail system will serve the recreational needs of both a local and regional area. The creek area on the site is devoted to conservation (approximately 93.4 acres of the 596.2-acre site). This area, termed the San Francisquito Creek Conservation Area, is intended to respond to the City's desire to maintain the creek and SEA as an area devoted to the protection and preservation of important biological resources. Nevertheless, impacts on riparian resources and the riparian ecosystem and impacts on SEA 19 are considered cumulatively significant. Also, human and domestic animal use of riparian and upland habitat areas is expected to continue to occur as a result of project implementation and; therefore, will remain cumulatively significant.

(12) Curtis Sand and Gravel Mine Expansion

The Curtis Sand and Gravel Mine occur near Lang, about 10 miles upstream of the study area. It encompasses about 185 acres and about 1.5 miles of the Santa Clara River. Sand and gravel have been extracted from uplands and the riverbed for many decades. The ACOE is currently evaluating a 404 Permit application to continue skimming riverbed sediments at the mine site, at an average annual rate of about 200,000 tons. Mining will remove riparian vegetation in the riverbed. Hydrologic studies by the applicant have indicated that no adverse hydrologic impacts would occur downstream of the mine site.

Proposed mining operations could cause localized impacts to hydrologic conditions, water quality, and riparian habitat. However, no cumulative impacts with the proposed 404 Permit are anticipated due to the great distance between the two projects. Nevertheless, from a regional viewpoint, both projects would contribute to the reduction in riparian habitats along the river.

(13) Santa Clara River Enhancement and Management Plan

In 1994, a multi-agency committee formally initiated the Santa Clara River Enhancement and Management Plan. The committee consists of various parties and "stakeholders" along the river, including federal, state, and local agencies; water districts; farmers; property owners; and environmental organizations. The Plan is designed to provide information on the land use, governmental, and resource conflicts along the river and its 500-year floodplain, extending from near Acton to the Pacific Ocean. The Plan may eventually contain guidelines and approaches to resolving such conflicts that would be presented to the decision-making bodies of the counties and municipalities along the river for consideration. The overall objective of the Plan is to resolve such conflicts in order to streamline permitting, reduce regulatory burdens, provide an overall resource management data base and analytic framework and resolve traditional conflicts between land use and resource protection.

(14) North Valencia Specific Plan No. I (Industrial Park)

While a majority of the North Valencia Specific Plan is already constructed, a relatively small portion remains to be built. The remaining portion of the project would result in the construction of 167,000 square feet of industrial/business park on 7.7 acres. The Business Park designation is intended for industrial type uses per the North Valencia No. I Annexation Specific Plan. These uses will allow general industrial, research and development, limited retail/commercial, warehousing and office use related to these uses. Primary access to the site is through Avenue Tibbitts, Anza Drive, and Avenue Hopkins.

(15) Bouquet Canyon Bridge Widening

This project would result in the widening of the Bouquet Canyon Road Bridge over the Santa Clara River to eight lanes, which would add one lane in each direction. The project consists of design and construction of roadway improvements, including the median, the relocation of a 36-inch effluent line on the south side of the bridge, the relocation of three sewer siphons on the east side of the bridge, a bike lane undercrossing on the north end of the bridge and a bike ramp from the bridge to the bike lane undercrossing on the north end of the bridge. Impacts associated with the project include hydrological and biological impacts associated with construction activities.

(16) Fair Oaks Ranch

The Fair Oaks project (Tentative Tract Map 52833) involves the construction of 1,033 residential units on 602 acres just outside the eastern boundary of the City of Santa Clarita. Phase II of the Fair Oaks Ranch development involves the construction of 738 single-family homes, 336 multi-family dwellings, 153 luxury apartments, a 6-acre public park, and dedication of 321 acres of open space just outside the eastern boundary of the City of Santa Clarita. Traffic/transportation, air quality and biological resource impacts could occur with project implementation.

(17) Tick Canyon

This project is proposed to occur at the northern terminus of Shadow Pines Boulevard, outside of the present City limits. It is proposed to consist of 492 single-family units and a 34-acre park site on 500 acres. Traffic/transportation, geological, air quality and biological resource impacts could occur with project implementation.

(18) Bee Canyon

The Bee Canyon project is proposed on a 211-acre parcel of land located between the Transit Mix project indicated above and State Route 14, easterly of Soledad Canyon Road. The applicant is requesting 556 single-family modular units, and the project would require the lengthy extension of public utilities. Traffic/transportation, geological, air quality and biological resource impacts could occur with project implementation.

(19) Tract 42670

This project consists of a mixed commercial/industrial project to be located along Golden Valley Road in the center of the City of Santa Clarita. The 220-acre site would be developed with up to six million square feet of buildings. This project has been approved by the City and under construction. Transportation/access and air quality are potential impacts associated with the project.

(20) Synergy Project

This project is proposed in the City of Santa Clarita and is located at terminus of Ermine Road, adjacent to the site. The project site is 208 acres in size and the project would consist of 916 multi-family and 95 single-family dwelling units. Hydrology, transportation/access, biological resources, water quality, and air quality are expected to be potentially significant impacts.

(21) Whittaker – Bermite (Old Porta Bella Project)

Specific Plan No. 91-001, proposes a comprehensive plan for development of a 996-acre site with approximately 1,678 single-family homes and 1,560 multi-family units on 399 acres. Approximately 91 acres is planned for commercial and industrial uses, 14 acres for institutional uses, and 58 acres consisting of streets. The remaining 434 acres would be devoted to natural open space and recreational uses. Traffic/transportation, geological, air quality and biological resource impacts could occur with project implementation.

b. Summary of Project-Related Cumulative Impacts

The above analysis indicates that potentially significant cumulative impacts could occur to various environmental biological resources due to the combined impacts of the proposed project and following nearby projects: Santa Clarita Parkway extension, Tesoro del Valle, Newhall Ranch Specific Plan, West Creek, North Valencia II Specific Plan, Valencia Commerce Center, and Curtis Sand and Gravel Mine Expansion. These resources include upland habitats such as coastal sage scrub, oak trees, riparian habitat associated with Santa Clara River, wildlife movement corridors, special-status species (including unarmored three-spine stickleback and arroyo toad), resources within SEA 23, and increased use of sensitive riparian resources by human and domestic animals. Potentially significant cumulative impacts include loss of riparian habitat, disturbance of riparian wildlife habitat due to nearby urban development, and effects on habitat for the unarmored three-spine stickleback, least Bell's vireo, and the arroyo toad, when present. While most of these projects include the implementation of measures that will mitigate

specific biological impacts, most will still result in a net loss of biological resources, particularly natural habitat areas.

Because of the high biological value of riparian and wetland habitats and because of the continued loss of these habitats throughout the region, the proposed Riverpark project's contribution to this loss, although relatively small, is considered a significant cumulative impact, both to the vegetation community itself, as well as to its value to the riparian ecosystem. Because of the time it takes for oak trees to reach maturity and contribute biological values equal to that currently occurring on the site, and due to continued loss of these trees in the region, the project's contribution to this loss is considered a significant cumulative impact without mitigation. Continued development in the area also cumulatively contributes to the increase of humans and domestic animals. Because of the substantial amount of disturbance to sensitive resource areas posed by this increase, the project's contribution to this increase is also considered cumulatively significant. Although the proposed project minimizes impacts to the biological resources within the SEA, the net loss of habitat within the SEA, combined with net losses of SEA habitats from other projects, effectively reduces the overall size of the SEA and is considered a significant cumulative impact.

When the potential cumulative effects of the above mentioned projects are viewed from a regional wildlife movement perspective, the major movement corridors between the Santa Clara River Valley and the Santa Susana Mountains and Los Padres/Angeles National Forest lands would still be preserved. Therefore, no significant cumulative impacts would occur with respect to regional wildlife movement.

The project would result in unavoidable significant impact to the net loss of wildlife habitat/natural open space; loss of SEA and associated riparian habitat and riverbed and impacts to adjacent upland habitat within 100 feet of the riparian source line. All other impacts (e.g., oak trees) will be mitigated to less than significant.

9. CUMULATIVE MITIGATON MEASURES

Some of these impacts on biological resources may be mitigated to levels of insignificance as individual projects are conditioned during the local land use permitting process. The proposed project would similarly mitigate impacts to some of these resources to less than significant levels. In addition, the City can impose various mitigation measures within its jurisdiction related to cumulative impacts on biology. It can require that developments in the city provide similar protections for biological resources as are set forth for this project, including setbacks or "buffer" zones between development and riparian habitat as determined by site-specific assessments of those areas, revegetation, habitat enhancements, and physical

improvements to minimize the likelihood of human and animal intrusion. Absent site-specific studies of these areas in the context of the development actually proposed, it cannot be determined whether these mitigation measures will be as effective in reducing adverse impacts in other projects as they are expected to be for the proposed project.

For developments which may occur outside the City's boundaries, which at present is the vast majority of expected buildout, mitigation measures will be under the control of the County, the ACOE, CDFG, and other agencies.

Because of the high biological value of riparian and wetland habitats and because of the continued loss of these habitats throughout the region, and because the high biological value of these areas after planting and restoration will likely not be realized for some time and never be truly replicated, impacts on riparian resources cannot be mitigated. Because the net loss of SEA habitat can't be replaced, impacts remain significant. In addition, because it is unknown whether measures to mitigate increased human and domestic animal impacts, biological resources can feasibly reduce these impacts, and because human and domestic animal use of riparian and upland habitat areas is expected to continue to occur as a result of project implementation, this impact will remain cumulatively significant.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project

The project would result in unavoidable significant impacts to the net loss of wildlife habitat/natural open space; loss of SEA and associated riparian habitat and riverbed and impact to adjacent upland habitat within 100 feet of the riparian resource line.

b. Cumulative

Significant cumulative impacts that remain unavoidably significant like the proposed project, include the net loss of wildlife habitat/natural open space, loss of SEA and associated riparian habitat and riverbed and impacts to adjacent upland habitat within 100 feet of the riparian resource line, because it can be expected that proponents of other projects will similarly not be able to mitigate projects.

4.7 LAND USE

1. SUMMARY

The City General Plan existing land use designations for the project site include Industrial Commercial with Significant Ecological Area (SEA) Overlay, Commercial Office with Significant Ecological Area Overlay, Community Commercial (CC) with Significant Ecological Area Overlay, Residential Moderate with SEA Overlay, and Community Commercial. Existing zoning designations for the project include: 23.7 acres of Industrial Commercial, 199.9 acres of Commercial Office (Planned Development), 150.4 acres of Community Commercial (Planned Development), 6.7 acres of Community Commercial and 37.4 acres of Mobile Home Park. The remaining 277.3 acres is within the Residential Medium zone. Under these designations, the project applicant would be allowed a total of 3,461residential units.

The project applicant is requesting a General Plan Amendment and Zone Change to designate the 695.4-acre site as 692.4 acres of RM (PD) and 3 acres of CC (PD). The project applicant is requesting 439 single-family and 744 multi-family residential lots adjacent to and in proximity to Newhall Ranch Road and Santa Clarita Parkway. Two ridgelines, classified by the City as secondary, traverse a portion of the project site. The project applicant is providing an innovative application to the Planning Commission/City Council for approval of uses on portions of these secondary ridgelines. It can be concluded that the project satisfies the intent of both the ridgeline protection and hillside development standards and will not result in a significant land use impact. Additionally, the project is converting agricultural lands to urban uses that are analyzed in ***Section 4.19, Agricultural Resources****.*

2. EXISTING CONDITIONS

a. City of Santa Clarita General Plan

The Land Use Element of the General Plan:

> *"… plays the central role in correlating all land use issues into a set of development policies. While all General Plan elements carry equal weight, the Land Use Element is often perceived as the single most representative element of the General Plan. The element serves as a guide for future development, indicating the location and extent of existing and planned land uses."*[1] *The Land Use policies set forth goals, policies and objectives which cover a wide range of issues including, slopes, preservation of ridgelines (Ridgeline Preservation and Hillside Preservation Ordinance), infrastructure, water, seismic and flood hazards, the Oak Tree Ordinance and other constraints. These goals and policies contained on pages L-22 to L-34 of the General Plan are incorporated by reference. In accordance with Section 15125 (d) of the CEQA Guidelines requires that only those inconsistencies between the proposed project and the General Plan be addressed."*

1 Ibid., page L-1.

The General Plan Land Use Map indicates that the project site is designated as Industrial Commercial with Significant Ecological Area Overlay, Commercial Office with Significant Ecological Area Overlay, Community Commercial with Significant Ecological Area Overlay, Community Commercial, Residential Moderate with Significant Ecological Area Overlay, and Residential Moderate.

Industrial Commercial (IC) allows for a limited, low patronage range of commercial uses, quasi-industrial and light industrial activities, research and development activities, encourages the provision of employee recreation opportunities, and acts as a transitional or mixed land use. As indicated in the Santa Clarita General Plan Land Use Element the IC designation: "…category provides a designation for the continuation of the commercial and manufacturing activity now in existence in the Honby, Pine Street, and Sierra Highway areas and permit reasonable and controlled expansion, if warranted. Development intensity for this category will be governed by floor area ratios ranging between 0.5-1.0:1."[2]

The Santa Clarita General Plan Land Use Element indicates that the designation Commercial Office (CO): "…designates areas for those business establishments primarily using offices and providing professional services. Activities in this category generally have retail or wholesale operations limited to less than 25 percent of gross floor area. Development intensity for this category will be governed by floor area ratios ranging between 0.5-2:1."[3]

The Santa Clarita General Plan Land Use Element indicates that the designation Community Commercial (CC): "…designates those areas of the City and the planning area that are for retailing uses of a communitywide nature that attract people from beyond the immediate neighborhood. Development intensity for this category will be governed by floor area ratios ranging between 0.25 and 0.5:1."[4]

The Residential Moderate (RM) designation as indicated in the Santa Clarita General Plan Land Use Element: "…corresponds to small groupings of attached dwellings such as duplexes, triplexes, and fourplexes having ample yard and open space areas. This category is also consistent with typical densities for mobile home parks. In certain instances, single-family homes may be permitted in this category on small individual lots where it can be demonstrated that the appropriate amenities, services, parking, and other features can be provided. Densities of development of this category range from 6.7 to 15 units per gross acre with a mid-range density of 11 dwelling units per gross acre."[5]

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2 Ibid., page L-50-51.
3 Ibid., page L-48-49.
4 Ibid., page L-47-48.
5 Ibid., page L-45.

In addition to the land use categories that describe the type, intensity, and density of development throughout the planning area, the Land Use Element contains overlay designations, which identify additional potential for development and/or preservation. The Santa Clarita General Plan Land Use Element indicates that the overlay designation Significant Ecological Area (SEA): "…designates areas of prime importance to the City and the Valley for protection and preservation. Development in these areas is severely limited. Specific environmental studies must be performed to assess the potential for damage or destruction of an SEA prior to approval of any plans for development in an area identified with an SEA Overlay."[6]

The Santa Clarita General Plan Land Use Element indicates that the proposed project is located within the Valley Center Concept ("VCC") area of the City's General Plan, which specifically outlines the type and intensity of development in the core of the City of Santa Clarita. The VCC component represents the City's desire for designating that central portion of the City that has the potential for creating a Valleywide focal point. The purpose of the overlay is to permit and encourage master planning at a more detailed level than that provided in the General Plan, and provides for a wide range of activities.

The Land Use designations for the project are depicted on **Figure 4.7-1, Existing General Plan Land Use**.

b. Unified Development Code

The Unified Development Code establishes standards for zoning, subdivisions and grading. The Code sets forth the details and standards for each of the zone designations.

Existing zoning designations for the project include: 23.7 acres of Industrial Commercial, 199.9 acres of Commercial Office (Planned Development), 150.4 acres of Community Commercial (Planned Development, 6.7 acres of Community Commercial and 37.4 acres of Mobile Home Park. The remaining 277.3 acres is within the Residential Medium zone. Under these designations, the project applicant would be allowed a total of 3,096 residential lots considering other constraints including identified ridgelines.

The development standards for the Industrial Commercial districts is shown in **Table 4.7-1, Industrial Commercial (IC) Development Standards**, as follows:

6 Ibid., page L-51-52.

Table 4.7-1
Industrial Commercial (IC) Development Standards

Industrial Commercial	
Floor Area Ratio	0.75:1
Setback from Right-of-Way[1]	10 ft./5 ft.
Building and Structure Height[2]	35 ft.
Structure Setback from Single-Family Residential Zones	25 ft.

Source: Santa Clarita Unified Building Code, Section 17.15.030.
[1] *A minimum 5-foot wide landscaped setback shall be required where structures are located adjacent to a right-of-way, except where they are located adjacent to a major or secondary highway where the minimum setback shall be increased to 10 feet.*
[2] *Buildings and structures exceeding 35 feet in height shall require approval of a Conditional Use Permit.*

The development standards for the Commercial Office (CO) districts is shown in **Table 4.7-2, Commercial Office (CO) Development Standards**, as follows:

Table 4.7-2
Commercial Office (CO) Development Standards

Commercial Office	
Floor Area Ratio	1.25:1
Setback from Right-of-Way[1]	10 ft./5 ft.
Building and Structure Height[2]	35 ft.
Structure Setback from Single-Family Residential Zones	25 ft.

Source: Santa Clarita Unified Building Code, Section 17.15.030.
[1] *A minimum 5-foot wide landscaped setback shall be required where structures are located adjacent to a right-of-way, except where they are located adjacent to a major or secondary highway where the minimum setback shall be increased to 10 feet.*
[2] *Buildings and structures exceeding 35 feet in height shall require approval of a Conditional Use Permit.*

The development standards for the Community Commercial districts is shown in **Table 4.7-3, Community Commercial (CC) Development Standards**, as follows:

Table 4.7-3
Community Commercial (CC) Development Standards

Community Commercial	
Floor Area Ratio[1]	0.375:1
Setback from Right-of-Way[2]	10 ft./5 ft.
Building and Structure Height[3]	35 ft.
Structure Setback from Single-Family Residential Zones	25 ft.

Source: Santa Clarita Unified Building Code, Section 17.15.030.
[1] *The FAR in the CC zones along the office/financial corridor within the Valley Center Overlay shall be 2:1.*
[2] *A minimum 5-foot wide landscaped setback shall be required where structures are located adjacent to a right-of-way, except where they are located adjacent to a major or secondary highway where the minimum setback shall be increased to 10 feet.*
[3] *Buildings and structures exceeding 35 feet in height shall require approval of a Conditional Use Permit.*

EXISTING TANK

PROPOSED TANK #2

PROPOSED TANK #1

EXISTING TANK

AREA E

AREA D

AREA A1

AREA A2

AREA B

AREA C

CC

CO

RM

IC

NEWHALL RANCH ROAD (FUTURE REALIGN)

FUTURE GOLDEN VALLEY ROAD EXTENSION

BOUQUET CANYON ROAD

SANTA CLARITA PARKWAY

SOLEDAD CANYON

GOLDEN VALLEY ROAD (NOT A PART)

FEMA/CITY SEA

Santa Clara River

(Future)

LEGEND

- Project Boundary
- Existing FEMA 100 year Flood/City SEA Line
- Significant Ecological Aea (SEA) 23 Overlay
- Paved Road
- Graded Road

RM Residential Medium
CC Community Commercial
CO Commercial Office
IC Industrial Commercial

800' 400' 0 800'

SCALE IN APPROXIMATE FEET

NOTE: Valley Center Concept Overlay encompasses the entire Project Site.

The hook ramp and Golden Valley Road generally up to the southern bridge abutment has been previously approved.

FIGURE **4.7-1**

Existing General Plan Land Use

112-16-02/04

The Residential Medium (RM) zone "allows for small groupings of attached dwellings such as duplexes, triplexes, and fourplexes with a density of up to 11 dwelling units per acre. This zone is also consistent with typical densities for mobile home parks."[7] Additional uses are permitted that are complimentary to, and can exist in harmony with, a medium density residential neighborhood, such as single-family residences. The primary development standards for Residential Medium (RM) districts is shown in **Table 4.7-4, Residential Medium (RM) Development Standards**, as follows:

Table 4.7-4
Residential Medium (RM) Development Standards

Residential Medium	
Density	11 du/ac[1]
Net Lot Area	5,000 sq. ft.
Lot Width	50 ft.
Cul-de-Sac Lot Width	40 ft.
Front Yard Setback	20 ft.
Side Yard Setback/Each Side	5 ft./5 ft.
Side Yard Setback/Reverse Corner Lot	20 ft.
Rear Yard Setback	15 ft.
Maximum Height/Main Structure	35 ft.
Maximum Height/Accessory Structure	15 ft.
Distance Between Main Structures	10 ft.
Distance Between Accessory Structure	6 ft.

Source: Santa Clarita Unified Building Code, Section 17.15.010.
[1] *Santa Clarita Unified Building Code, Section 17.15.010 permits density-maximum units per gross acre in the RMH zone of 11 dwelling units. This is the only difference between the RMH and RM zones.*

The Mobile Home Park (MHP) zone is intended to encourage the creation of new mobile home parks and the preservation of existing mobile home parks consistent with the City's goal of accommodating alternative and affordable housing types at a standard consistent with the preservation of the public health, safety and welfare.[8] Although the General Plan does not designate mobile home park as a separate land use designation, the Mobile Home Park (MHP) zone is consistent with the agricultural, residential and commercial land use designations of the General Plan. The primary development standards for Mobile Home Park (MHP) districts are shown in **Table 4.7-5, Mobile Home Park (MHP) Development Standards**.

7 Santa Clarita Unified Building Code, Section 17.15.020.
8 Santa Clarita Unified Development Code, Section 17.16.010.

Table 4.7-5
Mobile Home Park (MHP) Development Standards

Mobile Home Park	
Density	3,000 sq. ft./mobile home
Net Lot Area	1,500 sq. ft.
Lot Width	50 ft.
Front Yard Setback	20 ft.
Side Yard Setback/Each Side	5 ft./5 ft.
Side Yard Setback/Reverse Corner Lot	20 ft.
Rear Yard Setback	15 ft.
Maximum Height/Main Structure	25 ft.

Source: Santa Clarita Unified Building Code, Section 17.16.010.

The site's current zoning designations, considering slope density (for each slope category identified there shall be a corresponding maximum allowable density), allow for 3,461 dwelling units, 1,898,903 square feet of Community Commercial floor area, 8,344,092 square feet of Commercial Office floor area, and 767,881 square feet of Industrial Commercial floor area.

(1) Subdivision

The State Subdivision Map Act, in concert with the City's adopted Subdivision Ordinance, establishes the requirements for review and approval of the subdivision of land within the City of Santa Clarita. A tentative tract map is required for any subdivision of land consisting of more than four lots for residential purposes.

(2) Grading

Both the Unified Development Code (Section 17.29) and the Ridgeline Preservation and Hillside Development Ordinance (Section 17.80), establish grading procedures for development within the City of Santa Clarita. The purpose of these regulations is to ensure that developments, grading and landscaping are sensitive to the natural topography and major landforms.

c. Planned Development Overlay Zone

Section 17.16.20 of the Unified Development Code indicates that the purposes of the Planned Development (PD) Overlay zone are threefold:

1. Facilitate development of areas designated on the Zoning Map or proposed for rezoning by permitting greater flexibility and, consequently, more creative and imaginative designs for the development of such areas than generally is possible under conventional zoning regulations.
2. To promote more economical and efficient use of the land while providing a harmonious variety of choices, a higher level of amenities, and preservation of natural and scenic qualities of open spaces.
3. Ensure that development substantially conforms to plans and exhibits submitted by the applicant for a zone change in instances where such plans and exhibits constitute a critical factor in the decision to rezone.

Development within a Planned Development Overlay is permitted, subject to a Conditional Use Permit. Prior to any development, submission and approval of a Conditional Use Permit incorporating a Planned Development consistent with the plans and exhibits submitted by the applicant during the public hearing shall be required. Conditions of approval, which provide the necessary safeguards to ensure completion of the proposed development, consistent with the plans and exhibits, will be required. When the Conditional Use Permit has been obtained as provided, the property may be used for any use permitted in the underlying zone subject to any conditions and limitations of the Conditional Use Permit and the underlying zone, including the approved planned development.

In addition to the findings required by Section 17.03.040 (Conditional Use Permits), the Planning Commission and/or City Council shall consider the planned development submitted, and in approving a Conditional Use Permit shall find that such development program provides necessary safeguards to ensure completion of the proposed development by the applicant, forestalling substitution of a lesser type of development contrary to the public convenience, welfare or development needs of the area.

With regards to property development standards, the approving authority (the City Council) shall be permitted to increase the setback requirements of the underlying zone and also to modify or delete the following requirements when it can be shown that the alternative achieves a similar purpose. Development standards for the Planned Development Overlay[9] are as follows:

a. The planned development shall be designed and developed in a manner compatible with and complementary to existing and potential development in the immediate vicinity of the project site. Site planning on the perimeter shall provide for the protection of the property from adverse

9 Santa Clarita Unified Building Code, Section 17.16.020.

surrounding influences, as well as protection of the surrounding areas from potentially adverse influences within the development.

b. For residential projects, required open space shall comprise at least 30 percent of the total area of the planned development. Land required for setbacks or occupied by buildings, streets, driveways or parking spaces may not be counted in satisfying this open space requirement, provided; however, that land occupied by any recreational buildings and structures may be counted as required open space.

c. All lawn and landscaped areas reserved for common use shall be provided with a permanent automatic watering system adequate to irrigate such areas, unless it is left in its natural state. Open space left in its natural state shall be kept free of litter and shall at no time constitute a health, safety, and fire or flood hazard.

d. If the project is to be developed in stages, the development plan shall coordinate improvement of the open space, the construction of structures, and improvements in such open space in order that each development stage achieves a proportionate share of the total open space and environmental quality of the total planned development.

e. All or any part of the required open space shall be reserved for use in common by the occupants of the planned development. Areas permanently reserved for common open space shall be reserved for the use and enjoyment of the occupants in a manner which makes the City, or a public district or public agency a party to and entitled to enforce the reservation. The Planning Commission may require that open space easements over the required open space be conveyed to the City.

f. No building, except as hereinafter provided, shall be located closer than five feet to any interior vehicular or pedestrian way, court, plaza, open parking lot or any other surfaced area reserved for public use or for use in common by occupants of the planned development. Such setback shall generally be measured from the nearest edge of a surfaced area; provided, however, that where there are no sidewalks in conjunction with a public or private street, the setback shall be measured from the nearest edge of the street right-of-way or private road easement.

g. All public streets within or abutting the proposed planned development shall be dedicated and improved to City specifications for the particular classification of street. When the developer desires to retain any street within the development as private streets, such streets shall be irrevocably offered for dedication and maintained for their intended purpose by the homeowners or property association or other means acceptable to the Planning Commission.

h. Planned developments shall relate harmoniously to the topography of the site, shall make suitable provision for the preservation of water courses, drainage areas, significant ridgelines, oak trees, significant flora and/or fauna and similar features and areas. These areas shall be designed to use and retain the features and amenities to the greatest extent possible.

i. All utilities within a planned development shall be placed underground.

d. Surrounding Land Uses

The project site is bound to the north by single-family residential, open space, and Castaic Lake Water Agency (CLWA) property used for administrative offices and a water treatment facility. To the southeast of the project site (across the Santa Clara River) are a mobile home park, a business park, retail commercial uses and a Metrolink Station. East of the project site is a business park and undeveloped property. Open space and retail commercial uses are located to the west of the site along Bouquet Canyon Road. Surrounding land uses are depicted in **Figure 4.7-2, Surrounding Land Uses**.

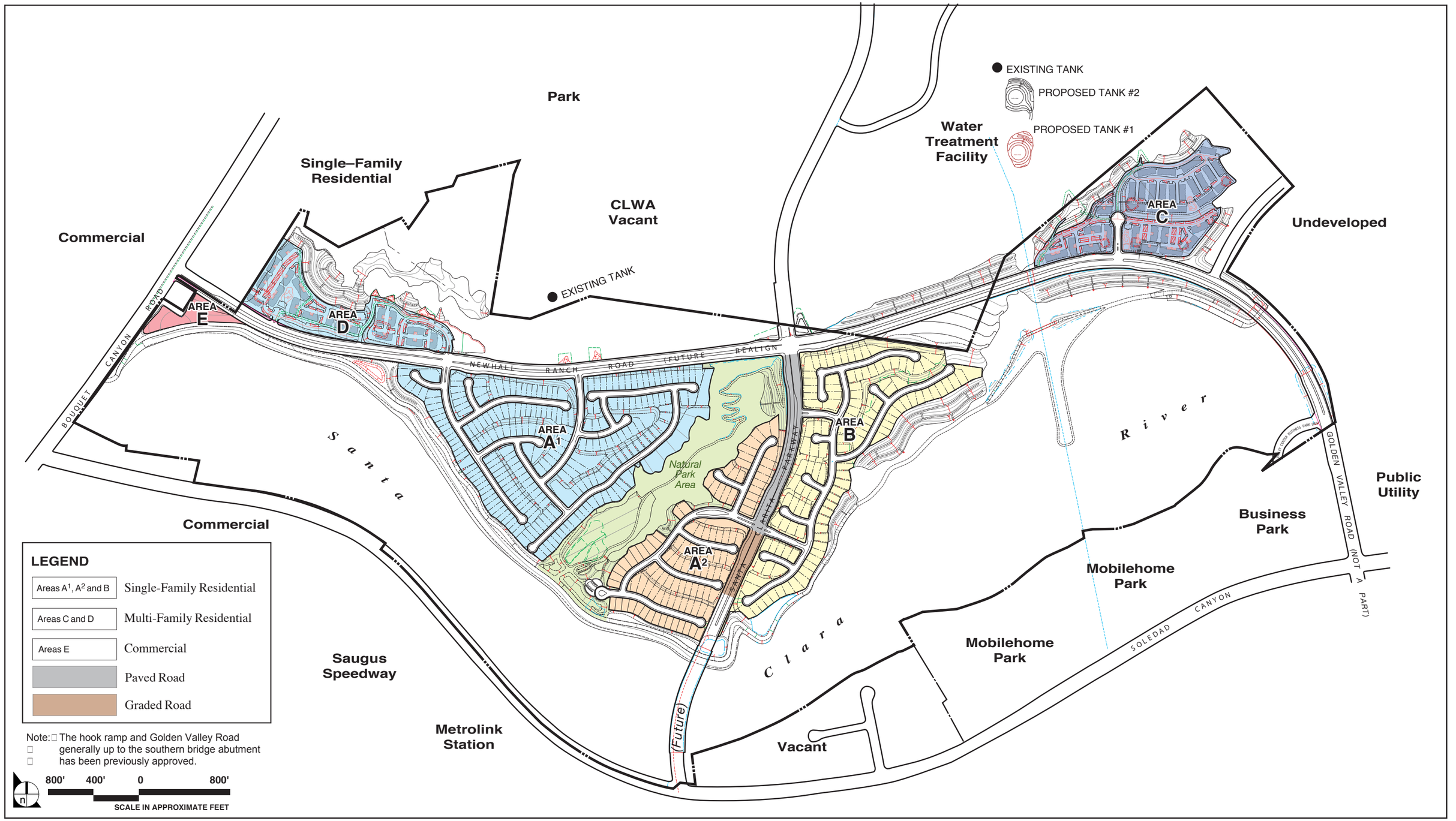


FIGURE **4.7-2**

Surrounding Land Uses

3. PROJECT IMPACTS

a. Significance Threshold Criteria

According to the City of Santa Clarita Environmental Guidelines, a project may be deemed to have a significant impact on the environment if it will:

- Disrupt or physically divide an established community (including a low-income or minority community);
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (Including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan, and/or policies by agencies with jurisdiction over the project?

The project site is vacant and, therefore, it will not physically divide a community; therefore, this EIR criterion is not applicable to the project. Additionally, there is not a habitat conservation plan or natural community conservation plan that is designated for the project site and consequently this criterion is not applicable to the project. For the purposes of this impact analysis, a significant impact would occur if implementation of the proposed project would result in inconsistencies with the adopted goals and policies of the City of Santa Clarita Land Use Plan and appropriate rules and regulations of the Unified Development Code.

The proposed project applicants are requesting the approval of the following discretionary applications or actions from the City of Santa Clarita:

- Vesting Tentative Tract Map 53425, to subdivide 695.4 acres into 439 single-family lots, 5 multi-family lots and 2 commercial lots, and additional lots will be created for open space and utilities. The proposed Vesting TTM would subdivide the site into 545 lots.
- General Plan Amendment #02-002, is required because the current City General Plan land use designations for the project site include Residential Moderate, Industrial Commercial, Community Commercial and Commercial Office with Significant Ecological Area (SEA) Overlay and Valley Center Concept (VCC) designation and Community Commercial with the VCC designation. A General Plan Amendment has been requested by the project applicant to change the land use designation of the project site to the Residential Moderate (RM) and Community Commercial (CC) designations with SEA and VCC Overlays and to define the specific alignments for Santa Clarita Parkway and Newhall Ranch Road. The SEA Overlay would correspond to the top of bank stabilization or tow/erosion protection (where there is no bank stabilization) to the southernmost project boundary of the River Trail.
- Zone Change #02-002, is required as various portions of the project site are zoned Residential Medium (RM), Industrial Commercial (IC), Commercial Office with a Planned Development Overlay (CO PD), Community Commercial with a Planned Development Overlay (CC PD), Community Commercial (CC) and Mobile Home Park (MHP). The proposed project includes a request to revise

the areas zoned IC, CO PD, CC PD, and MPH, to Residential Medium Planned Development (RM PD) and Community Commercial Planned Development (CC PD). The Planned Development Designation would encompass all of the zoning designations on the project site.

- Conditional Use Permit #02-009, requires approval of a Conditional Use Permit to allow the implementation of the Planned Development (PD) Overlay, to allow building heights in excess of two-stories and 35 feet in height, approval of the Innovative Application and vehicular gating of Planning Area C.

- Oak Tree Permit #02-025, is sought for the removal of 15 of the 87 oak trees located on site, 12 of which are proposed for relocation. Of the 87 oak trees, 10 are Heritage oaks and 3 are proposed for relocation. (UDC Section 17.17.090)

- Hillside Review #02-003 is necessary for proposed development on slopes with an average cross slope of greater than 10 percent and development on identified secondary ridgelines. The intent of the Hillside Ordinance is to "regulate the development and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development and to provide for the safety and welfare of the City of Santa Clarita while allowing for the reasonable development of hillside areas." (UDC Section 17.80.010) An Innovative Application is required to develop on identified secondary ridgelines.

- Adjustment Application #02-010 to allow for a maximum 20 percent reduction in the minimum lot size and lot width for lots within Planning Area A1. The adjustment also includes a request to allow for a 16-foot front yard setback on a traditional garage facing street design and 10-feet on side facing garage with a minimum driveway length of 18 feet.

Analysis of these applications is discussed below with respect to land use. However, their more specific impacts with regards to circulation, aesthetics, noise, and air quality are discussed in detail within their respective sections of the EIR.

b. Consistency with the City of Santa Clarita General Plan

The City of Santa Clarita General Plan is the primary policy-planning document, which guides land uses in the City. The City General Plan land use designations for the project site include IC (SEA), CO (SEA), CC (SEA), CC, RM (SEA), and RM. The project applicant is requesting a General Plan Amendment to allow the land use designations of RM on 692.4 acres, CC on 3 acres (Please see **Figure 4.7-3, Proposed General Plan Land Use**). The project proposes to develop 439 single-family homes and 744 multi-family units on 150.2 acres of land within the 695.4-acre project site. This results in an overall gross density of 4.91 single-family dwelling units per acre and 11.22 multi-family dwelling units per acre. The RM land use designation allows for densities ranging from 6.7 to 15 units per gross acre with a mid-range density of 11 dwelling units per gross acre. Given the 692.4-acre size of the proposed RM designated area, and using the mid-range density of 11 dwelling units per gross acre, a maximum of 7,616.4 dwelling units would be allowed on the project site. This project proposes 1,183 dwelling units, 15.5 percent of the maximum permitted. Although the proposed development density for single-family dwellings is less than the range allowed for by the General Plan, the Plan does not prohibit lower densities and the RM designation is necessary to allow for the provision of single- and multi-family units in the project.

EXISTING TANK

PROPOSED TANK #2

PROPOSED TANK #1

EXISTING TANK

AREA CC

AREA E

AREA D

AREA A1

AREA A2

AREA B

AREA C

RM

BOUQUET CANYON ROAD

NEWHALL RANCH ROAD

FUTURE GOLDEN VALLEY ROAD EXTENSION

GOLDEN VALLEY ROAD (NOT A PART)

SOLEDAD CANYON

SANTA CLARITA PARKWAY

FEMA/CITY SEA

Santa Clara River

(Future)

LEGEND

- Project Boundary
- Amended FEMA 100 year Flood/City SEA Line
- Significant Ecological Aea (SEA) 23 Overlay
- Paved Road
- Graded Road
- RM — Residential Medium
- CC — Community Commercial

NOTE: Valley Center Concept Overlay encompasses the entire Project Site.

NOTE: The hook ramp and Golden Valley Road generally up to the southern bridge abutment has been previously approved.

800' 400' 0 800'

SCALE IN APPROXIMATE FEET

FIGURE **4.7-3**

Proposed General Plan Land Use

112-16•02/04

Consistent with the goals of the VCC, the proposed project will augment and support the VCC identified community centers within Newhall, Valencia, Canyon Country, Saugus and Castaic by providing amenities such as the 29-acre natural public park and extension of the Santa Clara River Trail. In addition, the proposed project continues to link the components of the VCC together with a uniform theme of natural open space preservation and river enhancement. Finally, the proposed project incorporates a commercial area, which continues development of the marketplace component of the VCC.

In accordance with Section 17.030.020 of the City of Santa Clarita Unified Development Code amendments to the General Plan require the following:

The Council shall make one of the following findings:

1. That the proposed change is consistent with the objectives of this Development Code, the General Plan and development policies of the City, in which case the Council shall introduce an ordinance amending the Zoning Map and/or Development Code, whichever is appropriate; or

2. That the proposed change is not consistent with the objectives of this Development Code, the General Plan and development policies of the City, it in which case the Council may deny of the application, continue it and request changes be made to make the proposal consistent, or reject the proposal. If the changes are of a substantial nature, the City Council shall forward the application back to the Planning Commission for their recommendation on the amended proposal, unless such an amendment had already been considered by the Planning Commission at their hearing.

The CC land use designation allows for a floor area ratio (FAR) of 0.375:1. Given the 130,680 square-foot (3-acre) size of the CC designated area and the proposed 40,000 square feet of commercial uses proposed, a FAR of 0.306:1 results.

The proposed project is consistent with the RM, CC, and VCC policies and objectives pertaining to these land use designations.

c. Project Consistency with City of Santa Clarita General Plan Element Goals and Policies

The City of Santa Clarita General Plan contains goals and numerous policies to guide development and uses planned within the City. These goals and policies, and their applicability to the proposed project are discussed below:

(1) Noise Element

Goal 1: To protect the health and welfare of the residents of the City Santa Clarita and the planning area by the elimination, mitigation, and prevention of significant existing and future noise levels.

Policy 1.1: Continue to implement a Noise Ordinance for the City of Santa Clarita compatible with state and federal standards, which establishes noise impact thresholds for noise abatement and attenuation in order to reduce potential health hazards associated with high noise levels.

Policy 1.2: Include noise impact consideration in land use planning decisions.

Policy 1.3: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive land uses.

Policy 1.4: Monitor and update data and information regarding current and projected noise levels, in the planning area.

Policy 1.5: Provide development review comments on projects proposed by other agencies, such as Los Angeles County and the school districts, that have potential noise impacts.

Analysis: Goal 1 and Policies 1.1, 1.2, 1.3, 1.4 and 1.5 are policies applicable to long-range planning efforts conducted by the City of Santa Clarita and are not applicable to the proposed project.

Goal 2: To prevent and mitigate adverse impacts of traffic generated noise on the residents of the City and the planning area.

Policy 2.1: Implement standards and programs designed to reduce noise impacts from transportation noise sources within the planning area.

Policy 2.2: Encourage existing and future noise sensitive land uses to construct sound barriers to protect against significant noise levels, where appropriate and feasible. Noise absorbing barriers are encouraged.

Policy 2.3: Where appropriate, work with Caltrans so that sound walls or other noise barriers are constructed along Interstate 5 and State Route 14 in the immediate vicinity of residential and other noise sensitive developments where setbacks and other sound alleviation devices do not exist. Noise absorbing barriers are encouraged.

Policy 2.4: Reduce significant noise levels related to through-traffic in residential areas by promoting subdivision circulation designs to contain a hierarchy of streets, which efficiently direct traffic to highways.

Policy 2.5: Encourage employers to develop vanpool and other demand management programs to reduce trip-generated noise in the planning area.

Policy 2.6: Work with local transit agencies to improve and expand current public transit services and routes to reduce trip-generated noise.

Policy 2.7: Require vehicle owners to properly maintain their equipment to avoid generating excessive noise levels.

Policy 2.8: Design parks, recreational facilities, and schools to minimize noise impacts to residential uses.

Analysis: The City of Santa Clarita is responsible for the implementation of standards and programs to reduce noise impacts. Code enforcement with regard to maintain of personal vehicles and coordination with Caltrans is the responsibility of the City of Santa Clarita. Consequently, Policies 2.1, 2.3 and 2.7 are not appropriate to the proposed project. The project commercial site is only 40,000 square feet in area and is not large enough to require or encourage carpooling or vanpooling. Consequently, Policy 2.5 is not applicable to the project.

The Riverpark project incorporates noise attenuation walls to shield residential uses located along Newhall Ranch Road and Santa Clarita Parkway from vehicular noise impacts. Consequently, the project is consistent with Policy 2.2. The Riverpark project incorporates a variety of streets widths designed to accommodate the housing product proposed for the development. Consequently, the proposed project is consistent with Policy 2.4. The project has been designed to accommodate bus turnout as required by the Santa Clarita Transit agency. Consequently, the project is consistent with Policy 2.6.

Parkland areas have been integrated and designed into the site so as not to intrude upon residential uses by situating units away from active recreational areas; therefore, the project is consistent with Policy 2.8. The project is consistent with Goal 2.

Goal 3: To prevent and mitigate significant noise levels in residential neighborhoods.

Policy 3.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise level exceeds 55 dB(A) (night) and 65 dB(A) (day) provide mitigation measures for the new residences to reduce the interior noise levels.

Policy 3.2: Ensure that special noise sources, such as construction activities, leaf blowers, motorized lawn mowers, garbage collection, truck deliveries, and other activities, which produce significant discernible noise do not create undue disturbances in residential neighborhoods.

Policy 3.3: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards which regulate noise from construction noise activities which may occur in or near residential neighborhoods.

Policy 3.4: Require that developers of schools, child care centers, senior housing and other noise sensitive uses in areas where the ambient noise level exceeds 65 dB(A) (day) provide mitigation measures for these uses to reduce interior noise levels.

Analysis: **Section 4.5, Noise**, includes mitigation measures intended to reduce indoor noise levels and noise impacts to residential uses and, therefore, the project is consistent with Policies 3.1 and 3.4. The adoption of noise standards and regulations of activities is a responsibility of the City of Santa Clarita. Consequently, Policies 3.2 and 3.3 are not applicable to the project. The project is consistent with Goal 3.

Goal 4: To prevent, mitigate, and minimize noise spillover from commercial/industrial uses into adjacent residential neighborhoods.

Policy 4.1: Develop, adopt, and enforce a standard for all commercial uses of 70 dB(A) (night) and 80 dB(A) (day) which cause adverse levels of significant discernible noise on adjacent residential neighborhoods.

Policy 4.2: Require appropriate noise buffering between commercial/industrial and residential land uses.

Policy 4.3: Establish standards for the control of noise from commercial and entertainment establishments when adjacent to residential land uses.

Analysis: The adoption of noise standards and regulations of activities is a responsibility of the City of Santa Clarita. Consequently, Policies 4.1 and 4.3 are not applicable to the project. Policy 4.2 is not applicable to the project, as it does not propose commercial/industrial land uses adjacent to the residential uses. Goal 4 is not applicable to the project.

(2) Air Quality Element

Goal 1: To minimize conflicts between City and other governmental agency air quality policies, plans, and programs.

Policy 1.1: Coordinate the planning and implementation of land use, transportation, housing, energy, and other elements of the General Plan with the Air Quality Element.

Policy 1.2: Coordinate with the local, regional, state, and national agencies in efforts to plan and implement clean air objectives for the South Coast Air Basin.

Analysis: The City of Santa Clarita is responsible for development that is consistent with the Congestion Management Program and other policies and programs designed to minimize air quality impacts. Through preparation of this EIR section and implementation of the mitigation measures recommended herein, the project would be consistent with the City's air quality responsibilities and, therefore, is consistent with Goal 1 and Policies 1.1 and 1.2.

Goal 2: To reduce emissions resulting from work and non-work vehicle trips by private and local government employees.

Policy 2.1: Promote vehicle trip reduction and other transportation demand management (TDM) programs.

Policy 2.2: Encourage car pools and company vanpools.

Policy 2.3: Develop in the City and promote in the planning area alternative transportation systems including, but not limited to, comprehensive bus service, bicycle and pedestrian trails, and associated support facilities.

Policy 2.4: Promote programs that reduce vehicle emissions, including walking, bicycling, ridesharing, transit subsidies, staggered work schedules, public transit enhancement, telecommuting, tele-education, and park-and-ride facilities.

Policy 2.5: Encourage programs that minimize local traffic congestion at large special events. Programs could include pre-purchase of parking tickets, staggering hours of arrival, off-site parking with shuttles.

Policy 2.6: Encourage improvements consistent with the Congestion Management Plan (CMP).

Policy 2.7: Encourage the use of communication technology as an alternative to vehicle trips.

Analysis: The project is consistent with this goal and associated policies based on the following points:

Relative to Policy 2.1, the commercial retail use on the site would not require a TDM program under current requirements.

Consistent with Policy 2.1, the project area is served by existing Santa Clarita Transit bus routes: numbers 4, 5, 6, 501, 502, 503, and 504. Each route passes the site via the intersection of Bouquet Canyon Road and Newhall Ranch Road. Route 3 provides service to Seco Canyon, Valencia Town Center, Tourney Road, and Magic Mountain. Route 4 provides service to Larc Ranch, Bouquet Canyon Road, Valencia Town Center, College of the Canyons, California Institute of the Arts, Lyons Avenue, Newhall Metrolink, and the Santa Clarita Valley Senior Center. Routes 5 (Sierra Highway) and 6 (Shadow Pines) provide service to Shadow Pines, Sierra Highway, Soledad Canyon Road, Valencia Town Center, Hart High School, Lyons Avenue, and Stevenson Ranch. Route 501 to Magic Mountain, Route 502 to the Valencia Commerce Center Area, Route 503 to Seco Canyon, and Route 504 to Bouquet Canyon provide service from the Santa Clarita Metrolink Rail Station to various areas of the City. The readily available bus service to the site and ultimately through the site would encourage ridership by project employees, visitors, and residents.

Consistent with Policy 2.3, the project proposes a comprehensive system of bicycle, pedestrian and equestrian circulation throughout the project site. The project site would be accessed by automobile, public transit, pedestrians on trails and paseos, and bicycles. To allow for such access, the project site would be developed with a network of roadways, trails, and paseos, along with other features, such as pedestrian roadway crossings and bridges. These improvements make the project consistent with Policy 2.3.

The project does not propose on-site special events; therefore, Policy 2.5 does not apply to the project. The size of the proposed retail use and the nature of retailed employment do not lend themselves to TDMs, car pools, company van pools, ridesharing, staggered work schedules, or telecommuting as recommended by Policy 2.2, 2.4 and 2.7.

As discussed in **Section 4.3, Traffic/Access**, the project would be consistent with the CMP. Consequently, the proposed project is consistent with Policy 2.6 requiring consistency with the CMP. The project is consistent with Goal 2.

Goal 3: To reduce emissions from peak-period truck travel and number and severity of truck-involved accidents.

Policy 3.1: Promote a more efficient use of the road system by encouraging the diversion of commercial truck traffic, whenever feasible, to off-peak period.

Policy 3.2: Encourage off-peak hour truck deliveries to local commercial centers.

Policy 3.3: Reduce commercial truck access through residential neighborhoods.

Policy 3.4: Require on-street haul routes for earth movement to identify appropriate, safe travel routes to minimize impacts to other vehicular traffic, pedestrians, and sensitive land uses.

Policy 3.5: Collect fees for oversize vehicles and encroachment permits to use toward promoting reductions in truck emissions and safe trucking practices.

Policy 3.6: Provide street signage to direct commercial trucks to use appropriate intra-City routes.

Analysis: It is out of the purview of the project applicant to require commercial truck traffic accessing the retail commercial site to be during the off-peak period as suggested in Policies 3.1 and 3.2 and is a responsibility of the City of Santa Clarita. Trucking facilities

have their own schedules over which the applicant has not control, but the schedules could be controlled through conditions of approval to the project. Therefore, it is not feasible for the project to implement these policies. Collection of fees for oversized vehicles is not within the control of the project applicant and is, therefore, not feasible for the project to implement Policy 3.5. No on-street haul routes will be required for the project as the site will be a balanced cut and fill on the site. No import or export of dirt is required; therefore, Policy 3.4 is not applicable to the project. The commercial site associated with the proposed project is located on Bouquet Canyon Road which would not, due to its location, require commercial trucks accessing the site to use any other streets other than intra-City routes. Consequently, Policies 3.3 and 3.6 are not applicable to the project. The project is consistent with Goal 3.

Goal 4: To reduce transportation source emissions by promoting efficient and creative parking plans which reduce vehicle emissions.

Policy 4.1: Promote local solutions to parking management, including such actions as parking facility design which reduces vehicle idling or programs which discourage the use of single-occupant vehicles in congested areas.

Policy 4.2: Encourage parking areas that provide appropriate technology (such as electric vehicle charging stations) and parking preferences for alternative fuel/low emission vehicles.

Policy 4.3: Encourage commercial and industrial uses to provide employee carpool and vanpool parking areas.

Analysis: Policy 4.1 would be applicable to the multi-family and commercial uses proposed on the site. Parking in these areas would be consistent with the existing City parking code and the project applicant proposes to prepare and implement on-site circulation plans for parking lots to reduce vehicle queuing at the time of detailed site design. As a result, on-site traffic congestion and off-site vehicle queuing onto the site, and associated vehicle idling, would be minimized, and the project would be consistent with this goal and policy. The project commercial site is only 40,000 square feet in area and is not large enough to require or encourage carpooling or vanpooling. Consequently, Policies 4.2 and 4.3 are not applicable to the project. The project is consistent with Goal 4.

Goal 5: To reduce vehicle emissions through traffic flow improvements.

Policy 5.1: Develop and implement traffic flow improvements in order to reduce congestion, conserve energy, and improve air quality.

Policy 5.2: Promote synchronization of traffic lights to reduce emissions from delays.

Policy 5.3: Maintain adequate levels of service on roadways and at intersection to reduce emissions from delays.

Policy 5.4: Provide Class One bike trails to increase capacity of on-street travel lanes.

Analysis: The project, with implementation of mitigation measures identified in **Section 4.3, Traffic/Access**, including construction of roadways within the project area to General Plan standards, would concurrently, conserve motor vehicle fuel energy and minimize associated air quality impacts. The project also proposes an on-site circulation plan that would reduce vehicle queuing. With implementation of all traffic mitigation measures and an on-site circulation plan prepared to the satisfaction of the SCAQMD and the City, on-site traffic congestion and traffic congestion in the project vicinity would be minimized and the project would be consistent with this goal and Policies 5.1, 5.2 and 5.3.

Major roadways within the project site include right-of-way for Class One bike trails. Consequently, the project is consistent with Policy 5.4. The project is consistent with Goal 5.

Goal 6: To reduce vehicle emissions through promotion of appropriate building and site design criteria.

Policy 6.1: Encourage new development, through the project review process, to incorporate appropriate building and site design criteria to minimize vehicular emissions, such as those resulting from on-site circulation patterns.

Policy 6.2: Provide on-site employee passive recreation areas (such as bike parking, locker rooms, outdoor seating and lunch areas) in new commercial and industrial uses to reduce vehicle trips.

Policy 6.3: Provide carpool and vanpool parking areas in commercial and industrial developments to reduce single-occupancy trips.

Policy 6.4: Encourage appropriate lot orientation and building design that provide for passive and/or natural heating and cooling opportunities that reduce dependency on air polluting energy sources.

Policy 6.5: Promote building and landscaping design that incorporates the use of solar energy, particularly the use of solar water heating for structures and swimming pools.

Policy 6.6: Encourage pedestrian oriented design and mixed-use development to reduce vehicle trips.

Analysis: The project applicant proposes an on-site circulation plan that would reduce vehicle queuing. With implementation of all traffic mitigation measures and an on-site circulation plan prepared to the satisfaction of the SCAQMD and City, (see **Section 4.3, Traffic/Access**), and the project would be consistent with this Goal 6 and Policy 6.1.

Policies 6.2 and 6.3 are appropriate for larger scale employment centers. The proposed commercial site is approximately 40,000 square feet, which will allow for limited commercial opportunities and will not be at the scale of service that would allow for employee recreation areas or carpool or vanpool feasible. Therefore, Policies 6.2 and 6.3 are not applicable to the proposed project.

Access points to the site will be limited to Bouquet Canyon Road and Newhall Ranch Road. Given the small size of the site and given that the commercial nature of the potential uses at the site will want to orientate the buildings to these major roadways, lot orientation and solar oriented building design may not be feasible that will reduce dependency on air polluting energy sources. Therefore, Policies 6.4 and 6.5 are not applicable to the proposed project.

Sidewalks and trails are provided within the project site that would take pedestrians from the site to the commercial centers at Bouquet Canyon and Newhall Ranch Roads. The project provides some commercial opportunities to provide for mixed-use development. Consequently, the project is consistent with Policy 6.6 and Goal 6.

Goal 7: To reduce reactive organic gas (ROG) and particulate emissions from building materials and methods.

Policy 7.1: Encourage the use of low-polluting building and construction methods and materials.

Policy 7.2: Encourage building designs, materials and equipment that reduce the potential for indoor air pollution.

Analysis: Evaporative emissions from paints, solvents, roofing materials, etc., are typically generated by architectural coatings and building materials. Surface-coating materials in the South Coast Air Basin are required to meet all current SCAQMD rules for construction materials and architectural coatings. Materials not meeting SCAQMD rules are not available for sale or use within the Basin. As a result, the project would be consistent with Goal 7 and Policies 7.1 and 7.2.

Goal 8: To reduce emissions from energy consumption in residential, commercial, and governmental facilities.

Policy 8.1: Encourage retrofitting programs to incorporate energy conservation in existing buildings.

Policy 8.2: Encourage the use of alternative energy sources.

Policy 8.3: Promote the use of landscaping, especially trees, to reduce heat buildup, save energy, and help cleanse the air.

Policy 8.4: Encourage proper solar orientation and design for new lots and buildings to reduce energy consumption.

Policy 8.5: Establish Green Building Guidelines and incentives to promote the construction of Green Buildings.

Policy 8.6: Encourage the use of appropriate, well-directed lighting to minimize light spillover and conserve energy.

Analysis: Policy 8.1 does not apply to the proposed project because all structures on the site would be new construction. The encouragement of the use of alternative energy sources is the

responsibility of the City of Santa Clarita and not the project applicant. The project applicant proposes to provide landscaping and shade trees to reduce building heating and cooling needs, and to help cleanse the air making it consistent with Policy 8.3. The project applicant would also be required to comply with Title 24 to reduce on-site energy consumption and would be consistent with these goals and policies. With the exception of solar energy, no other alternative energy sources are readily available in the Santa Clarita Valley. There is no guarantee, with regard to Policy 8.4 that project residents would continuously utilize and maintain solar systems, if installed; therefore, the requirement that solar systems be installed does not guarantee long-term reduced energy consumption.

Policy 8.5 does not apply to the project because Green Building Guidelines are policies that must first be prepared and adopted by the City of Santa Clarita and are not the responsibility of the project applicant.

Section 4.16, Visual Resources, provides mitigation encouraging the use of lighting fixtures that will minimize light spillover and conserve energy. Therefore, the project is consistent with Goal 8 and Policy 8.6.

Goal 9: To increase public awareness regarding regional and local air quality issues.

Policy 9.1: Promote programs, which educate the public regarding regional and local air quality issues.

Policy 9.2: Provide information for the public about air quality issues including publishing brochures, holding public workshops and producing public service announcements.

Analysis: It is outside the purview of the project applicant to implement this goal and Policies 9.1 and 9.2, which is more appropriately suited to the City of Santa Clarita. A mitigation measure, however, has been included in this section that would require the sellers of new residential units to distribute brochures and other relevant information published by the SCAQMD or similar organization to new homeowners regarding the importance of reducing vehicle miles traveled and related air quality impacts, as well as on local opportunities for public transit and ridesharing. With implementation of this measure, the project would be consistent with this goal and these policies.

Goal 10: To reduce vehicle emissions by creating an urban form that efficiently utilizes urban infrastructure and services.

Policy 10.1: Contribute to the reduction of vehicle miles traveled by achieving a more reasonable job/housing balance.

Policy 10.2: Develop and encourage efficient transportation systems and land use patterns which minimize total trips and vehicle miles traveled.

Policy 10.3: Locate child and adult day care centers near transit and work sites to minimize the number of vehicle trips.

Policy 10.4: Encourage land use patterns that integrate neighborhood commercial centers with surrounding residential uses.

Policy 10.5: Encourage opportunities for neo-traditional neighborhoods and mixed-use developments with the aim of reducing vehicle trips and vehicle miles traveled.

Policy 10.6: Encourage the identification and development of transit-villages in the Santa Clarita Valley around rail and fixed route transit hubs.

Policy 10.7: Encourage transit-friendly and pedestrian-friendly improvements and design in commercial, industrial and residential development to provide convenient alternatives to single-occupancy vehicle travel.

Analysis: The proposed project involves the development of 1,183 residential units and 40,000 square feet of commercial retail uses. In and of itself, the project is housing rich; however, the project would help reduce VMT by being in proximity to existing retail and service establishments, as well as existing job centers, public transit, sidewalks, and trails (see previous discussion on project proximity to existing public transit, job centers, shopping centers, and recreational activities).

By placing the project in proximity to local job centers, shopping areas public schools, and recreational facilities, project residents would have more opportunity to work locally and would not have to commute to more distant employment centers in the San Fernando Valley, Los Angeles, or beyond. The project site would also be linked to various

employment, shopping, and recreation areas in the Santa Clarita Valley through the local transit system and the community bike trails and paseos. Use of these facilities could reduce the need for some motor vehicle trips. As a result of reduced commutes and other vehicle trips, vehicle miles traveled and, consequently, air pollutant emissions could be further reduced, and the project would be consistent with this goal and Policies 10.1, 10.2, 10.4 and 10.7.

Policy 10.3 is not applicable because the project does not proposed child or adult day care center uses. Additionally, neo-traditional neighborhoods are more appropriate for locations at the center of town; therefore, Policy 10.5 is not applicable to the project. It is outside the purview of the project applicant to implement Policy 10.6, which is more appropriately suited to the City of Santa Clarita. The project is consistent with Goal 10.

Goal 11: To reduce vehicle emissions by promoting the use of cleaner alternative fuels for vehicles.

Policy 11.1: Promote the use of alternative clean fuels for City vehicles, to the extent feasible.

Policy 11.2: Support incentives for the use of clean alternative fuel vehicles.

Policy 11.3: Encourage parking for the alternative fuel vehicles in commercial and industrial developments.

Policy 11.4: Encourage the development of infrastructure to accommodate alternative fuels.

Analysis: Implementation of this goal and policies is oriented toward local agencies and is outside of the purview of this project.

Goal 12: To reduce mobile source emissions by promoting a shift from single-occupancy to higher occupancy vehicles.

Policy 12.1: Encourage the development of local public transit and availability, improved bus service (time schedule, performance, and connections), and actions designed to make the system user friendly.

Policy 12.2: Encourage the establishment of local and regional multi-modal transportation facilities.

Policy 12.3: Encourage the development of inter-City transportation systems other than buses. Such systems may include light rail, monorail, and people movers.

Analysis: Northern Los Angeles County and much of Southern California are connected via Metrolink and the MTA connects northern Los Angeles County with most urban areas within the County. The MTA is also exploring opportunities to re-establish a continuous rail connection between the Santa Clarita Metrolink line and the City of Ventura through either a freight or light rail system. Although it is outside the purview of the project applicant to implement Policies 12.1–12.3, all of these improvements would benefit the proposed project. The project includes bus pads and turnouts on Newhall Ranch Road and Santa Clarita Parkway which are intended to provide additional access to the transit system. The project is consistent with Goal 12 and Policies 12.1, 12.2 and 12.3.

Goal 13: To reduce particulate (dust) emissions.

Policy 13.1: Implement measures to reduce particulate emissions from paved and unpaved roads, parking lots, and road and building construction sites.

Policy 13.2: Discourage inappropriate land uses that produce excessive levels of particulate dust within the City. Oppose such inappropriate land uses throughout the Santa Clarita Valley planning area.

Policy 13.3: Perform regular street sweeping/vacuuming to remove particulates from streets.

Policy 13.4: Protect Santa Clarita Valley residents and other sensitive receptors from exposure to toxic air pollutants by identifying sources of toxic contaminants and insuring that users comply with state regulations.

Policy 13.5: Protect Santa Clarita Valley residents and other sensitive receptors from exposure to unsafe levels of criteria pollutants or precursors, such as reactive organic gases, particulates, oxides of nitrogen, oxides of sulfur, lead, and carbon monoxide, by requiring that developers and owners of proposed new facilities mitigate emissions expected to result from completed projects to levels where they will not have a significant impact on local receptors.

Policy 13.6: Coordinate with the South Coast Air Quality Management District (SCAQMD) to insure that new occupants of existing commercial and industrial buildings are in compliance with all applicable SCAQMD rules and regulations.

Policy 13.7: Oppose the siting of landfills in the vicinity of the City of Santa Clarita unless the landfill development can be demonstrated not to affect air quality adversely.

Analysis: SCAQMD requires implementation of all rules and regulations adopted by the Governing Board of the SCAQMD which are applicable to the development of the subdivision (such as Rule 402 – Nuisance and Rule 403 – Fugitive Dust) and which are in effect at the time of development. With their implementation through the mitigation measures identified in this section, the project would be consistent with this goal and Policy 13.1.

Policies 13.2 and 13.3 are outside the purview of the project applicant to implement and, which are more appropriately suited to the City of Santa Clarita.

Localized emissions would likely be generated by various stationary or point sources from commercial uses within the project site. Although the specific types and numbers of these emissions sources are not known at this time, it is conservatively assumed that such sources could potentially include restaurants, dry cleaners, and fuel dispensers. Toxic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed land uses. Any uses of toxic substances that could involve an air release would be subject to regulatory control under the permitting authority of the SCAQMD. The potential for toxic air pollutants would be evaluated during the permit process for individual non-residential uses by the SCAQMD, which may require emission control equipment at the site. Based on the requirement to obtain permits, and the types of uses expected on the site (e.g., retail, restaurants, dry cleaners, and services, such as salons and travel agencies), the project is consistent with Policy 13.4.

The purpose of the air quality impact analysis conducted for this project is to evaluate project air quality impacts relative to the methodologies and standards set forth by the SCAQMD. By calculating project air quality impacts and by recommending mitigation measures to reduce these impacts to the extent required by SCAQMD and as feasible, mitigation is proposed in this section to reduce project-related air quality impacts to less than significant levels. However, no feasible mitigation exists which would reduce these emissions to below the SCAQMD's recommended thresholds of significance. To the extent

that the project evaluates and mitigates project air quality impacts, it is consistent with Policy 13.5; however, no mitigation exists to reduce project impacts to less than significant levels.

Prior to receipt of operating permits, particular commercial uses are required to show compliance with South Coast Air Quality Management District rules and regulations. With this safeguard in place, the project would be consistent with this goal and Policy 13.6.

Policy 13.7 does not apply to the proposed project because it doesn't propose a landfill. The City of Santa Clarita has identified SCAQMD rules and regulations as a primary tool to implement the goals and policies of its Air Quality Element.[10] No landfills currently exist or are proposed in the immediate vicinity of the proposed project. The project is consistent with Goal 13.

(3) Safety Element

Goal 1: Minimize risks to life and property associated with fault rupture and seismically-induced groundshaking.

Policy 1.1: Work with the California Division of Mines and Geology to review development proposals located within or adjacent to the Alquist-Priolo Special Studies zone, along with the San Gabriel Fault, and other potential active faults.

Policy 1.2: Require all structures to meet or exceed state required design standards pertaining to earthquake resistance.

Policy 1.3: Provide setbacks, as determined to be necessary, for any proposed development located on or near an active or potentially active fault. Appropriate setback distances will be determined through an appropriate geologic investigation.

Policy 1.4: Review the use of seismic design criteria and standards for linear system facilities, including transmission lines, water and sewage systems, and highways to ensure that they

10 Air Quality Element Amendment, City of Santa Clarita General Plan (Santa Clarita, California: adopted 23 May 2000).

are adequate in protecting the public. Actual weaknesses or limitations within the system should also be determined and mitigated where feasible.

Policy 1.5: As necessary to avoid geologic hazards, require project modifications, including but not limited to hazard mitigation, project redesign, elimination of building sites and the delineation of building envelopes, building setbacks and foundation requirements.

Policy 1.6: Pursue funding to work with the California Division of Mines and Geology to complete the study of the Alquist-Priolo Earthquake Fault Special Study Zone in the City.

Analysis: The coordination of working with the state agencies is a responsibility of the City of Santa Clarita. Consequently, Policies 1.1 and 1.6 are not applicable to the project. Similarly, Policies 1.2, 1.4 and 1.5 are practices currently employed by the City of Santa Clarita and are a part of development review process coordinated and administered by the City of Santa Clarita. Consequently, these policies are not applicable to the proposed project. Although no project development is proposed near active or potentially active faults, geologic reports have been prepared for the proposed project; therefore, the project is consistent with Policy 1.3, and the project is consistent with Goal 1.

Goal 2: Minimize risks to life and property associated with geologic hazards, including, but not limited to, landsliding, liquefaction, debris flow, mudslides, rockfalls, and expansive soils.

Policy 2.1: Continue to require that all construction be in accordance with the most current version of the Uniform Building Code and California Building Code.

Policy 2.2: Continue to require site-specific geotechnical studies for new development proposals in zones of required investigation as defined in the Seismic Hazards Mapping Act and elsewhere as appropriate.

Policy 2.3: Enforce and update, as necessary, the Ridgeline Preservation and Hillside Development Ordinance and standards, and encourage the use of cluster and planned unit developments for projects in or near geologically hazardous areas.

Policy 2.4: Continue to assist developers in obtaining necessary technical and policy information regarding seismic hazards and maintain a list of qualified geotechnical consultants.

Policy 2.5: Evaluate and review the potential for inundation from dam or levee failure from Castaic and Bouquet Reservoirs in the event of a major earthquake.

Analysis: The City of Santa Clarita is responsible for ensuring that all construction be prepared in accordance with current building codes and regulation and for preparing and updating the Ridgeline Preservation and Hillside Development Ordinance; therefore, Policy 2.1 is not applicable to the project.

The City has required that the project applicant provide site-specific geotechnical reports, thereby, providing consistency with Policy 2.2 and 2.4.

Policy 2.5 is not applicable to the project, as neither the Castaic nor Bouquet Reservoirs are located in proximity to the proposed project. The project is consistent with Goal 2.

Goal 3: To prepare the Santa Clarita planning area to be self sufficient in the event of a major emergency or earthquake.

Policy 3.1: Develop an Earthquake/Emergency Preparedness Plan that includes, but is not limited to, the establishment of a volunteer pool to assist in responding to a maximum credible seismic event, and the provision of food and shelter to those in the Valley (residents and non residents) during the emergency.

Policy 3.2: Create a public awareness for every Santa Clarita Valley family to have provisions for self-sufficiency for a period of 72 hours available at all times.

Policy 3.3: Develop a plan in cooperation with hospitals, schools, major businesses, utilities, the Red Cross, churches and other service providers to work together and train in preparation for a coordinated response during a major event.

Policy 3.4: Work with the school districts to develop emergency evacuation plans when such schools are in a dam inundation area.

Policy 3.5: Work with special use facilities, especially those containing non-drivers, such as hospitals, convalescent homes, retirement homes, schools and preschools, and other facilities to develop emergency evacuation plans when such facilities are in a dam inundation area.

Analysis: Goal 3 and Policies 3.1, 3.2, 3.2, 3.4 and 3.5 are areawide planning projects that are the responsibility of the City of Santa Clarita and are, therefore, not applicable to the proposed project.

Goal 4: To coordinate the City of Santa Clarita Emergency Preparedness efforts with other agencies outside the Santa Clarita Valley.

Policy 4.1: Coordinate inter-County training and emergency preparedness activities.

Analysis: Policy 4.1 is applicable to areawide planning projects that are the responsibility of the City of Santa Clarita and are, therefore, not applicable to the proposed project.

Goal 5: To minimize potential damage and hazards resulting from fire.

Policy 5.1: Continue to implement an ordinance prohibiting non-treated wood shake and wood shingle roofs in all new construction and any replacement roofing.

Policy 5.2: All new development must be served by a water system that meets the fire flow requirements established by the Fire Department.

Policy 5.3: Require all public and private roadways to be constructed according to the minimum standards provided for in this General Plan to ensure that vehicular access for emergency vehicles can be maintained.

Policy 5.4: Promote adequate fire protection service to ensure the maximum safety feasible throughout the Valley and work to maintain a less than 6-minute response time in the urbanized portions of the planning area.

Policy 5.5: Provide fire-resistant landscaped buffer zones between high risk fire hazard areas and urban development, and restrict access from development into the wilderness areas during periods of high fire risk.

Policy 5.6: All new development proposals near the designated wildfire hazard zones should identify evacuation/emergency routes.

Policy 5.7: Development in or adjacent to wilderness/chaparral areas should have a fuel modification zone to minimize the risk of wildfire as appropriate. Fuel modification areas should be encouraged in the forest areas when adjacent to residential development.

Policy 5.8: Encourage dual access, particularly in mountainous and high fire risk areas.

Policy 5.9: Promote the development of a coordinated regional fuel modification plan to minimize fire risks by conducting controlled burns in a manner consistent with preserving local wildlife.

Policy 5.10: Evaluate the need for fire-resistant landscape buffer zone for existing developments located in high risk fire hazard areas.

Policy 5.11: Prohibit new treated wood shakes and implement an ordinance requiring Class A roofs.

Analysis: Adherence of adopted local and regional laws, rules, regulations, and policies is the responsibility of the City of Santa Clarita. Therefore, Policies 5.1, 5.9, 5.10 and 5.11 are not applicable to the project applicant. The Fire Department has reviewed and commented on the proposed project and has required mitigation measures (please see **Section 4.13, Fire Services**) that will ensure that fire flows and landscaped buffer and fuel modification zones are included in the project design. Consequently, the proposed project is consistent with Policies 5.2, 5.4, 5.5, 5.7 and 5.10. The project would construct all roadways to the established standards of the City of Santa Clarita (**Section 1.0, Project Description**) and the project is consistent with Policy 5.3. With the ultimate connection of Newhall Ranch Road to Soledad Canyon Road, the project would be provided with two access routes along Newhall Ranch Road and consequently the project is consistent with Policy 5.6. The project is consistent with Goal 5.

Goal 6: To minimize levels of risk to people and property from hazardous waste.

Policy 6.1: Work with the Fire Department and other responsible agencies in identifying those activities that store, transport, or manufacture hazardous materials or wastes within the planning area.

Policy 6.2: Promote safe transport of hazardous materials along key transportation routes by establishing designated transportation routes along key arterials.

Policy 6.3: Establish a program for reviewing procedures and closure or abatement plans for existing and future petroleum fields and hazardous waste facilities located throughout the Valley.

Policy 6.4: Restrict and prohibit land uses and activities that generate excess amounts of hazardous materials or wastes that cannot be properly maintained or disposed.

Policy 6.5: Monitor the safety issues related to the electromagnetic effects of high tension lines.

Analysis: Coordination with the Fire Department with regard to planning area activities designation of key transportation routes, establishment of abatement plans for petroleum fields and hazardous materials site, the restriction and prohibition of land uses and activities and the monitoring of safety issues related to electromagnetic fields is the responsibility of the City of Santa Clarita and not the project applicant. Therefore, Goal 6 and Policies 6.1, 6.2, 6.3, 6.4 and 6.5 are not applicable to the project.

(4) Open Space and Conservation Element

Goal 1: To preserve the special natural features which define the Santa Clarita planning area and give it its distinct form and identity.

Policy 1.1: Utilize major environmental features (significant landforms, significant ridgelines, significant vegetation, ecologically significant areas, other natural resources) as open space within the planning area.

Policy 1.2: Encourage the enhancement of the Castaic Lake Recreation area as a major attractive open space and outdoor recreation opportunity.

Policy 1.3: Incorporate standards for clustered development in the Municipal Zoning Code to minimize the disruption of natural resources and/or major physiographic features.

Policy 1.4: Establish standards for interfacing with and transitioning between forest service lands and the urbanized fringe, including specifications for compatible uses, minimum parcel sizes, and fire constraints.

Policy 1.5: Investigate, develop and prepare a long-term plan to consolidate and acquire open space using one or more of the following options to maintain viable natural ecosystems in

conjunction with the orderly development of the planning area: open space easements; dedication of development rights; joint powers authority; open space district, City ownership and management by the Parks and Recreation Department; Homeowners Associations; and/or Landscape Maintenance Districts.

Policy 1.6: Link buffer areas, wherever possible, to provide for contiguous areas of open space.

Policy 1.7: Consider the adoption of an ordinance requiring the revegetation of graded areas with native, and/or indigenous drought-resistant plant species while ensuring that such programs are consistent with fire prevention efforts.

Policy 1.8: Identify and prioritize open space lands which should be held in the public trust and seek acquisition and the means to gain control of such land, including Santa Clarita Woodlands State Park.

Policy 1.9: Establish the Santa Clara River and its tributaries, when appropriate, as a major centralized open space corridor linking a variety of public recreation and open space uses.

Policy 1.10: Establish and implement landform grading standards which minimize the impact of grading operations and foster replication of naturally recurring landforms.

Policy 1.11: Encourage the expansion of the paseo systems and the building of paseos or linkages between parks and streets.

Policy 1.12: Require, where practical, the incorporation of unique or significant natural features into new development, new roadways, and new trails through the Municipal Zoning Code.

Policy 1.13: Strongly oppose inappropriate development on National Forest lands.

Policy 1.14: Encourage the preservation of the National Forest and open spaces surrounding the City through regular meetings with Los Angeles County Regional Planning Department, alliances with other cities and environmental groups and utilizing our congressional and state legislative delegations.

Analysis: The proposed project utilizes major environmental features such as preservation of the Santa Clara River, including the preservation of much of the significant vegetation on the

site. Consequently, the project is consistent with Policy 1.1. The project is not adjacent to or near the Castaic Lake Recreation area; therefore, Policy 1.2 is not applicable. The project applicant is not responsible for incorporating standards within the Municipal Code for clustered development, adoption of an ordinance addressing the revegetation of graded areas or the development of landform grading standards, which is the responsibility of the City of Santa Clarita. Therefore, Policies 1.3, 1.7 and 1.10 are not applicable to the proposed project. However it should be noted that the proposed project implements all of the grading standards as outlined in the City of Santa Clarita Unified Development Code. The project does not interface with forest lands nor would the project applicant be responsible for developing standards for forest/urban transition areas, which is a responsibility of the City of Santa Clarita. Since there is no interface with forestlands and the proposed project, Policy 1.4 is not applicable. The proposed project is consistent with Policies 1.5 and 1.9 in that the project applicant is dedicating the Santa Clara River to the City of Santa Clarita for open space uses. The proposed project links buffer areas by dedicating that portion of the Santa Clara River within the project area that will connect with other portions of the Santa Clara River now owned in perpetuity by the City of Santa Clarita for the provisions of open space. Consequently, the project is consistent with Policy 1.6. The City of Santa Clarita would also be responsible for identifying and prioritizing open space areas as well as the preservation of National Forest areas. Therefore, the proposed project is not applicable to Policies 1.8, 1.13 and 1.14. The proposed project is consistent with Policy 1.11 in that it includes the provision of trails adjacent to the upland preserve area of the Santa Clara River and the inclusion of Class I bicycle trails along Newhall Ranch Road and Santa Clarita Parkway that incorporate access between parks and streets. The proposed project incorporates the Santa Clara River into the proposed development and maintaining its use of open space; consequently, the proposed project is consistent with Policy 1.12. The project is consistent with Goal 1.

Goal 2: To preserve designated natural ridgelines in the planning area to maintain the aesthetic character of the Santa Clarita Valley.

Policy 2.1: Adopt a Ridgeline Preservation Ordinance that identifies prominent primary and secondary ridgelines, which shall be preserved as open space and which should not be modified, incorporating sensitive slope and grading regulations to interface with such primary and secondary ridgelines, including identification and standards for other significant physiographic features.

Policy 2.2: Establish and require a slope rating system (steep, moderate, low) to identify development suitability and to establish guidelines for grading and development practices.

Policy 2.3: Identify and incorporate the dominant and special scenic topographic features, landmarks, and other physical characteristics in each community as a component for developing a community image.

Policy 2.4: Protect and provide for scenic vista points, where consistent with other policies of this plan, for protection of ridgelines and sensitive development techniques.

Policy 2.5: Consider the use of building height restrictions to lessen the impact of development of ridgeline lots.

Analysis: The City of Santa Clarita is responsible for adopting a Ridgeline Preservation and Hillside Development Ordinance. The dominant topographic feature associated with the project site is the Santa Clara River and it is proposed for preservation in the land plan submitted for the proposed project. Therefore, the project is consistent with Policy 2.3. The City of Santa Clarita is responsible for the enforcement and update of the Ridgeline Preservation and Hillside Development Ordinance and standards and has required that the project applicant provide the necessary documentation to allow for consistency and analysis of the Ridgeline Preservation and Hillside Development Ordinance and, therefore, the project is not applicable to Policies 2.4 and 2.5. The project is consistent with Goal 2.

Goal 3: To protect significant ecological resources and ecosystems, including, but not limited to, sensitive flora and fauna habitat areas.

Policy 3.1: Incorporate standards for a Significant Ecological Areas (SEA) Overlay zone in the Municipal Zoning Code.

Policy 3.2: Encourage the preservation of oak woodlands, oak savannahs and individually significant oak trees through enforcement and revisions to the Oak Tree Ordinance.

Policy 3.3: Identify and protect areas of significant ecological value, including, but not limited to, significant ecological habitats such as the wildlife corridor between the Santa Susana Mountains and the San Gabriel Mountains and preserve and enhance existing Significant Ecological Areas (SEAs).

Policy 3.4: Consolidate open space areas that represent regionally significant wildlife corridors to promote continued wildlife productivity and diversity on a regional scale and restrict development and intensive human activity in areas which sustain rare or endangered species, such as migratory bird species, fish, and rare plant species.

Policy 3.5: Promote only compatible and, where appropriate, passive recreational uses in areas designated as Significant Ecological Areas (SEA) consistent with the particular needs and characteristics of each SEA, as determined by field investigation.

Policy 3.6: Promote programs such as those associated with the Placerita Canyon Nature Center to develop an understanding and sensitivity of our biological environment.

Policy 3.7: Preserve to the extent feasible natural riparian habitat and ensure that adequate setback is provided between riparian habitat and surrounding urbanization.

Policy 3.8: Establish environmental education programs.

Policy 3.9: Promote the implementation of the Santa Clara River Study.

Policy 3.10: Development shall consider to the extent feasible, preservation of wildlife corridors and provide adequate setbacks.

Analysis: Consistent with Policies 3.1 and 3.9, the City of Santa Clarita has incorporated standards into the Unified Development Code for the Significant Ecological Areas (SEA) Overlay zone and has prepared the Santa Clara River Study. If an Oak Tree Permit is approved it will be determined to be consistent with Policy 3.2. **Section 4.6, Biological Resources**, of this EIR identifies areas of significant ecological value, including riparian areas on the project site and proposes mitigation to reduce impacts to the SEA located on the site ensuring consistency with Policies 3.3 and 3.7. The project designates the Santa Clara River as permanent open space, thereby, protecting its integrity as a wildlife corridor and discourages human activity in the river and is, therefore, consistent with Policies 3.4 and 3.10.

Where possible, while acknowledging topographic features on the site, the project is consistent with Policy 3.5, as it discourages human activity in the Santa Clara River by placing the River Trail east of the buffer and river. Policy 3.6 concerning Placerita Canyon

is not a part of the project site and is, therefore, not applicable to the project. Policy 3.8, requiring the establishment of environmental educational programs, is the responsibility of the City of Santa Clarita. The project is consistent with Goal 3.

Goal 4: To preserve open space areas for recreational use as a natural buffer to more intensive land uses.

Policy 4.1: Identify potential sites for parks and recreational open space within the City, including the Santa Clara and South Fork Rivers.

Policy 4.2: Facilitate the acquisition of park and open space sites through grants, budget allocations, exactions, and other innovative techniques.

Policy 4.3: Provide a diverse mix of recreational use and scenic view areas within open space sites.

Policy 4.4: Encourage the cohesive development of trails and open space as a unified system, contiguous throughout the City and planning area with linkages to County, state, federal, and other parklands and trail systems.

Policy 4.5: Utilize the Santa Clara River as a focal point for development of an integrated system of bikeways, trails, parks, water features, and open space.

Policy 4.6: Promote the development of equestrian/bike/pedestrian trails along routes which are viable to the health and safety of horse and rider.

Policy 4.7: Promote the extension of the County trails system within the planning area in accordance with the Los Angeles County Master Trails Plan and as specifically tailored to the Santa Clarita Valley.

Policy 4.8: Identify, encourage and request the transfer of trails development and maintenance responsibilities from County jurisdiction to the City Parks and Recreation Department, where appropriate.

Policy 4.9: Actively seek opportunities to obtain easements, dedications and acquisitions of land for new trails.

Policy 4.10: Support the acquisition and preservation of the Santa Clarita Woodlands State Park in the Santa Susana Mountains.

Policy 4.11: Encourage open space linkage opportunities throughout the City and adjacent park and forest areas.

Policy 4.12: Protect adjacent neighborhood areas from noise, visual, and traffic impacts of new active recreational areas through such measures as the use of buffer zones, landscaping and walls as mitigation.

Policy 4.13: Support prohibition of off-road vehicles in restricted areas within the National Forests and in open space areas and protected parklands within the planning area and within proximity to current and future residential development.

Policy 4.14: Promote a coordinated public system of hiking, bicycle, pedestrian, and equestrian trails.

Policy 4.15: Ensure the provision of a multiple use regional trail system which links major recreational facilities and populated areas.

Policy 4.16: Seek park sites and open space areas having areas of natural scenic beauty which can be conserved and enjoyed by the public, as well as areas having recreational opportunities.

Policy 4.17: Promote the establishment of Homeowners Associations and/or Landscape Maintenance Districts within new developments as a means of preserving and maintaining on-site recreation and open space areas.

Policy 4.18: Maintain public access to open space areas, where appropriate.

Analysis: The project has designated the Santa Clara River as open space. The project also provides for a 29-acre active/passive park, with views to the river including 4.2 acres of improved park area, which will be dedicated to the City; three private recreation lots totaling 1.3 acres; over 440 acres of dedicated open space including 330.8 acres of Santa Clara River area; and various other pocket parks and green space areas and multi-family complexes will contain private recreational facilities. The provision of various types of parkland, for both public and private users ensures consistency of the project with Policies 4.1, 4.3, 4.5 and 4.16. The project is consistent with Policies 4.2 and 4.18 as the project applicant will

convey that portion of the Santa Clara River within project boundaries to the City of Santa Clarita with project approval. The project is consistent with Policies 4.4, 4.7, 4.14 and 4.15 as the trails proposed on the site would connect to the Citywide trail system and ultimately the Countywide trail system, as is discussed in detail in **Section 4.12, Parks and Recreation**, of this EIR. The project proposes a separate trail in the river for horses and riders to promote their safety and is, therefore, consistent with Policy 4.6. As the project is not located in unincorporated Los Angeles County, Policy 4.8 is not applicable to the project. Project trails will be conveyed to the City, thereby, ensuring consistency with Policy 4.9.

Policies 4.10, 4.13 concerning Santa Clarita Woodlands State Park and the prohibition of off-road vehicles in the National Forest are not applicable to the proposed project. The proposed project provides for trails thereby supporting open space linkages throughout the community and is, therefore, consistent with Policy 4.11. The project does not propose active recreational areas in locations that would impact adjacent neighborhoods—such as the adjacent Emblem Tract; therefore, the project is consistent with Policy 4.12. The project will create Homeowners Associations, which will maintain public landscape areas and, therefore, the project is consistent with Policy 4.17. The project is consistent with Goal 4.

Policy 5: To use the open space designation to ensure the public health and safety and welfare in areas subject to natural hazards.

Policy 5.1: Integrate natural hazard areas, such as floodways, seismic fault zones, and unstable soils, into the open space network.

Policy 5.2: Provide adequate flood hazard measures to protect residents, employees, and buildings from flood hazards by restricting development in areas which may be significantly impacted by flooding, within major flood zones or below large dams and reservoirs.

Policy 5.3: Prevent public exposure to flood hazards in recognized floodways consistent with Federal Emergency Management Agency (FEMA) requirements.

Policy 5.4: Protect public health and safety by designating areas of significant unmitigable environmental hazards for less intensive uses or permanent open space areas.

Policy 5.5: Incorporate the use of flood control measures, which maximize groundwater recharge, and the use of floodways as native habitat.

Policy 5.6: Design slope drainage concepts consistent with the identity of community character in the area which:

- Minimize the need for slope irrigation.
- Provide measures for groundwater recharge, either on site or off site.
- Minimize the construction and placement of slope drainage structures which are intrusive, out-of-scale, and/or incompatible with the surroundings.

Analysis: The proposed project is consistent with Policies 5.1 and 5.5 as the Santa Clara River is designated for open space and as a floodway (allowing for groundwater recharge) and for native habitat. No structures are proposed for the seismic fault zone on the site. Unstable soils would be addressed consistent with **Section 4.1, Geotechnical Hazards**. Structures proposed in flood zones must meet FEMA requirements; therefore, the project is consistent with Policies 5.2 and 5.3. There are no significant unmitigable environmental hazard areas on the project site; therefore, the project is consistent with Policy 5.4. **Section 4.2, Flood,** discusses the drainage concepts for the project, including slope drainage techniques and methods which would minimize the need for slope irrigation and the construction and placement of large-scale slope drainage systems, and the project is consistent with Policy 5.6. The project is consistent with Goal 5.

Goal 6: To encourage the management and protection of valuable mineral resources in a manner which will ensure productivity and utility of these resources for present and future uses while minimizing disturbance, as feasible, to dissimilar/incompatible surrounding uses.

Policy 6.1: Use open space to buffer potentially valuable mineral resource areas from future residential and other sensitive land uses.

Policy 6.2: Maintain and require buffer areas between mineral extraction operations and adjacent uses as appropriate.

Policy 6.3: Incorporate environmental mitigation measures into project review and review operations on an ongoing basis to assure that any mitigated environmental effects are continually lessened through state-of-the-art technology and other innovations.

Policy 6.4: Require that mineral extraction operations provide and fund a plan for the use of the extraction site once the resource minerals are exhausted. This plan shall include the removal of structures related to mineral extraction, the removal of any on-site toxic materials, and the restoration of the site to a more natural condition or to a form usable for urban uses, if the latter is a suitable land use.

Analysis: The project site does not contain valuable mineral resource areas; therefore, Goal 6 and Policies 6.1, 6.2, 6.3 and 6.4 are not applicable to the project.

Goal 7: To protect the quality and quantity of local water resources, including the natural productivity of all surface and groundwater, and important watershed and recharge areas.

Policy 7.1: Protect and preserve the supply and quality of water resources in cooperation with federal, state, and regional water resource planning programs and regulations.

Policy 7.2: Maintain high water quality standards for all water bodies used for public recreation.

Policy 7.3: Maintain the natural productivity of streams, rivers, and other water bodies by supporting regulatory practices which prevent erosion and minimize pollutant content in surface runoff from major development.

Policy 7.4: Prohibit the flow of polluting chemicals or sediments into groundwater recharge areas.

Policy 7.5: Identify and protect groundwater recharge areas and encourage the development of spreading and impoundment areas.

Policy 7.6: Require storm control systems, where necessary, to conform to the natural drainage patterns of the area.

Policy 7.7: Utilize floodways for the purpose of recreation, scenic relief, groundwater recharge, wildlife protection, and other compatible uses.

Policy 7.8: Protect watersheds that represent significant components of local and regional waterways and/or which contribute to the integrity of surrounding associated habitats.

Policy 7.9: Develop local and regional wastewater recycling.

Policy 7.10: Encourage intergovernmental coordination and cooperation among all agencies involved in the management, conservation and utilization of water resources by jointly developing strategies for a secure water supply.

Policy 7.11: Establish and implement a Citywide water conservation program.

Policy 7.12: Encourage the use of native and drought tolerant plant species for revegetation and landscaping.

Policy 7.13: Protect groundwater quality through the establishment of a sanitary sewer system hook-up program to require the connection of all urban uses/densities.

Policy 7.14: Monitor all industries whose operation or refuse is potentially contaminating to the water supply or whose use of a private well may seriously overdraft the aquifer.

Policy 7.15: In conjunction with Sanitation Districts and their Boards of Directors, establish through ordinance, or resolution, policies that equitably distribute and regulate the use of reclaimed water.

Analysis: The project protects water quality and supply of resources as is discussed in **Section 4.2, Flood**, with the implementation of techniques designed to protect water quality and to promote water saving strategies and mitigation measures. Therefore, the project is consistent with Policies 7.1, 7.3, 7.4. The project does not propose water bodies for public recreational use; therefore, Policy 7.2 is not applicable to the project. The City of Santa Clarita is responsible for identifying and protecting groundwater recharge areas and encouraging the development of spreading and impound areas. The City has not designated the project site as one of these areas; therefore, Policy 7.5 is not applicable to the project. The Master Plan of Drainage for the site, which is analyzed in **Section 4.2, Flood**, conforms to the natural drainage patterns of the site, as is possible allowing for development, and, therefore, the project is consistent with Policy 7.6. The project designates that area of the Santa Clara River within its boundaries as open space, allowing for passive recreation (horse trails only), scenic relief, groundwater recharge, and of wildlife protection. The project is, therefore, consistent with Policies 7.7 and 7.8.

The development of recycling programs, the encouragement of intergovernmental coordination with regard to water supply, establishment of Citywide conservation

programs and ordinances falls under the purview of the City of Santa Clarita and not the project applicant. Therefore, Polices 7.9, 7.10, 7.11 and 7.15 are not applicable to the proposed project. The proposed project will utilize, as much as possible, native and drought tolerant plant species for revegetation and landscaping and is consequently consistent with Policy 7.12. The proposed project will hook-up to the City's wastewater system, and is, therefore, consistent with Policy 7.13. The proposed project will not directly use well water; therefore, it is consistent with Policy 7.14. That portion of Policy 7.14 requiring the monitoring of industries that contaminate the water supply is a City of Santa Clarita Code Enforcement responsibility and not the proposed project and is not applicable to the project. The project is consistent with Goal 7.

Goal 8: To reduce the community's reliance on nonrenewable energy resources through the initiation of energy conservation practices and the utilization of cost-effective renewable energy opportunities and available technologies.

Policy 8.1: Promote the conservation of energy in the planning area.

Policy 8.2: Promote energy conservation measures and energy-efficient financing to homeowners and builders.

Policy 8.3: Encourage the installation of energy conservation measures in existing homes and commercial buildings.

Policy 8.4: Consider incentives to builders, developers and architects to voluntarily exceed California Building Code energy efficiency standards (Title 24, part 6).

Policy 8.5: Encourage the incorporation of conservation features, such as solar panels, in the design of new development and the installation of conservation devices in existing developments.

Policy 8.6: Encourage Green Building principles for new building and renovation projects.

Policy 8.7: Encourage new subdivision maps to provide for natural heating and cooling opportunities, such as placing buildings in an east-west orientation to optimize southern solar exposure.

Policy 8.8: Encourage use of solar collectors on public buildings.

Policy 8.9: Encourage landscaping design and tree planting at all City buildings and parks to maximize energy efficiency and minimize water use, and reduce runoff.

Policy 8.10: Promote tree planting and landscaping for energy efficiency in existing homes and businesses through education and incentive programs.

Policy 8.11: Require developers to plant appropriate shade trees in all new developments, particularly in parking lots, to help reduce ambient temperatures.

Policy 8.12: Encourage developers and contractors to maximize use of recycled materials and maximize recycling of construction and demolition materials in project design and construction.

Analysis: As a part of the City of Santa Clarita's Building Code, new construction is required to meet Title 22 energy conservation standards; therefore, the project is consistent with Policy 8.1. The promotion and encouragement of, Green Building techniques, solar orientation, energy conservation measures, financing opportunities, building and landscaping incentives, are the responsibility of the City of Santa Clarita. Therefore, Policies 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9 and 8.10 are not applicable to the project. Education and incentive programs promoting tree planning and landscaping is the responsibility of the City of Santa Clarita. **Section 4.16, Visual Resources**, provides mitigation to requiring the project applicant plant shade trees at the commercial site to reduce ambient temperatures. Consequently, the project is consistent with Policy 8.11. The project is consistent with Goal 8.

Goal 9: To encourage the sorting and recycling of all possible materials and the reduction of future landfill space requirements.

Policy 9.1: Establish a Citywide recycling program for the reuse of newspapers, cans, bottles, and other recyclable materials.

Policy 9.2: Encourage cooperation with adjacent agencies to undertake and operate solid waste recycling programs.

Policy 9.3: Encourage the establishment of composting programs.

Policy 9.4: Promote recycling education programs.

Analysis: The City of Santa Clarita has established a Citywide recycling program. The promotion of composting and recycling education programs and cooperation with adjacent agencies regarding solid waste programs are the responsibility of the City of Santa Clarita. Consequently, Goal 9 and Policies 9.1, 9.2, 9.3 and 9.4 are not applicable to the project.

Goal 10: Protect the historical and culturally significant resources which contribute to community identity and a sense of history.

Policy 10.1: Strongly encourage the preservation of valuable historical structures and consider the development of a Historical and Cultural Resources Ordinance for this purpose.

Policy 10.2: Consider relocation of valuable historic structures to Heritage Park, whenever they are unavoidably endangered by incompatible development.

Policy 10.3: Continue to support programs established by the Santa Clarita Valley Historical Society and others to identify and preserve historical sites.

Policy 10.4: Establish development guidelines to identify and preserve significant archeological sites.

Policy 10.5: Integrate historic sites with recreational and open space areas whenever possible.

Policy 10.6: Incorporate historic sites into proposed development in such a manner as to preserve the integrity of the site whenever possible.

Analysis: There are no historic structures on the project site. Therefore, Goal 10 and Policies 10.1, 10.2, 10.3, 10.4, 10.5 and 10.6, promoting the preservation of historic structures and places, are not applicable to the proposed project.

(5) Circulation Element

Goal 1: To provide a circulation system to move people and goods safely and efficiently throughout the City of Santa Clarita and the general planning area.

Policy 1.1: Maintain a Capital Improvements Program (CIP) which incorporates a funding program for the construction of improvements to the City's roadway system. Specific improvement proposals should be determined for the entire community and all local benefit, cost, feasibility, and safety issues should be considered. Seek alternative funding opportunities to provide adequate transportation and circulation improvements.

Policy 1.2: Seek alternative funding opportunities to provide adequate transportation and circulation facilities.

Policy 1.3: Adopt a program of street and highway landscaping (i.e., median planting and street trees) to enhance the appearance of the City's circulation system.

Policy 1.4: Enforce dual access requirements where appropriate for safety and circulation purposes.

Policy 1.5: Establish street standards which are sensitive to topographical constraints, necessary grade separations and other special needs.

Policy 1.6: Develop design standards for roadway and intersection improvements to safely and efficiently accommodate existing and projected transportation patterns and circulation.

Policy 1.7: Provide reasonable traffic flow and consider the adoption of a limited access policy which would provide guidelines and criteria by which reciprocal access and parking agreements may be provided to consolidate and minimize traffic interruptions.

Policy 1.8: Establish a traffic impact "threshold of significant" condition which will require appropriate mitigation for projects where traffic increases at any location where the volume-to-capacity (V/C) ratio increases more than two percentage points (0.02) and where the final ratio is equal to or less than 0.90 (Level of Service D) or where traffic increases at any location where the V/C ratio increases more than one percentage point (0.01) and where the final ratio is greater than 0.90 (Level of Service E).

Policy 1.9: Where alignments are known, the preservation of corridor rights-of-way should be immediately established.

Policy 1.10: Pursue and develop a Congestion Management Program (CMP) to promote and ensure realistic and feasible traffic distribution and growth throughout the City of Santa Clarita and the general planning area.

Policy 1.11: Improve circulation facilities to provide improved levels of service and standards of safety over current traffic operations with a priority to improve local transportation patterns.

Policy 1.12: Maintain appropriate levels of service at all intersections in the City during peak hours to ensure that traffic delays are kept to a minimum.

Policy 1.13: Preserve the quality of residential neighborhoods by discouraging the flow of truck and through traffic in these areas consistent with circulation and emergency needs.

Policy 1.14: Work cooperatively with County, regional and state agencies to integrate the City's circulation system with that of the surrounding region.

Policy 1.15: Maximize and improve the operating efficiency and safety of the existing roadway system wherever possible.

Policy 1.16: Limit the number of intersections and driveways on all major, secondary and limited secondary roadways to accommodate a safe, efficient and steady flow of traffic.

Policy 1.17: Develop and maintain an appropriate supertruck (trucks with an extended trailer length of approximately 48 feet to 60 feet) and truck route program which will accommodate the needs of the commercial and industrial uses within the City, and the general planning area, but will also provide for the protection and preservation of the City's circulation system and residential areas. Avoid establishing truck routes in areas which contain natural, scenic or other resources.

Policy 1.18: Require vehicular access to higher density land uses and commercial developments from major, secondary and limited secondary roadways, and not from low-density residential neighborhoods.

Policy 1.19: Maintain adequate access to state highways and freeways serving the Santa Clarita planning area including Interstate 5 on the west, State Route 14 on the southeast and State Route 126 on the northwest.

Policy 1.20: Optimize use of all major, secondary and limited secondary roadways while minimizing use of all collectors and local streets. Encourage development design that ensures that local streets function as designed and not as collector streets or other higher capacity roadways.

Policy 1.21: Establish roadway alignments and require appropriate dedication of right-of-way for all major and secondary highways.

Policy 1.22: Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management. Include traffic circles and other traffic calming devices among these measures.

Policy 1.23: Develop a weight limit plan which, when implemented, will route commercial and construction traffic so that it poses the least impact to the non-arterial street system.

Policy 1.24: Traffic lights shall be synchronized where advantageous for circulation.

Policy 1.25: Continue to work with the County in developing and maintaining planned roadways.

Policy 1.26: Maintain the Santa Clarita Valley Consolidated Traffic Model to regularly review future traffic projections as development occurs and land uses change.

Policy 1.27: Encourage schools and parents to use the Suggested Routes to School Plan.

Policy 1.28: Discourage the creation of new, gated private roadways that block areawide through routes.

Policy 1.29: Encourage consistent through-street names.

Analysis: Funding policies with regard to maintenance of a CIP program and alternative transportation funding are the responsibility of the City of Santa Clarita. Therefore, Policies 1.1 and 1.2 are not applicable to the proposed project.

The adoption of a street and highway landscaping program, the development of design standards, limited access policies and the establishment of thresholds of significance and

the development of a Congestion Management Program (Policies 1.3, 1.6, 1.7, 1.8 and 1.10) are the responsibility of the City of Santa Clarita and consequently not applicable to the project. Although the enforcement of dual access requirements is a City of Santa Clarita responsibility it should be noted that the project implements dual access requirements to the satisfaction of the Los Angeles County Fire Department, **Section 4.13, Fire Services**. Consequently, the project is consistent with Policy 1.4. The Riverpark project is sensitive to street grades and topographical constraints as it has generally removed development from the steepest areas on the project site and is, therefore, consistent with Policy 1.5. The project has preserved the corridor rights-of-way for Newhall Ranch Road, Santa Clarita Parkway and Newhall Ranch Road/Golden Valley Bridge and is, therefore, consistent with Policy 1.9. The project is consistent with Goal 1.

The traffic study prepared for the project and discussed in **Section 4.3, Traffic/Access**, concludes that the proposed plan results in a reduction of traffic volume on the City's roadways. Therefore, the project is consistent with Policy 1.11. Mitigation measures have been included in **Section 4.3, Traffic/Access**, which would maintain appropriate levels of service at intersections and to ensure that traffic delays are kept to a minimum by requiring roadway improvements. Therefore, the proposed project is consistent with Policies 1.12 and 1.15. The design of the Riverpark project discourages the flow of truck and through traffic in residential neighborhoods. Given the location of the project site it is not advantageous for trucks or through traffic to traverse through project neighborhoods; therefore, the project is consistent with Policies 1.13 and 1.19. Policies 1.14, 1.17, 1.19, 1.23 concerning cooperation with County and regional agencies on circulation issues, development of an appropriate supertruck route program, development of a weight limit plan are activities undertaken by the City of Santa Clarita and are not applicable to the project. The proposed project limits access to Newhall Ranch Road and Santa Clarita Parkway with eight access points to accommodate a safe and steady flow of traffic and is consistent with Policy 1.16. Access to Planning Areas C and D take access from Newhall Ranch Road, as opposed to taking access through lower density developments, which is consistent with Policies 1.18 and 1.20. The project proposes roadway alignments that are consistent with established City standards and Policy 1.21. The design of the project includes cul-de-sacs, which serve to calm traffic and prevent roadways used as throughways. Consequently, the project is consistent with Policy 1.22. The City of Santa Clarita has a synchronized traffic light program which would be implemented on Newhall Ranch Road; therefore, the project is consistent with Policy 1.24.

Coordination with the County with regard to circulation issues, maintenance of the Santa Clarita Valley Consolidated Traffic Model, encouragement to use suggested routes to school is a responsibility of the City of Santa Clarita and consequently Policies 1.25, 1.26, 1.27 are not applicable to the project. Although the proposed project allows for the option of gated communities, adequate stacking access is provided to ensure that areawide through routes are not blocked; therefore, the project is consistent with Policy 1.28. Prior to issuance of a Final Map the project applicant would be required to delineate street names consistent with the other street names in the project. Therefore, the project is consistent with Policy 1.29. The project is consistent with Goal 1.

(a) Need for Local and Regional Transit Services

Goal 2: Promote a diversified public transportation system that is safe, convenient, efficient, and meets the identified needs of the City of Santa Clarita and the general planning area.

Policy 2.1: Coordinate local transit planning with regional transportation planning agencies and transit agencies in adjacent communities.

Policy 2.2: Identify and reserve locations for future commuter rail stations.

Policy 2.3: Pursue the development of a local car pool information and routing program. The program can provide alternative transportation for concentrated users.

Policy 2.4: Explore the use of the railroad right-of-way for intra-Valley and commuter use between SR-14 and any proposed station locations.

Policy 2.5: Incorporate accommodations and facilities to support local transit services (i.e., bus lanes, bus stops and bus shelters) in new and redeveloped projects, where feasible that are consistent with local transit planning.

Policy 2.6: Provide for the mobility of City residents to access local services and employment, particularly for those who may experience mobility difficulties, including the elderly, disabled, low income residents and youth.

Policy 2.7: Develop multi-modal transit facilities that are strategically located in the planning area convenient to major local residential and employment centers.

Policy 2.8: Develop adequate pedestrian access and encourage the use of these systems.

Policy 2.9: Require right-of-way dedication and/or construction of appropriate facilities in support of a public transportation system in new and redeveloped projects.

Policy 2.10: Explore the expansion of rail service to Ventura County, to Los Angeles, and to the Antelope Valley. Encourage connections to future high-speed rail that may be located through the Santa Clarita Valley.

Analysis: Policies 2.1, 2.2, 2.3, 2.4, 2.7 and 2.10 address the coordination of local and regional transit planning, identification of locations for future rail stations, exploration of railway right-of-way use and the development of local car pool information is the responsibility of City of Santa Clarita and is not applicable to the Riverpark project.

The proposed project incorporates bus stops and trails in locations designed to serve all residents of the Riverpark community and is, therefore, consistent with Policies 2.5, 2.6 and 2.8. Therefore, the project is consistent with Goal 2.

(b) Transportation Alternatives

Goal 3: To promote safe and effective alternatives to the personal automobile that will meet the needs of all planning area residents.

Policy 3.1: Develop, with the support of other agencies, alternative transportation systems throughout the City and planning area.

Policy 3.2: Develop an integrated system of bus service that reaches all major concentrations of residential development and employment.

Policy 3.3: Provide a system of sidewalks or pathways, tunnels and bridges in residential, commercial and industrial areas that features a safe, attractive and convenient environment, integrating pedestrians and bicycles in a manner harmonious with the surrounding neighborhoods.

Policy 3.4: Identify and reserve rights-of-way for local transit to connect to regional systems.

Policy 3.5: Establish multi-use corridors and reserve appropriate rights-of-way.

Policy 3.6: Maintain the Master Plan of Bikeways that is coordinated with the County plan for the Santa Clarita Valley and regional network, including Ventura County, in order to provide an adequate system for the safe and efficient movement of cyclists.

Policy 3.7: Promote bicycle and pedestrian accessibility to all commercial, industrial, multi-family residential, and public facilities, including parks, schools, and centers of civic activity.

Policy 3.8: Promote ride sharing.

Policy 3.9: Consider the establishment of a pedestrian only district that is bicycle-friendly.

Analysis: The project provides right-of-way for bus stop turnouts that promote alternative transportation systems and is consistent with Policies 3.1, 3.2 and 3.4. The Riverpark project includes pedestrian and Class I bicycle trails, as well as horse trails which provide for a multi-use system of walkways and pathways making the project consistent with Policies 3.3 and 3.5. The maintenance of the Master Plan of Bikeways, promotion of ride sharing and the establishment of a pedestrian –only district is a responsibility of the City of Santa Clarita. Therefore, Policies 3.6, 3.8 and 3.9 are not applicable to the project. The multi-use trails and pathways proposed with the project provide both bicycle and pedestrian access to all commercial, residential and industrial uses located on or adjacent to the project site. Therefore, the project is consistent with Policy 3.7. The project is consistent with Goal 3.

(c) Parking Facilities

Goal 4: To provide for and ensure an adequate supply of off-street private and public parking to meet the needs of local residents and visitors to the City and the planning area.

Policy 4.1: Provide parking requirements for various types of land uses which consider travel patterns, mode split, and vehicle size. Periodically review and update these standards as these factors change over time.

Policy 4.2: Provide public parking resources and transportation alternatives in response to the demand for such facilities (including park-and-ride facilities), through development exactions, special assessment districts or other appropriate funding mechanisms.

Policy 4.3: Screen and/or buffer large parking areas from public view through the use of landscape setbacks, earth berms and hedge screens (to headlight level) and trees and landscaping in parking areas while providing convenient pedestrian access.

Policy 4.4: On-street parking should generally be eliminated from all major, secondary and limited secondary roadways.

Policy 4.5: In addition to the retention of park-and-ride opportunities near the Antelope Valley Freeway, suitable park-and-ride locations near Interstate 5 should be investigated.

Policy 4.6: Encourage enclosed bicycle lockers at major destinations.

Policy 4.7: Consider the use of shared parking and jointly operated parking structures, as appropriate.

Analysis: The City of Santa Clarita is responsible for the implementation of Policies 4.1, 4.3, 4.5, 4.6 and 4.7 regarding the provision of parking requirements, retention of park-and-ride facilities, the requirement to screen parking areas through the use of landscape setbacks, berms and hedge screens, encouragement of the provision of bicycle lockers at major destinations and the use of shared parking and joint use parking structures and are not applicable to the project. The project provides for trails and bus stop turnouts thereby providing for transportation alternatives and is consistent with Policy 4.2. The Riverpark project provides for landscaping and berm setbacks from Newhall Ranch Road and Santa Clarita Parkway and is consistent with Policy 4.4. The project is consistent with Goal 4.

(d) Regional System Impacts

Goal 5: Pursue an aggressive posture in the region in advocating a regional transportation system.

Policy 5.1: Advocate at the local, state and federal level Transportation Demand Management (TDM) and transit programs, including rail transit and local coordinated busways/routes and bike stations.

Policy 5.2: Encourage the development and utilization of the Metrolink commuter rail system.

Policy 5.3: Encourage linkages between the City's transportation system, regional rail, light rail, and high-speed rail.

Policy 5.4: Encourage the creation of High-Occupancy Vehicle (HOV) lanes and other methods to increase the capacity of the SR-14 and I-5.

Policy 5.5: Encourage intergovernmental coordination and cooperation among all agencies and levels of government for the planning, management, financing, and implementation of transportation system improvements.

Policy 5.6: Work cooperatively with regional transportation agencies to develop and improve mass transit system connections between the City, metropolitan Los Angeles, Los Angeles International Airport, the Antelope Valley and Ventura County.

Analysis: The City of Santa Clarita is responsible for Policies 5.1, 5.2, 5.3, 5.4, 5.5 and 5.6 which suggest advocation at the local, state and federal level for transportation programs, encourage development of the Metrolink station and HOV lanes, encouragement of intergovernmental coordination for transportation programs including mass transit opportunities. Therefore, Goal 5 and these policies are not applicable to the proposed project.

Goal 6 Encourage the implementation of trip reduction methods to reduce daily auto trip generation through alternate transportation, land use planning and other strategies.

Policy 6.1: Develop marketing and customer service plans to promote widespread use of alternatives to the auto. Target public agencies, major employers, the Chamber of Commerce, Transportation Management Associations (TMAs), etc., to encourage commute patterns using public transit.

Policy 6.2: Develop coordinated plans for land use, circulation, and transit with City and County departments to concentrate high-density housing, employment and commercial areas close to transit corridors.

Policy 6.3: Encourage implementation of the City's General Plan, Transportation Development Plan, Bikeway Master Plan, Infrastructure Master Plan and other documents with transportation policies through new development and redevelopment.

Policy 6.4: Encourage flexibility in development standards to permit higher floor area ratios and lower parking requirements for commercial developments that provide and maintain transit facilities and that subsidize shared-ride programs.

Policy 6.5: Encourage "transit friendly" residential, commercial and industrial development that provides convenient pedestrian and bicycle access.

Policy 6.6: Encourage new development to use pedestrian "zippers" or walkways to provide a convenient link between different residential neighborhoods and between residential neighborhoods and commercial centers.

Policy 6.7: Encourage the location of convenience services, such as day care, at transit centers.

Policy 6.8: Synchronize the expansion of public transportation facilities with new development with implementation of "pay as you go" for expansion of public transportation facilities.

Policy 6.9: Use attractive bus stops and transfer points to promote transit.

Policy 6.10: Encourage implementation of transportation demand management strategies including telecommuting, compressed work weeks, and aggressive ride-sharing promotion.

Policy 6.11: Support improvements to CMP facilities and aid in the implementation of the CMP to improve mobility corridors in the Santa Clarita Valley and North Los Angeles County region.

Analysis: Policies 6.1, 6.4, 6.7 and 6.10 addressing the development of marketing and customer service plans for alternatives to the auto, allowing flexibility in floor area ratios and the encouragement of convenience services such as day care at transit centers, and encouragement of transportation demand strategies is the responsibility of the City of Santa Clarita and is, therefore, not applicable to the proposed project. The higher density residential uses of the project are located adjacent to the Newhall Ranch Road and Santa Clarita Parkway corridors and is consequently consistent with Policy 6.2. The Riverpark

project includes pathways, bicycle and pedestrian trails, bus stops throughout the development making it consistent with implementation of City-sponsored transportation plans and programs and Policies 6.3, 6.5, 6.6 and 6.9. Mitigation incorporated into the project and provided in **Section 4.3, Traffic/Access**, includes the payment of transit fees that is consistent with Policy 6.8. **Section 4.3, Traffic/Access**, indicates that the project supports improvements to roadways to CMP facilities and is, thereby, consistent with Policy 6.11. The project is consistent with Goal 6.

(6) Land Use Element

Goal 1: To preserve the character of the communities and the integrity of the Santa Clarita Valley by permitting orderly growth through the synchronization of development with the availability of public facilities such as roads, sewers, water service and schools needed to support it.

Policy 1.1: Develop and implement a Public Facilities Ordinance that requires that adequate infrastructure exist or be programmed for construction within a defined period of time as a condition of development approval.

Policy 1.2: Develop and implement a program of Development Impact Fees to provide adequate public facilities and services in a timely manner.

Policy 1.3: Prepare an annual growth monitoring report to the community that includes the status of all projects, the status of capital improvements for roads, sewers, water, schools and libraries, and a status report on the development trends in the Valley.

Policy 1.4: Study the feasibility (including, but not limited to housing and land use) of an Annual Growth Policy that provides guidelines for the determination of the adequacy of Public Facilities and allows the City to set appropriate levels of development consistent with all General Plan goals and policies.

Policy 1.5: Utilize computer modeling to assess cumulative impacts of development on public facilities.

Policy 1.6: Incorporate into the annual Capital Improvement Program a timetable for eliminating the infrastructure deficit and provide for an annual goal for such reduction.

Policy 1.7: Pursue an annexation policy that brings tangible benefits to City infrastructure and provides a self-supporting tax base.

Policy 1.8: Encourage the concept of traffic mitigation agreements that provide a variety of transportation options including but not limited to automobiles, transit, commuter trains, light rail and bicycle pathways.

Policy 1.9: Continue to pursue a policy of cooperation with Los Angeles County and seek adequate documentation, notification, and mitigation of infrastructure impacts beyond or bordering the City's boundaries.

Policy 1.10: Consider the establishment of additional SEAs where unique environmental or geological conditions exist or may be created by future land uses.

Policy 1.11: Establish an open space district with funding capability to acquire parcels that may be suitable for development.

Analysis: Goal 1 and Policies 1.1, 1.2, 1.3, 1.4 1.5, 1.6, 1.7, 1.8, 1.9, 1.10 and 1.11 address the development of a Public Facilities Ordinance, Development Impact Fee, preparation of the growth monitoring report, study of the feasibility of an Annual Growth Policy, utilization of a computer model to assess impacts of public facilities, input into the CIP, annexation policies, encouragement of traffic mitigation agreements, maintain a policy of cooperation with Los Angeles County, establishment of SEAs and open space districts which are the responsibility of the City of Santa Clarita and are consequently not applicable to the project.

Goal 2: To achieve the development of a well-balanced, financially sound, and functional mix of residential, commercial, industrial, open space, recreational, institutional and educational land uses.

Policy 2.1: Encourage the development of a broad range of housing types to meet the needs of the existing and future residents of the planning area, including, but not limited to, the development of single-family detached homes, condominiums, apartments, and manufactured housing.

Policy 2.2: Promote the development of service and neighborhood commercial activities to meet existing and future needs. These centers must be nonintrusive, sensitive to surrounding residential land uses, and should be located adjacent to arterial roadways.

Policy 2.3: Establish a hierarchy of commercial centers, including neighborhood, community, and regional serving centers, together with appropriate and compatible levels of use to serve the population. The centers should be located on arterial thoroughfares and be nonintrusive and sensitive to residential land uses so as to provide both convenience and compatibility. Note: this policy is intended to encourage unified commercial theme centers and assembly of properties and shall not be construed to encourage small, multi-tenant and convenience centers located on corners or in strip fashion along commercial streets.

Policy 2.4: Encourage light industrial, manufacturing, office, and research and development activities that will not adversely impact the environment, while providing employment opportunities.

Policy 2.5: Encourage the development of business park areas for future industrial/manufacturing land uses, with landscaping, employee recreation, pedestrian walkways, and other unified design standards.

Policy 2.6: Warehousing and distribution activities should be located in proximity to freeways, rail lines, or other major transportation thoroughfares to facilitate the efficient movement of goods and minimize disruption and congestion on local and commercial streets.

Policy 2.7: Encourage complementary land uses which promote the development of hotels/motels, convention facilities, and other visitor-serving uses in the vicinity of Magic Mountain and in other appropriate locations in the planning area.

Policy 2.8: Explore the use of utility rights-of-way for tree farms, nurseries, row crops, trails, and greenbelts.

Policy 2.9: Encourage the development of equestrian-oriented housing in areas that are presently equestrian-oriented, and ensure that other surrounding land uses are compatible with the adjacent equestrian zones.

Policy 2.10: Establish an open space district with funding capability to acquire parcels that may not be suitable for development.

Policy 2.11: Provide for the reservation of adequate land to meet projected institutional and infrastructure needs.

Policy 2.12: Promote the retention of open space to preserve significant ridgelines, to provide land use buffers, and to provide for both public safety and oak tree preservation.

Policy 2.13: Encourage the preservation of the Angeles National Forest and Los Padres National Forest as an open space reserve close to the urban interface, and an important wildlife habitat and corridor.

Policy 2.14: Promote the development of commercial and industrial activities in all communities of the planning area.

Policy 2.15: Discourage the development of additional strip commercial centers and corner mini-shopping centers.

Policy 2.16: Encourage the establishment of a permanent farmers market complex which offers a variety of goods.

Policy 2.17: Promote the retention and expansion of existing college facilities.

Policy 2.18: Promote the retention and provide opportunities for expansion of existing manufacturing and industrial land uses in industrial/commercial and business park locations.

Analysis: The Riverpark project including single-family detached and apartments providing variety of housing type needs and is, therefore, consistent with Policy 2.1. The project proposes a neighborhood commercial site located at the southwest corner of Bouquet Canyon Road and Newhall Ranch Road which is consistent with Policy 2.2. The 3-acre commercial parcel will serve the Riverpark project. Larger community and regional commercial centers are more appropriately located in the center of town. Consequently, the project is consistent with Policy 2.3. The project does not propose industrial, business park or warehouse facilities; therefore, Policies 2.4, 2.5, and 2.6 are not applicable to the project. The project is not located in proximity to Magic Mountain, and cannot utilize utility

easement for tree farms or nurseries; therefore, Policies 2.7 and 2.8 are not applicable to the project. Surrounding land uses are not compatible with equestrian-oriented uses; therefore, Policy 2.9 is not applicable to the project. The City of Santa Clarita would be responsible for the establishment of an open space district and, therefore, Policy 2.10 is not applicable to the project. The project has reserved right-of-way for future road projects such as Newhall Ranch Road/Golden Valley Bridge and Santa Clarita Parkway and is consistent with Policy 2.11. The Riverpark project promotes the retention of open space as it provides, where feasible, and upland preserve buffer and will satisfy the provisions of the City's Oak Tree Ordinance; therefore, the project is consistent with Policy 2.12. The City of Santa Clarita is responsible for the encouragement of preservation of the Angeles National Forest, establishment of a permanent farmers market, retention and expansion of existing college facilities and manufacturing/industrial uses and consequently Policies 2.13, 2.16, 2.17 and 2.18 are not applicable to the project. The project proposes a 3-acre commercial center, which will, given its size, not create a strip or mini-mall; therefore, the project is consistent with Policies 2.14 and 2.15.

Goal 3: To achieve a balanced physical environment through sensible land use planning and urban design, while establishing the City's role as a regional center.

Policy 3.1: Promote the development of City centers where more intensive land uses will be encouraged, including the development of a regional commercial center, office/business park centers, an entertainment complex, and a civic town center.

Policy 3.2: Designate a central commercial core of concentrated and higher intensity commercial activities to serve the region and ultimate population, create an identity and progressive image for the City, and capitalize on related economic and employment benefits.

Policy 3.3: Identify a primary town center and other centers which encourage a pedestrian orientation and can accommodate a clustered mix of commercial, entertainment, recreation, town square/meeting place(s), multi-use complexes, and multimodal transportation activity opportunities.

Policy 3.4: Promote the concentrated development and revitalization of secondary City or community centers having historical and/or communitywide interest.

Policy 3.5: Promote Santa Clarita's location along Interstate 5 and Highway 14 as an important link between Southern and Northern California, as the northern gateway to the metropolitan Los Angeles area, and as a self-sufficient community and center serving the broader region.

Policy 3.6: Locate higher density residential development in proximity to regional and subregional centers and public transportation corridors.

Policy 3.7: Continue the established pattern of attractive greenbelts, golf courses, open space (including the protection of adjacent Significant Ecological Areas), and entertainment/recreational amenities along Interstate 5, and promote a similar pattern along State Route 14 to strengthen and enhance the image of the City as a pleasant and fun place to live, work, visit, and play.

Analysis: The project is located outside of the City center and is supportive of the intensive commercial land uses of the City center as majority of the project is proposed for residential units which support the commercial uses and is consistent with Policies 3.1, 3.2 and 3.3. The City of Santa Clarita would be responsible for the promotion of a secondary City or community centers having historical or communitywide interest and the location of Santa Clarita adjacent to I-5 and, therefore, Policies 3.4 and 3.5 are not applicable to the project. The Riverpark project is consistent with Policy 3.6 as it proposes higher densities apartments which are located in proximity to the City center and the Metrolink station. The Riverpark project is consistent with Policy 3.7 as it includes over 468 acres of open space uses including greenbelts. The project is consistent with Goal 3.

Goal 4: To ensure that development in the City is consistent with the overall community character and that it contributes in a positive way toward the City's image.

Policy 4.1: Establish a land use pattern that is constructed around a framework of established greenbelts and a linear system of equestrian, pedestrian and bike trails tied to the primary network of the river corridor.

Policy 4.2: Promote the development of key gateway design identification measures that will promote a positive community image and implement community design themes where appropriate.

Policy 4.3: Encourage setbacks, landscaping, and visual buffers between land conflicts between dissimilar uses or other measures to provide physical uses to minimize potential land use.

Policy 4.4: Focus revitalization efforts on eliminating blight along the railroad right-of-way adjacent to San Fernando Road, substitute landscaping for existing business, retain railroad right-of-way for future transit uses, including the consideration of parking structures and investigate possible trail uses within the railroad right-of-way along San Fernando Road and elsewhere.

Policy 4.5: Promote the preservation, rehabilitation and/or upgrading of older established centers, including downtown Newhall, Canyon Country, and Saugus, where appropriate.

Policy 4.6: Encourage the upgrading of strip commercial development along San Fernando Road and Lyons Avenue.

Policy 4.7: Prevent further development of unsightly and inefficient land use patterns, such as those found along Lyons Avenue, Soledad Canyon, San Fernando Road, and other main thoroughfares.

Policy 4.8: Consider forming an architectural design review process conducted by staff to ensure that new construction and renovation of existing structures achieve a high level of architectural and site design quality.

Policy 4.9: Ensure that signage on new and existing development is visually attractive and provides a high quality image for the City.

Policy 4.10: Enforce design and maintenance standards to ensure that buildings and property in the City are adequately maintained.

Policy 4.11: Enforce building and safety codes and regulations concerning the upgrade, rehabilitation, or removal of deteriorated and dilapidated buildings, structures and sites.

Policy 4.12: Maintain and enhance the desirable rural qualities found in the certain existing neighborhoods which are rural in character, such as Placerita, Sand, and Hasley Canyons.

Policy 4.13: Encourage the preservation of significant architectural, historical, and cultural structures and landmarks within the planning area whenever possible.

Policy 4.14: Regulate lighting in new and existing development so that it does not unduly contribute to nighttime visual pollution and glare, and is compatible with surrounding land uses (tailor standards for lighting so they are compatible with the setting).

Policy 4.15: Maintain and/or enhance the character of the various communities through compatible land use standards and design guidelines, while promoting an overall identity for the Santa Clarita Valley.

Policy 4.16: Encourage landscaping, art, and other design amenities that complement and enhance the streetscape and the design of new development.

Policy 4.17: Promote the development of greenscape corridors and setbacks along major streets and arterials.

Analysis: The Riverpark project is consistent with Policy 4.1 as it has designed pathways, bicycle and pedestrian trails, equestrian trails that are oriented to the Santa Clara River corridor. Policies 4.2, 4.4, 4.5, 4.6, 4.7, 4.8, 4.11, and 4.12 address responsibilities of the City of Santa Clarita which include the promotion of key gateway design identification measures, revitalization efforts on existing development, forming an architectural design review process, enforcement of building and safety codes and maintenance of rural lifestyles found in Placerita, Sand and Hasley Canyon's and are not applicable to the project. The project proposes a setback between commercial, residential and open space uses on the site and is, therefore, consistent with Policy 4.3. All signage proposed for the project will be required to secure a sign permit from the City of Santa Clarita which would require visually attractive signage and consequently the project would be consistent with Policy 4.9. Similarly the project would be required to receive architectural approval from the City of Santa Clarita for all building elevation, which would ensure consistency with Policies 4.10 and 4.15. There are no significant architectural, historical or cultural structures or landmarks on the project site; therefore, Policy 4.13 is not applicable to the project. **Section 4.16, Visual Resources**, includes mitigation that regulates light and glare and, therefore, the project is consistent with Policy 4.14. The Riverpark project proposes a streetscape and landscape design intended to compliment Newhall Ranch Road and Santa Clarita Parkway and is consequently consistent with Policies 4.16 and 4.17. The project is consistent with Goal 4.

Goal 5: To provide protection of the environmental setting and habitat through the location of land uses and the use of sensitive design.

Policy 5.1: Allow only responsible and sensitive development of hillside areas and prohibit development on ridgelines designated as Significant Ridgelines.

Policy 5.2: Ensure that new development, grading, and landscaping are sensitive to the natural topography and major landforms in the planning area.

Policy 5.3: New development must be sensitive to the Significant Ecological Areas (SEAs) through utilization of creative site planning techniques to avoid and minimize disturbance of these and other sensitive areas.

Policy 5.4: Discourage the removal of a Hillside Management Overlay designation in unincorporated areas when urbanization proposals are made for such areas, and work with the County to develop reasonable and workable standards to provide for both urban and non-urban development.

Policy 5.5: Follow the recommendations of the Santa Clara River Study.

Policy 5.6: Preserve and protect oak and mature specimen size trees and other endangered indigenous plant and animal communities, from excessive and incompatible development.

Policy 5.7: Encourage the preservation of the Angeles National Forest and Los Padres National Forest and actively discourage the transfer of such forests into the private sector.

Policy 5.8: Preserve and protect designated wildlife corridors from undue encroachment and disruption.

Policy 5.9: Promote the public acquisition of Significant Ecological Areas with the intent of preserving them as natural open space.

Policy 5.10: Promote the concept that development and circulation improvements should not adversely affect wildlife corridors.

Policy 5.11: Preserve and protect endangered fauna and flora species, and their habitats.

Analysis: The City of Santa Clarita is responsible for the enforcement and update of the Ridgeline Preservation and Hillside Development Ordinance and standards and has required that the project applicant provide the necessary documentation to allow for consistency and analysis of the Ridgeline Preservation and Hillside Development Ordinance. The Riverpark project is sensitive to SEAs and sensitive resources located on the site by not proposing development within the river and restricts development from the steepest slopes on the site, and can be considered consistent with Policy 5.3. The proposed project is not located in an unincorporated area, and, consequently, Policy 5.4 is not applicable. The proposed project is consistent with the Santa Clara River Study and is, therefore, consistent with Policy 5.5. The City of Santa Clarita is responsible for review of the project for consistency with the Oak Tree Ordinance; therefore, Policy 5.6 is not a responsibility of the project applicant. Because the proposed project protects the Santa Clara River (which would be conveyed to the City) and which supports and protects sensitive species from excessive and incompatible development it is consistent with Policies 5.6, 5.9, 5.9, 5.10 and 5.11. The City of Santa Clarita is responsible for the encouraged preservation of the Angeles National Forest and Policy 5.7 is not applicable to the proposed project. The project is consistent with Goal 5.

Goal 6: To protect and enhance the integrity of existing residential neighborhoods and to provide for affordable housing.

Policy 6.1: Focus housing rehabilitation efforts, or if necessary, replacement programs, on deteriorating residential neighborhoods located in Newhall and elsewhere.

Policy 6.2: Continue to provide for the development of new housing while ensuring that the character, scale, and density of new residential development is sensitive, compatible and complimentary to existing residential neighborhoods.

Policy 6.3: Provide for the retention and maintenance of existing residential neighborhoods which are primarily developed with single-family homes and ensure that new development is compatible with and complementary to existing development in terms of scale, architecture, and density.

Policy 6.4: Provide for the retention and maintenance of multiple-family neighborhoods and ensure that new development is compatible with and complements existing structures, in scale and architecture, where a distinctive neighborhood character exists.

Policy 6.5: Provide low and moderate income family and senior citizen households with housing opportunities by promoting types of development that can accommodate such households.

Policy 6.6: Promote on-site campus housing at both existing and potential future area colleges as a means to meet affordable housing needs of the student population.

Analysis: Because there is not housing on the project site, Policy 6.1 is not applicable to the project. The proposed project will provide for a variety of housing types (single family and apartments), but it is also sensitive to, compatible and complimentary with existing residential neighborhoods and can be considered consistent with Policies 6.2, 6.3, 6.4 and 6.5. The City of Santa Clarita would be responsible for the promotion of on-site campus housing and, therefore, Policy 6.6 is not applicable to the project. The project is consistent with Goal 6.

Goal 7: To preserve the character of the communities and the integrity of the Santa Clarita Valley through orderly development practices and the provision of private and public capital improvements, facilities, and services to support existing and future development.

Policy 7.1: Ensure demand for public facilities and services do not exceed the ability to provide and maintain such facilities and services; necessary facility improvements should precede or be coordinated with future development.

Policy 7.2: Ensure, within the City's power, that facilities and services are provided in a timely manner through collection of developer fees.

Policy 7.3: Establish and implement necessary safety measures and standards to ensure that development is appropriately restricted in areas where natural hazards are present (seismic, geologic, flooding, fires, etc.), unless such hazards can be mitigated.

Policy 7.4: Consider school adequacy when evaluating development proposals under the land use plan.

Policy 7.5: Consider water availability when evaluating development proposals under the land use plan.

Policy 7.6: Coordinate annexation activities with City growth management strategies.

Policy 7.7: Avoid or offset the adverse impacts of additional development as a necessary component of the growth control strategy.

Policy 7.8: Utilize computer modeling and Capital Improvement Programming to assist in monitoring growth, development and the public services and infrastructure necessary to accommodate such development.

Policy 7.9: Encourage "pay as you go" fees for development.

Analysis: All public services can serve the proposed project and all improvements shall be built concurrently with development and the project is consistent with Policy 7.1. The City collects developer fees prior to the issuance of grading and construction permits to ensure that facilities and services are provided in a timely manner and the project is consistent with Policies 7.2 and 7.9. Mitigation applicable to the project site in response to geotechnical hazards, flooding fire etc., can be found in **Sections 4.1, Geotechnical Hazards; 4.2, Flood;** and **4.13, Fire Services;** therefore, the project is consistent with Policy 7.3. **Section 4.10, Education**, indicates that school impacts are mitigated to a less than significant level and the project is, therefore, consistent with Policy 7.4. **Section 4.8**, **Water Services**, indicates that there will be adequate water for the proposed project and consequently the project is consistent with Policy 7.5. The City of Santa Clarita is responsible for the coordination of annexation activities and the utilization of computer modeling and Capital Improvement Programming to assist in monitoring growth and, therefore, Policies 7.6, 7.7 and 7.8 are not applicable to the project. The project is consistent with Goal 7.

(7) Parks and Recreation Element

Goal 1: Provide, develop, and maintain parks with quality recreational facilities dispersed throughout the area.

Policy 1.1: Provide a combination of local park acreage, park facilities, and recreation programs to serve neighborhood needs.

Policy 1.2: Develop a variety of park types and sizes (regional, community, neighborhood), which are distributed adequately to serve all area residents and to prevent overcrowding and overuse.

Policy 1.3: Provide programs for a variety of passive, educational, and active recreational opportunities for all area residents.

Policy 1.4: Establish a Master Plan of Parks and Recreation Facilities.

Policy 1.5: Promote the integration of the network of trails and open space to provide linkages to parks within and outside the planning area.

Policy 1.6: Use every opportunity to obtain land and facilities as it becomes available and/or ahead of need and hold, or landbank, for subsequent improvement to meet future park and recreation needs. Establish an open space district for the purpose of acquiring park and open space land.

Policy 1.7: Actively encourage support where practical, for the acquisition of the lands of the Santa Clarita Woodlands Park.

Analysis: The project provides for a 29-acre active/passive park, with views to the river including 4.2 acres of improved park area, which will be dedicated to the City; three private recreation lots totaling 1.3 acres; over 440 acres of dedicated open space including 330.8 acres of Santa Clara River area; and various other pocket parks and green space areas and multi-family complexes will contain private recreational facilities. The provision of various types of parkland, for both public and private users ensures consistency of the project with Policies 1.1, 1.2, 1.3. The project is consistent with Policy 1.6 as the project applicant will convey that portion of the Santa Clara River within project boundaries to the City of Santa Clarita with project approval. The project is consistent with Policies 1.5, as the trails proposed on the site would connect to the Citywide trail system and ultimately the Countywide trail system, as is discussed in detail in **Section 4.12, Parks and Recreation**, of this EIR. Policies 1.4, 1.7 addressing the establishment of a master plan of parks and recreation facilities and the support of acquisition of the Santa Clarita Woodlands Park is the responsibility of the City of Santa Clarita and is not applicable to the project. The project is consistent with Goal 1.

Goal 2: To establish standards and implementation measures to guide future parkland development throughout the area as provided in this element.

Policy 2.1: Implement the standards for park acquisition concerning the location, size, service radius, configuration, slope evaluation, access, and infrastructure as described in the Parks and Recreation Element.

Policy 2.2: Implement those service and park area standards identified in the Parks and Recreation Element.

Policy 2.3: Locate and identify potential new park sites using a park overlay designation. Place an emphasis on requiring and developing park sites in underserved areas of the City.

Policy 2.4: Aggressively seek and obtain land for parks in all areas where available.

Policy 2.5: Explore alternative funding sources for the acquisition and development of new parks and recreation/open space districts.

Analysis: The project provides for a 29-acre active/passive park, with views to the river including 4.2 acres of improved park area, which will be dedicated to the City; three private recreation lots totaling 1.3 acres; over 440 acres of dedicated open space including 330.8 acres of Santa Clara River area; and various other pocket parks and green space areas and multi-family complexes will contain private recreational facilities. The provision of various types of parkland, for both public and private users ensures consistency of the project with Policies 2.1 and 2.2. The project is consistent with Policy 2.4 and 2.5 as the project applicant will convey that portion of the Santa Clara River within project boundaries to the City of Santa Clarita with project approval. Policy 2.3 is not applicable to the project, as it requires for the location of park sites using a park overlay designation. The project is consistent with Goal 2.

Goal 3: To encourage the improvement, rehabilitation, and maintenance of existing parks and recreational facilities.

Policy 3.1: Improve existing athletic fields with lights and equipment as recommended by the City Department of Parks and Recreation.

Policy 3.2: Establish a park funding program to ensure that the funds are available to improve and maintain dedicated parkland or acquired park acreage.

Policy 3.3: Provide low-maintenance, vandal-resistant parks, recreational facilities, and equipment.

Policy 3.4: Promote the establishment of citizen volunteer programs for park maintenance in cooperation with the Department of Parks and Recreation.

Policy 3.5: Pursue mechanisms, such as a joint powers agreement, by which the City, County and school districts can establish standards for the improvement and maintenance of parks in a manner consistent within the planning area.

Policy 3.6: Use reclaimed water, where possible, for park irrigation purposes.

Analysis: Policies 3.1, 3.2, 3.4, and 3.5 are not applicable to the project as they address the lighting of existing athletic fields, the establishment of a park funding program, establishment of citizen volunteer programs and joint powers agreement, which are the responsibility of the City of Santa Clarita. The project would work with the City of Santa Clarita Parks and Recreation Department to create a low-maintenance vandal-resistant park that will use reclaimed water if possible and is, therefore, consistent with Policies 3.3 and 3.6. The project is consistent with Goal 3.

Goal 4: Aggressively pursue acquisition of future parkland.

Policy 4.1: Encourage the use of developer fees and land dedication incentive programs.

Policy 4.2: Encourage the use of existing public easements for parks development, subject to safety limitations.

Policy 4.3: Incorporate standards to acquire, improve, and maintain new park sites in development agreements.

Policy 4.4: Evaluate and revise, when necessary, the existing Quimby Fee Ordinance to provide adequate park facilities and maintenance, and examine other additional sources of revenue for new park development.

Policy 4.5: Develop design standards for private parks and evaluate the role of private parks.

Policy 4.6: Pursue other funding mechanisms for park development including grants, bonds, assessment districts, and other funding resources.

Analysis: The project applicant will dedicate, develop or pay fees in accordance with the City's adopted Quimby Ordinance and is, therefore, consistent with Policies 4.1 and 4.4. Policy 4.2 is not applicable to the project as there are no existing public easements on the project site that could be used for park development. The project does not propose the use of a development agreement; therefore, Policy 4.3 is not applicable. Policies 4.5 and 4.6 addressing the development of design standards and the pursuit of funding mechanisms for parks is the responsibility of the City of Santa Clarita and are not applicable to the project. The project is consistent with Goal 4.

Goal 5: Utilize the Santa Clara River as a central recreational corridor and identify other significant natural features to be designated as open spaces, parks, and recreational opportunities.

Policy 5.1: Establish the Santa Clara River as a major recreational focal point within the Valley.

Policy 5.2: Encourage multiple uses of public easements and public lands, such as the flood inundation areas of the Santa Clara River and its tributaries, for recreational purposes.

Policy 5.3: Promote the implementation of the Santa Clara River Recreation and Water Features Study.

Policy 5.4: Investigate and implement, where appropriate, buffer zones between Sensitive Ecological Areas and proposed development.

Policy 5.5: Encourage the development of compatible uses next to the Santa Clara River and the inclusion of development features which provide for public access and use of the river.

Policy 5.6: Encourage development of a linear greenway system.

Policy 5.7: Investigate new funding sources to pay for the implementation of the Santa Clara River recreation and water feature study.

Policy 5.8: Encourage the development of a regional plan for the Santa Clara River which incorporates trails to the ocean.

Analysis: The project designates the Santa Clara River as open space and is, therefore, consistent with Policies 5.1, 5.2, 5.3. The Riverpark project incorporates, where feasible, an upland preserve buffer, intended to provide a buffer zone between Significant Ecological Areas the project development and, therefore, can be considered consistent with Policy 5.4. The project provides for a public trail adjacent to the upland preserve and an equestrian river trail which connects to Citywide trails and is consequently consistent with Policies 5.5, 5.6 and 5.8. The investigation of new funding sources to pay for the implementation of the Santa Clara River Recreation Plan is a responsibility of the City of Santa Clarita and is not applicable to the proposed project. The project is consistent with Goal 5.

Goal 6: Develop and implement the design criteria for park areas described in the Parks and Recreation Element, which consider park access, safety, appropriate signage, parking requirements, and the preservation of natural features.

Policy 6.1: Design new recreational areas to minimize the visual, noise, and traffic impacts on neighboring communities.

Policy 6.2: Implement design guidelines which provide for appropriate access, safety, parking requirements, and signage.

Policy 6.3: Provide adequate and appropriate park supervision by Parks and Recreation staff.

Policy 6.4: Provide design guidelines for the preservation of natural features.

Policy 6.5: Implement consistent park development standards for both private and public parks.

Analysis: The project does not propose active recreational areas in locations that would impact adjacent neighborhoods—such as the adjacent Emblem Tract; therefore, the project is consistent with Policy 6.1. The proposed project will implement park design guidelines which provide for appropriate access, safety, parking requirements and signage and it is, therefore, consistent with Policy 6.2. The City of Santa Clarita is responsible for the provision of adequate and appropriate park supervision, design guidelines for the preservation of natural features, and implementation of consistent park development standards consequently, Policies 6.3, 6.4 and 6.5 are not applicable to the project. The project is consistent with Goal 6.

Goal 7: Provide an efficient public trails system linking public space and adjacent regional systems to meet transportation and recreational needs of the area.

Policy 7.1: Establish a Valleywide regional trail system complete with staging areas and trail heads which link City parks, wilderness open space areas, regional parks, and the trail system.

Policy 7.2: Design trail routes, trail heads, and staging areas and designate trail uses to minimize impact upon adjacent property, neighborhoods and fragile habitats.

Policy 7.3: Promote cooperation between local, state, and federal agencies in the extension and expansion of regional trail systems.

Policy 7.4: Encourage multiple use and dedication of existing public easements for trail development including, but not limited to, utility lines and access easements, where appropriate.

Policy 7.5: Developments along the Backbone Trail System shall be conditioned to provide public trail corridors.

Policy 7.6: Consider the implementation of recommendations for trail alignment and staging areas, as proposed in the adopted Master Trails Plan.

Policy 7.7: Implement the transfer of responsibility for trails development and maintenance within City boundaries from County jurisdiction to the City Parks and Recreation Department, where appropriate.

Policy 7.8: Utilize the Santa Clara River as a focal point for development of an integrated system of trails, parks, and open space.

Policy 7.9: Provide equestrian, bicycle, and pedestrian trail development along routes which are viable to the health and safety of horse and rider.

Policy 7.10: Provide equestrian and pedestrian trails and bikeways which are separate from vehicular traffic and provide maximum safety when the crossing of streets or highways is necessary.

Policy 7.11: Emphasize trail design in the Sand Canyon and Placenta Canyon areas, and other rural areas, which can accommodate both pedestrians and equestrians.

Policy 7.12: Provide trail access to scenic viewpoints and provide scenic overlooks and picnic areas along trail routes.

Policy 7.13: Pursue the development of a bike trail that connects with existing and planned trails in Ventura and Los Angeles counties.

Policy 7.14: Develop trail standards for construction of new trails.

Policy 7.15: Public open space acquisitions shall be designed to provide trail segments to accommodate public access.

Policy 7.16: Private open space areas shall be conditioned to provide public trail easements at appropriate locations.

Analysis: The proposed project incorporates that portion of the Citywide trail system within its project boundaries including a trail head at the commercial site which will link on- and off-site trails making the project consistent with Policies 7.1, 7.2, 7.5, 7.6, and 7.13. There are no existing public easements on the project site that could be used for parks development; therefore, Policy 7.4 is not applicable to the project. The proposed project incorporates the Santa Clara River into the proposed development and maintaining its use of open space. Consequently, the proposed project is consistent with Policy 7.8. The project proposes a separate trail in the river for horses and riders to promote their safety and is, therefore, consistent with Policy 7.9. The proposed project is consistent with Policies 7.10 and 7.15 in that it includes for the provisions of trails adjacent to the upland preserve area of the Santa Clara River and the inclusion of Class I bicycle trails along Newhall Ranch Road and Santa Clarita Parkway that incorporate access between parks and streets. The City of Santa Clarita is responsible for the promotion of cooperation between agencies, the encouragement of multiple use and dedication of public easements, transfer of maintenance of trails, trail design in Placerita and Sand Canyon, development of trail standards and consequently Policies 7.7, 7.11 and 7.14 are not applicable to the project. Viewsheds of the Santa Clara River can be seen from the trail and consequently the project is consistent with Policy 7.12. Access to trails from private and public parks have been provided within the project and, therefore, the project is consistent with Policy 7.16. The project is consistent with Goal 7.

Goal 8: To develop community centers which provide multiple-use opportunities for the residents of the planning area on community and Citywide parks and other such locations deemed appropriate.

Policy 8.1: Develop standards for and promote the development of community centers.

Policy 8.2: Pursue property acquisition for the development of a recreational, cultural, community center, and athletic center at the Saugus Rehabilitation site or at other appropriate locations.

Policy 8.3: Develop mechanisms to provide and support community cultural arts facilities and programs.

Policy 8.4: Promote joint property agreements for use and development of joint school park sites and facilities.

Analysis: The City of Santa Clarita is responsible for the development of standards for community centers, the pursuit of acquisition of property for community centers, the development of mechanisms to support cultural programs and the promotion of joint property agreements regarding parks and schools; therefore, Policies 8.1, 8.2, 8.3 and 8.4 are not applicable to the project. Goal 8 is not applicable to the project.

Goal 9: To develop a system of parks and recreational facilities and programs which provide recreational opportunities for all segments of the community.

Policy 9.1: Evaluate the feasibility of providing and staffing public facilities for child care in conjunction with City parks and recreation programs.

Policy 9.2: Establish a Teen Activities Council to be planned, organized, and operated by local youth under the administration of the Department of Parks and Recreation.

Policy 9.3: Promote the tree planting program and establish other nature and environmental programs.

Policy 9.4: Establish a diverse year-round entertainment program, including concerts, performing arts, and other programs.

Policy 9.5: Establish Citywide volunteer programs under the direction of the Department of Parks and Recreation.

Policy 9.6: Provide recreational and leisure time opportunities for senior citizens.

Policy 9.7: Promote the development of organized youth sports activities.

Policy 9.8: Investigate the appropriateness of user fees and/or subsidies for specialized recreational services.

Analysis: Policies 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 regarding the establishment of child care programs, a Teen Activities Council, tree planting programs, Citywide volunteer programs, year-round entertainment programs, senior citizens programs, organized youth sport activities and the investigation of the appropriateness of user fees is the responsibility of the City of Santa Clarita and is consequently not applicable to the project. Goal 9 is not applicable to the project.

Goal 10: To promote public/private cooperation in developing park improvements, recreational services, and facilities.

Policy 10.1: Promote the expansion of joint-use agreements with the school district to provide recreational programs and facilities in existing and future residential neighborhoods.

Policy 10.2: Encourage private joint-use agreements for facilities provided by nonprofit agencies such as the YMCA and Boys and Girls Club.

Policy 10.3: Encourage and promote cooperation between agencies to facilitate the multiple uses of public rights-of-way consistent with the general plan and public safety.

Policy 10.4: Promote cooperation between federal, state, and local agencies to coordinate regional park planning.

Policy 10.5: Encourage the development of private commercial recreation facilities such as batting cages, miniature golf, driving ranges, aquatic facilities, skate courses, food service concessions, and other commercial activities.

Policy 10.6: Encourage developers to improve and/or construct parks and recreational facilities in lieu of paying fees as partial fulfillment of park and recreation requirements.

Analysis: Policies 10.1, 10.2, 10.3, 10.4 and 10.5 involving the promotion of joint-use agreements with school districts, YMCA and Boys and Girls Club, cooperation between agencies of facilitate multiple use of public rights-of-way and for regional park planning and the encouragement of private commercial recreational facilities is the responsibility of the City of Santa Clarita and is not applicable to the proposed project. The project is consistent with Policy 10.6 as the project would improve a portion of public park facilities as well as convey land for parks. Therefore, the project is consistent with Goal 10.

Goal 11: To develop facilities and services that meets the needs of retail, commercial, and industrial businesses in the planning area.

Policy 11.1: Require the development of park and recreation facilities in commercial and industrial areas to provide services and programs for employees where appropriate.

Policy 11.2: Explore mechanisms to obtain commercial and industrial park development fees and/or provision of other recreational opportunities, passive and active.

Policy 11.3: Consider the establishment of an Industrial/Commercial ad hoc Parks Advisory Committee that reports to the Parks and Recreation Commission.

Policy 11.4: Conduct periodic survey of needs to target those recreational facilities and services that should be developed.

Analysis: The project's 3-acre commercial site is not large enough to warrant the provision of park and recreation and, therefore, Policies 11.1 and 11.2 are not applicable to the project. The establishment of an Industrial/Commercial Ad Hoc Parks Advisory Committee and the execution of periodic survey of park and recreation needs is a responsibility of the City of Santa Clarita and is, therefore, not applicable to the project. Consequently, Goal 11 is not applicable to the project.

(8) Community Design Element

Goal 1: To protect and preserve the scale and character of existing neighborhoods while providing for new development which is consistent with the goals and policies of the General Plan.

Policy 1.1: Maintain or enhance the character of existing neighborhoods with policies and regulations that emphasize compatible architecture and landscaping.

Policy 1.2: Ensure that clustering of new development is compatible with the character of the existing surrounding neighborhoods.

Policy 1.3: Consider all design elements, including building size, height, mass, and architectural design, in the design review process so that new development does not conflict with the character of the neighborhoods.

Policy 1.4: Work with the residents of Placenta and Sand Canyons to develop special standards which reflect the lifestyles and character of these areas.

Analysis: The Riverpark project proposes a mix of single- and multi-family residential dwellings, which is consistent with the scale and character of the residential uses found to the northwest and southeast of the site, and, therefore, the project is consistent with Policies 1.1 and 1.2. Commercial uses proposed along Newhall Ranch Road and Bouquet Canyon Road is consistent with the existing uses located along these roadways and consequently the project is consistent with Policy 1.3. The project is not located in Placerita or Sand Canyon; therefore, Policy 1.4 is not applicable. The proposed project is consistent with the scale and character of nearby existing uses and neighborhoods. The project is consistent with Goal 1.

Goal 2: To encourage design excellence in the development of all public and private projects in the City.

Policy 2.1: Identify important design and aesthetic attributes that contribute to the unique character of the City.

Policy 2.2: Provide for residential uses in proximity to business/commercial centers in a manner which promotes the neighborhood/village/town center planning concept and maintains the hierarchy of community centers and the concept of the Valley Center.

Policy 2.3: Promote opportunities for greater pedestrian orientation and lifestyles.

Policy 2.4: Encourage key gateway design themes to the City's major communities consistent with the overall community image.

Policy 2.5: Encourage the establishment of design themes while avoiding monotony within individual developments in the City.

Policy 2.6: Prepare and adopt design guidelines for the City and the individual communities that comprise the City.

Policy 2.7: Promote opportunities for greater bicycle orientation and lifestyles.

Policy 2.8: Develop performance and design standards for buffer areas at the interface between uses.

Policy 2.9: Develop concepts and design standards for use by the Design Review Committee in the evaluation of proposed projects.

Policy 2.10: Encourage public art as an entry focal point for residential developments.

Policy 2.11: Encourage public art as an on-site amenity for large-scale commercial, industrial, and mixed land uses.

Policy 2.12: Prepare and adopt ordinances to implement the "art in public places" concept.

Analysis: The design of the Riverpark project incorporates the Santa Clara River as open space which creates an overall important aesthetic within the project and community, and therefore, the project is consistent with Policy 2.1 The project site is also within walking distance of commercial uses at Bouquet Canyon Road and Newhall Ranch Road and is consistent with Policy 2.2. The design of the Riverpark project includes pedestrian access ways that encourage walking and alternative modes of access throughout the community. Bicycle

and walking pathways will provide access to river areas and will connect to the master plan of trails proposed throughout the City and is consequently consistent with Policies 2.3 and 2.7. The encouragement of key gateway design themes, the preparation and adoption of design guidelines, including for the use of the Design Review Committee and the preparation and adoption of "art in public places" ordinances are the responsibility of the City of Santa Clarita; therefore, Policies 2.4, 2.5, 2.6, 2.9 and 2.12 are not applicable to the project. The Riverpark project promotes the retention of open space, as it provides, where feasible, an upland preserve buffer between development and the river and is, therefore, consistent with Policy 2.8. The encouragement of public art at entry focal points and as an on-site amenity for large-scale commercial projects is the responsibility of the City of Santa Clarita and is not applicable to the proposed project. The proposed project is consistent with Goal 2.

Goal 3: To promote design excellence in the development of business/commercial centers.

Policy 3.1: Improve the appearance and function of business and commercial centers within the planning area through architectural form, landscaping, parking and signage schemes.

Policy 3.2: Promote the development of a commercial business and retail City center through appropriate architectural form which encourages a unified theme and strong sense of place.

Policy 3.3: Encourage the establishment of mixed use and village commercial centers throughout the planning area and provide opportunities for plazas, urban open spaces, and the effective use of street furniture in downtown areas.

Policy 3.4: Encourage design and uses of commercial districts and related housing that add pedestrian orientation and that provide for safe and secure daytime and nighttime activities, i.e., the Newhall historic area and the City center.

Policy 3.5: Encourage the provision of on-site employee recreation and open space.

Policy 3.6: Encourage the provision of buffering in areas near commercial centers and residential neighborhoods to help separate and delineate business and residential districts and to create visual diversity.

Policy 3.7: Discourage the development of small multi-tenant shopping centers which occupy corners or sections of blocks in favor of larger planned commercial and retail developments exhibiting consistent and uniform quality design themes which contribute in a positive way to the area.

Analysis: An approximately 3-acre commercial site is proposed at Bouquet Canyon Road and Newhall Ranch Road. This site will provide for a maximum of 40,000 square feet of commercial uses in an established retail district. The commercial center will compliment the architectural features to be found in the Riverpark site and to promote quality architectural design and is consistent with Policies 3.1 and 3.2. The project does not propose a mixed use project; therefore, Policies 3.3 and 3.4 are not applicable to the project. The encouragement of the provision of on-site employee recreation and the discouragement of the development of small commercial multi-tenant centers is the responsibility of the City of Santa Clarita, and therefore, Policies 3.5 and 3.7 are not applicable to the project. The project provides for a buffer between proposed commercial and residential uses and is consistent with Policy 3.6. Consequently, the proposed project is consistent with Goal 3.

Goal 4: To continue to preserve and maintain special historical features and landmarks as focal points in the planning area.

Policy 4.1: Identify historical areas and structures of local significance to the Santa Clarita Valley.

Policy 4.2: Encourage design measures for new development in historic areas, such as requiring adequate physical and visual buffers between historical areas and other land uses, and the use of compatible or similar construction materials and architectural styles so as not to detract from the integrity of historical features.

Policy 4.3: Preserve and maintain historic neighborhoods and reinforce the historic theme by requiring new development to be compatible with existing historic structures and historical points of interest.

Policy 4.4: Allow flexibility in applying building codes to buildings of historical and/or architectural significance.

Policy 4.5: Permit non-conforming uses, as appropriate, for buildings of historical and/or architectural significance.

Policy 4.6: Encourage low level pedestrian scale lighting.

Policy 4.7: Encourage the use of historic lighting styles in historical districts to create a special sense of place.

Analysis: There are no historical features, structures or landmarks within the Riverpark site; therefore, Goal 4 and Policies 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and 4.7 are not applicable to the project.

Goal 5: To preserve and integrate the prominent and distinctive natural features of the community as open space for the use and visual enjoyment of all City residents.

Policy 5.1: Retain designated major landforms, such as ridgelines, natural drainage ways, streams, rivers, valleys, and significant vegetation, especially where these features contribute to the overall community identity.

Policy 5.2: Develop guidelines for any development located in view corridors or near prominent/unique landforms.

Policy 5.3: Where possible, incorporate attractive natural amenities, such as rock outcroppings, vegetation, streams, and drainage areas, into the development of future projects to protect the environment and provide landscape opportunities, visual interest, scale and/or recreational opportunities.

Analysis: The Riverpark project includes a 29-acre natural park, which is presently the canyon area. The project also will provide for the preservation of the Santa Clara River. The project proposes internal pathways that will connect to the trail system that will allow bicyclists and pedestrians to use and enjoy the area near the river and through the City on the City's Backbone Trail System. The Riverpark project is consistent with the preservation of prominent and natural features on the site consistent with Policies 5.1 and 5.3. The development of guidelines for development in view corridors is the responsibility of the City of Santa Clarita and is, therefore, not applicable to the project. The project is consistent with Goal 5.

Goal 6: To protect and enhance open space areas that provides visual and aesthetic character and identity to the community.

Policy 6.1: Establish programs and ordinances that will be effective in providing visual relief and separation between development and parks.

Policy 6.2: Promote open areas, such as plazas, interior arcades, galleries, rooftop gardens, and scenic viewplaces, within intensive urban developments.

Policy 6.3: Establish recreational areas for both passive and active activities.

Policy 6.4: Develop a park classification program (regional, community, neighborhood/local, special use parks) which conforms to community recreation needs and encourages community identity throughout the planning area.

Policy 6.5: Promote the concept of a network of neighborhood parks and open space areas; where possible integrate neighborhood parks with a larger communitywide system; incorporate jogging and hiking trails, bicycle paths, and equestrian trails links wherever possible.

Policy 6.6: Promote the preservation recreational uses tied to the enhancement of open space and Santa Clara River Corridor as identified in the Land Use Element.

Policy 6.7: Promote visual and physical buffers, where appropriate, by use of easements, roadways, trails, ridgelines, and other features, to delineate various communities in the Valley.

Policy 6.8: To the extent possible, promote the development of equestrian trails in river and stream channels and other open space areas away from urbanization and to connect with trails in the national forest in addition to locations within and adjacent to road easements.

Analysis: The Riverpark project is proposed to include a 29-acre natural park, that, through the use of pathways, will connect to the planned trail system that will take bicyclists and pedestrians near the river and subsequently through the City on the City's Backbone Trail System, thereby, helping to protect and enhance on-site open space areas. Consequently, the project is consistent with Policies 6.2, 6.3, 6.5, and 6.7. The project proposes to convey the Santa Clara River to the City for permanent open space use and is, therefore, consistent with Policy 6.6. The project proposes an equestrian trail in the Santa Clara River which is consistent with Policy 6.8. The City of Santa Clarita is responsible for the establishment of ordinances and the development of a park classification system; therefore, Policies 6.1 and 6.4 are not applicable to the project. Therefore, the Riverpark project is consistent with Goal 6.

Goal 7: To develop a safe and efficient circulation system that protects and enhances the overall community character.

Policy 7.1: Develop design principles for major roadway types which are consistent with roadway function and which address roadway improvements, landscaping, aesthetics, roadway signage, lighting, and pedestrian enhancements.

Policy 7.2: Encourage and enhance identifiable entryways for the overall community, individual residential neighborhoods, and unique or principal business/commercial districts of the City.

Policy 7.3: Encourage the protection of view windows along major scenic highway and road corridors.

Policy 7.4: Roadways in hillside areas should be developed in accordance with special standards to ensure roadway design consistent with topography and sensitive to local relief.

Policy 7.5: Except where special rural standards are necessary to maintain the rural characteristics of an area, sidewalks should be provided in all areas; such sidewalks need not always be located adjacent to the street and may meander within landscaped areas, interconnect businesses such as in an industrial park setting and link neighborhoods and services such as the paseo system.

Policy 7.6: Encourage the design and development of multi-use trails and pedestrian ways as an alternative transportation mode and to reduce traffic.

Analysis: The circulation system proposed is consistent with the General Plan and will improve circulation and access in the project area by providing improvements to Newhall Ranch Road and Bouquet Canyon Road. As discussed in **Section 1.0, Project Description**, the extension of Newhall Ranch Road and Newhall Ranch Road/Golden Valley Bridge is a General Plan roadway that links SR-14 to I-5 and has been identified as the City's Number 1 roadway priority. Improved access throughout the City will enhance the overall community design and will benefit regional traffic; therefore, the project is consistent with Policy 7.1. The project proposes identifiable entryways and provides for sidewalks and is consistent with Policies 7.2 and 7.5. The encouragement of the protection of view windows along major scenic highways and road corridors is the responsibility of the City of Santa Clarita and not the project; therefore, Policy 7.3 is not applicable. The project design has not encroached into the steepest areas of the site with roadways, which is consistent with Policy 7.4. The multi-use trails and pathways proposed with the project provide both bicycle and pedestrian access to all commercial, residential and industrial uses located on or adjacent to the project site; therefore, the project is consistent with Policy 7.6. Consequently, the Riverpark project is consistent with Goal 7.

Goal 8: To ensure that signage throughout the City is visually attractive and minimizes distraction.

Policy 8.1: Enforce the Comprehensive Sign Ordinance which calls for the elimination of non-conforming signs.

Policy 8.2: Work with appropriate state, federal, and County agencies to prohibit billboards along freeway frontages and designated scenic highways.

Policy 8.3: Encourage distinctive signage which identifies principal entries to the City, unique districts, neighborhoods, and public buildings and parks.

Policy 8.4: Prohibit new billboards in the City and encourage the elimination of existing billboards Citywide.

Policy 8.5: Prohibit private signs in the right-of-way.

Analysis: Policies 8.1, 8.2, 8.3, 8.4 and 8.5 address the enforcement of the Sign Ordinance, work with state, federal, and County agencies concerning billboards, encouragement of distinct signage, prohibition of new billboards and the prohibition of private signs in the right-of-way which are the responsibility of the City of Santa Clarita and are not applicable to the project. To date, no specific signage has been proposed for the project site. All signage proposed will be reviewed and approved by the Santa Clarita Department of Planning and Building Services Department. Therefore, this process assures that the project will not be inconsistent with Goal 8.

Goal 9: To promote superior landscape design that emphasizes aesthetics, function, and water conservation.

Policy 9.1: Encourage landscaping around residential, commercial, and industrial buildings and parking areas to enhance views from roadways and surrounding uses.

Policy 9.2: Utilize landscaping techniques to screen incompatible land uses and create transition and buffer zones between conflicting use areas.

Policy 9.3: Encourage major landscape themes to provide visual relief in highly urbanized areas.

Policy 9.4: Develop landscape themes to accentuate the major public gateways to the City.

Policy 9.5: Develop Citywide landscape and tree planting guidelines which promote low maintenance, drought-tolerant and fire-resistant species.

Policy 9.6: Encourage incorporation of indigenous vegetation and compatible drought tolerant vegetation into landscape themes throughout the planning area.

Policy 9.7: Encourage incorporation of indigenous landscape materials such as, native stone, river rock, and Bouquet Canyon stone into landscape themes.

Policy 9.8: Promote sensitive landscape treatment of fuel modification zones between development and open space areas.

Policy 9.9: Encourage consistent application of materials and vegetation within communities and differentiate between communities.

Policy 9.10: Promote the establishment of landscape maintenance districts, homeowner association, assessment district, property owners assessment district or other methods to maintain open space and slope areas around residential areas.

Policy 9.11: Encourage the development of a tree replacement program.

Analysis: To date, detailed landscape design has not been proposed for the project site. All landscaping proposed will be reviewed and approved by the Santa Clarita Department of Planning and Building Services Department for Landscape/Design Plan review. Policies 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.9, 9.10 and 9.11 are the responsibility of the City of Santa Clarita and not the proposed project. To date, detailed landscape design has not been proposed for the project site. All landscaping proposed will be reviewed and approved by the Santa Clarita Department of Planning and Building Services' Landscape/Design Plan review. Therefore, this process assures that the project will not be inconsistent with the policies and Goal 9.

Goal 10: To achieve architectural themes and forms that promote human scale and provide a comfortable human interaction with buildings.

Policy 10.1: Provide design flexibility for urban design and architectural concepts in order to avoid architectural monotony and lack of design innovation.

Policy 10.2: Encourage the use of materials that complement adjacent buildings and their surroundings.

Policy 10.3: Encourage design solutions that consider physical scale of the area and adjacent buildings.

Policy 10.4: Examine potential opportunities for community theme elements within individual residential areas, neighborhood centers, recreation centers, landscaped street medians, and other community facilities.

Analysis: Conceptual architectural design has been proposed for the project site. All architecture proposed will be reviewed and approved by the Santa Clarita Department of Planning and Building Services. The architecture proposed, and discussed in detail in **Section 4.16, Visual Resources**, is consistent with surrounding developments and are to scale with nearby neighborhoods. Consequently, the project is consistent with Policies 10.1, 10.2, 10.3, and 10.4. Therefore, this process assures that the project will not be inconsistent with Goal 10.

Goal 11: To achieve a coordinated and efficient infrastructure system that is visually unobtrusive while designed to meet the current and future needs of the planning area.

Policy 11.1: Encourage placement of transmission power lines and other mechanical equipment underground, where feasible, to maximize safety and minimize visual distraction.

Policy 11.2: Require that new electrical, telephone, cable television, mechanical equipment and other distribution lines be placed underground.

Policy 11.3: Require that all new on-site connections and utilities are installed underground and prepare and implement an undergrounding program for existing development, where possible.

Policy 11.4: Ensure that utilities and connections which are located aboveground do not interfere with or adversely impact access, visibility, appearance, or the character of the structures near which they are located.

Policy 11.5: Develop coordinated planning programs to ensure the efficient placement and consolidation of utility facilities within new development.

Policy 11.6: Incorporate landscaping, undergrounding, berms, and other techniques and design measures to integrate public facilities, such as water tanks and major water transmission lines, where visible, into the community design.

Policy 11.7: Encourage design solutions that reduce impacts/constraints from railroad right-of-ways within the planning area.

Policy 11.8: Examine the use of the land under high power transmission lines for landscaping, tree farms, additional safe recreation areas, and other appropriate feasible uses.

Policy 11.9: Encourage single pole transmission towers and cellular poles, and avoid reinforced structural support bases.

Policy 11.10: Encourage a community design relative to housing, commercial, and industrial uses that provides convenience and fiscal stability.

Analysis: All infrastructure will be underground and will be constructed to the most current utility standards, as mandated by the City and the project is, therefore, consistent with Policies 11.1, 11.2, 11.3, 11.4, 11.6. Policies 11.5, 11.7, 11.8 and 11.9 regarding the development of coordinated planning programs, right-of-way issues from railroad tracks, examination of the use of land under high power transmission lines, the encouragement of single pole transmission towers and a community design relative to housing, commercial and industrial uses that provides convenience and fiscal stability are the responsibility of the City of Santa Clarita and are not applicable to the project. Therefore, the Riverpark project is consistent with Goal 11.

(9) Housing Element

Goal 1: To provide opportunities for production of a range of new housing in the planning area to meet the needs of all income groups.

Policy 1.1: Implement the land use plan which provides opportunities for the development of a wide variety of new housing types within the City.

Policy 1.2: Evaluate development proposals within the unincorporated portions of the planning area to ensure that development is consistent with both the City's and County's Land Use Plan.

Policy 1.3: Continue to monitor residential development capacity as provided, for under the City and County Land Use Elements to ensure that these plans will enable the planning area to meet the housing needs of the future population of the Santa Clarita Valley.

Policy 1.4: Promote the development of compatible mixed use projects in order to create a village concept, with various interacting uses to facilitate the efficient use of facilities and services and to stimulate activity.

Policy 1.5: Review and support, as appropriate, programs to increase the supply of housing throughout the region. Give full consideration to the impacts on environmental, market, infrastructure, public services, utilities, human resources, and other factors.

Policy 1.6: Develop incentives or other mechanisms to encourage the private sector to provide opportunities for needed quality and creative housing in the City (e.g., loft apartments, commercial, residential mixed uses).

Policy 1.7: Promote cooperation among jurisdictions to meet regional housing needs.

Analysis: The proposed project implements the land use plan by providing for housing and commercial uses on the site and is, therefore, consistent with Policy 1.1. Policies 1.2, 1.3, 1.4, 1.5, 1.6 and 1.7 involving the evaluation of development proposals, the continued monitoring of residential development capacity, promotion of compatible mixed use projects, review and support of programs to increase the supply of housing, the development of incentives to provide for mixed use creative housing and the promotion of cooperation between jurisdiction to meet regional housing needs is the responsibility of the

City of Santa Clarita and are not applicable to the project. The project is consistent with Goal 1.

Goal 2: To identify adequate housing sites appropriately zoned with development standards, and public services and utilities needed to facilitate residential development.

Policy 2.1: Promote methods to enhance the availability of land for residential development within the framework of the Land Use Element, Zoning Ordinance, and Housing Element.

Policy 2.2: Locate higher density residential development and housing for the elderly in proximity to public transportation and commercial land uses, and in proximity to public services and recreational opportunities, and/or target the future provision of such services to accommodate existing or new housing for the elderly.

Analysis: The promotion of methods to enhance the availability of land for residential development is a responsibility of the City of Santa Clarita; therefore, Policy 2.1 is not applicable to the project. The apartments proposed by the project are located in proximity to bus stops provided on the project site as well as the nearby Metrolink station and consequently the project is consistent with Policy 2.2. The project is consistent with Goal 2.

Goal 3: To provide sites suitable for a variety of housing types for all income levels and assist in the development and provision of affordable and proportionally priced and sized homes to meet the needs of all community residents, including low and moderate income, large families, handicapped, families with female heads of households, farm workers, and the elderly.

Policy 3.1: Implement the City General Plan Land Use Element, which provides opportunities for a range of housing densities and types.

Policy 3.2: Periodically review development standards contained in the City's Unified Development Code (UDC) to ensure consistency between the UDC and the General Plan, including provisions to facilitate affordable housing without diminishing quality.

Policy 3.3: Encourage a mix of housing types and densities in new large scale residential developments.

Policy 3.4: Establish provisions to allow mobile homes and manufactured housing on residential lots.

Policy 3.5: Existing and future infrastructure needs should be addressed in connection with considerations for new development proposals.

Policy 3.6: Seek development which facilitates the efficient use of infrastructure, contributes to solutions of existing deficiencies, and it anticipates and facilitates the orderly provision of future development and infrastructure consistent with this General Plan.

Policy 3.7: Provide opportunities for the development of adequate housing to provide the City's fair share of low and moderate income households.

Policy 3.8: Encourage and participate in low and moderate income and senior citizen housing programs financed by other levels of government.

Policy 3.9: Promote the dispersal of low and moderate income housing throughout the Santa Clarita planning area.

Policy 3.10: Encourage the development of residential units which are accessible to handicapped persons and adaptable for conversion to use by handicapped persons.

Policy 3.11: Consider alternative development standards are practical in light of environmental, market, infrastructure and other factors to promote desired housing types and benefits, while also protecting the quality of life in the City.

Policy 3.12: Encourage the exploration of non-traditional housing models to accommodate affordable housing and/or the need for temporary or transitional shelter for special needs such as for the abused, neglected, divorced, homeless, handicapped, large families, farm workers, etc.

Policy 3.13: Encourage the development of self-help projects like Habitat for Humanity.

Analysis: The proposed project provides for a variety of housing types of different price ranges including the ownership of single-family and the rental of apartments which is consistent with Policies 3.1, 3.3, 3.7 and 3.9. The connection of existing infrastructure with planned infrastructure is discussed in **Sections 4.2, Flood; 4.8, Water Services; 4.13, Fire Services; 4.14, Sheriff Services; and 4.21, Wastewater Disposal**, and, therefore, the project is

consistent with Policies 3.5 and 3.6. Policies 3.2, 3.4, 3.8, 3.10, 3.11, 3.12 and 3.13 regarding the periodic review of development standards, provisions to allow mobile homes on residential lots, encouragement and participation in low- and moderate and senior housing programs, development of residential units accessible by the handicapped, consideration of alternative development standards, exploration of non-traditional housing models and the encouragement of self-help projects like Habitat for Humanity are the responsibility of the City of Santa Clarita and are not applicable to the project. The project is consistent with Goal 3.

Goal 4: To maintain and improve the condition of the existing housing stock, particularly the affordable portion of the housing stock, where feasible.

Policy 4.1: Encourage the, upkeep, maintenance, and rehabilitation of existing housing in the City.

Policy 4.2: Promote the maintenance of existing affordable housing throughout the City, including dwellings occupied by households utilizing Section 8 programs and other governmental and/or non-profit housing assistance programs.

Policy 4.3: Utilize programs, such as Community Development Block Grants, to improve the condition of the existing housing inventory.

Policy 4.4: Promote increased awareness among property owners and residents of the importance of property maintenance for long term housing quality.

Policy 4.5: Continue to utilize the City's code enforcement program to bring substandard units into compliance with City codes and to improve overall housing conditions.

Policy 4.6: Enforce the States Residential Conservation Law which denies state income tax benefits to owners of substandard dwelling units.

Policy 4.7: Promote residential rehabilitation programs which provide financial and technical assistance to lower income property owners to enable correction of housing deficiencies which could not otherwise be undertaken.

Policy 4.8: Encourage the retention of existing single-family neighborhoods which are economically and physically sound.

Policy 4.9: Maintain and enhance the quality of residential neighborhoods.

Policy 4.10: Support ongoing state programs for manufactured housing and encourage the retention and maintenance of mobile home parks within the City, where consistent with standards for a suitable living environment and compatible with surrounding land uses.

Policy 4.11: Study the use of, and implement when appropriate, state redevelopment law and other techniques to replace or upgrade blighted housing conditions in the City.

Analysis: The encouragement of upkeep and maintenance of existing housing (including affordable housing), utilization of Block Grant funding, utilization of the City's code enforcement program, enforcement of the state's Residential Conservation Law, promotion of residential rehabilitation programs, encourage the maintenance and enhancement of residential neighborhood (including single-family), support of programs for manufactured housing and the study of state redevelopment law as necessary are the responsibility of the City of Santa Clarita and are not applicable to the proposed project. Therefore, Goal 4 and Policies 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10 and 4.11 are not applicable to the project.

Goal 5: To address and remove governmental constraints on the maintenance, improvement, and development of housing where appropriate and legally possible.

Policy 5.1: Promote reasonable processing time and fees, including consideration of adjustment or waiver of fees to facilitate non-profit affordable housing and other special needs projects.

Policy 5.2: Establish target areas for future housing rehabilitation and maintenance programs.

Policy 5.3: Encourage alternative forms of home ownership, such as shared equity ownership and limited equity ventures.

Policy 5.4: Facilitate the purchase of rental units by existing tenants when/if converted to condominium ownership.

Policy 5.5: Encourage the enactment of federal and state legislation to provide funding for the maintenance and development of affordable housing.

Policy 5.6: Allow density bonuses, or other incentives of equivalent financial value, as required by state law, when a new housing development includes an appropriate number of affordable units.

Analysis: The promotion of reasonable processing time and fees, establishment of targets for future housing rehabilitation, encouragement of alternative forms of home ownership, facilitation of the purchase of rental units by existing tenants, encouragement of the enactment of federal and state legislation to provide funding for the maintenance and development of affordable housing and the allowance of density bonuses is the responsibility of the City of Santa Clarita and is not applicable to the proposed project. Therefore, Goal 5 and Policies 5.1, 5.2, 5.3, 5.4, 5.5 and 5.6 are not applicable to the project.

Goal 6: To promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, age, physical handicap, color or sexual orientation.

Policy 6.1: Promote safe and secure housing and neighborhoods, and encourage housing design which serves to deter crime.

Policy 6.2: Cooperate with governmental and nonprofit agencies and citizen groups that monitor housing discrimination complaints and practices.

Policy 6.3: Affirm a positive action posture which will assure that unrestricted access to housing is available to all segments of the community.

Policy 6.4: Encourage local private non-profit groups to support and assist the homeless.

Policy 6.5: Encourage housing design standards that promote accessibility by the elderly and disabled.

Policy 6.6: Review and prepare recommendations to alleviate the shortages of temporary and/or transitional shelter resources for those people in the City who are without permanent housing.

Policy 6.7: Permit, subject to reasonable regulation, the location of residential care facilities in residential neighborhoods, as required by state law.

Analysis: Mitigation is included in **Section 4.14, Sheriff Services**, that encourages safe and secure housing design; therefore, the project is consistent with Policy 6.1. Policies 6.2, 6.3, 6.4, 6.5, 6.6, and 6.7 addressing the need for cooperation with governmental and nonprofit agencies that monitor citizen complaints, affirmation of a positive action posture regarding unrestricted access to housing, encourage local private non-profit groups to support and assist the homeless, encourage housing design standards that promote accessibility by the elderly and disabled, review and prepare recommendations regarding temporary shelters and permit subject to reasonable regulations, the location of residential care facilities are the responsibility of the City of Santa Clarita and are not applicable to the project. The project is consistent with Goal 6.

Goal 7: To provide new housing opportunities which are sensitive to social, aesthetic, and environmental needs.

Policy 7.1: Restrict housing development in areas containing important natural resources consistent with other goals and policies pertaining to natural resource areas.

Policy 7.2: Encourage clustering or grouping of structures within areas containing important natural resources in order to preserve those resources.

Policy 7.3: Ensure the variety and visual appeal of residential development through project specific design review.

Policy 7.4: Require residential projects situated in mountainous terrain to preserve major ridgelines and other significant environmental features.

Policy 7.5: Designate areas of restricted development due to their highly sensitive natural characteristics; such areas include Significant Ecological Areas, mountain ridgelines, and water resources.

Analysis: The proposed project restricts the location of housing to less sensitive locations on the site; therefore, the project is consistent with Policy 7.1. The encouragement of clustering or grouping of structures and the requirement to ensure the variety and visual appeal of the project through project specific design review, and the designation of restricted areas of development due to highly sensitive resources are the responsibility of the City of Santa Clarita and consequently Policies 7.2, 7.3 and 7.5 are not applicable to the project. There

are no major ridgelines on the project site; however, the project does preserve the Santa Clara River which can be considered a significant environmental feature and, therefore, the project is consistent with Policy 7.4. The project is consistent with Goal 7.

Goal 8: Provide new housing opportunities, which are environmentally sensitive and energy efficient.

Policy 8.1: To the extent feasible, require the incorporation of energy conservation features in the design of all new housing developments and encourage the installation of conservation devices in existing development.

Policy 8.2: Promote water conservation through education, public service announcements, and other similar techniques.

Policy 8.3: Encourage and provide incentives for the installation of energy conservation techniques in new and existing housing.

Analysis: As a part of the City of Santa Clarita's Building Code, new construction is required to meet Title 22 energy conservation standards; therefore, the project is consistent with Policy 8.1. **Section 4.8, Water Services**, includes mitigation measures promoting water conservation; consequently, the project is consistent with Policy 8.2. The encouragement and the provision of incentives for the installation of energy conservation techniques in new and existing housing is a responsibility of the City of Santa Clarita and, therefore, Policy 8.3 is not applicable to the project. The project is consistent with Goal 8.

(10) Economic Development and Community Revitalization Element

Goal 1: To achieve a balanced mix of manufacturing, commercial, retail, cultural, entertainment, and service uses that result in a diversified, stable, and environmentally sound local economic base.

Policy 1.1: Seek to expand City's economic base by planned annexation program.

Policy 1.2: Determine a desirable business diversification profile for the City of Santa Clarita.

Policy 1.3: Develop standards to allow for multiple economic activities in business and industrial park areas.

Policy 1.4: Encourage business opportunities in the eastern portion of the planning area, in addition to known new commercial and industrial centers along Interstate 5, and especially in the community of Canyon Country and in proximity to SR-14.

Policy 1.5: Assist in the development and promotion of amusement, entertainment, filming, and the arts as a theme for the planning area to create a positive identity and enhance tourist and business opportunities to bring revenues to the City.

Policy 1.6: Annually or biannually prepare a Santa Clarita Valley labor market profile for purposes of recruiting firms.

Policy 1.7: Work together with local educational institutions, employers, real estate developers, and others to anticipate changes occurring in employment demands in the City, and together with these groups, promote job training, skill enhancement, and educational excellence.

Policy 1.8: Assess periodically those social, economic, political and other forces which are affecting the City's competitive position in the region and, where possible, develop policies and programs in response to those forces to enhance the City's competitive position.

Policy 1.9: Actively pursue hotel and major business development Citywide.

Policy 1.10: Monitor and assess the City fiscal position relative to the land use mix and any changes associated with the land use mix.

Policy 1.11: Promote development of a historical district which would include special lighting standards, restaurants, specialty shops, and encourage tourism.

Analysis: Policies 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10 and 1.11 regarding expansion of a planned annexation program, determination of a business diversification profile, development of standards for multiple economic opportunities, assist in the development and promotion of entertainment industries, preparation of a Santa Clarita Valley market profile, the cooperation with local educational institutions for job training, assess forces which are affecting the City's competitive position, pursue hotel use and business growth Citywide,

monitor the City's fiscal position relative to land use mix and promote development of a historical district is the responsibility of the City of Santa Clarita and are not applicable to the proposed project. The Riverpark project proposes a maximum of 40,000 square feet of commercial uses at Bouquet Canyon Road and Newhall Ranch Road. Commercial uses are appropriate for this portion of the site, which is zoned for community commercial uses, and further contributes to the economic tax base for the City and is consistent with Policy 1.4. The project is consistent with Goal 1.

Goal 2: To ensure adequate infrastructure and economic base support, the City should seek to stimulate simultaneous development of businesses and housing occurring within its boundaries and within the planning area.

Policy 2.1: Monitor on an ongoing basis (annually) the extent and location of development and changes occurring within the planning area in order to measure the degree to which needed balance between land uses allocated in the General Plan is maintained.

Policy 2.2: Routinely define and promote the City's expectations for balanced development of housing, retail, office, industrial, and other nonresidential land uses in concert with City marketing efforts.

Policy 2.3: Assess job/housing balance targets from time to time, in order to move the City toward its defined goals.

Policy 2.4: Seek a Memorandum of Understanding, or other cooperative effort with the County of Los Angeles, regarding allocations of approvals of development on the City's periphery and in the planning area.

Policy 2.5: Coordinate the timing of development with the phased provision of local infrastructure including:

- arterial roadway development;
- wastewater treatment capacity, plants, and expansion;
- water supply districts and extensions;
- county roadway/bridge assessment districts;
- allocations of utility/pipeline/communications franchises within the planning area;

- adequate school facilities;
- fire station facilities;
- parks and trails; and
- public facilities.

Policy 2.6: Work with Los Angeles County to promote City standards of development and services within developments in the Santa Clarita planning area.

Policy 2.7: Seek a City Sphere of Influence consistent with the planning area of this General Plan.

Policy 2.8: Assist in planning for the need to balance City environmental and permit processes with the objectives of economic development.

Policy 2.9: Develop a Public Financing Plan for the General Plan which balances funding from all sources to meet City goals and policies, including federal, state and local funds, grants, fees, exactions, and special financing techniques.

Policy 2.10: Ensure that the City explores the maximum use of funding sources, federal, state and local sources which reduce dependency upon fees and exactions.

Policy 2.11: Encourage clean, non-polluting industries to develop in the City.

Analysis: Policies 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10 and 2.11 addressing the monitoring of development occurring, routinely define the City's expectations of a balance of land use mix, assess jobs/housing balance, a Memorandum of Understanding with the County of Los Angeles for development in the City's planning area, coordinate the timing of development of roadways, wastewater facility capacity, water supply districts, roadway and bridge assessment districts, allocation of utility franchises, school facilities, fire stations facilities, parks and trails and public facilities; work with Los Angeles County to promote the City's development standards, seek a Sphere of Influence, development of a Public Financing Plan, exploration of the maximum use of funding sources and the encouragement of clean non-polluting industries are the responsibility of the City of Santa Clarita and are, therefore, not applicable to the project. The Riverpark proposes to develop the entire site in one phase. The Riverpark project is located in an area presently supported by commercial, and residential uses and utility and is consistent with Goal 2.

Goal 3: Consider the establishment of public/private bodies that will facilitate the implementation of the economic development policies of the General Plan.

Policy 3.1: Explore the feasibility of creating City Council-controlled specific purpose entities such as:

- an economic development corporation and/or agency;
- an industrial development corporation;
- a redevelopment agency;
- Visitor and Convention Bureau; or
- a public/private partnership.

Policy 3.2: Conduct an extensive public outreach program on growth management, inclusive of cooperation and coordination with homeowner groups, Chambers of Commerce, Santa Clarita Valley organizations, agencies, school districts, water, sanitation, and road districts, cities and counties, etc.

Policy 3.3: Establish a Public Facilities Funding Corporation to provide for:

- issuance of debt by the City;
- review and/or approval of issuance by developer of debt for public facilities; and
- packaging of debt issuances with other jurisdictions.

Policy 3.4: Explore the possibility of a small business incubator program and other programs to enhance small businesses.

Policy 3.5: Promote financial assistance and cooperation (where practical) to continue support of film making, film liaison activities, tourism, and business relocation/development opportunities in Santa Clarita.

Analysis: The exploration of the feasibility of creating City Council-controlled specific purpose entities, conduct an extensive public outreach program on growth management, establishment of a Public Facilities Funding Corporation, exploration of the possibility of a small business incubator program, and the promotion of financial assistance for entertainment industries and tourism is a responsibility of the City of Santa Clarita and

consequently Policies 3.1, 3.2, 3.3 and 3.4 are not applicable to the project. This goal is not applicable to the Riverpark project.

Goal 4: To serve existing and new economic growth, the City should pursue timely and equitable strategies to provide financing of basic, community, and public safety infrastructure.

Policy 4.1: Actively solicit increased funding and local priorities agreements with Caltrans to provide ongoing freeway facility expansion and maintenance.

Policy 4.2: Work in support of local school districts to determine additional methods of providing local capital for school district facilities development, rehabilitation, and maintenance.

Policy 4.3: Establish priorities for long-term debt financing and the repayment of infrastructure debt.

Policy 4.4: Identify, and where appropriate, establish enterprise funding methods for public infrastructure in order to provide self-sufficient service operations, maintenance costs, and debt retirement.

Policy 4.5: Consider the creation of various financing mechanisms which provide sustained support for economic development ventures, such as:

- Redevelopment tax increment;
- Business Improvement Districts for business promotion;
- Benefit Assessment Districts; or
- Sales Tax Increment Districts.

Policy 4.6: Consider financial impacts in connection with the provision and ongoing maintenance of public services and infrastructure.

Policy 4.7: Develop a fiscal impact model to assist the City in evaluation of the municipal revenues and costs associated with provision of public services, infrastructure, and maintenance.

Policy 4.8: Actively participate in all freeway and highway projects and agency jurisdictions that impact the City of Santa Clarita.

Policy 4.9: Encourage the County to have the same level of fees and services as in the City.

Policy 4.10: Pursue mass transit funding.

Analysis: Policies 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, and 4.10 are not applicable to the project as they pertain to the solicitation of increased spending to provide ongoing freeway expansion, the support of local school districts to determine additional mechanisms to secure capital, establishment of priorities for long-term debt financing, identify and establish enterprise funding methods for public infrastructure, consideration of creating various finance mechanisms which provide sustained support of economic development ventures, the provision and ongoing maintenance of public services and infrastructure, development of a fiscal model to evaluate municipal revenues, participation in all freeway projects, encourage the County to have the same level of fees as the City and to pursue mass transit funding are the responsibility of the City of Santa Clarita and are not applicable to the project. The proposed project will be responsible for development of infrastructure necessary to serve the proposed residential and commercial uses. Overall, the development of financial strategies for the provision of basic, community, and public safety infrastructure in the City of Santa Clarita are not the responsibility of the proposed project. The proposed project is consistent with Goal 4.

Goal 5: To ensure the City's present and future fiscal balance of municipal revenues and expenditures is maintained.

Policy 5.1: Seek a mixture of land uses, and the progressive and concurrent development of such uses, so that service costs are provided for in the municipal budget, the General Fund, Capital Improvement Program, Enterprise Funds, and other financing mechanisms.

Policy 5.2: Require new public and/or private developments to demonstrate the ways in which they can contribute to the achievement of municipal fiscal balance.

Policy 5.3: Develop a method that allows the City to impose on new development a requirement to pay for infrastructure as development occurs (i.e., development impact fees).

Policy 5.4: Developers should provide fiscal impact analysis and pro forma information to the City on development projects.

Analysis: Policies 5.1, 5.2, 5.3 and 5.4 focus upon seeking a mix of land uses that can be supported by the City budget, the requirement of new development to demonstrate the ways that they can contribute to fiscal balance, development of a method that allows the City to impose on a new development a fee for infrastructure and the provision of fiscal impact analysis on development projects are a responsibility of the City of Santa Clarita and not the project. Although, it should be noted that the project applicant will construct its own infrastructure necessary to support the project. Goal 5 is an overall City goal and is not applicable to the proposed project.

Goal 6: To market and promote the City's available resources as necessary to encourage further expansion of the economic base.

Policy 6.1: Consider the establishment of an economic development office to develop a program to enhance the economic base of the City.

Policy 6.2: Cooperate with Chambers of Commerce and revenue source agencies to develop and enhance the economic base of the City.

Policy 6.3: Foster enterprise stimulation by providing current City statistics and brochures to prospective businesses.

Policy 6.4: Be proactive in stimulating and attracting new business to locate in Santa Clarita.

Policy 6.5: Develop and implement a comprehensive marketing plan which strongly focuses on community wants and needs.

Policy 6.6: Attract the development of community and regional serving retail and commercial services, promote the City as a retail and service center and capture sales tax revenues currently being lost to other communities.

Analysis: The consideration of the establishment of an economic development office, cooperation with the Chamber of Commerce, provide economic stimulus by providing statistics to businesses, stimulating and attracting new businesses to Santa Clarita, the development and implementation of a comprehensive marketing plan, and the development of community and regional serving retail and commercial services as outlined in Policies 6.1, 6.2, 6.3, 6.4, 6.5 and 6.6 is a responsibility of the City of Santa Clarita and are not applicable

to the City of Santa Clarita. Goal 6 is an overall City goal and is not applicable to the proposed project.

Goal 7: To promote revitalization for the City's long-term economic stability.

Policy 7.1: Determine specifically which areas of the City require further revitalization or initiation of new revitalization or redevelopment efforts.

Policy 7.2: Determine which areas of the City contain obsolete uses, have potential for use if infrastructure is provided, or are likely to experience cessation of use in the next decade.

Policy 7.3: Determine which major rights-of-way are likely to change in character in the near future, and the degree to which right-of-way improvements can stimulate adjacent private land assembly and re-use.

Policy 7.4: Encourage landowners to redevelop properties in a manner which is beneficial to the community.

Policy 7.5: Stress the need to revitalize and upgrade the San Fernando Road corridor as part of a comprehensive revitalization effort.

Policy 7.6: Encourage assembly of properties to promote revitalization.

Analysis: Policies 7.1, 7.2, 7.3, 7.4, 7.5, and 7.6 address the economic benefits of redevelopment efforts, determination of infrastructure that would need to be provided including right-of-way, and the assembly of properties to promote revitalization are the responsibility of the City of Santa Clarita and are not applicable to the project. The proposed project will accommodate an extension of Newhall Ranch Road and Santa Clarita Parkway. These roadways will provide better circulation opportunities throughout the City and will assist in promoting long-term economic stability for this area of the City, and provide necessary roadway connections for major arterials in addition to the local network that serves the project site. These connections will improve circulation and access improvements through the community, which in turn, indirectly provides for ease of access and long-term economic stability. Therefore, the project is consistent with Goal 7.

Goal 8: Identify programs, plans and mechanisms necessary to implement a Redevelopment/Revitalization Program.

Policy 8.1: Describe the scale, type, and "units of improvement" necessary in each potential revitalization need area.

Policy 8.2: Design Revitalization Delivery Programs (techniques, authorities, funding, partnership requirements) which have clear targets, understandable mechanisms, and workable incentives.

Policy 8.3: Adopt a plan for each revitalization program and project area.

Policy 8.4: Set obvious frameworks for carrying out revitalization and redevelopment implementation.

Analysis: Policies 8.1, 8.2, 8.3, and 8.4 address redevelopment and revitalization efforts in the community and are the responsibility of the City of Santa Clarita and not applicable to the project. Goal 8 is an overall City goal and is not applicable to the proposed project.

Goal 9: To prepare a long-range financial plan which would contain both an operating and capital plan and be updated on a regular basis.

Policy 9.1: Strive to make the Fiscal Planning System operational and useful in entitlement decisions no later than 1992.

Policy 9.2: Formally adopt an annual long-range financial plan.

Analysis: Policies 9.1 and 9.2 address Citywide fiscal planning which is the responsibility of the City of Santa Clarita and not applicable to the project. Goal 9 is an overall City goal and is not applicable to the proposed project.

(11) Public Services, Facilities, and Utilities Element

Goal 1: Work with utilities and other service providers to ensure adequate and safe public infrastructure and public services for City residents, including upgrading and expansion of existing deficient systems.

Policy 1.1: Determine service standards and cooperate with providers for each of the following services, facilities, and utilities servicing City residents:

- Roads;
- Solid Waste Collection, Conversion, Reduction and Disposal;
- Communication Services (limited to cable television franchises);
- Law Enforcement;
- Fire Protection; and
- Day Care Program.

Policy 1.2: Work with service providers to determine standards for the following regulated utilities and services:

- Water Supply and Treatment;
- Sewage Collection and Treatment;
- Storm Drains/Flood Control;
- Natural Gas;
- Electricity;
- Schools;
- Libraries;
- Hospitals;
- Ambulance;
- Paramedics;
- Communication Services (other than cable television franchises); and
- Solid Waste Collection, Conversion, Reduction and Disposal.

Policy 1.3: Establish and maintain a record of the capacity, utilization, and availability of the above-mentioned services, utilities, and facilities serving the planning area.

Policy 1.4: Using such records as described in Policy 1.3, design and implement a development monitoring system (DMS) to evaluate the individual and cumulative impact of existing and proposed development on the service capacity of public services, facilities, and utilities, and use results from the DMS to mitigate impacts and/or facilitate improvements and development requirements.

Policy 1.5: Require that new developments be prohibited or delayed unless necessary public services and utilities will be available at the time of occupancy or will be provided within a reasonable period of time as part of an adopted improvement plan.

Policy 1.6: Prepare, monitor, and update a comprehensive capital improvements plan involving all service providers. Use this plan to identify all planned and proposed capital improvements, including new facilities and expansion of existing facilities and undergrounding of utilities.

Policy 1.7: Work with wholesale and retail water purveyors to ensure provision of an adequate supply of water of high quality to all households and businesses within the City.

Policy 1.8: Promote water conservation and reclamation in order to reduce water consumption in existing and future developments.

Policy 1.9: Ensure that the community is provided with adequate trash collection, including the installation and maintenance of public trash receptacles on streets, in parks, and in other public places.

Policy 1.10: Develop a compliance plan in accordance with the California Integrated Waste Management Act of 1989, including a Citywide recycling program.

Policy 1.11: Develop a drainage master plan that is sensitive to environmental and aesthetic concerns.

Policy 1.12: Work with responsible agencies, such as wholesale and retail water purveyors, the Department of Public Works, Flood Control District, Southern California Gas Company, Southern California Edison, Pacific Bell, and the school districts to ensure:

- the provision of a sufficient supply of water at a reasonable rate;
- regular maintenance, updating, and improvement of catch basins;
- water, sewer, and storm drain/flood channel systems;
- the provision of sufficient gas and electric services;
- the provision of sufficient and continued telecommunication service;
- a quality educational system; and
- the protection of ground and surface water quality.

Policy 1.13: Explore the possibility of using cable television for the presentation of information regarding community services and activities, public education, and other significant City issues.

Policy 1.14: Encourage the County to evaluate the existing and future library system in the planning area and ensure that sufficient facility and book volume per person ratios and other special services are met by permanent structures or bookmobiles that are accessible to the greatest number of people.

Policy 1.15: Maintain law enforcement and fire protection personnel and service standards to ensure that all residents, businesses, and visitors to the City are protected.

Policy 1.16: Support public safety education programs and neighborhood organizations to prevent crime and fire hazards.

Policy 1.17: Support the school districts in promoting a high standard of education in local school systems.

Policy 1.18: Work and cooperate with school districts, developers, and the County to ensure appropriate means to facilitate the development of school facilities to accommodate growth and ensure that the school districts can meet future needs.

Policy 1.19: Enhance the level and quality of community services and facilities, and improve availability throughout the Santa Clarita Valley.

Policy 1.20: Analyze the need for and, if appropriate, encourage the location of a new sanitation plant on the east side of the City as demand increases.

Policy 1.21: Maximize services and costs through shared use sites for compatible public services and facilities, when practical and appropriate, such as combined siting for parks, schools, libraries, and fire stations.

Analysis: This EIR addresses the service standards and the impacts of the project on roads, solid waste collection, communication services (none), law enforcement, and fire protection. Day care is not addressed in this EIR. The project is consistent with Policy 1.1. The determination of standards, maintenance record keeping regarding capacity and utilization of services to design and implement a DMS system is the responsibility of the City of Santa Clarita and, therefore, Policies 1.2 and 1.3 are not applicable to the project. However it should be noted that this EIR evaluates the project, as appropriate to DMS. All new infrastructure will be constructed and will be available at the time of occupancy; therefore, the project is consistent with Policy 1.5. The preparation and monitoring of a CIP, work and coordinate with wholesale water providers for, the promotion of water conservation, ensure adequate trash collection and compliance with solid waste laws, work with responsible agencies to ensure that all utilities services are available, encouragement of the County to evaluate existing and future library systems, maintenance of law enforcement personnel, the support of public safety education programs, support of school districts, enhancement of the level of community services and facilities, analyze the need for the location of a new sanitation plant, if needed, maximize and encourage shared use of facilities are the responsibility of the City of Santa Clarita and are, therefore, not applicable to the project. The project is consistent with Goal 1.

Goal 2: To serve and protect the groundwater resources of the Santa Clarita Valley and adjacent drainage areas in a manner which will provide for future use of these resources for domestic and agricultural uses.

Policy 2.1: Maintain data and information regarding surface water and groundwater resources for domestic and agricultural uses.

Policy 2.2: Maintain data and information on all surface and groundwater users within the Santa Clarita Valley and adjacent drainage basins that may affect local surface water and/or groundwater supplies to monitor withdrawal and conservation of resources.

Policy 2.3: Maintain data and information on any commercial and/or agricultural uses that do not use approved sewer and/or sanitation systems to dispose on site of wastewater or permit surface water runoff that may degrade local or regional surface and/or groundwater resources.

Policy 2.4: Acquire and maintain the most current information available regarding the status of local surface water and groundwater resources.

Policy 2.5: Acquire and maintain the most current information available regarding the status of local surface water and groundwater users.

Policy 2.6: Acquire and maintain the most current information available regarding commercial and agricultural land uses that do not dispose on site of wastewaters in permitted sewer and/or sanitation systems.

Policy 2.7: Prohibit any use that cannot safeguard surface water and/or groundwater resources and that does not utilize approved on-site or off-site wastewater disposal systems.

Analysis: Policies 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7 are not applicable to the project as they require maintenance of data and information of surface and groundwater sources and uses that may degrade groundwater, the acquisition of current information regarding surface and groundwater uses as well as uses that do not dispose of wastewaters in sewers and the prohibition of uses that cannot safeguard surface water and/or groundwater and are the responsibility of the City of Santa Clarita. Goal 2 is not applicable to the project.

Goal 3: To allocate the cost of public services, facilities, and utilities on a fair and equitable basis based on service demand generated and benefits derived from services/improvements.

Policy 3.1: Make use of specific plans and development agreements that specify the nature, timing, cost, and financing mechanisms to be used to fund improvements and services.

Policy 3.2: Utilize, where appropriate, public financing mechanisms, such as special assessment districts, and community facilities districts, such as Mello-Roos, to fund improvement and service costs.

Policy 3.3: Use the City's fiscal planning system computer model in order to determine General Fund impacts for major projects.

Policy 3.4: Support funding of infrastructure improvements that are consistent with the City's General Plan and financing guidelines.

Policy 3.5: Aggressively pursue County, state, and federal funding for roads, freeway, and highway expansion in the Santa Clarita Valley.

Analysis: The utilization of a development agreement and public financing methods is not proposed by the applicant, and, consequently, Policies 3.1 and 3.2 are not applicable to the project. The use of the City's fiscal planning system model, the support of funding of infrastructure and the pursuit of funding for roadway expansion is the responsibility of the City of Santa Clarita. Goal 3 is not applicable to the project.

Goal 4: Ensure that all public infrastructure improvements are compatible with surrounding and nearby development.

Analysis: The proposed project is consistent with Goal 4 because it will provide all necessary infrastructure improvements necessary to serve the project.

Goal 5: To ensure that all public services, utility systems, and facilities are designed and maintained as stated in the Goals and Policies section of the Public Safety Element to provide acceptable levels of safety and security.

Policy 5.1: Promote the safe use of toxic materials and their safe disposal as outlined in the Goals and Policies section of the Public Safety Element.

Policy 5.2: Promote the establishment of collection centers and programs to recycle and safely dispose of toxic/hazardous waste substances.

Policy 5.3: Establish public education, recycling, conservation, and safety programs for the residents and businesses of the planning area in the following areas:

- Earthquake safety with respect to public utilities and facilities;
- Safe disposal of toxic waste;

- Recycling of oil and grease;
- Landscape chemicals;
- Litter, and anti-graffiti;
- Pesticides;
- Fire safety; and
- Other disasters.

Policy 5.4: Support laws and requirements to monitor, prevent, and correct, as appropriate, contamination of soil, air and water.

Policy 5.5: Develop programs to reduce the use and disposal of toxic/hazardous materials.

Policy 5.6: Establish a sanitary sewer system hookup program for all densities and intensities of land use except very large lots and remote rural uses and locations.

Analysis: The establishment of collection centers, public education programs regarding recycling, conservation and safety programs promotion of the safe use of toxic materials, support of laws to prevent contamination of soil, air and water, development of programs to reduce the use of and disposal of toxic materials and the establishment of a sanitary sewer system hookup for all land use is the responsibility of the City of Santa Clarita and is, therefore, not applicable to the project. Goal 5 does not pertain to the proposed project.

(12) Human Resources Element

Goal 1: To encourage adequate social service programming for existing and future residents responsive to the needs of diverse populations, including, but not limited to, families with children, seniors and the frail elderly, minorities, persons with disabilities, immigrants, and the homeless.

Policy 1.1: Coordinate an effective and responsive social services delivery system.

Policy 1.2: Work with social service providers to evaluate and develop service methods to assure that the City's social services meet a high standard.

Policy 1.3: Periodically monitor human services needs through population trend analysis, needs assessment analysis, public hearings, and other means.

Policy 1.4: Encourage cooperative and supportive relationships between the City, private agencies, and other social service providers to avoid duplication in the provision of similar social services.

Policy 1.5: Provide human service information to the community through community-based organizations and coordination with private service providers.

Policy 1.6: Promote services which are responsive to the needs of families and children.

Policy 1.7: Encourage volunteer assistance in City programs, such as parks and recreation.

Policy 1.8: Encourage City departments working with the Hispanic and other non-English speaking populations to have multi-lingual staff available.

Policy 1.9: Monitor availability of and encourage development of "headstart" and literacy programs.

Policy 1.10: Continue and retain a permanent child care coordination office.

Policy 1.11: Work with the private and public sources of child care to monitor and evaluate child care needs and develop appropriate policy responses to those needs.

Policy 1.12: Evaluate zoning codes to permit or conditionally permit child care centers and homes in any zone in which they are needed.

Policy 1.13: encourage the provision of child care programs and/or facilities for public employees.

Policy 1.14: Encourage all major employers to provide child care provisions for their employees.

Policy 1.15: Evaluate the feasibility of providing and staffing public facilities for child care in conjunction with City parks and recreation programs.

Policy 1.16: Encourage the establishment of after-school parks and recreation programs that would accommodate children in elementary school and junior high school.

Policy 1.17: Facilitate the regulatory process to include working with federal, state and County agencies to concurrently inspect and process approvals for local health, Fire Department, and building safety in an expedient time frame.

Policy 1.18: Monitor the needs of the homeless and encourage assistance through appropriate programs and shelters.

Policy 1.19: Conduct a study analyzing the feasibility of a Child Care Ordinance and/or development impact fees.

Policy 1.20: Recommend criteria and standards for inclusion of child care facilities in future development.

Policy 1.21: Encourage the development of recreation programs targeted to meet the needs of senior citizens, handicapped, youth, teens, and to prevent the proliferation of gangs.

Analysis: The development and monitoring of programs addressing social services concerning Hispanics and other non-speaking populations, teens, youth, senior citizens, encouragement of volunteer program, the monitoring of day care facilities and evaluation of where these facilities can be allowed, establishment of after-school parks programs, and monitor the needs of the homeless is the responsibility of the City of Santa Clarita and are not applicable to the project. Goal 1 is an overall City goal and is not applicable to the proposed project.

Goal 2: To promote the provisions of a broad range of high quality health care services to meet the existing and future needs of City residents.

Policy 2.1: Encourage health care services and programs which serve all segments of the population, including, but not limited to, lower income families, seniors, immigrants, homeless, handicapped, and the developmentally impaired.

Policy 2.2: Seek health care facility and program funding from County, state, federal, and private sources.

Policy 2.3: Assess and monitor specific health care needs of the community and encourage facility development in the appropriate areas.

Policy 2.4: Encourage the development of medical care facilities balanced throughout the City.

Policy 2.5: Encourage the development and continuation of programs for seniors, children, families, and handicapped persons, including, but not limited to:

- Transportation/Dial-a-Ride for the elderly and handicapped;
- Anti-Drug & Alcohol and illiteracy prevention education programs;
- Daycare programs and facilities for children, seniors, and those with special daycare needs; and
- Wellness and medical screening programs to avoid major health care emergencies.

Policy 2.6: Establish standards for ambulance service.

Policy 2.7: Encourage the siting of public health clinics near target populations and/or public transportation routes.

Policy 2.8: Advocate and assist in the coordination of programs for the aged.

Analysis: Policies 2.1, 2.2, 2.3, 2.4 and 2.5, encouraging health care facilities, the search for funding for health care programs, the assessment of the health care needs of the community, encouragement concerning the construction of medical care facilities, and the continuation of programs such as Dial-a-Ride for the elderly and handicapped, anti-drug and alcohol programs, day care programs for those with special needs, wellness programs, the establishment of standards for ambulance services, encourage the siting of public health clinics near target populations and advocate programs for the aged are the responsibility of the City of Santa Clarita and are not applicable to the project. Goal 2 is an overall City goal and is not applicable to the proposed project.

Goal 3: To encourage the development of a wide range of community and cultural activities throughout the planning area.

Policy 3.1: Encourage the establishment of community-based organizations and develop community gathering areas which promote a variety of cultural activities in the planning area.

Policy 3.2: Preserve and enhance designated significant historic assets and other structures and amenities which provide community focal points and which broaden the cultural and preservation opportunities within the City.

Policy 3.3: Encourage and support where practical communitywide cultural programs for all ages such as:

- Cultural education programs;
- Art in public places programs, funding from 1 percent of the estimated value of new nonresidential development; and
- Art programs and classes in schools.

Policy 3.4: Encourage the use of community arts in public places, such as schools and libraries.

Policy 3.5: Encourage cable television to provide public access programs and broadcasts of public meetings.

Policy 3.6: Consider the establishment of a cultural center for art, music and other cultural activities.

Policy 3.7: Consider recognition of sister cities to learn more about different cultures and governments.

Analysis: The establishment of community-based organizations, preservation and enhancement of significant historical assets (none on the project site), the encouragement of cultural programs, art in public places, encourage cable television to provide public access programs, establishment of a cultural center for art and consideration of sister cities are the responsibility of the City of Santa Clarita and, therefore, Policies 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 and 3.7 are not applicable to the project. Goal 3 is not applicable to the project.

Goal 4: To encourage improved educational and training opportunities and services for the people throughout the planning area.

Policy 4.1: Promote job education and training at the secondary school and junior college level.

Policy 4.2: Encourage and promote substance abuse and rehabilitation programs at high school, junior college, college, and the work forces through coordination with City staff, service organizations, school districts, the Sheriff Department, and related agencies.

Policy 4.3: Work with the school districts to promote improvement of the level of aptitude of high school and junior college students both academically and vocationally to surpass state and national standards.

Policy 4.4: Encourage establishment of Head Start or similar programs.

Policy 4.5: Establish a citizen group to explore the feasibility of attracting a university to the City.

Policy 4.6: Encourage the establishment of trade/technical schools.

Analysis: Policies 4.1, 4.2, 4.3, 4.5, 4.5 and 4.6 regarding the promotion of educational and rehabilitation programs, encourage Head Start or similar programs, establish a citizen group to explore the feasibility of attracting a university to the City, and the encouragement of trade/technical schools are the responsibility of the City of Santa Clarita and are not applicable to the project. Goal 4 is an overall City goal and is not applicable to the proposed project.

Goal 5: To encourage the development of affordable and quality daycare for the children of the Santa Clarita Valley.

Policy 5.1: Work with the private and public sources of child care to monitor and evaluate child care needs and develop policy responses to these needs.

Policy 5.2: Evaluate the feasibility of including child care uses and homes in the zoning or Conditional Use Permit Ordinance by right in any zone in which they are needed.

Policy 5.3: Encourage the provision of child care programs and/or facilities for public employees.

Policy 5.4: Encourage all major employers to provide child care provisions for their employees.

Policy 5.5: Evaluate the feasibility of providing and staffing public facilities for child care in conjunction with City parks and recreation programs.

Policy 5.6: Encourage the establishment of after school parks and recreation programs that accommodate elementary and junior high children.

Policy 5.7: Facilitate the child care regulatory process by working with the state and County to develop a system in which the licensing and inspection and the approvals for local health, Fire Department and building safety can be coordinated in a reasonable amount of time.

Policy 5.8: Prepare a study to analyze the feasibility of the establishment of development impact fees.

Policy 5.9: Recommend criteria and standards for inclusion of child care facilities in future development.

Policy 5.10: Continue a permanent child care coordination office.

Policy 5.11: Study the feasibility of establishing a Parenting Resource Center.

Analysis: The development of overall day care facilities and programs within the community as addressed in Policies 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10 and 5.11 are the responsibility of the City of Santa Clarita and are not applicable to the project. Goal 5 is an overall City goal and is not applicable to the proposed project.

Goal 6: To prevent the formation, migration and proliferation of gangs in the Santa Clarita Valley.

Policy 6.1: In conjunction with the Sheriffs Department, school districts, social service agencies and the community, prepare and implement a Gang Prevention Plan.

Policy 6.2: Study the feasibility of using GAP officers from the County Probation Department to track and monitor high risk youth.

Policy 6.3: Facilitate the mainstreaming of ethnic groups into traditional sport and recreation activities so they may acquire the skills for future success.

Policy 6.4: Maximize recreational opportunity in neighborhoods not having access to parks and facilities through the use of innovative programs such as the park mobile.

Policy 6.5: Expand the existing drug education and gang education programs to include an element on graffiti prevention.

Policy 6.6: Continue to support the voluntary efforts of the Graffiti Removal Committee.

Policy 6.7: Continue to support the efforts of Dapec.

Analysis: Policies 6.1, 6.2, 6.3, 6.4, 6.5, 6.6 and 6.7 address programs and efforts to prevent the formation of gang activities and are the responsibility of the City of Santa Clarita. Goal 6 is an overall City goal and is not applicable to the proposed project.

Goal 7: To stimulate pride in the appearance of our community and improve the quality of life.

Policy 7.1: Continue to support the upgrading of neighborhoods through rehabilitation programs.

Policy 7.2: Continue to support the Community Service Center.

Policy 7.3: Make a concerted effort to remove abandoned vehicles from the street, vacant lots and streams of the Valley.

Policy 7.4: Formulate a public information and cooperation program to prohibit parking on street sweeping days so that we may maximize this important tax payer supported activity.

Policy 7.5: Provide a consistent pattern of code enforcement in the City.

Policy 7.6: Provide advertising and information on the City Home improvement grants for neighborhoods.

Policy 7.7: Promote neighborhood cooperation to clean up areas through neighborhood meetings and contact from the City.

Policy 7.8: Support the efforts of the Santa Clarita Pride Committee.

Analysis: Policies 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7 and 7.8 address upgrading existing neighborhoods, support of the Community Service Center, removal of abandoned vehicles from streets and vacant lots, formulation of a public information system to prohibit parking on street

sweeping days, provide for consistent code enforcement, provide for advertising and information on the City Home Improvement grants, promote neighborhood cooperation to clean up areas and support of the Santa Clarita Pride Committee are the responsibility of the City of Santa Clarita and are not applicable to the project. Goal 7 is an overall City goal and is not applicable to the proposed project.

d. Consistency with the Unified Development Code

The proposed project requires a zone change from Industrial Commercial (IC), Commercial Office Planned Development (COPD), Community Commercial Planned Development (CCPD), Residential Medium (RM) and Mobile Home Park (MHP) to Residential Medium Planned Development (RMPD) and Community Commercial Planned Development (CCPD) designations. Existing zoning on the project site is shown on **Figure 4.7-4, Existing Zoning**. Proposed zoning for the project site is depicted in **Figure 4.7-5, Proposed Zoning.**

Under the present zoning designations of the City of Santa Clarita, the following densities are permitted: 3,096 dwelling units on 277.3 acres of RM zoning (37.4 acres of which is MHP), 1,898,903 square feet of commercial floor area on 157.1 acres of Community Commercial zoning, 8,344,092 square feet of office floor area on 199.9 acres Commercial Office zoning, and 767,881 square feet of industrial/commercial floor area on 23.7 acres of Industrial Commercial zoning.

The Unified Development Code's Zoning Map is consistent with the City's Land Use Map. The density range of up to 11 dwelling units per acre allowed under the Unified Development Code is lower than the gross maximum residential density of 15 dwelling units per acre for the RM land use designation. The Unified Development Code, Chapter 17.13, Permitted Use Chart indicates that single-family and multi-family dwellings are a permitted use in the RM zone.

The proposed project is not consistent with certain RM zoning standards and other standards set forth by the UDC as shown in **Table 4.7-6, Comparison of Project Development Standards to Residential Medium Standards**.

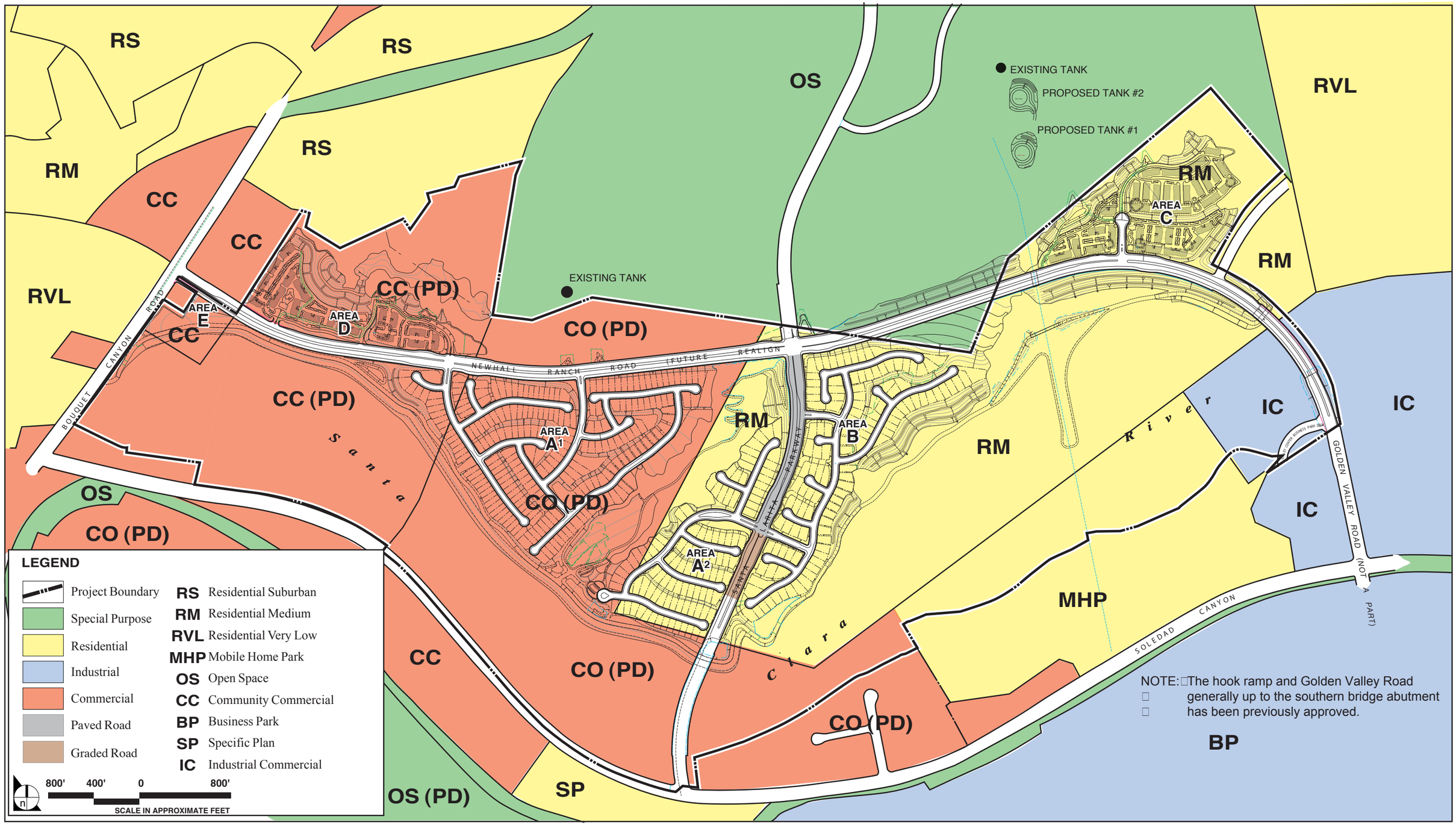
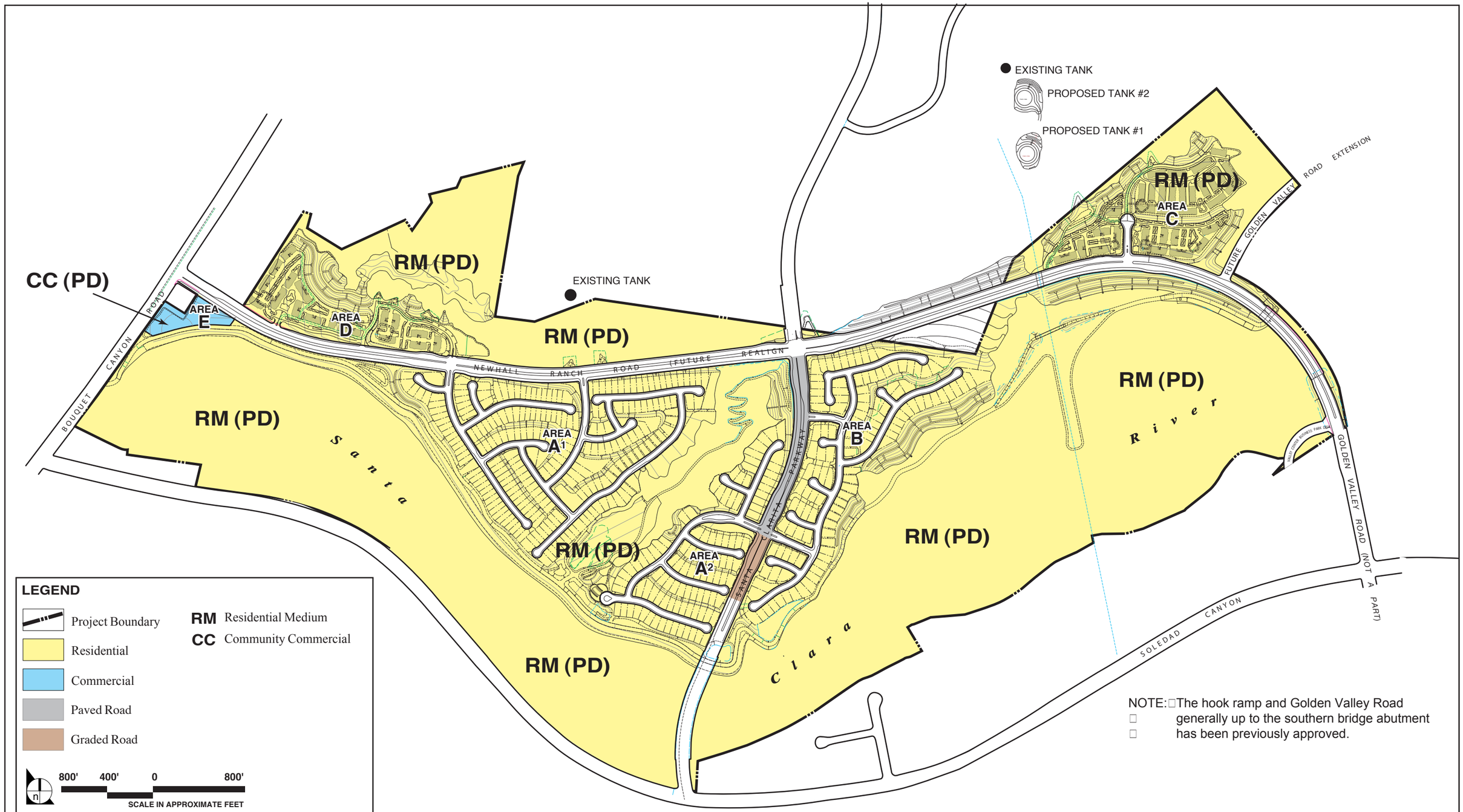


FIGURE **4.7-4**

Existing Zoning

112-16•02/04



NOTE: The hook ramp and Golden Valley Road generally up to the southern bridge abutment has been previously approved.

FIGURE **4.7-5**

Proposed Zoning

112-16-02/04

Table 4.7-6
Comparison of Project Development Standards to Residential Medium (RM) Standards

	Unified Development Code - Residential Medium Standards	Project Development Standards
Density	11 du/ac.	3.5 du/ac.
Net Lot Area	5,000 sq. ft.	4,950-6,600 sq. ft.
Lot Width	50 ft.	45-60 ft. x 110 ft.
Cul-de-Sac Lot Width	40 ft.	40 ft.
Knuckle Cul-de-Sac Lot Width	40 ft.	35 ft.
Front Yard Setback	20 ft.	16-20 ft. (18 ft. garage)
Side Yard Setback/Each Side	5 ft./5 ft.	5 ft./5 ft.
Side Yard Setback- Reverse Corner Lot	20 ft.	20 ft.
Rear Yard setback	15 ft.	15 ft.
Property Line Walls (where facing street)	6 ft.	7 ft.

Table 4.7-6 identifies the following development standards that do not meet the minimum RM Zoning Development Standards:

(1) Net Lot Area

The minimum lot area in the RM zoning district is 5,000 square feet. The project proposes lot areas from 4,950 square feet to 6,600. The average lot size of the 439 single-family residential lots is approximately 8,363 square feet. Of the 439 lots, 106 lots (24 percent—all located within Planning Area A1; lots 1-106) are less than 5,000 square feet, while 114 are over that size (lots 107-220 are 5,500 square feet, lots 251-352 are a minimum 6,050 square feet, and lots 368-484 are a minimum 6,600 square feet). The applicant is requesting a 20 percent adjustment to the minimum lot size requirement for the RM zone.

(2) Lot Width

The minimum lot width in the RM zoning district is 50 feet. The project proposes lot widths from 45 feet to 60 feet. The average lot width of the 439 single-family residential lots is approximately 52.5 feet. Of the 439 lots, 106 lots (24 percent—all located within Planning Area A1) are less than 50 feet, while 333 are over that size. Lots on cul-de-sac's knuckles will be a minimum of 35 feet in width. The applicant is requesting a maximum 20 percent adjustment to the lot width requirements.

With the exception of the above adjustment requests and the 16-foot front yard setback (i.e., reduce front yard setbacks on the single-family neighborhoods to 16 feet from front property line provided that driveways are a minimum of 18 feet deep) being requested through the Planned Development Overlay,

the project applicant has indicated that development standards for cul-de-sac width, side yard setback (including a reverse corner lot) and rear yard setbacks will meet the minimum standards required by the RM zone. Property line noise walls may exceed, (where necessary) the 6-foot high limitation by 1-foot for a total of a 7-foot high wall.

The project applicant has requested a Conditional Use Permit to allow for buildings to exceed 35 feet in height (up to a maximum of 50 feet), and implement the Planned Development Overlay with reduced setbacks. This would allow for the reduction in development standards described above. This request is pursuant to Section 17.03.040 of the Unified Development Code.

4. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

No mitigation measures pertaining to land use have been incorporated into the project.

5. MITIGATION MEASURES PROPOSED BY THIS EIR

a. Consistency with the General Plan

As discussed above, the proposed project is consistent with the applicable goals and policies of the General Plan, consequently there would be no impacts and no mitigation is required.

b. Consistency with the Unified Development Code

If, the Planning Commission/City Council approves a Conditional Use Permit for implementation of the Planned Development Overlay for heights in excess of 35 feet tall, for the innovative application for development on secondary ridgelines and vehicular gates of Planning Area C, Entitlement Adjustment for modification to some lot sizes and lot widths, front yard setbacks, and allowance of some noise walls to have a maximum height of 7 feet, and an Oak Tree Permit. Consequently, the Planning Commission/City Council is responsible for the findings made to approve the Conditional Use Permit and Entitlement Adjustment, supported by documentation provided by the project applicant and this EIR.

6. CUMULATIVE IMPACTS

As land use is a site-specific issue in this case, no impacts would occur related to cumulative development.

7. CUMULATIVE MITIGATION MEASURES

No mitigation measures are required.

8. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

There will be no unavoidable land use issues associated with development on the project site.

b. Cumulative Impacts

No unavoidable significant cumulative impacts associated with land uses have been identified.

4.8 WATER SERVICE

1. EXISTING CONDTIONS

a. Preface

This section describes the existing water purveyors in the Santa Clarita Valley and their service areas, and summarizes important characteristics applicable to the water service area in the Santa Clarita Valley, which includes the project site. The data found in the section provides an important backdrop to understanding water supplies and demand in the Santa Clarita Valley generally, as well as understanding the Riverpark project's water demand and supplies. Please see **Figure 4.8-1** for an illustration of the existing water reclamation plants and sanitation districts.

b. Existing Water Service Area Characteristics

To understand water supplies and demand in the Santa Clarita Valley, it is important to highlight some of the important local conditions or characteristics of the area. These local conditions affect water demand and supplies in the Santa Clarita Valley and surrounding areas. The section describes local climatic conditions, regional demographics, existing topography and regional area geology and surface water flows in the Santa Clarita Valley and downstream.

In addition, the section briefly summarizes the effects of statewide drought conditions on the Santa Clarita Valley. As explained below, in general, there was minimal impact on the Santa Clarita Valley prior to the 1990-1991 statewide drought conditions. The 1990-1991 statewide drought impacted water supplies in the Santa Clarita Valley; however, on balance, the Santa Clarita Valley responded well to those drought conditions. Since the 1990-1991 drought, the Castaic Lake Water Agency (CLWA) and the other retail water purveyors have continued to work cooperatively to ensure that water demands are met in response to varying hydrologic conditions and increasing demand from existing and planned growth. This effort includes the decision by the Santa Clarita Valley's water agencies[1] to jointly prepare the Urban Water Management Plan (UWMP). The UWMP describes current and future implementation of water conservation measures (called Water Demand Management Measures) within the CLWA service area (shown on **Figure 4.8-8** below), and it updates the Santa Clarita Valley's Water Shortage Contingency Plan.

[1] Los Angeles County Waterworks District 36 is not required to prepare a UWMP because it has less than 3,000 connections and, consequently, did not participate in this effort.

(1) Climate

The climate in the Santa Clarita Valley is generally characterized as semi-arid and warm. Summer months are dry with temperatures that can reach as high as 110° F. Winter months are somewhat cool with temperatures that can drop as low as 20° F. Typically, "dry" years (less than 10 inches of rainfall per year) are followed by "wet" years (greater than 20 inches of rainfall per year) in a cyclical pattern. Average rainfall is approximately 19 inches per year in the flat areas and approximately 27 inches per year in the mountains. The region, including the Santa Clarita Valley, is subject to wide variations in annual precipitation.[2] **Figure 4.8-2** illustrates the annual rainfall in the Santa Clarita Valley and graphically depicts the time periods with low rainfall.

(2) Regional Demographics

The purveyors provide water service to residential, commercial, and industrial customers within CLWA's service area, including Santa Clarita Valley. Water service is also provided for other uses, such as fire service and utility line cleaning.

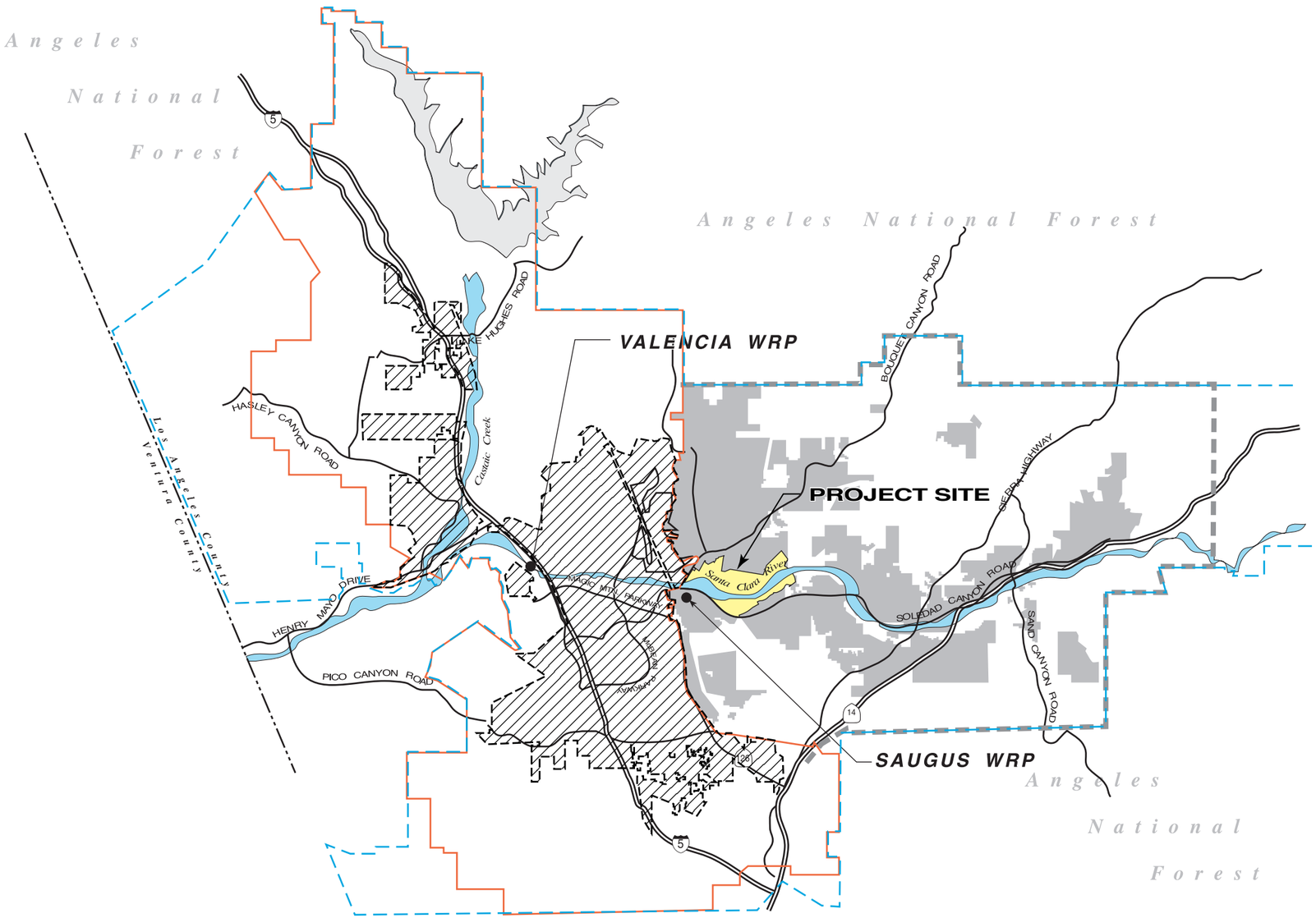
CLWA reports that the number of new service connections in its service area increased from 39,299 in 1990 to 58,221 in 2003 (See, **Table 4.8-1**). As shown on **Table 4.8-1**, the increase in the number of new service connections was slightly more than 500 connections per year in 1991, to a maximum of 4,200 connections in 2001, representing an average annual increase of 1,456 new service connections.

Table 4.8-1
Historical Number of Service Connections

Service Connections	1990	1992	1994	1996	1998	2000	2002
Valencia Water Co.	14,272	14,854	15,703	17,420	19,863	22,000	25,286
Newhall County	5,854	6,144	6,294	6,477	6,585	7,200	7,700
Santa Clarita Water Division of CLWA	18,550	19,000	19,400	19,650	20,300	22,000	24,175
LA County #36	623	736	752	768	774	700	1,060
Total	**39,299**	**40,734**	**42,149**	**44,315**	**47,522**	**51,900**	**58,221**

Source: CLWA 2000; Santa Clarita Valley Water Report 2000 and 2002.

2 See, Newhall Ranch ASR Impact Evaluation, prepared by CH_2MHill, February 2001, Section 4.



NOT TO SCALE

LEGEND

- Project Site
- County Sanitation District No. 32 Sphere of Influence Boundary as Adopted by the Local Agency Formation Commission on April 24, 2002
- Projected Service Area for the 2015 Plan
- County Sanitation District No. 26
- County Sanitation District No. 26 Current Sphere of Influence
- County Sanitation District No. 32 *Previous Sphere of Influence*

Source: Impact Sciences, Inc., 2003

FIGURE **4.8-1**

Existing Water Reclamation Plants and Sanitation Districts

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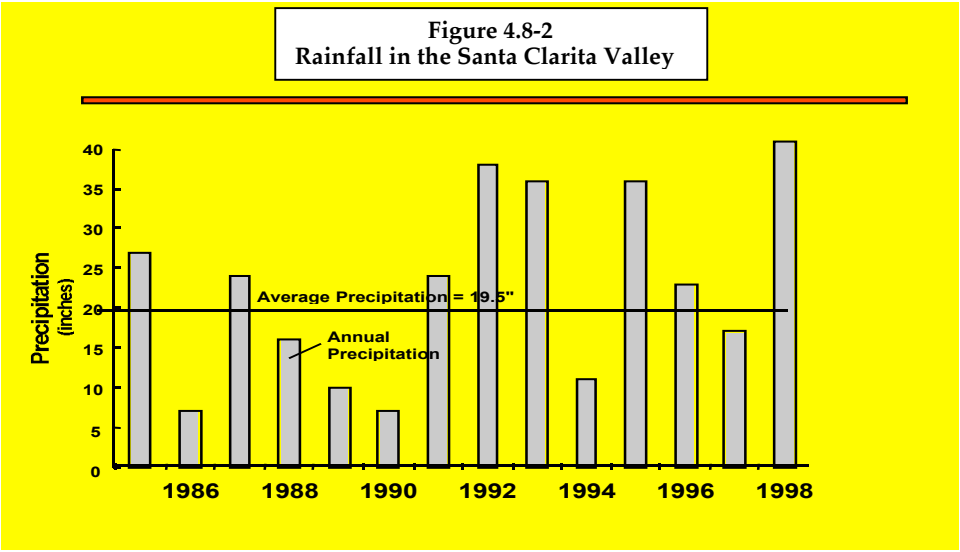
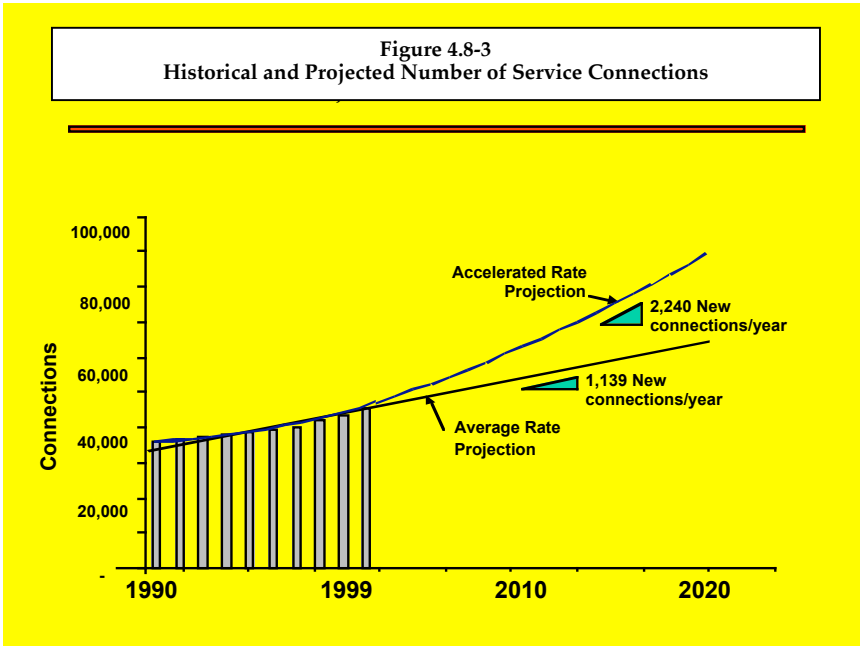
Figure 4.8-2
Rainfall in the Santa Clarita Valley



To determine the future number of service connections in the CLWA service area, CLWA used two different projection techniques. Using an "average rate" regression technique, the number of connections is projected to be about 70,000 in the year 2020. Under the second technique (accelerated rate projection), CLWA projects the connections to be about 96,000 by the year 2020. **Figure 4.8-3** depicts the historical and projected number of service connections in the CLWA service area.

Figure 4.8-3
Historical and Projected Number of Service Connections



(3) Topography

The CLWA service area encompasses the relatively flat-lying Santa Clarita Valley, the eastern portion of the Santa Clara River Valley and portions of the surrounding hills and mountains. The mountains include the Santa Susana and San Gabriel Mountains to the south and the Sierra Pelona and Leibre-Sawmill Mountains to the north. Elevations range from about 800 feet on the valley floor to about 6,500 feet in the San Gabriel Mountains. The headwaters of the Santa Clara River are at an elevation of about 3,200 feet at the divide separating this hydrologic area (i.e., the Upper Santa Clara River Hydrologic Area) from the Mojave Desert.

The Riverpark project is located within the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin No. 4-4.07).[3] This area is upstream of the other groundwater basins in the Santa Clara River Valley drainage. The western end of the East Subbasin extends to roughly the Los Angeles County/Ventura County boundary line. The Piru groundwater basin is located to the west in Ventura County. The two groundwater basins are connected through relatively thin alluvial deposits (in the Alluvial Aquifer) that overlie relatively impermeable Pico Formation bedrock deposits at this location. Groundwater in the Santa Clarita Valley also discharges to the Santa Clara River, which flows into Ventura County.

(4) Regional Geology

The geology within and adjacent to the CLWA service area consists of relatively thin alluvial deposits (Alluvium) overlying a deeper, relatively thick Saugus Formation in certain areas. **Figure 4.8-4** delineates the location of the Alluvium and the Saugus Formation. As discussed in further detail below, both the Alluvium and Saugus Formation contain water-bearing sediments capable of becoming saturated so as to provide water to wells. These water-bearing sediments constitute the local "groundwater reservoir" for the Santa Clarita Valley.[4]

The upper basin, called the Alluvium or Alluvial Aquifer, generally underlies the Santa Clarita Valley and side canyons. The main river valley consists of medium-grained sand on the west to cobbly sand in the east. Due to the unconsolidated to poorly consolidated condition of the Alluvium, and its lack of cementation, the Alluvium has relatively high permeability and porosity. The maximum thickness of the Alluvium varies along the Santa Clarita Valley, but is generally considered to be 200 feet.

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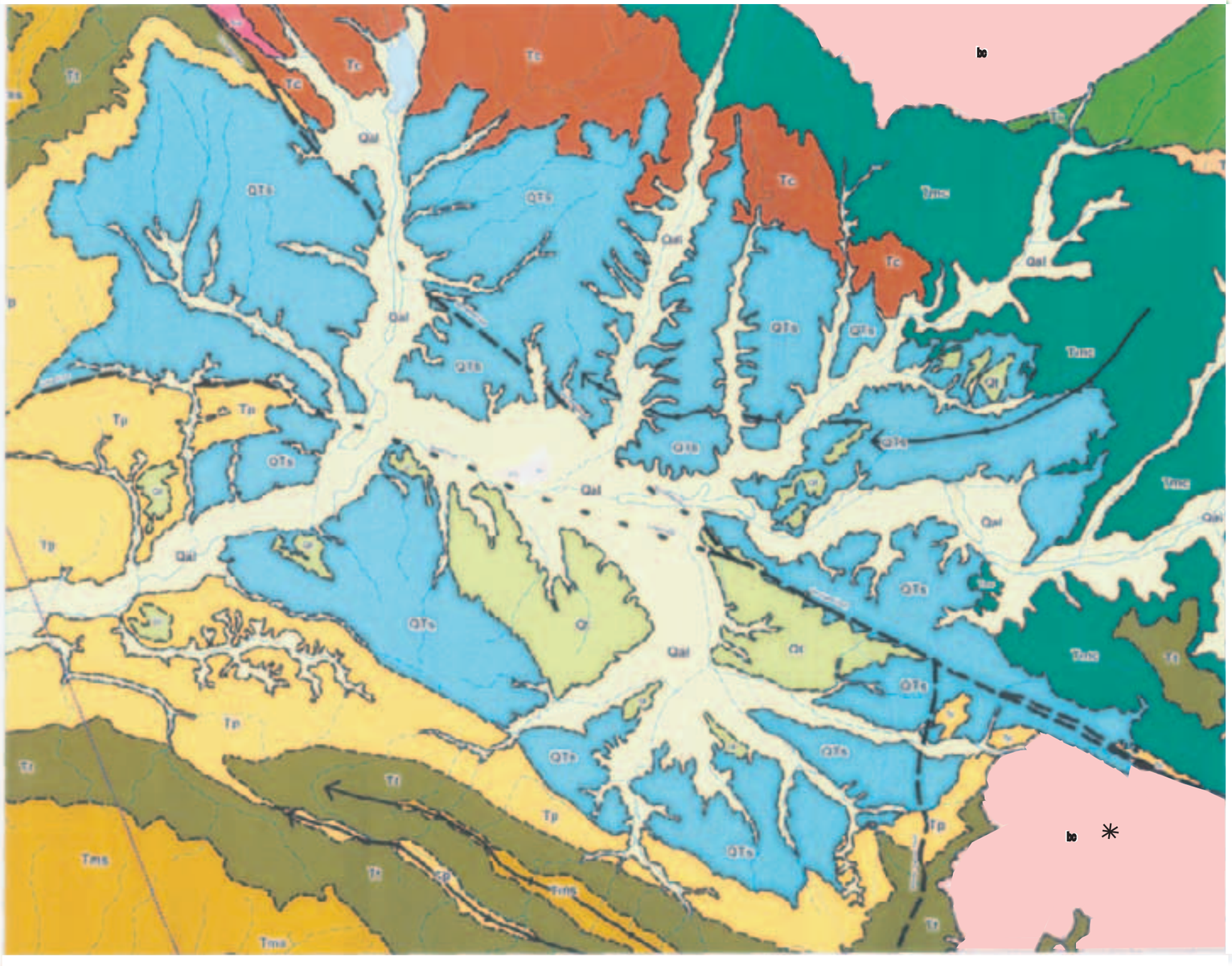
3 California Department of Water Resources Bulletin 118.

4 This section is based on information from the Newhall Ranch ASR Impact Evaluation, prepared by CH_2MHill, February 2001, Sections 3 and 4, and Hydrogeologic Conditions in the Saugus Formation, Santa Clarita Valley, California, prepared by Richard C. Slade & Associates, LLC, January 2001. This report is located in **Appendix 4.8**.



LEGEND

Mapped Geologic Formations

	Potentially Water Bearing
Qal = Undifferentiated Alluvium (Quaternary Age)	
Qt = Terrace Deposits (Pleistocene Age)	
QTs = Saugus Formation (Plio-Pleistocene Age)	
Tp = Pico Formation (Miocene Age)	Non Water Bearing
Tt = Towsley Formation (Miocene Age)	
Tms = Modelo Formation (Miocene Age)	
Tc = Castaic Formation (Miocene Age)	
Tvb = Violin Breccia (Miocene Age)	
Tmc = Mint Canyon Formation (Miocene Age)	
Ttc = Tick Canyon Formation (Miocene Age)	
Tv = Vasquez Formation (Oligocene Age)	
bc = Undifferentiated Basement Complex (pre-Tertiary Age)	

Mapped Geologic Structures

- Approximate Surface Trace of Fault
- Approximate Concealed Trace of Fault
- Approximate Surface Trace of Anticlinal Fold Axis with Direction of Plunge
- Approximate Surface Trace of Synclinal Fold Axis with Direction of Plunge
- Approximate Geologic Contact

Note: Only major faults and fold axis are shown.
Geology adapted from Oakeshott (1958), Winterer & Durham (1958), Nelligan (1978), Stitt (1980), Saul & Woottan (1983), Smith (1984), Dibblee (1991, 1992a,b, 1993, 1996a,b,c, 1997a,b,c)

Not to Scale

FIGURE **4.8-4**

Location of the Alluvial and Saugus Formation

The groundwater is pumped from wells up to 200 feet in depth. The Alluvium is estimated to store over 240,000 acre-feet of water. It has supplied approximately 30,000 to 40,000 acre feet per year (AFY) in average/normal years, and 30,000 to 35,000 AFY in dry years. The annual average groundwater production from the Alluvial Aquifer during the 1990s was approximately 33,500 AFY.

Underlying the Alluvium deposits in the main portion of the Santa Clarita Valley is the Saugus Formation. The Saugus Formation consists of unconsolidated to semi-consolidated sandstone and conglomerate materials. Two faults, the active San Gabriel Fault, and the potentially-active Holser Fault, traverse the Santa Clarita Valley. Although maximum thickness of the Saugus Formation is reported to be 8,500 feet, the estimated water-bearing thickness of the formation ranges from 5,500 feet between the San Gabriel Fault and the Holser Fault to 1,500 feet northeast of the San Gabriel Fault. It is estimated that the amount of groundwater in storage in the Saugus Formation is about 1.65 million acre feet. Of the 1.65 million acre feet, the area north of the San Gabriel Fault is estimated to contain approximately 130,500 acre feet, the area between the Holser and San Gabriel Faults is estimated to contain approximately 641,000 acre feet and the area south of the Holser Fault is estimated to contain approximately 641,000 acre feet. The Saugus Formation is pumped by wells extending to about 2,000 feet in depth. It has supplied approximately 7,500 to 15,000 AFY in average/normal years, and 11,000 to 15,000 AFY in dry years.

(5) Hydrology of the Santa Clarita Valley

Most of the CLWA service area is within the Santa Clarita Valley Groundwater Basin, East Subbasin. The primary drainage course in the service area is the Santa Clara River.[5] **Figure 4.8-5** depicts the geology and hydrologic cycle in Santa Clarita Valley. **Figure 4.8-6** shows the Santa Clara River, East Subbasin, with respect to other groundwater basins downstream of the Specific Plan area. **Figure 4.8-7** shows the locations of production wells in the Alluvial Aquifer and Saugus Formation.

The Santa Clara River and its tributaries flow generally westward from the Santa Clarita Valley to the Pacific Ocean. The principal tributaries to the Santa Clara River include Mint Canyon, Bouquet Canyon, San Francisquito Canyon and Castaic Creek. Water flow in the canyon areas is ephemeral, and diminishes rapidly after most rainfall events. The local surface water bodies include the Santa Clara River, Bouquet Reservoir and Castaic Lake. Various reaches of the Santa Clara River were listed by EPA in 1999 as impaired due to high concentrations of chloride, nitrogen, nitrates and nitrites, high coliform count and dissolved oxygen.

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5 The information contained in this section is from Newhall Ranch ASR Impact Evaluation, prepared by CH_2MHill, February 2001, and an updated technical memorandum prepared by CH_2MHill.

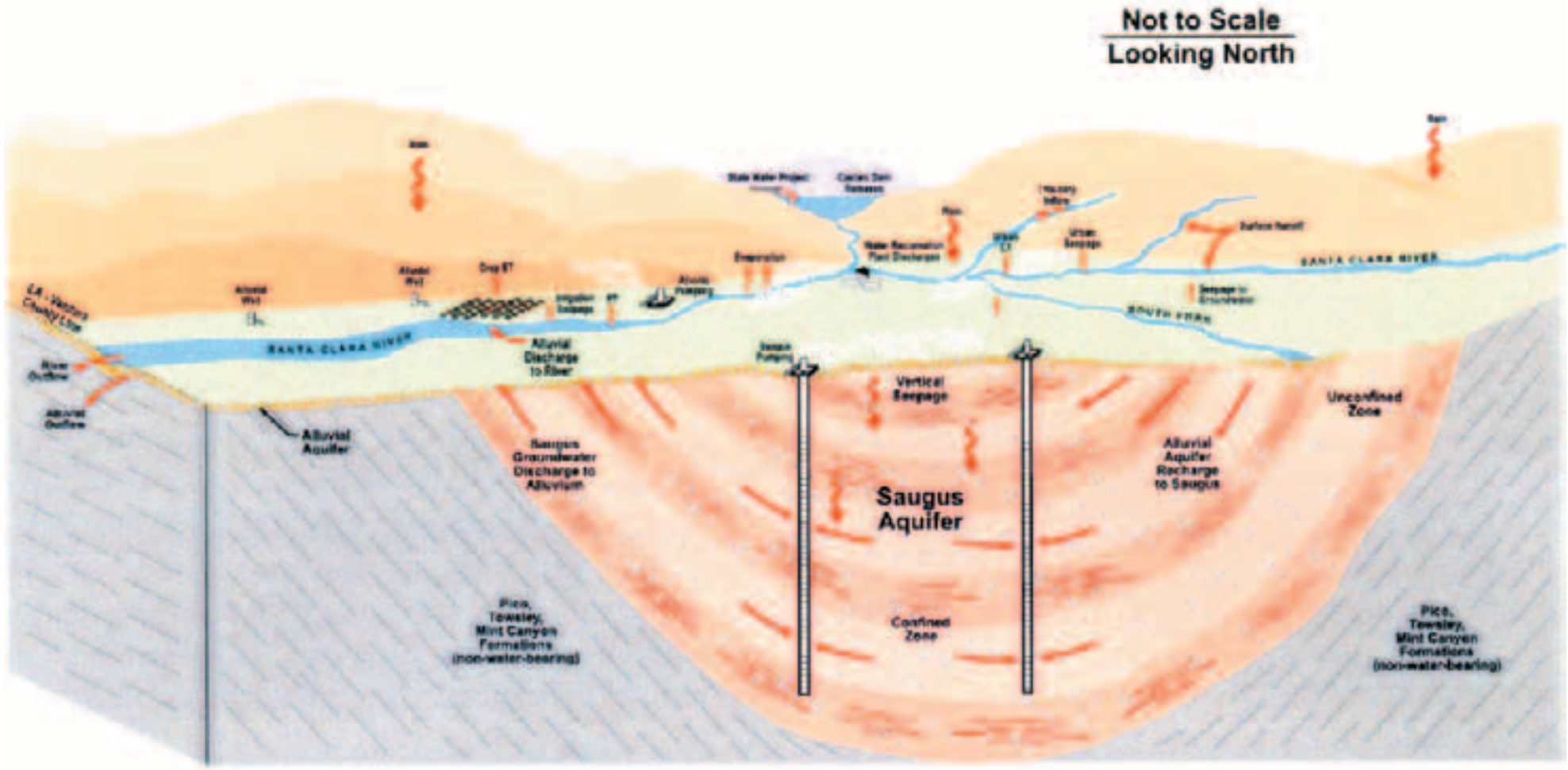
The sources of surface water in the Santa Clarita Valley include precipitation, irrigation return flows, groundwater discharge, stormwater releases from Castaic Lake and Bouquet Reservoir, and treatment plant discharges to the Santa Clara River from the two existing water reclamation plants (WRPs). Another significant source of surface flow comes from the increased importing of State Water Project (SWP) water supplies by CLWA to its service area.

Since 1980, CLWA has been importing SWP water as a supplemental water source to the retail water purveyors in its service area. The total amount of SWP water delivered to the service area from 1980 through 2002 was 405,062 acre feet.

In order to evaluate historical and projected surface flow to downstream from imported SWP water in Santa Clarita Valley, an updated technical memorandum was prepared by CH_2MHill (February 2001). The objective of the updated technical memorandum was to estimate the historical and projected flow to downstream due to the importation of SWP water by CLWA and the use of that water in the Santa Clarita Valley.

Based on the updated technical memorandum, imported SWP water is used to meet both residential and non-residential interior and exterior water demands. A portion of the imported SWP water finds its way into the Santa Clara River watersheds where it recharges local aquifers and flows downstream to Ventura County. Stream gage data collected at the County line (USGS Gage No. 11108500) from 1953 to 1996 demonstrates a 60 percent increase in average annual flow since the importation of SWP water, even during dry years (the annual flow of 17,596 cubic feet per second (cfs) in 1991, a drought year, exceeds the annual average flow prior to importation of 16,479 cfs). The source of this additional flow in the Santa Clara River watershed includes imported SWP water.

The SWP water used to meet residential and non-residential interior water demands ultimately reaches the local existing WRPs in the Santa Clarita Valley. Historically, the treated water has been discharged to the Santa Clara River, where it contributes significantly to the natural surface water and groundwater flows reaching Ventura County. As discussed below, although a significant portion of the imported water used for irrigation is lost through evapotranspiration to the atmosphere, SWP water has significantly increased the flow of surface water and groundwater flows in the Santa Clara River watershed.



CH2MHILL

FIGURE **4.8-5**

Geology And Hydrologic Cycle–Santa Clarita Valley

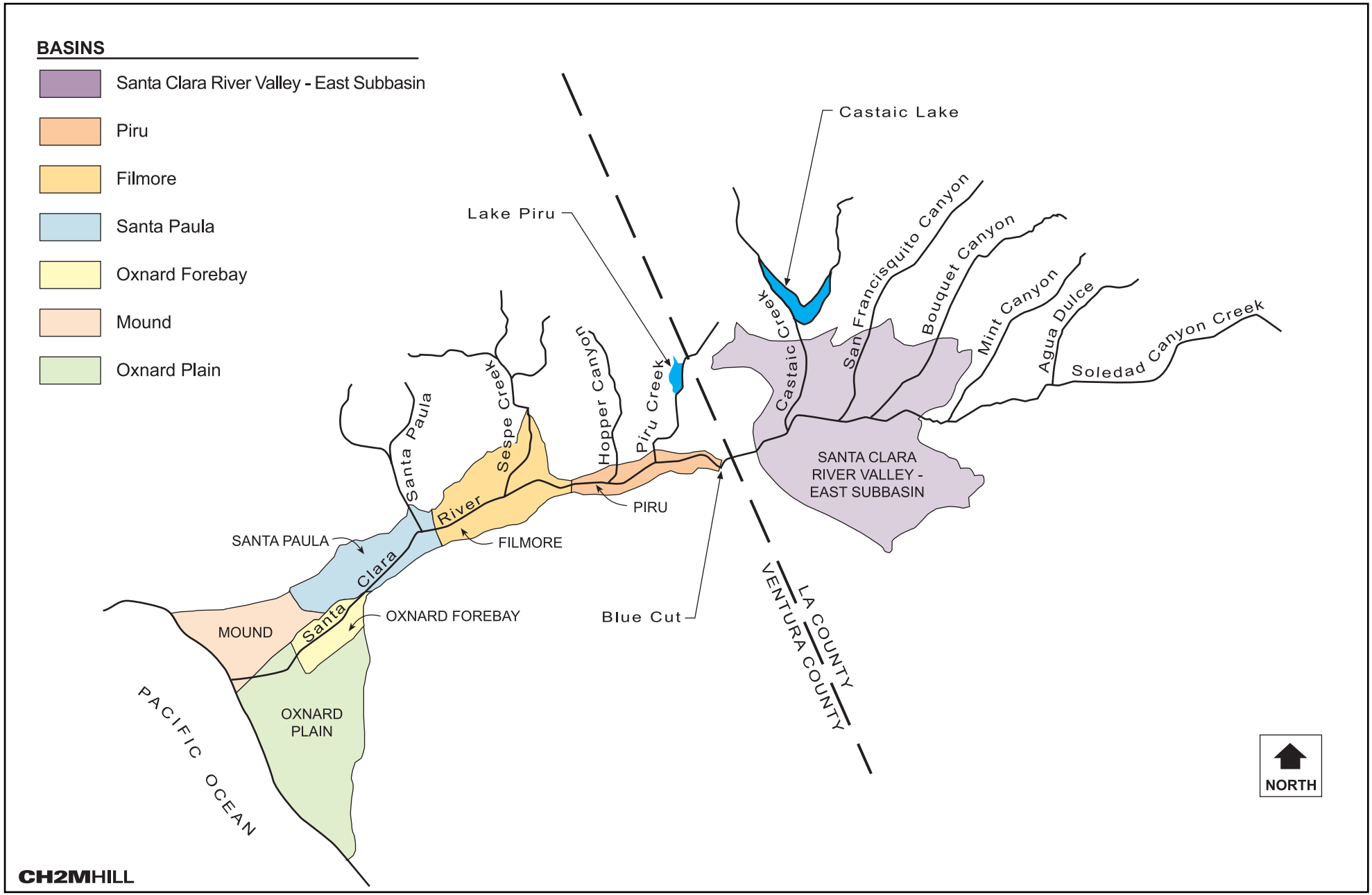


FIGURE **4.8-6**

Groundwater Basins in the Santa Clara River Drainage

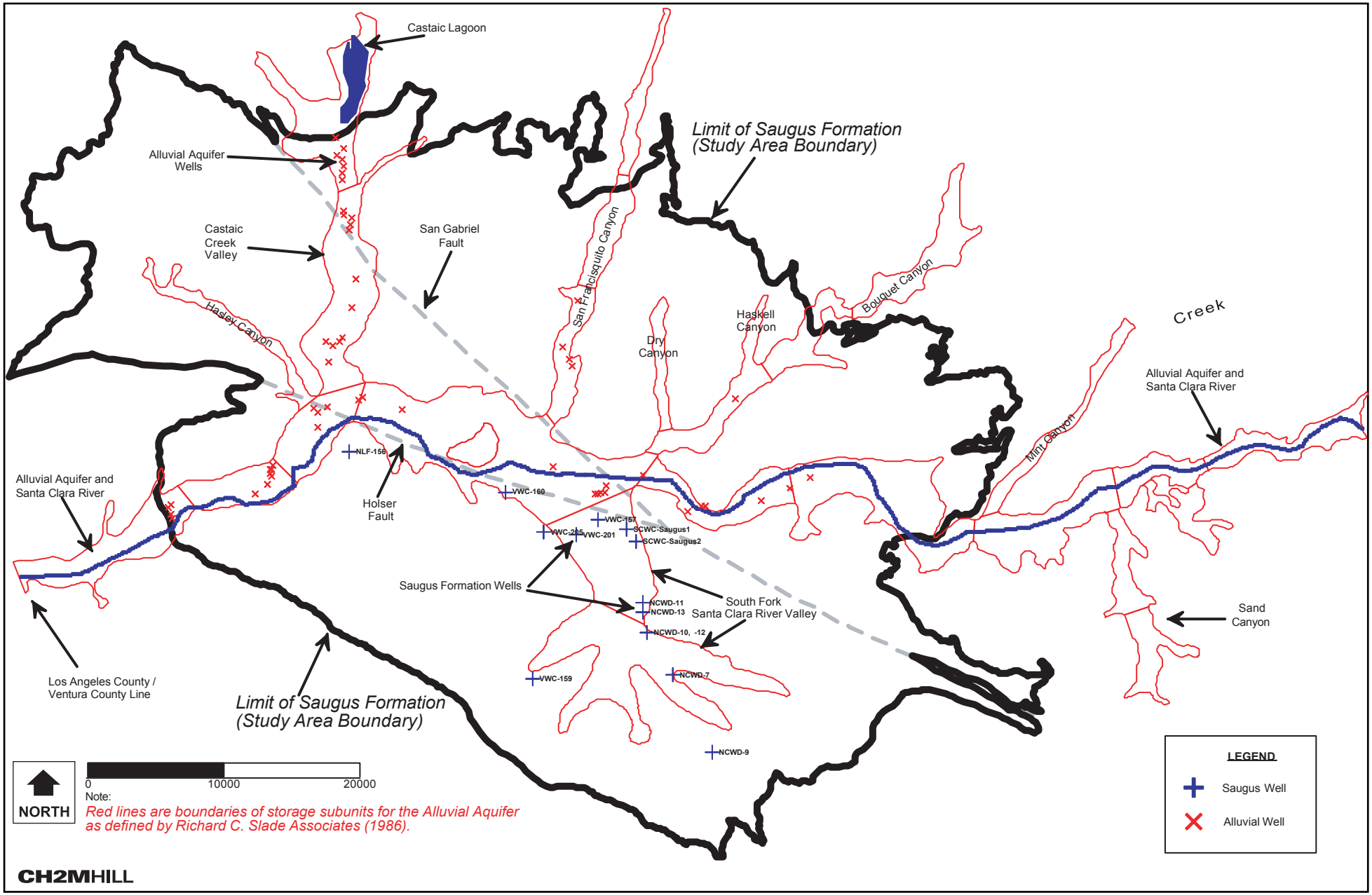


FIGURE **4.8-7**

Groundwater Production Well Locations–Santa Clarita Valley

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Again, the total amount of SWP water delivered to the service area from 1980 through 2002 was 405,062 acre feet. Based on the updated technical memorandum, it is estimated that approximately 136,544 acre feet of imported SWP water has been added to the Santa Clara River through return flow and discharges from existing water treatment plants in Santa Clarita Valley. It is estimated that approximately 18,000 AFY enhanced the watershed and flowed downstream to Ventura County in 1999.

In the future, when CLWA takes its full 95,200 AFY allocation of SWP water, CH_2MHill estimates that approximately 22,160 AFY will enhance the watershed and flow to Ventura County (CH_2MHill, 2001). Consequently, similar to other watersheds where water importation has occurred (e.g., Santa Ana River), the flow in the Santa Clara River watershed is, and will continue to be, significantly enhanced by importing SWP water to the watershed. The importing of SWP water, and the use of that water in the CLWA service area, will continue to result in a net benefit in the amount of surface flow into Ventura County.

(6) Effects Of Drought

Drought cycles will affect the project in two ways. First, local droughts in the Santa Clarita Valley historically have resulted in short-term increased water demand, short-term increased groundwater pumping, and short-term decreased recharge to the local groundwater system. Second, a statewide drought affects water availability in the SWP system and ultimately deliveries from the SWP system. Droughts have occurred locally in 1947-1950, 1958-1960 and 1990-1991. Recent statewide droughts have occurred in 1976-1977 and 1987-1992.[6] Since the area's water supplies are dependent upon rainfall conditions both locally and statewide, it is important to note that wet and dry year conditions do not occur at the same time in Northern and Southern California. As a result, the water purveyors in Santa Clarita Valley are able to adjust the mix of available water resources on a year-to-year basis in response to local and statewide hydrologic conditions.

Prior to 1990-1991, drought conditions statewide had a minimal impact upon the Santa Clarita Valley other than requiring additional water supply to compensate for the lack of spring rainfall for irrigation (e.g., crops, lawns and gardens). In 1990-1991, however, for the first time, statewide drought conditions caused cutbacks in imported SWP supplies in the Santa Clarita Valley. Water production also declined in

6 The 1987-1992 drought was notable for its six-year duration. Statewide reservoir storage was about 40 percent of average by the third year of the drought. The State Water Project met contractors' delivery requests during the first four years of the drought, but then was forced by declining reservoir storage to reduce deliveries substantially. The SWP terminated deliveries to agricultural contractors and provided about 30 percent of requested urban deliveries in 1991, the single-driest year of the drought. A 1991 Governor's executive order resulted in implementation of a State drought water bank. (Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000.)

some wells operating in the shallow, outlying reaches of the Alluvial Aquifer. However, because Santa Clarita Water Division's alluvial wells are located in the major water bearing reaches of the aquifer, none of SCWD's alluvial wells experienced loss of production during 1990-1991 (CLWA acquired the Santa Clarita Water Company, an investor-owned retail water company serving the eastern part of the Santa Clarita Valley. The former Santa Clarita Water Company was incorporated into CLWA's Santa Clarita Water Division, which continues to serve the same area with Santa Clarita Water Company's facilities. Additional details regarding the Santa Clarita Water Division of CLWA is provided below). In addition to the alluvial groundwater supplies, the water purveyors in Santa Clarita Valley pumped more water from the Saugus Formation in 1990-1991, and requested that their customers voluntarily conserve water by 10 percent. Actual water use in the valley decreased more than 10 percent as a direct result of water conservation efforts.

Due to the steps taken by the local purveyors, water demands in the Santa Clarita Valley were met for the duration of the 1990-1991 drought. CLWA also elected not to participate in the state's Drought Water Bank because alternate local supplies were available to meet water demands in the Santa Clarita Valley. In addition, members of the Santa Clarita Valley Water Purveyors signed a Drought Emergency Water Sharing Agreement, agreeing to share water from all sources, and to facilitate beneficial water transfers, exchanges and wheeling arrangements. The purveyors also worked with the City of Santa Clarita and the County of Los Angeles to implement water use ordinances for Santa Clarita Valley residences, review water consumption and supply data and recommend measures to encourage conservation.

Since the 1990-1991 drought, CLWA and the other retail water purveyors have continued to work cooperatively to ensure customer demands are met under varying hydrologic conditions and with overall increasing demands from planned growth. These efforts have included water resource planning activities, acquisition of new water supplies and construction of transmission and treatment facilities, as discussed in further detail below. These efforts include the decision by most of the Santa Clarita Valley's water agencies to jointly prepare the UWMP. The UWMP describes current and future implementation of water conservation measures (called Water Demand Management Measures) within the CLWA service area. These conservation measures are described in Chapter 5.0 of the UWMP. The UWMP also includes an update to the Santa Clarita Valley's Critical Water Shortage Contingency Plan. The updated plan is based on the water agencies' actual experience in addressing water shortages in the Santa Clarita Valley in 1991 (due to the continuation of the 1990-1991 statewide drought) and in 1994 (due to the 1994 Northridge earthquake). The updated plan is described in Chapter 6.0 of the UWMP.

At the state level, significant changes have also occurred in California's water management framework since the last statewide drought of 1987-1992. For further information regarding these statewide changes,

please refer to the heading, **Imported SWP Water Supplies; SWP Reliability** and Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000 (Chapter 2).

(7) Effects Of Urbanization on Aquifer Recharge in the Santa Clarita Valley

In a groundwater basin, the effect of urbanization on recharge to underlying groundwater is dependent on land uses, water uses, vegetative cover, and geologic conditions. Groundwater recharge from undeveloped lands occurs from precipitation alone, whereas areas that are developed for agricultural or urban land uses receive both precipitation and irrigation of vegetative cover. In an urban area, groundwater recharge occurs directly beneath irrigated lands and in drainages whose bottoms are not paved or cemented. A memorandum prepared by CH_2MHill entitled Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley (February 22, 2004; see **Appendix 4.8**) discusses the general effects of urbanization on groundwater recharge and the specific effects in the Santa Clarita Valley. The findings of that memorandum is presented below.

In the Santa Clarita Valley, stormwater runoff finds its way to the Santa Clara River and its tributaries, whose channels are predominantly natural and consist of vegetation and coarse-grained sediments (rather than concrete). The stormwater that flows across paved lands in the Santa Clarita Valley is routed to stormwater detention basins and to the river channels, where the porous nature of the sands and gravels forming the streambeds allow for significant infiltration to occur to the underlying groundwater.

Increased urbanization in the Valley has resulted in the irrigation of previously undeveloped lands. The effect of irrigation is to maintain higher soil moisture levels during the summer than would exist if no irrigation were occurring. Consequently, a greater percentage of the fall/winter precipitation recharges groundwater beneath irrigated land parcels than beneath undeveloped land parcels. In addition, urbanization in the Santa Clarita Valley has occurred in part because of the importation of State Water Project (SWP) water, which began in 1980. SWP water use has increased steadily, reaching nearly 44,500 acre-feet (AF) in 2003. Two-thirds of this water is used outdoors, and a portion of this water eventually infiltrates to groundwater. The other one-third is used indoors and is subsequently routed to local water reclamation plants (WRPs) and then to the Santa Clara River (after treatment). A portion of this water flows downstream out of the basin, and a portion infiltrates to groundwater.

Records show that groundwater levels and the amount of groundwater in storage were similar in both the late 1990s and the early 1980s, despite a significant increase in the urbanized area during these two decades. This long-term stability of groundwater levels is attributed in part to the significant volume of natural recharge that occurs in the streambeds, which do not contain paved, urban land areas. On a long-

term historical basis, groundwater pumping volumes have not increased due to urbanization, compared with pumping volumes during the 1950s and 1960s when water was used primarily for agriculture. Also, the importation of SWP water is another process that contributes to recharge in the Valley. In summary, urbanization has been accompanied by long-term stability in pumping and groundwater levels, plus the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater that is in storage within the Valley.

c. Water Purveyors in Santa Clarita Valley and Their Service Areas

(1) Castaic Lake Water Agency

For most residents within the Santa Clarita Valley, domestic water service is provided by four retail water purveyors: Los Angeles County Waterworks District 36, Newhall County Water District, Santa Clarita Water Division of CLWA and Valencia Water Company. However, these four retail water purveyors actually obtain all or a portion of their water supplies from the Castaic Lake Water Agency.

CLWA was formed in 1962 as a wholesale water agency for the purpose of contracting with the California Department of Water Resources (DWR) to provide a supplemental supply of imported water from the State Water Project (SWP) to serve retail water purveyors in the Santa Clarita Valley.[7] CLWA is one of 29 agencies with long-term water supply contracts with DWR for SWP water.[8] CLWA obtains SWP water from the upper reservoir at Castaic Lake, a storage reservoir of the SWP. CLWA serves the City of Santa Clarita, the unincorporated Santa Clarita Valley in Los Angeles County and portions of Ventura County. CLWA's service area covers approximately 195 square miles. **Figure 4.8-8** depicts CLWA's service area.

CLWA's physical water delivery system is comprised of facilities needed to treat and convey SWP supplies to the retail water purveyors. The funding for CLWA's expansion, modification, and addition to its current facilities and programs is through its Capital Improvement Plan (CIP). As part of CLWA's annual budget process, the CIP is reviewed and updated as necessary. An integral part of CLWA's CIP is its capital facilities fee, or development impact fee, which is a source of revenue to fund additional facilities and programs required to accommodate growth within the service area. As part of CLWA's CIP, funding has been established to provide for the purchase of additional imported supplies, implementation of reclaimed water (also referred to as "recycled water") programs and enhancement of groundwater, as well as groundwater banking/conjunctive-use programs both inside and outside the

7 See, California Water Code Appendix Sections 103-1, 103-15.

8 CLWA also provides retail water service through a contract with the Santa Clarita Water Division of CLWA since September 1999.

CLWA service area. According to CLWA, implemented over time, these measures will provide assurance that there will be sufficient supplies to meet water demands. Seawater and local brackish water desalination coupled with other contractual water exchanges could also provide the additional water supplies to meet anticipated community needs. It should be noted that desalination water would not likely be delivered to the Santa Clarita Valley. Desalination water would be exchanged for non-desalination water owned by another water agency located nearer to the desalination source. According to CLWA, the priority for implementation of some of these supply approaches will be driven in part by the relative cost. CLWA has also recently prepared a draft document entitled, Draft Report, Water Supply Reliability Plan, dated September 2003. A copy of this document can be found in **Appendix 4.8** of this EIR. As indicated in the Draft Report, Water Supply Reliability Plan (also referred to as the Draft Water Supply Reliability Plan), SWP supply is variable due to its dependence on hydrology (i.e., precipitation and snowpack of the present and past years) and, therefore, deliveries can be curtailed. When sufficient SWP water is not available, the balance of the Valley's demand is met with local groundwater provided by the Santa Clarita Valley Water Purveyors. In recognition of the need to evaluate the technical, environmental, and economic issues associated with potential water supply reliability projects, CLWA has developed the long-term Draft Water Supply Reliability Plan. Because available groundwater is limited, it is anticipated that water demands will increasingly rely on SWP supplies. As CLWA's water requirements utilize increased proportions of its SWP Table A Amount, water banking opportunities, together with water transfers, water conservation, recycled water, and local Aquifer Storage and Recovery, become important elements of CLWA's long-term water supply strategy and are included in its Capital Improvement Program. In particular, water banking programs are essential to optimizing the use of CLWA's SWP Table A Amount.

The primary objectives of the Draft Water Supply Reliability Plan are to develop a protocol to identify current opportunities, evaluate opportunities using uniform economic criteria, and recommend a water supply reliability plan that focuses CLWA's efforts on the cost effective and beneficial opportunities.

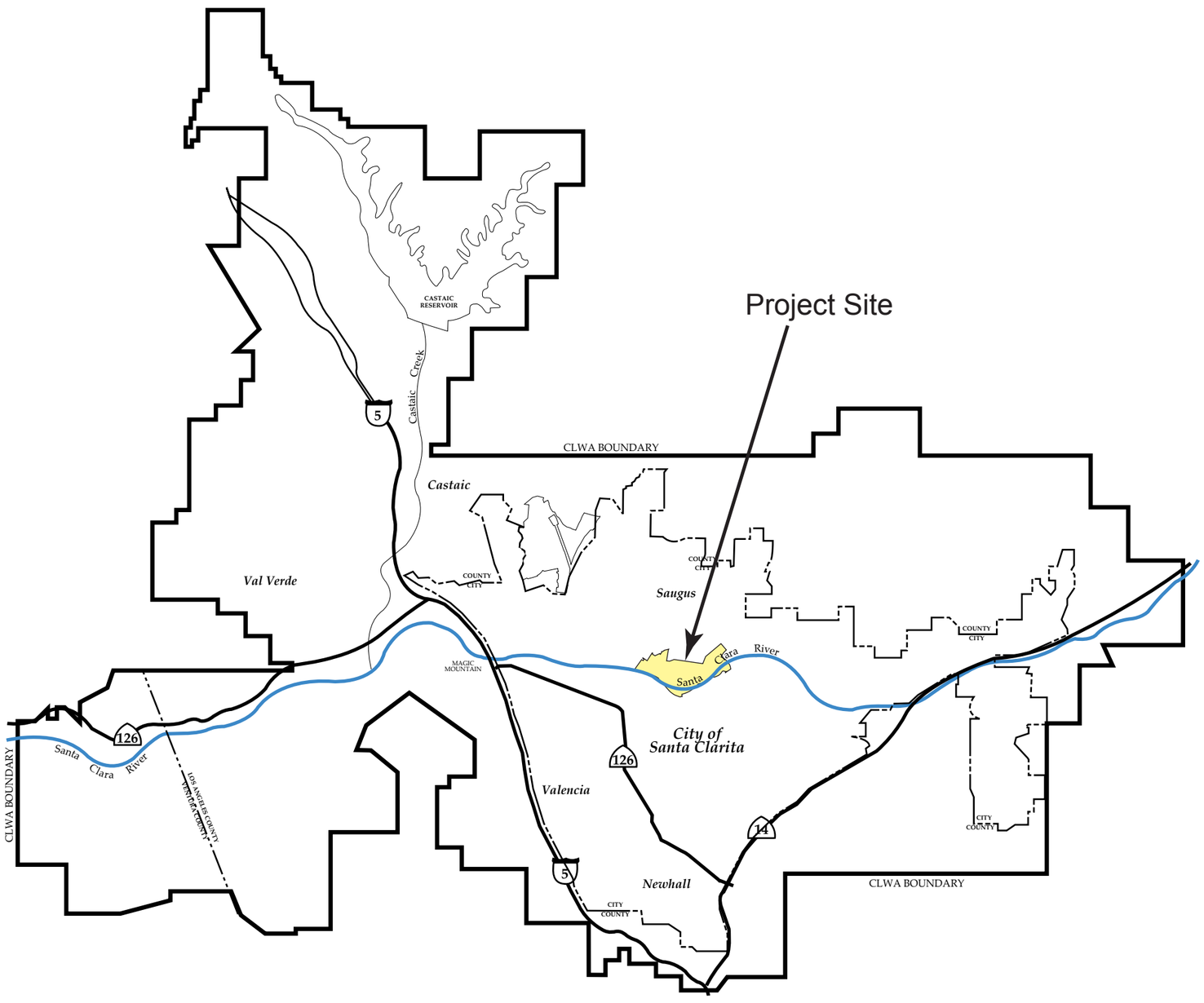
The Draft Water Supply Reliability Plan includes the following primary elements:

- Near-term acquisition of water banking capacity to allow banking of excess SWP water until the selected long-term banks have been developed.
- Acquisition of water banking capacity south of the Tehachapi Mountains to provide reliability for potential SWP conveyance disruptions.
- Acquisition of water banking capacity north of the Tehachapi Mountains to meet the additional identified water banking requirements not provided south of the Tehachapi Mountains.

The Draft Water Supply Reliability Plan also includes a discussion of key implementation issues and a recommended implementation plan. The plan recommends that CLWA provide a minimum storage capacity of 50,000 acre feet by 2005, rising to 183,000 acre feet by 2050. Recent experience illustrating that CLWA is already participating in such programs comes from the Semitropic Water Storage District (Semitropic) in Kern County. Semitropic is expanding its existing groundwater banking program to include the Stored Water Recovery Unit (SWRU). The SWRU will provide 650,000 AF of additional groundwater storage capacity. CLWA has contracted with Semitropic to participate in this phase of the program. As part of this program, up to 50,000 AF of guaranteed annual recovery capacity could be made available to CLWA immediately. In 2002, CLWA fulfilled the following accomplishments in order to enhance, preserve, and strengthen the quality and reliability of existing and future supplies.

- Stored 24,000 AF of SWP water in the Semitropic Water Storage District's Groundwater Bank.
- Completed preliminary design for expansion of Earl Schmidt Filtration Plant from 25 mgd to 55 mgd.
- Obtained permission from California Department of Health Services to increase filter flow rate at ESFP.
- Negotiated with DWR, in conjunction with other State Water Contractors, an extended carry-over program for 2002 SWP allocations.
- Constructed Phase 2 of the Magic Mountain pipeline.
- Initiated construction of Lost Canyon Turnout for Newhall County Water District.
- Continued implementation of programs recommended in the UWMP adopted in December 2000.
- Continued implementation of the water conservation Best Management Practices, as recommended in the 2000 UWMP.
- Worked with other State Water Contractors to establish claim to 16,000 acre feet of SWP Table A subject to conditioned release by the Kern County Water Agency and DWR, following appropriate environmental review.
- Purchased site for location of Pumping Station for the Sand Canyon Pipeline and Reservoir project.
- Continued litigation against Whittaker et al., relative to the perchlorate contamination of groundwater supply, which impacts operation of 5 wells that can supply 8,700 gpm of pumping capacity.
- Continued cooperative effort with the U.S. Army Corps of Engineers for characterization studies of the Whittaker site.
- Participated in a task force effort with the City of Santa Clarita, area elected officials and state agencies to affect the cleanup and remediation of all aspects of the Whittaker site, including the perchlorate groundwater contamination.
- Began construction of the first phase of the recycled water transmission system.

For additional related information, please see the plan in **Appendix 4.8**.



LEGEND

SPECIFIC PLAN SITE

CASTAIC LAKE WATER AGENCY BOUNDARY

N NOT TO SCALE

SOURCE: PSOMAS and Associates, 1/99.

FIGURE **4.8-8**

Castaic Lake Water Agency Service Area

112-16•01/04

CLWA's existing water delivery system is presented in **Figure 4.8-9**. As shown in that figure, CLWA owns and operates two water filtration plants, the Earl Schmidt Filtration Plant, with a current water capacity of 33 million gallons per day (mgd), and the Rio Vista Water Treatment Plant, with a water capacity of 30 mgd. The two plants have a current capacity to treat a total of 63 mgd. These plants were designed to accommodate expansion as required. CLWA has completed the design of the Earl Schmidt plant expansion to increase the plant's treatment capacity to a total of approximately 56 mgd. Construction of the treatment plant began in August 2003 and is scheduled to be on-line by mid-2005. CLWA also owns and operates an intake pump station at the Earl Schmidt plant, a pump station at the Rio Vista plant, major water transmission lines, and storage tanks and reservoirs. CLWA has also begun the design and environmental review process for expanding the capacity of the Rio Vista Water Treatment Plant from 30 mgd to 60 mgd.

CLWA treats the SWP water at its two water filtration plants and then distributes the water to the local retail water purveyors in the Santa Clarita Valley. From CLWA's two existing plants, the treated SWP water is delivered by gravity to the retail water purveyors through CLWA's distribution network of pipelines and turnouts. Local water retailers, such as CLWA's Santa Clarita Water Division, combine SWP water with groundwater from their own municipal-supply wells in the Alluvial Aquifer and Saugus Formation to meet water demand within their respective service areas. The actual mix between SWP and groundwater distributed by the water retailers to their respective service areas is variable over time and is based upon availability and operational and cost considerations.

CLWA's current total maximum contracted water allocation of SWP water is 95,200 AFY.[9] Of that amount, CLWA obtained 41,000 AFY from KCWA, through its member district Wheeler Ridge-Maricopa Water Storage District (Wheeler Ridge), pursuant to a March 1999 water transfer agreement. CLWA analyzed the potential environmental impacts of the water transfer in a Final EIR entitled, Supplemental Water Project Environmental Impact Report, dated February 1999 (SCH No. 98041127) (the CLWA EIR). A project opponent filed a petition for Writ of Mandate in April 1999, challenging the adequacy of the CLWA EIR under CEQA. The trial court rejected the petition, finding that the CLWA EIR complied with CEQA, and the petitioner appealed.

In a decision issued in January 2002, the appellate court reversed the trial court's judgment but not on any of the specific grounds urged by the petitioner. Rather, the appellate court found that, since the appeal had been filed, another EIR, which studied the environmental effects of the Monterey Agreement (the

9 An acre-foot represents 43,560 cubic feet, or 325,850 gallons, of water. An acre-foot of water has been generally defined as "an irrigation-based measurement equaling the quantity of water required to cover an acre of land to a depth of one foot." See, *Brydon v. East Bay Mun. Utility Dist.* (1994) 24 Cal.App.4th 178, 182, fn. 1.

Monterey Agreement EIR), had been ordered decertified (detailed information regarding the Monterey Agreement is provided in the heading below entitled **Imported SWP Water Supplies**. Because it found that the CLWA EIR had "tiered" on the now-decertified Monterey Agreement EIR, the appellate court held that the CLWA EIR also must be decertified. Notably, the appellate court found that, were it not for the intervening decertification of the Monterey Agreement EIR, it "…would have affirmed [the trial court's] judgment." See, *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, 1387.

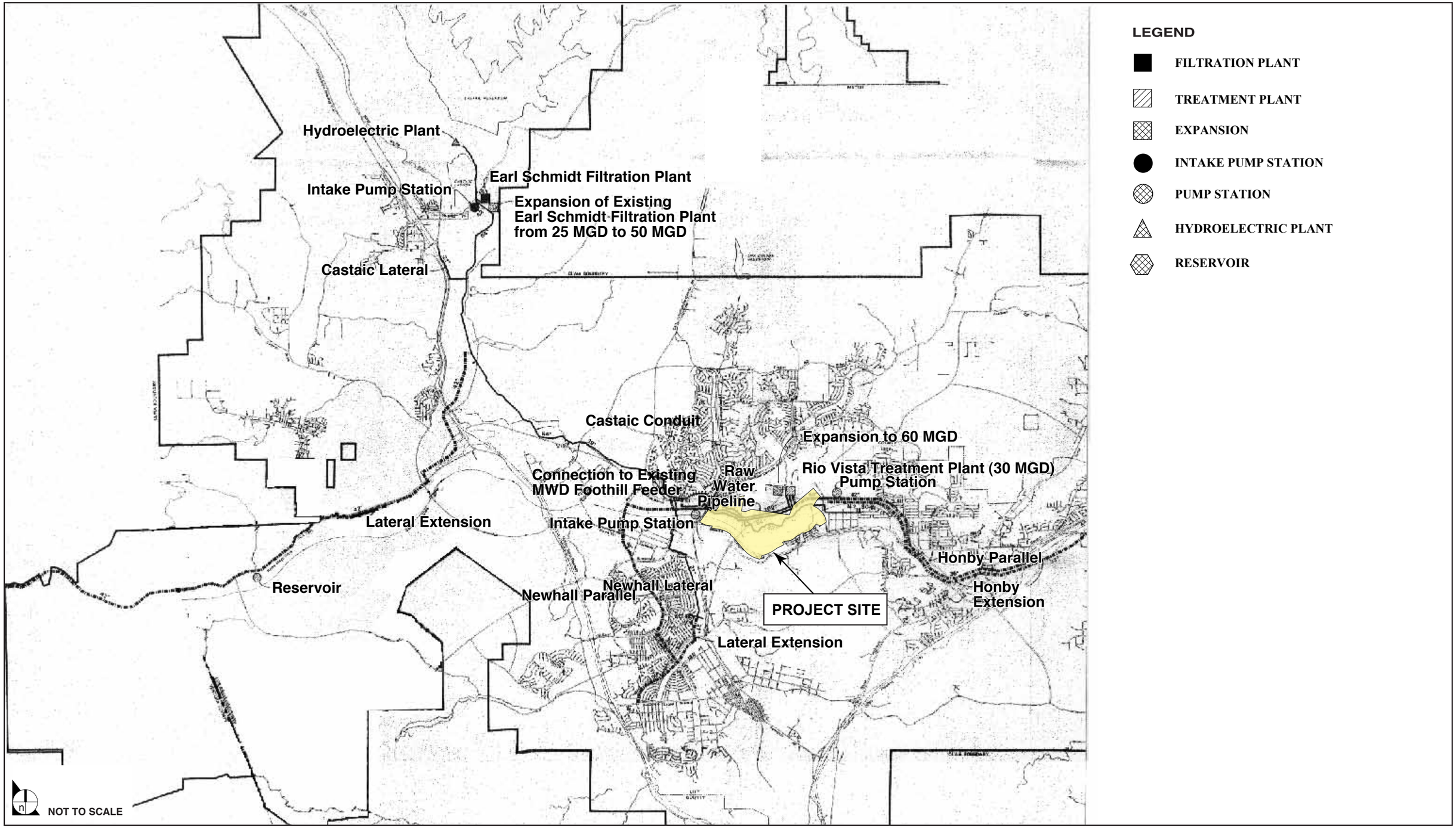
Importantly, although the appellate court ordered the CLWA EIR decertified, it did *not* order CLWA to void its approval of the water transfer agreement itself. Instead, the appellate court remanded the matter to the trial court for further proceedings concerning the remedy, stating that the trial court was in a "better position" than the appellate court to make the factual determinations necessary to devise an appropriate remedy. Id. at 1388.

The trial court held a hearing on September 24, 2002, to hear argument on whether the water transfer agreement should be allowed to remain intact while CLWA completes a new EIR. As directed by the appellate court, the trial court ordered CLWA to vacate its certification of the CLWA EIR. However, the trial court did not order CLWA to vacate its approval of the water transfer agreement itself. Rather, the court ruled that CLWA may utilize and rely on the 41,000 AFY. The trial court allowed that the petitioner may renew its application for a prohibition on CLWA's use of the 41,000 AFY if the petitioner could provide evidence that CLWA is actually using the additional entitlement for purposes the petitioner considers improper. A copy of the trial court's judgment and Writ, along with a transcript of the September 24, 2002 hearing, is provided in **Appendix 4.8** to this report.

CLWA is currently in the process of preparing a new EIR for the water transfer agreement, consistent with CEQA and the appellate court opinion. CLWA has hired an environmental consultant and the work on the new EIR is well underway.

(2) Retail Water Purveyor Service Areas

CLWA and the four retail water purveyors provide water to most residents of the Santa Clarita Valley. A description of the service areas of the local retail purveyors is provided on the following pages.



SOURCE: Kennedy Jenks Consultants, "CLWA Water System Master Plan", May 1995

FIGURE **4.8-9**

Castaic Lake Water Agency Water Delivery System

112-16•01/04

The Los Angeles County Waterworks District 36 service area encompasses approximately 7,635 acres in the Hasley Canyon area and the unincorporated community of Val Verde. The District obtains its full water supply from CLWA turnouts. The District presently has no operating groundwater extraction facilities.

The Newhall County Water District service area lies within four distinct geographical areas of the Santa Clarita Valley: Newhall, Pinetree, Tesoro Del Valle, and Castaic. The district's service connections are located over a 34 square-mile area. The District's water supplies are obtained from groundwater wells and SWP water from CLWA turnouts.

CLWA's Santa Clarita Water Division (SCWD) service area includes portions of the City of Santa Clarita, including the proposed project site, and unincorporated portions of Los Angeles County in the communities of Saugus, Canyon Country and Newhall. SCWD is expected to be the retail water purveyor for the project.

In September 1999, CLWA acquired the Santa Clarita Water Company, an investor-owned retail water company serving the eastern part of the Santa Clarita Valley.[10] The former Santa Clarita Water Company was incorporated into CLWA's Santa Clarita Water Division, which continues to serve the same area with Santa Clarita Water Company's facilities. **Figure 4.8-10** illustrates the service area of the Santa Clarita Water Division (SCWD).

As buildout of the project proceeds over time, the tentative subdivision map would require preliminary and final water plans for review and approval by the SCWD. The plans would indicate anticipated water demand, required water storage facilities, booster pump stations, and on-site and off-site piping needed for adequate domestic and fire water flow pressure to the site. The company's water supplies are obtained from groundwater wells and SWP water from CLWA turnouts.

The Valencia Water Company service area serves a portion of the City of Santa Clarita and the unincorporated communities of Castaic, Newhall, Saugus, Stevenson Ranch and Valencia in Los Angeles County. Valencia's service area is approximately 25 square miles. Valencia's water supplies are obtained

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10 CLWA acquired 100 percent of the capital stock in Santa Clarita Water Company by way of a judgment in eminent domain in Los Angeles County Superior Court case number BC 215065, entered on September 2, 1999. Subsequently, CLWA's authority to own the Santa Clarita Water Company and to provide retail water service through the former assets of the Company has been challenged in *Klajic v. Castaic Lake Water Agency* (California Court of Appeal, 2nd Dist, case number B161069). In addition, the public agency borrowing undertaken by CLWA to finance the acquisition of the Santa Clarita Water Company has been challenged in *Plambeck v. Stone and Youngberg* (LASC case no. BC249168). The cases are currently pending, but neither case seeks relief affecting the availability of water to Santa Clarita Water Company, SCWD or CLWA.

from groundwater wells and SWP water from CLWA turnouts. **Figure 4.8-11** illustrates the respective service areas of CLWA and the four retail water purveyors in the Santa Clarita Valley.

As of 2002, the four retail water purveyors service over 58,000 connections in the Santa Clarita Valley. The specific breakdown by purveyor is provided in **Table 4.8-2**.

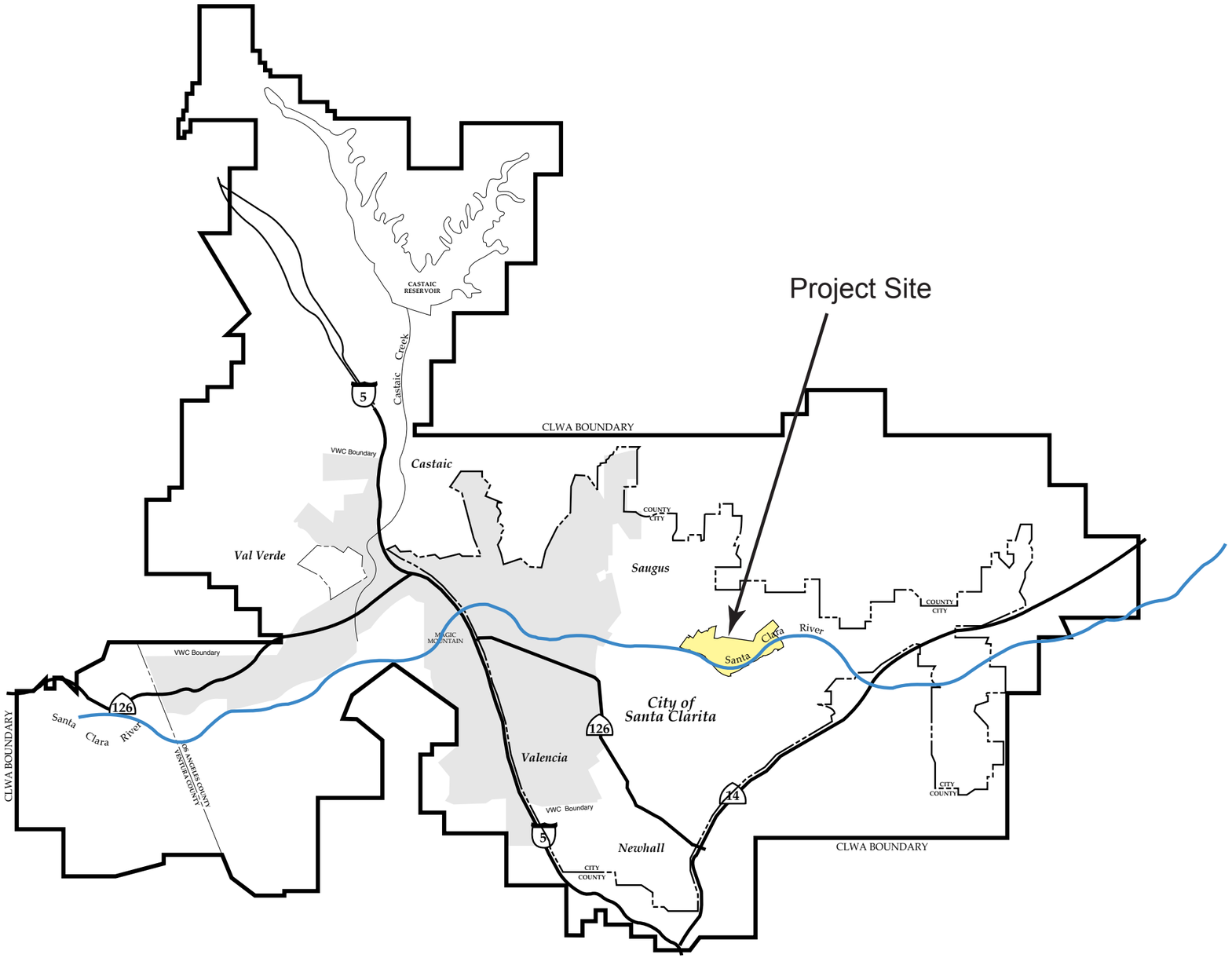
Table 4.8-2
Santa Clarita Valley Retail Water Purveyors

Purveyor	Connections
Los Angeles County Waterworks District 36	1,060
Newhall County Water District	7,700
Santa Clarita Water Division of CLWA	24,175
Valencia Water Company	25,286
Total	**58,221**

Source: Santa Clarita Valley Water Report, 2002.

(4) CLWA's Allocation of Imported Water Supplies

CLWA's fixed-percentage allocation to retail purveyors is based on a "first-come, first-served" allocation method. CLWA distributes imported water supplies among "water service areas" established by CLWA on a basis that allows imported water to be delivered to these areas where it is needed. CLWA's current allocation system, defined by Section 103-29.5 of CLWA's governing act as interpreted by CLWA, is based on the collection of developer impact fees paid by new development and other contributions collected within each "water service area." Under CLWA's allocation method, water supplies available to CLWA are allocated among the CLWA-defined "water service areas" based on the payment of developer impact fees, property taxes, and other contributions that fund CLWA's Capital Program. Historically, however, CLWA has not been required to allocate imported water supplies to the retail water purveyors, because the available supply of imported water has been sufficient to meet all purveyor requests. Even in the extreme drought year, 1991, no allocation was necessary, because the four retail purveyors entered into a water sharing agreement by which the purveyors shared all available water supplies and, with the help of significant conservation, were able to meet all water demand in the Santa Clarita Valley. Accordingly, absent the need for an allocation during times of limited supply under CLWA's method, CLWA supplies are delivered to retail water purveyors on a first-come, first-served basis. However, should CLWA need to allocate water resources, SCWD's allocation would likely increase due to the increased amount of connection fees paid to CLWA.



LEGEND

- SPECIFIC PLAN SITE
- VALENCIA WATER COMPANY SERVICE AREA
- CASTAIC LAKE WATER AGENCY BOUNDARY

NOT TO SCALE

SOURCE: PSOMAS and Associates, 1/99.

FIGURE **4.8-10**

Valencia Water Company Service Area

112-16•01/04

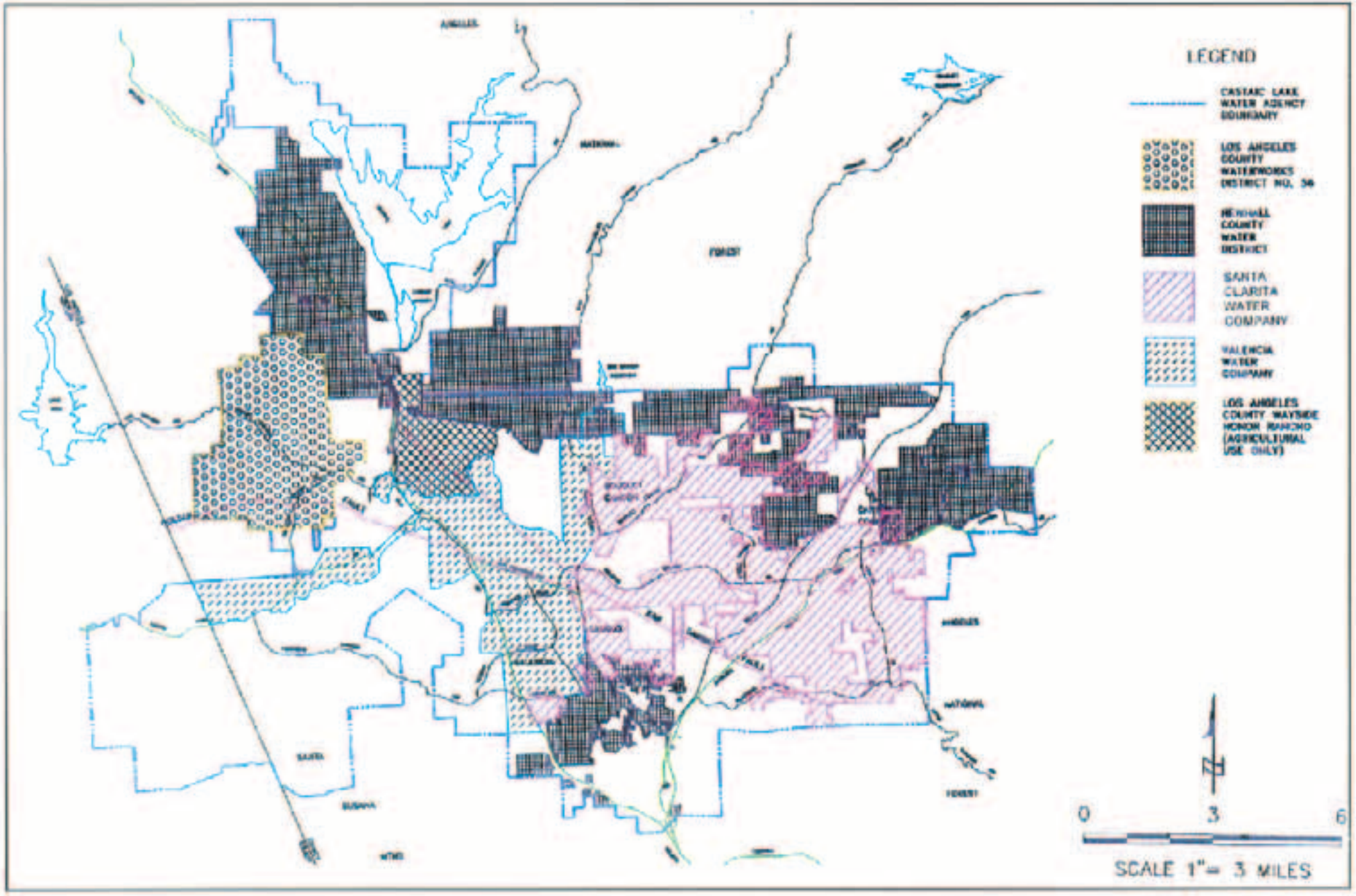


FIGURE **4.8-11**

Groundwater Basins in the Santa Clara River Drainage

112-16•11/03

In light of CLWA's allocation method, SCWD expects that its share of water supplies from CLWA is expected to increase for the following reasons: (a) SCWD's "water service area" includes significant amounts of existing and planned development; (b) water supplies are now allocated among CLWA-defined "water service areas," and SCWD's "water service area" significantly contributes to the funding of the CIP; and (c) water supplies are delivered by CLWA to the purveyors, including the SCWD, on a first-come, first-served basis. Accordingly, SWP water supplies in the Santa Clarita Valley are evaluated on a valley-wide basis, rather than on individual percentage allocations to retail purveyors.

(5) Santa Clarita Valley Water Purveyors

The wholesale and retail water purveyors in Santa Clarita Valley meet regularly as a technical group to coordinate the water resources of the Valley. The group has been commonly known as the Santa Clarita Valley Water Purveyors (purveyors). One of the highest priorities of this group is to provide an adequate water supply for the CLWA service area, safeguard existing water resources and develop both short-term and long-range plans for the efficient use of water in the Santa Clarita Valley.

Over the years, the purveyors have documented the availability of water resources in the region, assessed the condition of the local groundwater aquifers and their hydrogeologic character and reviewed aquifer storage capacity and the perennial yield and recharge rate of the aquifers. The purveyors have also studied the potential for conjunctive use of both groundwater and imported water resources. In addition, the purveyors continue to monitor water quality, including plans for the treatment of water to maintain good quality water for use in the Santa Clarita Valley.

Other cooperative efforts of the purveyors have included development of drought contingency plans, evaluation of landfill impacts on the groundwater basin, coordination of emergency response procedures and implementation of valley-wide conservation programs. In 1985, the purveyors prepared the area's first UWMP. In 1998, the purveyors participated with CLWA in the preparation of a Draft Integrated Water Resources Plan (IWRP), which assessed the existing and long-term water supply and demand of the Santa Clarita Valley. In addition to identifying the range of water demands and supplies, the IWRP addressed opportunities to improve water supply reliability for the Santa Clarita Valley. The plan suggested a phased approach toward development of the supplies needed to meet projected demands. This approach combined additional acquisition of imported water, water conservation, surface and groundwater storage, water transfers and exchanges and water reclamation in an integrated strategy designed to meet increasing water demands while assuring a reasonable degree of supply reliability.

In years 1998 through 2003, the purveyors prepared Annual Water Reports (also referred to as "water reports") providing information about the local water supplies and water demands in Santa Clarita Valley. The information presented in the water reports is intended to supplement information already required by the County's Development Monitoring System (DMS). The DMS is used by both the County and the City of Santa Clarita to track development activity in the Santa Clarita Valley, and it requires that adequate water supplies be in place prior to development taking place. The information presented in the water reports is used by the County and City of Santa Clarita in connection with future land use decisions in the Santa Clarita Valley in general.

In addition, in December 2000, the Santa Clarita Valley's water agencies jointly sponsored preparation of the 2000 UWMP. The UWMP covers the CLWA service area, which includes the service areas of the four retail water purveyors. The UWMP presents information about the water supply, water demand, water reclamation (also referred to as "water recycling"), water conservation and reliability planning in the CLWA service area over a 20-year time frame. Consultants with expertise in water resource management were retained to assist CLWA and retail water purveyors in preparing the UWMP.

In April 2001, opponents of the UWMP filed a lawsuit against CLWA and the retail water purveyors challenging the adequacy of the UWMP under the Urban Water Management Planning Act and the Public Trust doctrine. CLWA and the purveyors successfully demurred to the Public Trust doctrine claim and the trial court ordered the claim dismissed. The trial court also ruled that the UWMP is adequate. A copy of the court's decision is attached to this report as **Appendix 4.8**. Petitioners have appealed this ruling.

The Santa Clarita Valley Water Purveyors have adopted resolutions approving the UWMP. The State Department of Water Resources (DWR) has also accepted the UWMP for filing. In addition, DWR indicated in its review that the Santa Clarita Valley Water Purveyors had addressed virtually all of the requirements of the Urban Water Management Planning Act, including all of the more significant provisions relating to water supply, demand, and reliability. Accordingly, the UWMP is considered by CLWA and the SCWD to be in compliance with the Urban Water Management Planning Act. Whatever the outcome of the UWMP litigation, however, it is not expected to have any impact on the validity of this water resources analysis. The bulk of the UWMP data utilized in this report relates to aspects of the plan not challenged in the current litigation. Moreover, all of the data cited in this report is provided for informational purposes only and has been independently reviewed and considered by the City of Santa Clarita prior to use in this analysis. State law requires that UWMPs be updated every five years.

(6) Water Reclamation Plants in the Santa Clarita Valley

Most existing wastewater generated in the Santa Clarita Valley is treated at two WRPs. The two plants are operated by the County Sanitation Districts of Los Angeles County (CSDLAC).

The Saugus WRP, a tertiary treatment plant, is located southeast of the intersection of Soledad Canyon Road and Bouquet Canyon Road. The Valencia WRP, also a tertiary treatment plant, is located on The Old Road, north of Magic Mountain Parkway. The two facilities are illustrated in **Figure 4.8-12**. The Saugus WRP, located in District No. 26, has a permitted capacity of 6.5 mgd.

The Valencia WRP, in District No. 32, is presently undergoing expansion of an additional 9 mgd, which will be completed in 2003. Once constructed, the permitted capacity of the Valencia WRP is anticipated to be 21.6 mgd.

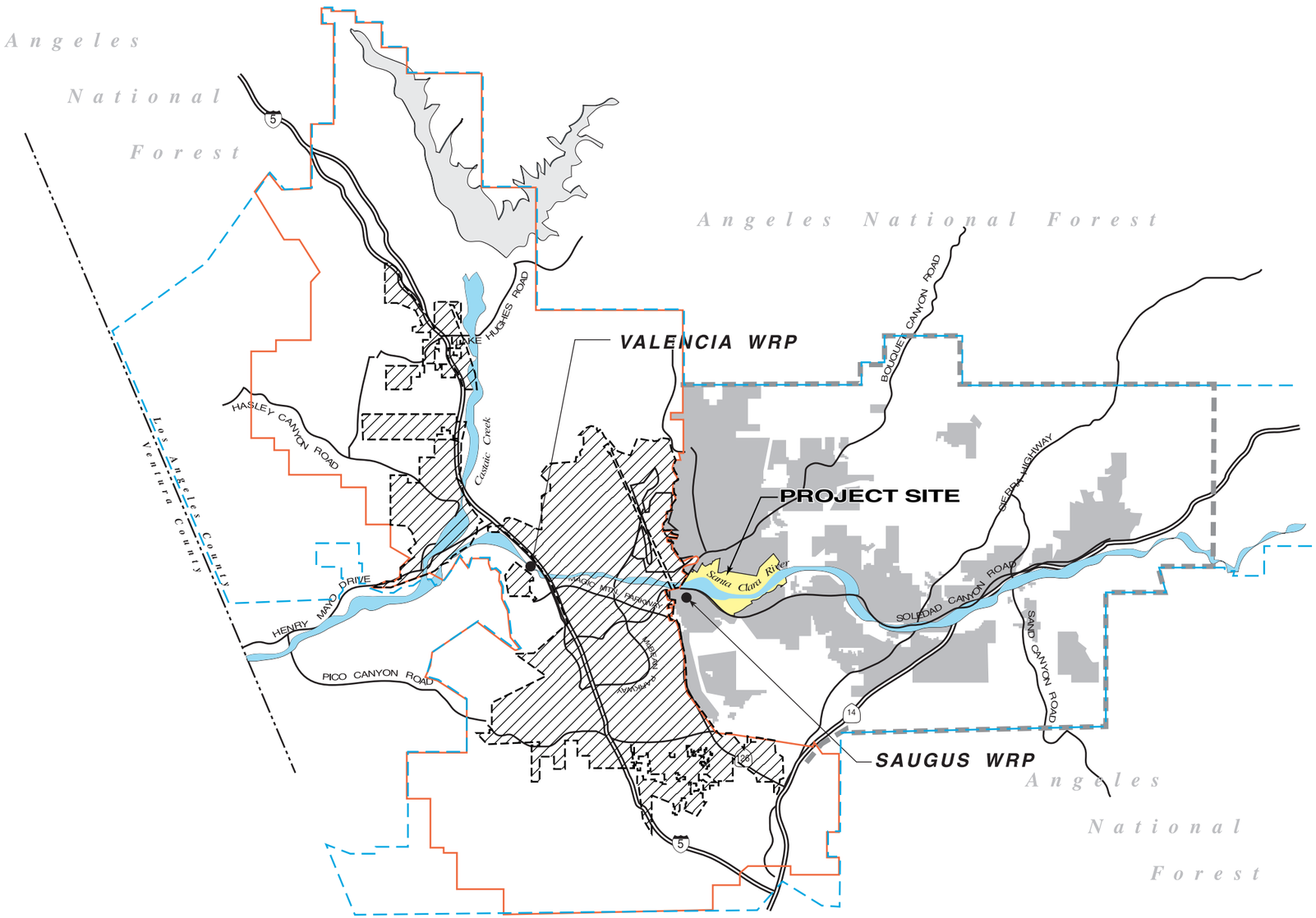
These two WRPs have been interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). The relationship between the two districts was established through a joint powers agreement that created the regional treatment system and permits the Valencia WRP to accept flows that exceed the capacity of the Saugus WRP.

Due to site space constraints, the Saugus WRP, completed in 1962, will not be expanded beyond its current permitted capacity of 6.5 mgd. In 2002, the Saugus WRP had an average monthly effluent flow of 5.60 mgd (6,294 AFY), which is approximately 86 percent of its permitted capacity. Effluent from the Saugus WRP contains about 723 milligrams per liter TDS (total dissolved solids) and is discharged to the Santa Clara River west of Bouquet Canyon Road.

The Valencia WRP, completed in 1967, has a current permitted capacity of 12.6 mgd. The ultimate planned capacity for the Valencia WRP is 27.6 mgd. In 2002, the average monthly effluent flow for the Valencia WRP was 12.11 mgd, which is approximately 96 percent of its current permitted capacity. Effluent from the Valencia WRP is discharged to the Santa Clara River west of The Old Road.

It should be noted that the Newhall Ranch Specific Plan proposes a new 6.9 mgd WRP on the Newhall Ranch site to exclusively serve the Specific Plan. The proposed Newhall Ranch WRP would be located near the western edge of the Specific Plan site along the south side of State Route 126 (SR-126). Effluent from the proposed Newhall Ranch WRP would be used to partially meet non-potable water demands within the Specific Plan site.

For further information regarding use of reclaimed water from the existing WRPs and the proposed Newhall Ranch WRP, please refer to the section below.



LEGEND

- Project Site
- County Sanitation District No. 32 Sphere of Influence Boundary as Adopted by the Local Agency Formation Commission on April 24, 2002
- Projected Service Area for the 2015 Plan
- County Sanitation District No. 26
- County Sanitation District No. 26 Current Sphere of Influence
- County Sanitation District No. 32 *Previous Sphere of Influence*

NOT TO SCALE

SOURCE: Impact Sciences, Inc. – November 2003

FIGURE **4.8-12**

Existing Water Reclamation Plants and Sanitation Districts

112-16•01/04

2. WATER SUPPLIES AND DEMAND IN THE SANTA CLARITA VALLEY

a. Preface

This section provides important regional information regarding available water sources for the Santa Clarita Valley, including the project site. The section summarizes two important aspects of the water picture, which provide context to the water supply and demand analysis of the project. First, the section summarizes the existing and planned future water supplies for the Castaic Lake Water Agency (CLWA) service area, including the project site. Second, the section summarizes the historic, existing and projected water demands within the CLWA service area.

Historically, local groundwater extracted from the Alluvial Aquifer and Saugus Formation has been the primary source of water in the Santa Clarita Valley. However, since 1980, local groundwater supplies have been supplemented with imported water from the SWP. These current water supplies are described in this section.

This section also briefly describes the groundwater resources of the Santa Clarita Valley and SWP water supplies, including reclaimed water, groundwater banking supplies, water transfers and desalted water. In addition, in recent years, water conservation has become an increasingly important factor in water supply planning. In a dry year (i.e., a year of below average rainfall) following a year of average or normal rainfall, experience in the Santa Clarita Valley indicates that the demand for water typically increases by approximately 10 percent. For example, in a dry year a homeowner may notice that his or her lawn is drying out during the winter months, a time of year when people normally decrease lawn sprinkler use to take advantage of winter rains. In response, the homeowner increases sprinkler use in the winter to compensate for reduced rainfall. This type of action causes water demand to increase in a dry year when compared with years of average or above average rainfall. Conservation planning is a required component of the UWMP prepared by the water purveyors in the Santa Clarita Valley. Water purveyors expect that during a critical dry year, or during a prolonged drought, water demand can be reduced by up to 20 percent below the single dry year demand. This is due to the fact that during such critically dry periods, purveyors are able to enact voluntary and mandatory water conservation programs (however, this analysis conservatively assumes that critical dry year demand would decrease by 10 percent below dry year demand). This section describes the UWMP's current drought contingency planning for the Santa Clarita Valley.

b. Local Groundwater Supplies

Prior to 1980, local groundwater extracted from the Alluvial Aquifer and the Saugus Formation was the primary water source for the Santa Clarita Valley. The current capacities and future potential of these Aquifers are discussed below, including the reliance on these sources during drought periods. The groundwater information presented below is based on: (a) a report prepared by Slade entitled, 2001 Update Report Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, dated July 2002; (b) a 2-volume report prepared by Richard C. Slade & Associates (Slade) entitled, Hydrogeologic Investigation of the Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita Valley of Los Angeles County, California, dated December 1986; (c) a 2-volume report prepared by Slade entitled, Hydrogeologic Assessment of the Saugus Formation in the Santa Clarita Valley of Los Angeles County, California, dated February 1988; (d) a technical memorandum prepared by Slade, dated November 16, 2000; (e) a letter from Joseph C. Scalmanini, Luhdorff and Scalmanini Consulting Engineers, dated December 15, 2000, regarding review of the groundwater components of the UWMP; (f) a report prepared by Slade entitled, Assessment of the Hydrogeologic Feasibility of Injection and Recovery of Water in the Saugus Formation, Santa Clarita Valley, California, dated February 2001, including the Technical Appendix by Slade entitled, Hydrogeologic Conditions in the Saugus Formation, Santa Clarita Valley, California, February 2001; (g) a report prepared by CH_2MHill entitled, Newhall Ranch ASR Impact Evaluation, dated February 2001; and (h) a report prepared by CH_2MHill entitled, Newhall Ranch Updated Water Resources Impact Evaluation, dated September 2002.

As stated above, the groundwater basin underlying the CLWA service area consists of two aquifers comprised of the Alluvial Aquifer and the deeper underlying Saugus Formation (See previous, **Figure 4.8-4**). The two aquifers occupy approximately 84 square miles in the central portion of CLWA's service area.

The geologic sediments in the Alluvial Aquifer and the underlying Saugus Formation have been assessed according to their relative water-bearing characteristics. The term "water-bearing characteristics" means the relative ability of the geologic materials to contain, transmit and yield groundwater to wells. As such, two geologic divisions are recognized in the Santa Clarita Valley: a water-bearing sediment group and a nonwater-bearing rock group. Depending upon water levels, the water-bearing sediments are capable of becoming saturated, which allow the sediments to provide water that can be extracted by pumping through wells. As such, the sediments in these aquifers constitute the "groundwater reservoir" in the Santa Clarita Valley.

The water-bearing sediments have been penetrated to various depths by numerous water wells in the region and historically have provided virtually all of the groundwater extracted in the Santa Clarita Valley. Underlying the water-bearing sediments is the relatively impermeable, nonwater-bearing bedrock.

Figure 4.8-4 illustrates the water-bearing sediments in the Alluvium (shown as map symbol, Qal), in the terrace deposits (shown as Qt) and in the geologically older sediments known as the Saugus Formation (shown as QTs). For the most part, the water-bearing sediments are geologically younger, more permeable, less consolidated and less structurally deformed than the underlying relatively impermeable, nonwater-bearing bedrock.

(1) Alluvial Aquifer

The water-bearing sediments in the Santa Clarita Valley consist of the alluvial or valley fill deposits that underlie the Santa Clara River and its tributaries. Typically, the Alluvial Aquifer tends to be the deepest along the central portion of the river, and thins or pinches-out as the flanks of the adjoining hills are approached. The maximum thickness of the Alluvial Aquifer varies in the Santa Clarita Valley, but is generally considered to be approximately 200 feet. (Slade 2002) The Alluvium is able to produce good quality water where saturated.

Groundwater present in the alluvial deposits in the Santa Clarita Valley is unconfined. Natural sources of recharge to the Alluvium include deep percolation of direct precipitation; infiltration of stream runoff flowing into the valley along the Santa Clara River and its tributaries; subsurface inflow from the adjoining (upgradient) portions of the Alluvial Aquifer to the north and east of the Santa Clarita Valley; and discharge of groundwater from the Saugus Formation to the Alluvial Aquifer on the west side of the Santa Clarita Valley.

Man-made sources of recharge to the Alluvial Aquifer include deep percolation of irrigation seepage; percolation of stormwater runoff from urban areas; percolation of surface flow and underflow from Castaic Dam in the Castaic Creek area; percolation of water released by the Los Angeles Department of Water and Power from its reservoir facilities in Dry Canyon and upper Bouquet Canyon; and percolation of discharges to the Santa Clara River from the existing WRPs.

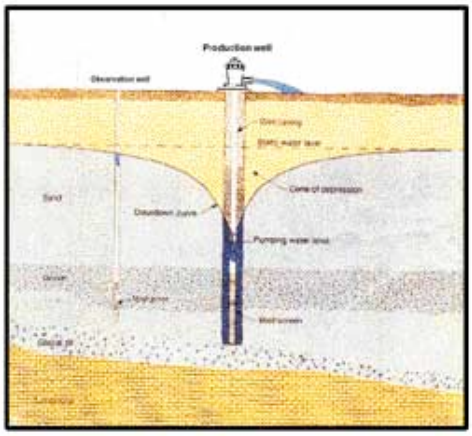
Outflow or discharge from the Alluvial Aquifer occurs by water well extractions. Additional discharge occurs by subsurface outflow through the Alluvial Aquifer to the downstream Piru groundwater basin to the west, and by seepage to underlying permeable portions of the Saugus Formation, particularly in the

eastern portion of the basin. Discharge also occurs by evapotranspiration in areas where deep-rooted riparian vegetation grows along the main Santa Clara River channel, particularly along the western reach of the river.

Available aquifer test data from alluvial wells indicate that the Alluvial Aquifer is unconfined (i.e., Aquifer is under water table conditions). Transmissivity values range from 35,000 to over 400,000 gallons per day per foot and specific yield values range from about 0.09 to 0.16. (Slade 1986)

As to the municipal-supply water well extraction from the Alluvial Aquifer, the Newhall County Water District (NCWD), the Santa Clarita Water Division of CLWA (SCWD) (formerly the Santa Clarita Water Company), Valencia Water Company (VWC) and the Wayside Honor Rancho (WHR) own and operate municipal-supply wells and extract water from this Aquifer. The Newhall Land and Farming Company also owns and operates private agricultural-supply wells and extracts water from this Aquifer.[11] **Figure 4.8-13** illustrates a typical well configuration.

Figure 4.8-13
Typical Well Configuration



Groundwater levels in the Alluvial Aquifer have varied over the period of available record, reflecting changes in pumping and variations in the amount of recharge and discharge.[12] Because of the generally high permeability of the Alluvium and the hydraulic interrelationship between the Alluvial Aquifer and

11 The wells identified above do not include pumping of water from this aquifer by other privately-owned industrial, agricultural, ranch or domestic-supply wells. Production of water from these other wells is estimated to be 500 AFY.

12 Available records generally extend back to the 1950s, with some data available from about 1930 to 1947.

the Santa Clara River and its tributaries, groundwater levels may rapidly fluctuate over the course of a year, and, to a large degree, in response to precipitation, runoff and groundwater pumping.

The amount of groundwater in storage in the Alluvium can vary considerably because of the effects of recharge and discharge from the Aquifer. Slade (2000) has estimated the historic quantity of water stored in the Alluvial Aquifer at 240,000 acre-feet following periods of high rainfall. The historical annual production of the Alluvial Aquifer is estimated to be between 30,000 to 40,000 AFY in normal/average rainfall years (Slade 2000; Scalmanini 2000). During dry years, the Alluvial Aquifer production should be reduced to the range of 30,000 to 35,000 AFY. (Slade 2000)

Based on the results of Slade (1986, 2000), and the operating experience of the Santa Clarita Valley water purveyors, Scalmanini (2000) addressed the sustainable yield of the Alluvial Aquifer and found that the range of pumping from the Alluvial Aquifer (30,000 to 40,000 AFY in normal/average years, and 30,000 to 35,000 AFY in dry years) is consistent with studies of the Aquifer and the successful operating experience of the Aquifer over the last 50 years:

> *"[T]he Alluvium has been managed within its perennial yield,[13] while pumping in the broad range of nearly 20,000 AFY to more than 42,000 AFY. Although there have been seasonal and longer term intermittent lowering of ground-water levels in response to both variations in pumping and variations in precipitation (and associated recharge), the long-term trend in Alluvial ground-water levels has been stable, with no persistent trend toward lower water levels and associated depletion of ground-water storage. While the cited ranges for Alluvial pumpage in various year-types suggest that, overall, the average extraction will be greater than the perennial yield reported by Slade in 1986, recent high Alluvial pumping and sustained high ground-water levels suggest that an updated perennial yield analysis would result in a higher value of perennial yield than that reported by Slade nearly 15 years ago. Ultimately, however, the exact number is not as important as operating in a range of production that does not cause undesirable results such as chronic ground-water level decline; [and] the ranges cited in the UWMP would certainly fit that criterion. In any case, in light of the range of historical pumping from the Alluvium and the lack of any chronic ground-water level depression as a result of that pumping, it appears sound to plan on long-term ground-water supplies from the Alluvium in the general ranges of pumping included in the UWMP, which are consistent with what has been successfully practiced over the last 50 years." (Emphasis added) (Scalmanini 2000)*

This information indicates that use of the Alluvium has occurred without adverse affects such as long-term water level decline or degradation of groundwater quality. The current management practice of the Santa Clarita Valley water purveyors is to prioritize the use of the Alluvial Aquifer because of the Aquifer's ability to rapidly recharge, store and produce good quality water on an annual basis. Like most

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13 Perennial yield is defined as the maximum quantity of water that can be withdrawn annually from a groundwater resource under a given set of conditions without causing an undesirable result. The phase "undesirable result" is understood to refer to a gradual lowering of the groundwater levels resulting eventually in depletion of the supply, subsidence, increased energy costs, desiccated wetland or degraded water quality. Source: California Groundwater Management, Groundwater Resources Association of California, Steve Bachman, Carl Hauge, Kevin Neese, Anthony Saracino.

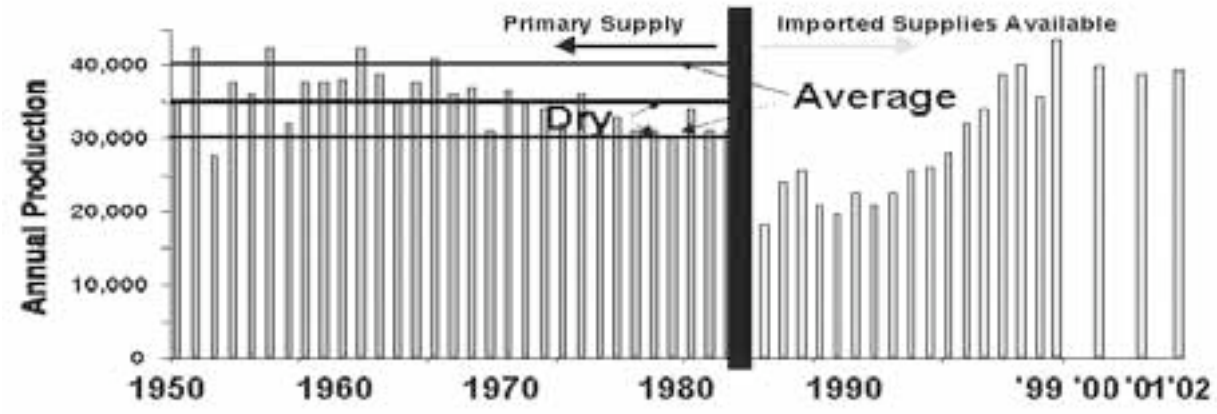
groundwater basins, it is possible to intermittently stress the Alluvial Aquifer (i.e., pump in excess of the perennial yield value for one or more years without long-term adverse effects). Short-term withdrawal in excess of the perennial yield may temporarily lower groundwater levels, however, subsequent decreases in pumping and natural recharge results in a rapid return of groundwater levels and associated refilling of groundwater storage with no harm to the resource. Historical groundwater data collected from the Alluvial Aquifer over many hydrologic cycles demonstrate that groundwater elevations return to normal in average or wet years following periods of abnormally low rainfall.

(a) Historical and Current Conditions of the Alluvial Aquifer

Over the last 50 years, groundwater production from the Alluvial Aquifer has ranged from 20,000 AFY to more than 40,000 AFY. Since the introduction of SWP supplies to the CLWA service area, total pumpage from the Alluvial Aquifer has ranged from a low of about 20,000 AFY (in 1983) to a high of 43,000 AFY (in 1999); average pumpage from the Alluvium over that period has been 28,500 AFY. Agricultural pumpage of the Aquifer throughout the 1950s was consistently in the range of 33,000 AFY to 41,000 AFY. (2002 Santa Clarita Valley Water Report, p. 15)

Figure 4.8-14 depicts historical Alluvial Aquifer groundwater production from 1950 to 2002. The historical data and all technical information indicate that the Alluvial Aquifer is in good operating condition. The data and related information show that the Alluvial Aquifer has produced annually up to 43,000 AFY without any undesirable results (such as long-term water level declines or degradation of the water quality).

Figure 4.8-14
Historical Groundwater Production – Alluvial Aquifer



(b) Groundwater Levels in the Alluvial Aquifer

Based on available data, the groundwater levels over the last 20 years are generally higher than over the preceding 30 years. In some locations of the Alluvial Aquifer, there are intermittent dry-period declines (and an associated use of some groundwater from storage) followed by wet-year recoveries (and associated refilling of storage space). On a long-term basis, whether over the last 23 years since importation of supplemental SWP water, or over the last 40 to 50 years (since the 1950s–60s), the Alluvial Aquifer shows no trend toward decreasing water levels or storage decline (i.e., overdraft). Based on the available data, pumpage from the Alluvial Aquifer has been and continues to be within the operational yield of the aquifer. (2002 Santa Clarita Valley Water Report, pgs. 16 and 17)

(c) Groundwater Flows in the Alluvial Aquifer

In general, groundwater movement in the Alluvium beneath the side canyons is toward the east-west trending Santa Clarita Valley and then westward in the Alluvium toward the Los Angeles County/Ventura County line. This general pattern of groundwater flow in a westerly direction remains unchanged whether groundwater levels are high or intermittently depressed. This finding is based on an examination of Aquifer extent and historical groundwater levels. Long-term stream flow data gauged near the County line shows notably higher flows from the Santa Clarita Valley into the uppermost downstream basin, the Piru Basin, over the last 30 to 35 years. (2002 Santa Clarita Valley Water Report, page 29 and Figure III-6)

(d) Water Quality in the Alluvial Aquifer

Total Dissolved Solids: The principal water quality concern in waters from the Alluvial Aquifer is total dissolved solids (TDS). TDS concentrations in the Alluvial Aquifer typically range from 400 to 700 milligrams per liter (mg/l), and the water is considered moderately hard to hard. Groundwater quality variations also inversely correlate with precipitation and stream flow: Wet periods have produced substantial recharge of higher quality water (low TDS) and dry periods have resulted in an increase in TDS (and individual component constituents) in the deeper parts of the aquifer.

Ammonium Perchlorate: The water purveyors have tested municipal-supply water wells in the Alluvial Aquifer in response to claims that groundwater supplies in the Alluvium are contaminated from ammonium perchlorate. Perchlorate is used in the manufacture of rocket propellants, munitions and fireworks. The alleged source of perchlorate is a facility in the Santa Clarita Valley known as the Whittaker-Bermite site. Each local water purveyor regularly collects groundwater samples from the

numerous municipal-supply wells in the Alluvial Aquifer. In 2002, as part of ongoing monitoring of wells for perchlorate contamination, perchlorate was detected in one Alluvial well located near the former Whittaker-Bermite facility that has been the primary focus of potential perchlorate contamination that has impacted four Saugus wells since 1997. The detected concentration at the Alluvial well (up to 5.9 ug/l) slightly exceeded the Action Level for perchlorate (4 ug/l) and the well has been inactivated for municipal water supply. All other Alluvial wells operated by the Purveyors continue to be used for municipal water supply service (2002 Santa Clarita Valley Water Report, p. 17). The wells will continue to be sampled, tested and monitored for possible detection of perchlorate, and any other contaminants. The sampling, testing and monitoring of the numerous municipal-supply wells in the Alluvial Aquifer actually serve as an early warning device for the possible detection (and ultimate treatment) of perchlorate and other contaminants. For further information regarding perchlorate and other contaminants in the Santa Clarita Valley's other Aquifer, Saugus Formation, please refer to the section below.

(2) Saugus Formation

Underlying the Alluvial Aquifer in the main portion of the Santa Clarita Valley and extending to the surrounding foothills is the Saugus Formation. The Saugus Formation contains lenticular[14] and interfingered[15] beds of poorly- to well-consolidated sandstone, conglomerate, and siltstone that are at least 5,000 feet thick in the deepest part of the basin. The degree to which these beds are laterally continuous is unknown. However, interpretations of geophysical electric log data by Slade (2000) indicates that some more permeable sand zones may be laterally continuous from one end of the basin to the other. The deepest and oldest portion of the Saugus Formation was deposited in a marine environment (the Sunshine Ranch member) and consists of siltstone, shale, and fine-grained sandstone of low permeability.

Faulting and folding of the rocks in the region have caused the sedimentary rocks, including the Saugus Formation, to form a bowl-shaped structure. The Saugus Formation and the underlying bedrock dip generally toward the center of the "bowl" from all locations along the bottom (basal) contact of the Saugus Formation.

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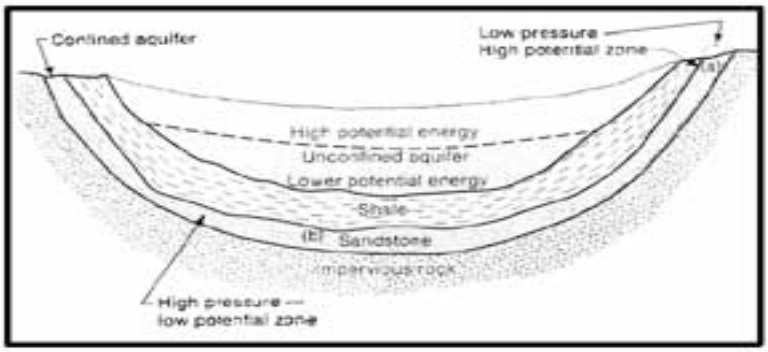
14 Lenticular: Shaped approximately like a double convex lens. When a mass of rock thins out from the center to a thin edge all around, it is said to be lenticular in form.

15 Interfinger: To grade or pass from one material into another through a series of interlocking or overlapping wedge-shaped layers.

Dominating the geologic structure in the project area is the northwesterly-trending San Gabriel Fault. A spur from this fault, referred to as the Holser Fault, trends west through the project area. South of the Faults, the Saugus Formation is thickest and this is the area where the majority of Saugus municipal water wells are located. North of the San Gabriel Fault, the Saugus Formation is older, thinner and finer grained than south of the Fault. Little groundwater development has occurred north of the San Gabriel Fault.

The Saugus Formation is recharged by two principal sources: (1) deep percolation of precipitation in the exposed portions of the Saugus Formation in the highlands surrounding the valley, and (2) seepage from the Alluvial Aquifer along the Santa Clara River and its tributaries, particularly on the eastern end of the Santa Clarita Valley. Minor recharge may also occur in limited areas through irrigation seepage where the land overlying the Saugus is cultivated. In the eastern part of the Santa Clarita Valley, the Saugus Formation is underlain by older, relatively impermeable rocks of the Castaic Formation and Mint Canyon Formation, which form the bottom and sides of the "bowl-shaped" Saugus structure. Little, if any, groundwater exchange occurs between these formations and the Saugus Formation (see **Figure 4.8-15**).

Figure 4.8-15 Cross Section of Groundwater Basin



The amount of water-bearing sediments in the Saugus Formation is substantial. Slade (2002) estimated that the amount of water stored in the Saugus Formation is approximately 1.65 million acre-feet. A determination of the perennial yield of the Saugus Formation has not been made because information on the Aquifer characteristics is limited. However, for planning purposes, the annual production of the Saugus Formation is estimated to be between 7,500 to 15,000 AFY in normal/average years and 21,000 to 35,000 AFY in dry years. (Slade 2000)

Discharge from the Saugus Formation occurs in part through groundwater extraction from wells as deep as 2,000 feet. Discharge from the Saugus Formation also occurs at the west end of the valley (west of the I-5 bridge) where Saugus groundwater is known to discharge to the Alluvial Aquifer. This discharge of

groundwater from the Saugus Formation into the Alluvial Aquifer is promoted in this area by the presence of older and relatively impermeable rocks of the Pico Formation that underlie and form the western boundary of the Saugus Formation (where they are exposed at the ground surface). These older rocks of the Pico Formation form a barrier to groundwater flow and force Saugus groundwater to discharge upwards into the Alluvial Aquifer approximately 2.5 miles upstream of the county line (refer to the previously presented **Figure 4.8-6**).

As a result of the folding of the Saugus, Pico, and Mint Canyon Formations in the Santa Clarita Valley, permeable sand layers in places within the Saugus Formation are oriented so that they are in direct connection with the overlying Alluvial Aquifer. Consequently, recharge to the Saugus may be greatest in these areas, particularly on the east side of the Santa Clarita Valley. Also, discharge to the Alluvium is enhanced where permeable sand layers of the Saugus are contacting the Alluvial Aquifer on the western end of the Santa Clarita Valley where the Saugus discharges.

Available Aquifer test data from Saugus wells located near the center of the Santa Clarita Valley where the Saugus is thickest indicate that the Saugus is semi-confined (under pressure). Transmissivity values range from 80,000 to 160,000 gallons per day per foot and storativity values are on the order of 10^{-3} to 10^{-4}. In areas where the Saugus crops out, the uppermost-saturated zones are partially unconfined because the permeable beds are folded upwards. In the highlands, the Saugus beds are exposed at the ground surface, and in the valley the Saugus beds are in contact with the Alluvial Aquifer.

Based on the results of Slade (1988, 2000), and the operating experience of the water purveyors, Scalmanini (2000) undertook an independent review of the information regarding the Saugus Formation, and concluded that:

> *"The Saugus Formation is the more difficult of the two aquifers in the area to assess, both in terms of dry period water supply and long-time dependability, primarily because there is no historical operating experience in the range of dry-year Saugus pumping cited in the UWMP. The memorandum in Appendix C [Slade 2000] includes a brief discussion of historical pumpage (up to a maximum of nearly 15,000 AFY, and an average of slightly more than 7,000 AFY over the last 20 years), limited historical water levels (no long-term change or other evidence of overdraft, with current levels comparable to pre-development levels), and ground-water storage (on the order of one million AF in storage in the depth zone of 500 to 2,500 feet). Based on these conditions and a couple of other considerations (large areal extent and substantial vertical depth of the Saugus, and typically deep well completions with sufficient available drawdown in wells), it is concluded that it is hydrogeologically feasible to increase pumpage from the Saugus for short-term periods in a ramped manner from 15,000 to 25,000 to 40,000 AFY. The memorandum is not specific with regard to pumping outside the "short-term" periods when pumpage might be increased; however, it implies that increased pumpage would occur only during dry periods, and that pumpage would decline to lower values in wet and normal period such that the long-term stability in water levels and storage discussed in the memorandum would be maintained." (Emphasis added) (Scalmanini 2000)*

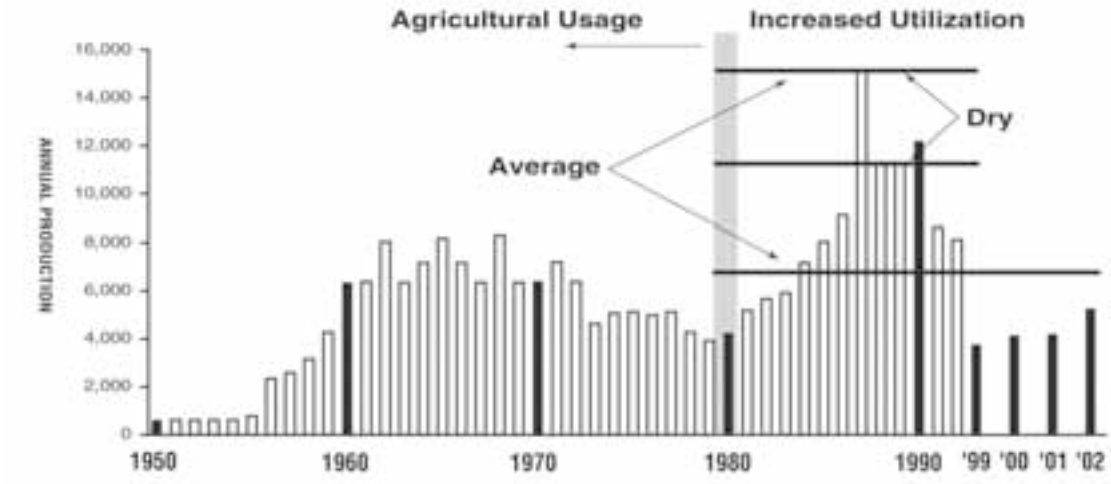
Focusing on the projected groundwater supplies depicted in the UWMP and whether those supplies were "realistic" under average and dry year conditions, Scalmanini (2000) concluded that:

> *"[B]oth the Alluvium and the Saugus are reasonable and sustainable sources at the yields represented in the Plan. As such, those yields are not overstated and will not deplete or "dry up" the ground-water basin; and there is no need to 'reduce' them for purposes of planning within the context of an Urban Water Management Plan." (Scalmanini 2000)*

(a) Historical and Current Conditions of the Saugus Aquifer

From 1980 through 2002, total pumpage from the Saugus Formation has ranged from a low of about 3,850 AFY in 1983 to a high of nearly 15,000 AFY in 1991. Average pumpage over that period has been nearly 6,800 AFY (2002 Santa Clarita Valley Water Report). Slade has estimated that the historical annual production of this Formation is 7,500 AFY to 15,000 AFY. (Slade 2000) **Figure 4.8-16** depicts the historical groundwater production from the Saugus Formation from 1947 to 2002.

Figure 4.8-16
Historical Groundwater Production from the Saugus Formation from 1947 to 2002



Wells drilled into the Saugus Aquifer south of the San Gabriel Fault are anticipated to produce 1,500 to 2,000 gallons per minute, from a depth of 1,500 to 2,500 feet.

(b) Groundwater Levels of the Saugus Aquifer

Although there have been seasonable water level changes, in response to groundwater pumping, the long-term trend in the Saugus Aquifer (over the last 35 to 40 years) shows relatively stable groundwater levels (2002 Santa Clarita Valley Water Report [Figure III-3]). There is no trend toward a sustained decline in Saugus water levels or storage, which would be indicative of overdraft conditions. On that basis, and with recognition that historical (pre-1980) pumpage was quite small, and that average pumpage over the last two decades has been less than the reported range of potential recharge to the Saugus Aquifer, pumpage from the Saugus Aquifer has been and continues to result in the long-term stability of water levels and storage capacity.

Scalmanini (2000) has concluded that it is feasible to increase pumping from the Saugus for short-term periods in a ramped manner from 15,000 AFY to 25,000 AFY to 40,000 AFY based on: (a) historical pumping data; (b) the amount of groundwater in storage (on the order of 1.4 million acre-feet in the depth zone of 500 to 2,500 feet); (c) the areal extent and substantial vertical depth of the Saugus; and (d) typically deep-well completions with sufficient available drawdown in the wells. The increased pumping from the Saugus would occur in dry periods, and the pumping would decline to lower values in wet and normal/average periods, to allow for recharge, such that the long-term stability in groundwater levels and storage would be maintained.

Based on work from Slade (2000) and Scalmanini (2000), the Purveyors estimate (2002 Santa Clarita Valley Water Report) that water supplies from the Saugus Formation can be withdrawn up to approximately 21,000 to 35,000 AFY in dry years, without any adverse effects, for short-term periods. It is also projected that the drilling of additional wells in the Saugus would be required to obtain these production levels for future water supplies (2002 Santa Clarita Valley Water Report).

(c) Groundwater Flows of the Saugus Aquifer

Groundwater movement in the Saugus Aquifer is toward the center of the valley from the highlands and then toward the western end of the Santa Clarita Valley where it discharges naturally into the Alluvial Aquifer.

(d) Water Quality Of The Saugus Aquifer (Including Perchlorate)

TDS/Ammonium Perchlorate. The primary water quality concerns in waters from the Saugus Aquifer are TDS and perchlorate detection.

TDS. The total dissolved solids (TDS) concentration of Saugus Formation groundwater typically ranges from 500 to 900 mg/l. The California Secondary Maximum Contaminant Level (SMCL) is expressed as a range with the midpoint or (upper) level for TDS being 1000 mg/l. No fixed consumer acceptance contaminant level has been established for TDS.

On behalf of Valencia Water Company, Richard C. Slade & Associates re-examined all available TDS data from Saugus Formation water wells in the Santa Clarita River Valley, as part of a May 2000 presentation to the California Public Utilities Commission (PUC). The PUC conducted a full evidentiary hearing on this and other issues relating to the Water Management Plan prepared by the Valencia Water Company. The original laboratory data were used to recalculate TDS using a more standard, additive method described in a United States Geological Survey report by Hem (1992). These data were then compared to historic pumping and water level records to look for any discernible trends in TDS concentrations over time, and to examine if these trends were related to changes in groundwater production.

The results of that evaluation revealed that although there has been a slight increase in TDS levels in most Saugus Formation wells in the past 40 years, this increase could not be correlated with increased groundwater production. In fact, there is some evidence that TDS concentrations actually dropped during the period of greatest Saugus Formation groundwater production.

Ammonium Perchlorate. As stated above, perchlorate is used in the manufacture of solid rocket propellants, missiles and fireworks. Sources of drinking water have been contaminated by perchlorate in areas in which such manufacturing has occurred. The primary human health concern related to perchlorate is that it can interfere with the thyroid gland's ability to utilize iodine to produce thyroid hormones, which are required for normal body metabolism, as well as growth and development. Perchlorate in very high doses has been used in medicine in the treatment of Graves' disease, a condition in which excessive amounts of thyroid hormone are produced.

Because perchlorate historically has not been considered a common drinking water contaminant, there are currently no federal or state drinking water standards regulating perchlorate. However, in September 2002, Senate Bill (SB) 1822 was passed. The law required the State Office of Environmental Health Hazard Assessment to perform a perchlorate risk assessment and adopt a perchlorate public health goal by January 1, 2003. SB 1822 also required the State Department of Health Services (DHS) to adopt a primary drinking water standard for perchlorate by January 1, 2004. However, the adoption of a public health goal has been delayed until later in 2004 so further research can be completed by the National Academy of Sciences.

DHS previously established an initial provisional "action level" for water utilities in the event that perchlorate is detected in an amount exceeding 18 parts per billion (ppb) or micrograms per liter (ug/l). Data from DHS showed that perchlorate concentrations lower than 18 ppb were not considered to pose a health concern for the public. In January 2002, based on draft health risk evaluations released by the U.S Environmental Protection Agency (EPA), DHS reduced the perchlorate action level to 4 ppb.

In January 1999, DHS adopted a regulation identifying perchlorate as an unregulated chemical for which monitoring is required.[16]

The alleged source of perchlorate detected in the Saugus Aquifer is a facility in the Santa Clarita Valley known as the former Whittaker-Bermite facility.[17] Perchlorate has been detected in four wells in the eastern part of the Saugus Aquifer, near the former Whittaker-Bermite facility. It has been suggested by a local environmental group that the detection of perchlorate in the Saugus Aquifer dramatically limits or precludes its usefulness as a local water supply source and that reports prepared by the water purveyors "overestimate" groundwater supplies by not properly accounting for perchlorate detected in certain wells in the Saugus Aquifer. As discussed below, the water purveyors in Santa Clarita Valley have reported the existence of perchlorate in the Saugus Aquifer for several years, and, based on the information provided below, the Saugus Aquifer remains an important and viable groundwater resource for the Santa Clarita Valley. Due to the high value of this local water resource, the purveyors have placed a high priority on replacing the impacted groundwater extraction capacity by installing wellhead treatment and the construction of new wells.

The CLWA Draft Integrated Water Resources Plan (IWRP), dated February 1998, the 1998, 1999, 2000, 2001, and 2002 Santa Clarita Valley Water Reports and the UWMP 2000 have disclosed that perchlorate was detected in certain specified wells in the Saugus Aquifer. Since 1997, groundwater samples have been collected from at least 12 municipal-supply water wells in the Saugus Aquifer for purposes of conducting laboratory testing for perchlorate. Based on laboratory test results, and additional information obtained by the water purveyors, four Saugus Formation municipal-supply wells (and one Alluvial well) located near the Whittaker-Bermite facility have been voluntarily placed on inactive status due to perchlorate detection. The location of the active and inactive wells is illustrated in **Figure 4.8-17**. The eight other Saugus wells in the area are active and available for use.

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16 "Unregulated" refers to the absence of a drinking water standard, or maximum contaminant level (MCL). DHS has advised water utilities about required and recommended actions to be taken if the "action level" is exceeded, including notices to local agencies and water utility customers. For further information regarding DHS action related to perchlorate, please refer to DHS's internet website located at http://www.dhs.cahwnet.gov/, and, specifically, http://www.dhs.cahwnet.gov/ps/ddwem/chemicals/perchl/actionlevel.htm.

17 Please refer to Plate 1 in the report prepared by Richard C. Slade & Associates entitled, Hydrogeologic Conditions in the Saugus Formation, Santa Clarita Valley, California, February 2001. The report may be found in **Appendix 4.8** of this report.

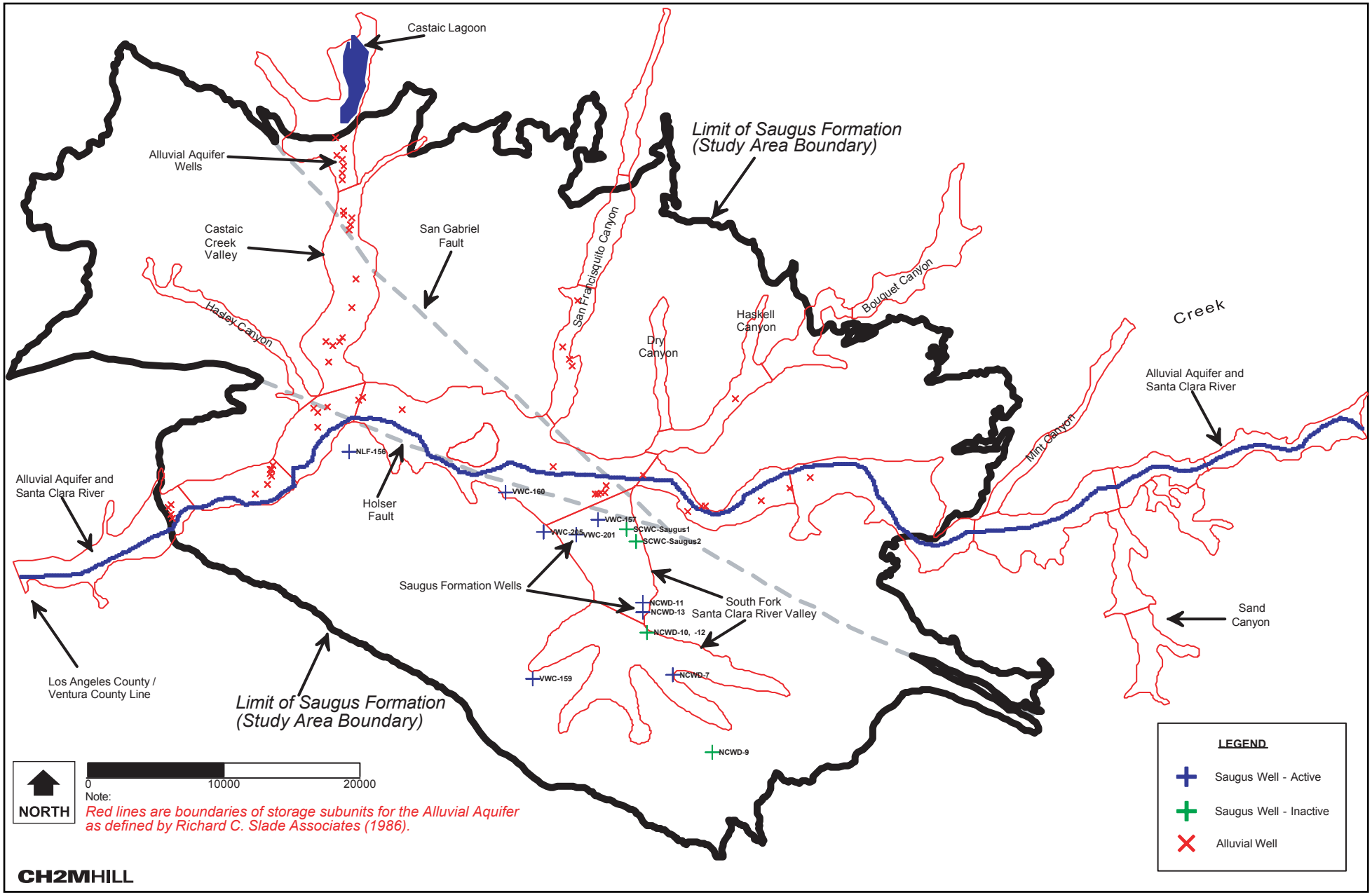

FIGURE **4.8-17**

Active and Inactive Groundwater Well Locations–Santa Clarita Valley

112-16•11/03

The testing of the impacted municipal-supply wells has occurred over time. For example, testing of Newhall County Water District (NCWD) Well No. 11 showed perchlorate concentrations ranging between 9.9 and 23 ppb between May 1997 and October 2000. This well is currently on inactive operational status, and NCWD has voluntarily refrained from using the well since 1998. The testing of Valencia Water Company (VWC) Well No. 157 between 1997 and 2000 also showed perchlorate concentrations ranging from not-detected to 14 ppb. This well is also currently on inactive operational status, and VWC has voluntarily refrained from using the well since 1997. Finally, the testing of Santa Clarita Water Division of CLWA's (SCWD) Saugus-1 and Saugus-2 wells in 1997 and 1998 revealed perchlorate concentrations ranging from 16 and 42 ppb in Well Nos. 1, and 12 and 45 ppb in Well No. 2. Neither of these two wells is currently being pumped.

Results of ongoing laboratory testing of all other active Saugus Formation municipal-supply wells have shown non-detect concentrations of perchlorate. VWC Well Nos. 201, 205 and 160 were sampled and analyzed for perchlorate in June 2003, with all samples returning not-detected results. In addition, VWC sampled all of its Alluvial Aquifer municipal-supply wells in June 2003, and all samples had non-detect results. NCWD's active Saugus Formation water wells were all tested for perchlorate in October 2000 and in October 2002, with all samples returning not-detected results. Slade has reported that the Saugus Aquifer is and will continue to be a viable source of water supply for the water purveyors in the Santa Clarita Valley as long as efforts remain in place to treat impacted wells on an interim basis to contain the plume.

As to groundwater production, the voluntary closure of 4 of the 12 Saugus municipal-supply wells is due, in part, to caution related to perchlorate; however, the water purveyors have limited their use of the Saugus Aquifer for other significant reasons as well. For example, the water purveyors are pumping water from wells in the shallower Alluvial Aquifer because the water is readily available, and because it costs less to pump water from the Alluvial wells when compared to pumping from the deeper Saugus Aquifer. In addition, SWP water has been available to local purveyors since 1980, making this imported water supply more readily available than in years prior to that time. SWP water is also less expensive than pumping from the Saugus Aquifer, making SWP water a more desirable source when available. The local water purveyors also have developed an overall strategy of maintaining the Saugus Aquifer as a firming supply for drought years in the event SWP supplies are curtailed.

In addition to the water purveyors' strategy regarding groundwater production from the Saugus Aquifer, in November 2000, CLWA, NCWD, SCWD and VWC filed suit against the current and prior owners of the former Whittaker-Bermite facility. The lawsuit requests that the current and prior owners pay all necessary costs of response, removal of the perchlorate contaminant, remediation action costs and other

damages associated with the contamination. Under federal and state law, the current and prior owners of that facility have the responsibility for the clean-up activities and costs.

In 2002, CLWA and the U.S Army Corps of Engineers also entered into an agreement to assess groundwater conditions in the Saugus Aquifer within the Eastern Santa Clara Basin. Funded by a $7 million appropriation from the Federal Government, $4 million of which has been earmarked for groundwater investigations related to perchlorate contamination in the Santa Clarita Valley, with matching funds from CLWA, the purpose of the study is to sufficiently characterize the condition of the Whittaker-Bermite site and evaluate long-term and interim solutions for clean-up of the contaminated soil and groundwater. The groundwater study will be implemented pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and related federal regulations.[18]

Other studies regarding the nature and extent of the perchlorate in the Alluvial and Saugus Aquifers have already commenced. In addition, the local water purveyors continue routine sampling of the existing wells. CLWA's board of directors also approved a project to perform pre-design services for treatment of groundwater to contain the perchlorate plume.

The current studies are still in their initial stages; however, based on the study results to date, there is no indication that perchlorate has impacted more than the original four Saugus and one Alluvial water supply wells. Concentrations of perchlorate have been detected in Alluvial monitoring wells near the Whittaker-Bermite site boundary and in shallow groundwater under the Saugus Metrolink site, but there is no evidence that these impacts have the potential to impact Alluvial and Saugus water supply wells.

The first phase of the remedial investigation of the Whittaker-Bermite site has been completed by the U.S. Army Corps of Engineers. The scope of work of the remedial investigation includes an evaluation of the nature and extent of impacted groundwater in the study area. As part of this effort, five monitoring wells were drilled on the site at varying depths. In a May 7, 2003 memorandum entitled, Remedial Investigation Technical Memorandum No. 1, Eastern Santa Clara Subbasin Groundwater Study, Santa Clarita, California was produced. The purpose of the memorandum is to convey relevant data and information to stakeholders to facilitate decision-making for subsequent phases of the investigation. It is not intended to be a comprehensive reporting of results obtained to date. A full report will be prepared upon completion of additional field activities and full data evaluation. During the Phase I effort,

18 CERCLA is found at Title 42 USC Section 9601 at sec. Related federal regulations are also found at 40 CFR Part 300.

perchlorate levels on the Whittaker-Bermite site itself have been found to range from 3 ug/l to as high as 58,200 ug/l. This Memorandum is herein incorporated by reference.

In addition, CLWA and the other retail water purveyors in the Santa Clarita Valley plan to perform clean-up activities at the impacted well sites using treatment technologies that have been approved by the Department of Health Services. As discussed below, in the past few years, much progress has been made in developing treatment methods capable of removing perchlorate from groundwater supplies.

Perchlorate Treatment Technology. Effective technologies presently exist to treat perchlorate in water in order to meet drinking water standards. In a publication from the U.S. Environmental Protection Agency (EPA), Region 9 Perchlorate Update, June 1999,[19] the EPA discussed the current state of perchlorate treatment technology, and the current and planned treatment development efforts being carried out as part of U.S. EPA Superfund program studies, U.S. Air Force research, water utility-funded studies, and the Federally funded research effort underway by the East Valley Water District, California and the American Water Works Association Research Foundation (AWWARF). The EPA also summarized two of the technologies that are in use today, which are capable of removing perchlorate from groundwater supplies. Each technology is discussed below, along with a brief summary of the specific application of each method used to remove perchlorate from groundwater supplies in the San Gabriel Valley.

Ion Exchange Method. The first of the two perchlorate-removal technologies receiving the most attention is ion exchange, in which the perchlorate ion is replaced by chloride, a chemically similar but nontoxic ion. Ion exchange processes have been used in homes and businesses for water softening for decades. Bench- and pilot-scale studies have demonstrated that ion exchange systems can reliably reduce perchlorate concentrations in San Gabriel Valley groundwater from approximately 75 ppb to below detectable levels. The studies have also provided valuable information on resin selection and regeneration, brine production, and cost that will guide the design and operation of full-scale systems.

The ion exchange treatment method has been approved by DHS for use in the San Gabriel Basin. In February 2001, DHS approved La Puente Valley County Water District's (LPVCWD) application to amend its domestic water supply permit. After considering a detailed engineering report, and overseeing a pilot program, DHS granted LPVCWD's application to amend its domestic water supply permit, and to operate two existing domestic water supply wells in the San Gabriel Basin for purposes of treating

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19 See, EPA Internet website, Perchlorate, and Region 9 Perchlorate Update, found at http://www.epa.gov/ogwdw/ccl/perchlor/perchlo.html.

perchlorate-contaminated water from the wells and providing the treated water to its customers for drinking and other domestic uses.[20]

LPVCWD's water treatment facility consists of pumping and treating perchlorate contaminated groundwater from two of its domestic-use wells. An ion separation (ISEP) unit will be used to remove the perchlorate. The ISEP process involves an ion exchange resin that is used to remove the perchlorate from the groundwater. The resulting perchlorate brine from the District's wellhead will be discharged from an existing line to either a new pipeline or the sanitary sewer system after obtaining appropriate permits from local agencies. The treatment has been demonstrated to produce final treated water to non-detect contaminate levels.

Biological Treatment Methods. To date, considerable effort has been directed at developing biological treatment methods for removing perchlorate from groundwater. In the biological treatment process, microbes destroy perchlorate by converting the perchlorate ion to oxygen and chloride. In most cases, nutrients must be added to sustain the microbes. Microbes have been used for decades in the treatment of drinking water supplies as part of a process known as slow sand filtration.

A six-month pilot-scale study of a biological process has been completed for the San Gabriel Basin, demonstrating the reduction of perchlorate from approximately 75 ppb to below detectable levels. The same process is being used in a recently constructed full-scale system at the Aerojet site in Northern California, where perchlorate concentrations exceed 1,000 ppb. A biological process also has been used to treat perchlorate-contaminated wastewaters resulting from the manufacture and maintenance of rocket motors, where perchlorate concentrations may exceed 500,000 ppb.

Biological treatment methods are believed to be capable of producing potable water, but additional testing must be completed to determine whether a biological process can reliably and cost-effectively produce drinking water-quality water. The necessary tests are planned for later this year, when a biological treatment system designed to produce potable water for use in the San Gabriel Valley will be in operation.

The San Gabriel Valley project involves the installation of not only the ion exchange technology to remove perchlorate, but also a second groundwater treatment system utilizing a biological process to remove perchlorate. The biological treatment train system will be constructed at LPVCWD's well site and

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20 A copy of LPVCWD's Water Permit Amendment (No. 04-16-01 PA-000), dated February 15, 2001, along with the engineering report and other information are provided in **Appendix 4.8** of this report.

will initially be used to demonstrate the ability to biologically reduce perchlorate concentrations using microbes. The biological treatment system will consist of a bioreactor to remove perchlorate, followed by a standard multi-media filter, followed by UV/hydrogen peroxide (oxidation) to lower contaminant concentrations to comply with DHS drinking water standards. The treated water will flow through Granular Activated Carbon (GAC) pressure vessels to "polish" the treated water to ensure that all contaminants are removed. The fully-treated water will then be disinfected.

During the demonstration, all water treated by the biological treatment system will be discharged in compliance with an NPDES permit, which will be obtained from the Regional Water Quality Control Board. After the demonstration phase, a permit will be requested from DHS to provide the full-treated water to LPVCWD's customers. Following receipt of the DHS permit, the biological treatment train system will continue to operate and provide fully-treated water to LPVCWD customers. As part of the biological treatment system, ethanol will be stored on site and used to foster microbial growth. A permit will be obtained from the local agency to store the ethanol on site.

Biological treatment methods are new to many water utilities. However, biologically-active filters have been used in drinking water treatment for decades to help remove particles and biodegradable organic matter. As stated above, the San Gabriel Valley project will rely on biological treatment for primary perchlorate removal, and is expected to include GAC as a backup process capable of limited perchlorate removal.

Other Treatment Methods. Other technologies have also been demonstrated as capable of removing perchlorate, but probably at higher cost. Reverse osmosis and nanofiltration were tested by researchers at the Metropolitan Water District of Southern California and shown to be effective in removing perchlorate, but they are likely to be much more expensive to operate than ion exchange processes. Liquid phase GAC also removes perchlorate, but only for a limited period of time before regeneration or replacement of the carbon is required. Frequent carbon replacement would make relying solely on GAC for perchlorate removal very expensive. Perchlorate cannot be removed from water by conventional filtration, sedimentation or air stripping technologies.

In addition to the proven treatment methods, a U.S. patent was recently granted for a new treatment device that reportedly renders perchlorate harmless. The device is a hollow-fiber membrane biofilm reactor, which, through a natural biochemical process of electron transfer, turns perchlorate into innocuous chloride. Perchlorate contaminated water is run through the biofilm reactor, which contains a bundle of thousands of hollow fiber membranes into which hydrogen gas is fed. The hydrogen gas diffuses through the membrane walls into the water as it flows past the fibers. Bacteria attach to the

surface of the membrane because they gain energy from the process of transferring electrons and act as catalysts for the transfer of electrons from hydrogen gas to the oxidized contaminant, such as perchlorate. The contaminants are reduced to harmless end products while the hydrogen gas is oxidized to water.

The advantage of the biofilm reactor method over existing methods is that it destroys the contaminant without creating brine or other waste products, which must then be disposed of. The creators of the biofilm reactor device have embarked on a pilot study of the treatment method in La Puente, California, treating groundwater that is highly contaminated with perchlorate. Results of the study have shown that the biofilm reactor can effectively treat 0.3 gallons of water per minute. The current research is supported by a grant from the U.S. Environmental Protection Agency and administered by AWWARF.

In the coming year, the results of perchlorate treatment research funded by a $2 million federal appropriation to the AWWARF will be available. AWWARF is funding studies into biological treatment methods, ion exchange, reverse osmosis, nanofiltration and other processes. The result of the AWWARF research should allow more efficient design and operation of the ion exchange and biological treatment processes, and may identify other technologies capable of cost-effectively removing perchlorate from water.

Summary. Due to the high value of this local water resource, the purveyors have placed a high priority on replacing the impacted groundwater extraction capacity by installing wellhead treatment and the construction of new wells. The "best" technology for removal of perchlorate will probably vary from site to site. At this time, however, ion exchange and biological treatment systems have been approved for construction and operation in the San Gabriel Valley. The San Gabriel Valley project will continue to provide cost and performance data over the years that will be available to other water utilities for other sites. The results from recent and ongoing studies will also be of use to water utilities in need of reliable, easy-to-operate treatment methods that can reduce perchlorate concentrations to low or non-detectable levels.

Other Water Contaminants. Water quality regulations are constantly changing as contaminants that are not typically found in drinking water are being analyzed by DHS and U.S. EPA. In addition, existing water quality standards are becoming more stringent in terms of allowable levels in drinking water.

Hexavalent Chromium. Over the past year, hexavalent chromium (chromium 6) has become an important new water quality concern in Southern California. In a letter dated March 27, 2001, DHS asked the California Environmental Protection Agency to establish a specific public health goal (PHG) for chromium 6. The PHG would formally identify a level of chromium 6 in drinking water that does not

pose a significant human health risk. DHS has adopted regulations adding chromium 6 to the list of unregulated chemicals requiring monitoring, effective January 3, 2001. The regulations require drinking water systems to monitor for unregulated chemicals for which drinking water standards have not been established. The objective of the regulations is to collect data throughout the state to determine the occurrence of these chemicals to help DHS make regulatory decisions that will adequately protect public health.

DHS currently regulates chromium in drinking water as total chromium. DHS's drinking water standard for total chromium is 50 parts per billion (ppb). Total chromium is comprised of chromium 3 and chromium 6. Both are naturally occurring and are found in groundwater. Chromium 3 is an important dietary supplement necessary for public health. While chromium 6 is a known occupational carcinogen through inhalation, scientists differ over the potential health effects posed when consumed in water. Due to the level of public concern about chromium 6, the DHS regulations were adopted on an emergency basis to expedite monitoring for this chemical. All drinking water systems with sources determined by DHS to be vulnerable to chromium 6 must monitor to enable DHS to determine both its occurrence and the proportion of chromium 6 in the "total chromium" level.

The retail water purveyors in the Santa Clarita Valley have implemented a monitoring schedule in compliance with these regulations. Preliminary scanning samples taken throughout the Santa Clarita Valley have shown trace levels (<1 ppb) of chromium 6. These levels are likely attributed to naturally occurring chromium in the rocks and soil. For further information, please refer to the following DHS website, http://www.dhs.ca.gov/ps/ddwem/chemicals/Chromium6/Cr+6index.htm.

MTBE. Additional water quality regulations have been promulgated and/or revised over the past several years. For example, MTBE (methyl-tertiary butyl ether) has been a concern for the past few years, and on May 17, 2000, DHS adopted a primary maximum contaminant level (MCL) for MTBE of 0.013 mg/L. CLWA and the local water purveyors have been testing for MTBE since 1997, and, to date, have not detected it in any of the production wells or in the treated SWP water supplies.

(3) Summary of Local Groundwater Supplies

In summary, **Table 4.8-3**, shows the existing and projected groundwater supplies from the Alluvial and Saugus Aquifers. The groundwater projections are from the UWMP and the updated analysis by Slade (UWMP 2000, **Appendix 4.8**).

Table 4.8-3
Existing and Planned Groundwater Supplies[1]
(acre-feet per year)

Source	Average/Normal Year	Dry-Year
Alluvial Basin	35,000	35,000
Saugus Formation	11,000	13,000
Saugus Formation (new wells)[2]		20,000
Total Supply	**46,000**	**68,000**

Source: SB 610 Water Supply Assessment of the Riverpark Project, Santa Clarita Water Division, 2003.
[1] *Studies by Richard Slade & Associates in October 2000, and the Santa Clarita Valley Water Report 2002, April 2003.*
[2] *Planned program for future implementation. Prior to implementing increases in production from groundwater supplies, CLWA will analyze the feasibility, cost and potential water quality and environmental effects of such a program. However, preliminary analyses and recent studies (Slade 2000) have concluded that additional pumping can be carried out.*

c. Reclaimed Water Supplies

Water reclamation (or recycling) is defined as the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse (e.g., landscape irrigation). Under specified conditions, the state now requires the use of reclaimed water when available. (See SB 2095 [Johnston] and Government Code Section 65602 relating to water recycling.) Section 65602 states in part:

> *"(a) The waters of the state are of limited supply and are subject to ever-increasing demands.*
>
> *(b) The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.*
>
> *(c) It is the policy of the state to promote the efficient use of water through the development of water recycling facilities.*
>
> *(d) Landscape design, installation, and maintenance can and should be water efficient.*
>
> *(e) The use of potable domestic water for landscaped areas is considered a waste or unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available that meets conditions described in Section 13550 of the Water Code."*

Section 65605(b) also requires that a local agency adopt a recycled (or reclaimed) water ordinance that will:

> *"[S]tate that it is the policy of the local agency that recycled water determined to be available pursuant to Section 13550 of the Water Code shall be used for non-potable uses within the designated recycled water use area set forth by the local agency when the local agency determines that there is not an alternative higher or better use for the recycled water, its use is economically justified, and its use is financially and technically feasible for projects under consideration by the local agency."*

Reclaimed water is available for use in the Santa Clarita Valley from two existing WRPs operated by the County Sanitation Districts of Los Angeles County, the Saugus WRP, located in District 26 and the Valencia WRP, in District 32.

CLWA is currently in the process of updating its Reclaimed Water System Master Plan (Master Plan). The purpose of the Master Plan is to evaluate and plan for the use of reclaimed water as a reliable water source to meet a portion of the non-potable water demand in the Santa Clarita Valley. The prior version of the Master Plan (Kennedy Jenks Consultants, 1993) outlined a multi-phase program to deliver reclaimed water to the valley totaling 10,000 acre-feet. CLWA's reclaimed water supply is approximately 1,700 AFY. Projections by CLWA show a total reclaimed water supply of 17,000 acre-feet by the year 2020. This amount is in addition to the reclaimed water originating at the proposed Newhall Ranch WRP.[21]

Reclaimed Water Demand. The Master Plan identified potential reclaimed water users with existing and future demands totaling 10,361 AFY. Of the total demand, 1,215 AFY of demand is outside the CLWA service area.

Since reclaimed water is used for non-potable purposes such as landscape irrigation, demand for reclaimed water follows a highly seasonal pattern. Reclaimed water demand is generally low during wet winter months and increases dramatically during hot, dry summer months to meet greater irrigation requirements. For the annual demand of 10,361 AFY identified in the Master Plan, the total peak monthly demand is 1,922 acre-feet and the total peak daily demand is 20.5 mgd (1 acre-foot of water is equivalent to 325,850 gallons).

In addition to the reclaimed water demand identified in the Master Plan, when the proposed Newhall Ranch Specific Plan is constructed, the non-potable water demand in the CLWA service area could increase by 9,035 AFY (Newhall Ranch non-potable demand). The peak monthly non-potable demand for Newhall Ranch has been estimated to be 1,275 acre-feet (approximately 13.8 mgd). Assuming construction of the Newhall Ranch Specific Plan, the total non-potable water demand within the CLWA's service area is expected to reach approximately 19,396 AFY. This demand will be highly seasonal, with peak demands during summer months when the weather is hot and dry and irrigation needs are greatest.

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21 See, CLWA's SB 610 Water Supply Assessment for the Riverpark Project, which is attached to this analysis as **Appendix 4.8**. See also, CLWA's draft Reclaimed Water System Master Plan (Kennedy Jenks Consultants, 1993), which is incorporated by reference and available for public review at the City of Santa Clarita Planning Department.

Table 4.8-4, below, summarizes the reclaimed water demands.

Table 4.8-4
Reclaimed Water Demand

Item	Annual Demand (acre-feet per year)	Peak Monthly Demand (acre-feet)	Peak Demand (acre-feet)	Daily mgd
Within CLWA Service Area[a]	9,146	1,690	55.6	18.00
Outside CLWA Service Area[a]	1,215	233	7.5	2.45
Newhall Ranch[b]	9,035	1,275	42.5	13.81
Total	**19,396**	**3,198**	**105.6**	**34.26**

[a] *From CLWA Reclaimed Water Master Plan, September 1993.*
[b] *From CLWA Integrated Water Resources Plan, Water Demand and Supply Evaluation, February 1998; Technical Memorandum, Update to: Addendum to Water Resources and Wastewater Management for the Newhall Ranch Project, January 18, 1999, CH_2MHILL.*

Reclaimed Water Supplies. The two existing WRPs in the Santa Clarita Valley that can potentially supply reclaimed water to meet the identified non-potable water demands in the CLWA service area are the Valencia WRP and the Saugus WRP. A third plant has been proposed as part of the Newhall Ranch Specific Plan.

Due to site space constraints, the Saugus WRP, completed in 1962, will not be expanded beyond its current permitted capacity of 6.5 mgd. In 2002, the Saugus WRP had an average monthly effluent flow of 5.60 mgd (6,294 AFY), which is approximately 86 percent of its permitted capacity. Effluent from the Saugus WRP contains about 723 milligrams per liter TDS (total dissolved solids) and is discharged to the Santa Clara River west of Bouquet Canyon Road.

The Valencia WRP, completed in 1967, has a current permitted capacity of 12.6 mgd. The ultimate planned capacity for the Valencia WRP is 27.6 mgd. In 2002, the average monthly effluent flow for the Valencia WRP was 12.11 mgd, which is approximately 96 percent of its current permitted capacity. Effluent from the Valencia WRP contains approximately 753 milligrams per liter TDS (total dissolved solids) and is discharged to the Santa Clara River west of The Old Road.

The Newhall Ranch Specific Plan proposes a 6.9 mgd WRP on the Newhall Ranch site to exclusively serve the Specific Plan. The proposed Newhall Ranch WRP would be located near the western edge of the Specific Plan site along the south side of SR-126. Effluent from the proposed Newhall Ranch WRP would be used to partially meet non-potable water demands within the Specific Plan site. According to the Newhall Ranch Final EIR, the proposed WRP is projected to produce on average approximately 5,630

AFY. Of this amount, 5,344 AFY would be used for irrigation, with the remaining 286 AFY discharged to the Santa Clara River during winter months when demands are low. This supply is projected to meet approximately 59 percent of the 9,035 AFY of potential non-potable water demands for the Specific Plan. The remainder of the non-potable demand is expected to be met by reclaimed water from CLWA, consistent with its updated Reclaimed Water System Master Plan.

Table 4.8-5 summarizes CLWA's reclaimed water supplies:

Table 4.8-5
Reclaimed Water Supplies

	Current Capacity (mgd)	Ultimate Capacity (mgd)	Flow (1999)		TDS (mg/1)
			mgd	acre-feet	
Saugus WRP	6.5	6.5	5.60	6,271	723
Valencia WRP	12.6	27.6	12.11	12,856	753
Total	**19.1**	**34.1**	**16.06**	**19,127**	**--**

Source: County Sanitation Districts of Los Angeles County, Letter Dated January 13, 2003.

d. Imported SWP Water Supplies

(1) SWP Overview

In 1951, the California Legislature authorized construction of a large state water storage and delivery system.[22] Eight years later, in 1959, the Legislature authorized the submission for voter approval of a $1.75 billion general obligation bond issue to build the State Water Project (SWP) system. The voters approved the measure, which enabled DWR to commence construction of the SWP.[23]

The DWR operates and manages the SWP facilities.[24] The SWP is the largest state-built, multi-purpose water project in the country. The SWP was designed and built to deliver water, control floods, generate power, provide recreational opportunities and enhance fish and wildlife habitats. SWP water supplies are used for both urban and agricultural uses throughout California. The SWP facilities consist of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water.[25]

22 DWR, Bulletin No. 132-95 (Nov. 1996) p. xxiii; DWR Bulletin No. 132-98 (Nov. 1999) p. xxvii-xxxv.
23 Wat. Code §12930 et seq.; DWR, Bulletin No. 132-93 (Sept. 1994) p. 15.
24 DWR, Bulletin No. 132-93, (Sept. 1994) p. 15.
25 DWR, Bulletin No. 132-98 (Nov. 1999) p. xxvii.

At the inception of the SWP, DWR entered into individual water supply contracts with agricultural and urban water suppliers (SWP contractors) throughout California. The contracts were the method used to fund construction and operation of the SWP facilities for the delivery of water to the SWP contractors. Each such contract sets forth a maximum annual allocation of SWP water, which is stated in Table A to the contract (Table A Amount, or allocation).

There are currently 29 SWP contractors with water supply contracts with DWR. A SWP contractor may annually request that DWR deliver water in the following year in any amount up to the SWP contractor's Table A Amount. The SWP contracts provide that in a year when DWR is unable to deliver the full amount of contractor requests, deliveries to contractors will be reduced so that total deliveries equal total available supply for that year. Some SWP contractors, including CLWA, historically have never requested delivery of their full annual amount because lower growth, other water supplies and water conservation efforts have held their demand below projections. Other SWP contractors historically have ordered their full Table A Amount nearly every year.

Existing long-term SWP water supply contracts called for the annual delivery of 4,103,651 acre-feet of Table A water by 1997 through SWP facilities, gradually increasing to a maximum of 4,172,686 acre-feet by 2020. Actual demand, however, has also not developed as projected, owing to circumstances, which have changed since the long-term contracts were signed in the 1960s. The changes include slower population growth, changes in local land use, local water conservation programs and conjunctive-use programs. The most SWP Table A water delivered to date (2003) in any year was about 3.5 million acre-feet in 2000.[26] The demands for SWP water are expected to increase as the population of California continues to increase.[27]

(2) Monterey Agreement

By 1994, disputes arose among the many agricultural and urban SWP contractors and DWR regarding the availability and distribution of water through SWP facilities. To avoid potential litigation, DWR and agricultural and urban SWP contractors met in Monterey, California to attempt to resolve the ongoing disputes. After negotiations, DWR and the agricultural and urban SWP contractors agreed to a statement of principles, which became known as the "Monterey Agreement."

The Monterey Agreement, signed by DWR and many of the agricultural and urban SWP contractors in 1994, established principles to be incorporated in contract amendments (the Monterrey Amendments) to be offered to the SWP contractors. To date, all but two SWP contractors (Plumas County Flood Control

26 See, The State Water Project Delivery Reliability Report, 2003, Final, Department of Water Resources, Bay Delta Office.

27 See, DWR, Bulletin 132-98 (Nov. 1999), p. xxvii.

and Water Conservation District and Empire West Side Irrigation District) have accepted the amendments. The amendments have three primary objectives: (i) to increase the reliability of all SWP contractors' water supplies; (ii) to stabilize the rate structure in order to improve the financial viability of the SWP; and (iii) to increase water management flexibility for all SWP contractors.

The Monterey Agreement provided a number of water management tools that have allowed local agencies to maximize their use of available supplies, thus meeting increased demand without construction of new SWP facilities. Most of these tools are environmentally beneficial or neutral. They include:

(a) **Water Transfers.** SWP contractors can transfer unneeded Table A water to other contractors on a permanent basis. This provides financial relief from SWP charges for the seller and additional water supplies for the buyer.

(b) **Turnback Pool.** SWP contractors with unneeded supplies on a short-term basis can turn their water back into a pool for purchase by other contractors.

(c) **Storage Outside Service Area.** SWP contractors are permitted to store water outside their service area (for example, in a groundwater banking project) for later use within their service areas.

(d) **Terminal Reservoirs.** SWP contractors are permitted to utilize flexible storage in Castaic Lake and Lake Perris to enhance their water supply reliability.

(e) **SWP Allocation.** Allocation of available SWP supply is made based on the proportion of each contractors' maximum contractual Table A water, rather than historical use with agricultural SWP contractors being cut first as in the past. This provides additional reliability to agricultural contractors earlier in the year, which improves their planning capability.

(f) **Interruptible Water.** Interruptible water (available surplus water) is distributed on an equal basis among SWP contractors rather than to agricultural SWP contractors first.

(g) **Flexibility.** Additional flexibility is granted to SWP contractors wishing to increase or decrease the Table A Amounts in their contracts.

(h) **Banking.** The Kern Water Bank was transferred to SWP agricultural users for development and use. This transfer has provided agricultural users as well as other local agencies with additional flexibility and water supply reliability.

(i) **Non-Project Water.** Use of project facilities for conveyance of non-project water is permitted to assist SWP contractors, which are able to locate additional sources of water.

As stated above, the Monterey Agreement has facilitated water transfers among SWP contractors. These water transfer provisions have resulted in 130,000 acre-feet of agricultural SWP contractors' Table A Amount being available for sale to urban SWP contractors. Agreements already have been executed among contractors to purchase the additional Table A water from the agricultural SWP contractors. Agreements for the additional Table A Amount of SWP water are effective upon execution (DWR Bulletin No. 132-96, August 1997, Ch. 1, p. 5), and, therefore, are considered permanent water reallocations of SWP Table A water. These permanent transfers of SWP Table A Amounts have allowed urban SWP contractors to obtain additional SWP Table A Amounts, thereby increasing their overall deliveries, even

in times of drought. The permanent transfers of SWP Table A Amounts have also allowed SWP urban contractors to increase the reliability of their deliveries by having more Table A Amounts available overall.

The DWR now has approximately eight years of experience in implementing the Monterey Agreement and the associated water management tools identified above. The SWP contractors have come to rely on the Monterey Agreement water management tools and other provisions in their planning activities. Some of the results to date include:

(a) Up to 200,000 acre-feet transferred annually in the Turnback pool program;

(b) Nearly 114,000 acre-feet transferred in permanent Table A water transfers;

(c) Nearly 1,000,000 acre-feet stored outside SWP contractors' service areas;

(d) Utilization of terminal reservoirs' flexible storage; and

(e) Delivery of up to 200,000 acre-feet annually in Interruptible water (available surplus water).

(3) Monterey Agreement Environmental Review and Litigation

The Monterey Agreement gave rise to potentially significant environmental effects requiring analysis under the California Environmental Quality Act. Therefore, a Program EIR was prepared to address the potentially significant environmental effects of implementing the Monterey Agreement. The Final Program EIR was certified in October 1995. The adequacy of the Final EIR was challenged in litigation arising under the California Environmental Quality Act. The Sacramento Superior Court upheld the adequacy of the EIR. Before and after the trial court's decision, DWR and the agricultural and urban SWP contractors who had executed the Monterey Agreement began implementing various amendment provisions, including the completion of permanent transfers of Table A Amounts among agricultural and urban SWP contractors. The trial court's decision was subsequently appealed. On appeal, the petitioners sought a writ to prevent further implementation of the Monterey Agreement during the appeal. However, the appellate court denied the requested writ (DWR Bulletin 132-98, November 1999, Ch. 6, p. 2).

The appellate court reversed the trial court's decision. The appellate court held that the Program EIR for the Monterey Agreement was improperly prepared by the Central Coast Water Agency, as "Lead Agency" under CEQA, rather than by DWR, which should have been the "Lead Agency." The appellate court also found that the EIR did not sufficiently discuss implementation of a "no project" alternative.

The court then concluded that a new EIR must be prepared and certified. Finally, the court held that the trial court improperly dismissed the plaintiffs' challenge to DWR's transfer of title to the Kern Water Bank from DWR to Kern County Water Agency.

The appellate court then remanded the case to the trial court and directed that the trial court issue a writ of mandate vacating certification of the EIR and retaining jurisdiction until DWR certifies an EIR in accordance with CEQA. The appellate court further directed that the trial court consider whether the Monterey Agreement may continue to be implemented while the new EIR is being prepared. (*Planning & Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892.)

The appellate court decision invalidated certification of the EIR, but did not set aside, invalidate or otherwise vacate the Monterey Agreement. In addition, no court orders have been issued to "stay" further implementation of the Monterey Agreement.

In October 2000, DWR filed a petition asking the California Supreme Court to review the appellate court decision. The California Supreme Court denied the petition for review and the matter was remanded to the trial court for further proceedings, consistent with the appellate court's decision. The trial court has not issued a final ruling in the action.

In March 2001, the parties to the Monterey Agreement litigation commenced confidential mediation discussions in San Francisco. In a "Joint Statement on the Monterey Amendments Litigation," dated July 18, 2002, the parties to the litigation stated that they "have reached a joint agreement on the principles for settling the lawsuit[.]" The parties also stated that DWR had commenced preparing a new EIR for the Monterey Agreement. In May 2003, the Department of Water Resources, Central Coast Water Authority, Kern Water Bank Authority and certain State Water Project Contractors entered into a Settlement Agreement (Settlement) with the Planning and Conservation League, Plumas County Flood Control and Water Conservation District, and Citizens Planning Association of Santa Barbara County, Inc. Pursuant to the Settlement, the Department agreed to public negotiation of certain amendments to the long term water supply contracts, including contract amendments to transfer Table A Amounts between existing SWP contractors. The settlement also contains an "Acknowledgment and Agreement Regarding Kern-Castaic Transfer" (i.e., the 41,000 acre-foot CLWA/WRMWSD water transfer described in section (4) below). The settlement states: "…nothing in this Settlement Agreement is intended to predispose the remedies or other actions that may occur in [the] litigation [on the 41,000 acre-foot transfer]." Consequently, the decisions reached in that litigation stand. The full text of the Settlement and further information regarding the Monterey Agreement and Monterey Amendment, including future opportunities for public involvement are available on the worldwide web at

http://www.montereyamendments.water.ca.gov/. A copy of the settlement is also included in **Appendix 4.8** to this report.

(4) Santa Clarita Valley SWP Supplies

CLWA SWP Table A Amount. Imported water from the SWP has been a supplemental source of supply to the Santa Clarita Valley since 1980. The SWP is contracted (and designed) to deliver approximately 4.2 million acre-feet of water per year to 29 contracting agencies. However, because the SWP has not been completed, it cannot yet deliver the entire 4.2 million acre-feet. CLWA is a contracting agency with a current maximum annual SWP Table A Amount of 95,200 AFY, or about 2.3 percent of the total (The CLWA/WRMWSD water transfer of 41,000 AFY has been completed, CLWA has paid approximately $47 million for the additional Table A Amount, the monies have been delivered, the sales price has been financed through CLWA by tax-exempt bonds, and DWR has increased CLWA's SWP maximum Table A Amount to 95,200 AFY because it was a permanent transfer/reallocation of SWP Table A entitlement between SWP contractors).

Prior to completion of the CLWA/WRMWSD water transfer, the proposed transfer was the subject of environmental review by the water agencies. The agencies selling the 41,000 acre-feet of SWP Table A Amount to CLWA assessed the environmental consequences of the proposed transfer within their service area in a Final EIR, dated June 1998. This EIR was certified in 1998 and has never been the subject of judicial review. As a result, the EIR is conclusively presumed to be valid. (Pub. Res. Code §21167.2)

CLWA also prepared a supplemental Final EIR, which assessed the environmental effects of CLWA's acquisition of the 41,000 acre-feet within its service area. The Board of Directors of CLWA certified the Supplemental Final EIR in March 1999. Thereafter, in April 1999, a lawsuit was brought challenging the adequacy of the EIR under CEQA (*Friends of the Santa Clara River, et al. v. Castaic Lake Water Agency, et al.*, Case No. BS 056954). The trial court ruled in favor of CLWA and upheld the adequacy of the EIR under CEQA.

In October 2000, the plaintiffs filed an appeal. The appellate court reversed the trial court's judgment and ordered CLWA's EIR decertified. However, the appellate court did not order CLWA to void its approval of the water transfer. Instead, the appellate court remanded the matter to the trial court for further proceedings. After a hearing on September 24, 2002, the trial court concluded that CLWA could utilize the 41,000 AFY to which it is entitled.

Status of CLWA's Acquisition Under the Monterey Agreement. The CLWA/WRMWSD transfer of SWP Table A Amount was the type of water transfer that fell within the provisions of the Monterey Agreement. As stated above, under the Monterey Agreement, certain SWP agricultural contractors agreed that 130,000 acre-feet of their Table A Amount could be transferred to urban contractors. The CLWA 41,000 acre-feet acquisition was a part of the 130,000 acre-feet of SWP Table A Amount, which has been transferred under the Monterey Agreement.

In effect, the Monterey Agreement provided a blanket pre-approval for those transfers by the participating SWP contractors, thus facilitating transfers of Table A Amounts from agricultural to urban SWP contractors. As stated above, the environmental documentation for the Monterey Agreement has been decertified. However, the pending legal proceedings have not invalidated the Monterey Agreement or enjoined either the Monterey Agreement or further implementation of the Monterey Agreement.

Even in the absence of the Monterey Agreement, CLWA's permanent acquisition of an additional 41,000 acre-feet of SWP Table A Amount could occur under existing SWP water supply contract provisions, subject to appropriate environmental review.

Nothing in the existing SWP water supply contracts, or applicable law, prohibit such water transfers with or without the Monterey Agreement. The Monterey Agreement simply provides a specific vehicle for accomplishing transfers of SWP Table A Amounts from agricultural to urban SWP contractors; the amendments under the Monterey Agreement are not the exclusive means by which that Amount may be transferred. In support of that fact, in 1981 (almost 15 years before the Monterey Agreement), the entire SWP Table A Amount of the Hacienda Water District was permanently transferred to the Tulare Lake Basin Water Storage District, pursuant to an agreement approved by DWR.

The acquisition of the 41,000 acre-feet could proceed as a water transfer under existing law. See, e.g., Water Code §§382, 383 (authority for transferring surplus water) and Water Code §1745, et seq. (authority for transferring non-surplus water). The Kern County Water Agency has reaffirmed its willingness to allow transfers of up to 130,000 acre-feet of SWP Table A Amounts under pre-Monterey Agreement conditions even if the Monterey Agreement is ultimately invalidated.

If it were not for existing SWP water supply contract provisions which allow such transfers (without the need for the Monterey Agreement), and existing law which enables CLWA to enter into contracts outside the context of the Monterey Agreement, an adverse final judgment invalidating the Monterey Agreement could affect CLWA's completed acquisition of the 41,000 acre-feet, which could in turn impair CLWA's supply of SWP water through its contracts with DWR and other SWP contractors. However, CLWA

believes that an adverse outcome in the Monterey Agreement litigation is not likely to adversely affect CLWA's water supplies over the long term because CLWA believes that such a result is unlikely to "unwind" executed and completed agreements with respect to the permanent transfer of SWP Water Amounts.

(5) CLWA SWP Deliveries

With limited exception, as shown below, DWR's allocation to CLWA has been 100 percent of CLWA's actual request for SWP water supplies. Based on annual water supply information provided by DWR, there have been only two years on record since 1980 (1991 and 1992) when DWR's delivery to CLWA was not 100 percent of CLWA's requested need. Despite the reduced DWR allocation in those two years, the amount of SWP water delivered to CLWA was sufficient to meet all local water supply needs in the Santa Clarita Valley. **Table 4.8-6,** below, summarizes the DWR's annual SWP supply to CLWA from 1990 to 2003.

Table 4.8-6 includes several important features regarding CLWA's annual water supply since 1990. The features of this table, are discussed below.

The "Maximum Table A Amount" column represents CLWA's possible maximum total annual allocation of SWP Table A water. From 1990 until 1999, CLWA's full (maximum) annual SWP Table A Amount was 54,200 AFY. The full annual SWP Table A Amount of 95,200 AFY, shown in the "Maximum Table A Amount" column in the years 2000, 2001, 2002, and 2003 reflects the permanent acquisition of an additional 41,000 AFY of SWP Table A Amount in 1999 from the Kern County Water Agency.

The "DWR Allocation" column represents the amount (%) of the Table A water allocated to CLWA by DWR. Note that it has often been the case (e.g., 1995–2003) that CLWA received from DWR an allotment of Table A water far in excess of its actual need. Consequently, CLWA turned back (returned) significant amounts of water into the turnback pool.

Table 4.8-6
Castaic Lake Water Agency
Annual SWP Water Supply Information
from Department of Water Resources

Year	CLWA Maximum Table A Amount (AF) [1]	DWR Allocation (%) [2]	Table A Amount Allocated (AF)	Imported Water Delivered/ Need (AF)	Percent of Table A Amount Delivered (%)
1990	54,200	100%	54,200	21,613	40%
1991	54,200	30%	16,260	7,968	49%
1992	54,200	45%	24,390	13,911	57%
1993	54,200	100%	54,200	13,393	25%
1994	54,200	50%	27,100	14,389	53%
1995	54,200	100%	54,200	16,996	31%
1996	54,200	100%	54,200	18,093	33%
1997	54,200	100%	54,200	22,148	41%
1998	54,200	100%	54,200	20,254	37%
1999	54,200	100%	54,200	27,282	50%
2000	95,200	90%	85680	32,579	38%
2001	95,200	39%	37,128	35,369	95%
2002	95,200	70%	66,640	41,768 [4]	62%
2003(est)	**95,200**	**90%**	**85,680**	**42,000** [4]	**49%**

[1] ***CLWA Maximum Table A Amount:*** *Represents CLWA's contract rights to SWP water since 1990. There are 29 contracting agencies with a maximum SWP Table A Amount totaling 4,172,786 acre-feet. In 1992, CLWA acquired the water supply of the Devil's Den Water District (i.e., its 12,700 AFY Table A Amount). By Year 2000, CLWA had acquired 41,000 AFY of Table A amount from the Kern County Water Agency and the Wheeler Ridge-Maricopa Water Storage District.*

[2] ***DWR Allocation:*** *Represents the Table A Amount allocated to CLWA by DWR. Note that it has often been the case (e.g., 1995-2003) that CLWA received from DWR an allotment of their Table A Amount far in excess of its actual need. Consequently, CLWA turned back (returned) significant amounts of water into the turn-back pool.*

[3] *Actual imported water delivered by CLWA in 1991 was 3,846 AF and 11,890 AF in 1992. The difference between these deliveries and the Imported Water Delivered/Need column is the amount of groundwater pumped into CLWA's system during 1991 and 1992.*

[4] *CLWA also delivered to the Semitropic Water Storage District a total of 24,000 AF in 2002 and 35,000 AF in 2003 to be stored for CLWA's future use.*

Other observations: *In 1994, CLWA deliveries were disrupted by the Northridge Earthquake. The Table does not account for Devil's Den deliveries, carryover provisions of the SWP contract, Article 21 water deliveries, turn-back water pool purchases, flexible storage account balance and deliveries, transfers to Westlands Water, Flood Flow deliveries, groundwater pumped during the 1991 drought into CLWA's system, etc.*

The "Table A Amount Allocated" column is the amount of CLWA's Table A Amount available for delivery to CLWA in a given year by DWR. Many factors can affect the amount of water delivered by DWR, including environment conditions and weather. The "Imported Water Delivered/Need" column is the actual amount of SWP water required by CLWA to meet local water demand. Since 1990, this amount is typically far less than the amounts available to CLWA. These deliveries include not only the Table A water, but also local groundwater, "Carry-Over," "Interruptible" and "Local Flood Flow Water" supplied by DWR over the years. Had CLWA participated in any "Drought Water Bank" programs, DWR deliveries under such programs would have been reflected in this column as well; however, CLWA has not needed to participate in any of the statewide drought programs due to available local supplies and voluntary conservation programs.

DWR's annual Turnback Pool program has been in place since execution of the Monterey Amendments. The program is an internal SWP mechanism that provides for pooling potentially unused SWP supplies early in the year for purchase by other SWP contractors at a set price. The program is intended as an incentive to return unneeded water early in the year for reallocation among SWP contractors on willing-buyer/seller basis. See, Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000, p. 3-11.

Through this program, any SWP water that CLWA deems is not needed in a given year is returned to DWR. This unused water is then made available to the SWP and other SWP contractors. CLWA participated as a "seller" in this program from 1996 through 2000, with over 127,000 acre-feet in sales of unused water. Several other SWP contractors have also returned unused SWP water to DWR, with a 5-year total return of over 1 million acre-feet. Under this program, CLWA could participate as a "buyer," rather than a "seller," in the event additional SWP supplies were needed for storage, water banking projects or other conjunctive use programs.

DWR also conducts a "Dry Year Program" to allow water users such as CLWA to obtain supplemental supplies during dry years. The program provides "options" purchases as well as direct purchases of water. Under the Program, DWR attempts to negotiate water purchases from farmers in the Sacramento Valley. Participating farmers will receive funds that will enable them to fallow, pump groundwater, or shift to an alternative (lower water use) crop. The water sold by the farmers will then be placed into a pool of water that will be allocated among water users who wish to participate in the Dry Year Program. This pool will be allocated based on the total number of participants and the relative amounts of water they request. The program is open to all water users in California. In 2001, CLWA submitted an initial request to purchase up to 12,000 acre-feet through the program. While CLWA did not participate in the Dry Year Program for 2001 and 2002 because CLWA ultimately received a large enough SWP allocation from DWR, the program was available to the agency showing the considerable flexibility of DWR, SWP contractors, and the retail purveyors to adapt to changing water supply forecasts and reliability levels. Documents demonstrating CLWA's ability to participate in the Dry Year Program is provided in **Appendix 4.8**.

(6) SWP Facilities

As discussed above, the SWP is a large water supply, storage, and distribution system authorized by the California Legislature in 1959. In 1960, California voters approved the $1.75 billion bond issue to begin building SWP facilities. The SWP currently includes 32 storage facilities, reservoirs and lakes, 17

pumping plants, three pumping-generating plants, five hydroelectric power plants, and about 660 miles of aqueducts and pipelines. Principal SWP facilities are shown in **Figure 4.8-18**.

The primary purpose of the SWP is to distribute water to 29 urban and agricultural water contractors in Northern California, the San Francisco Bay Area, the San Joaquin Valley and Southern California. The 29 SWP contractor service areas are shown in **Figure 4.8-19**.

The primary water source for the SWP is within the drainage of the Feather River, a tributary of the Sacramento River. Runoff is stored behind Oroville Dam in Butte County, which is the project's largest storage facility. The water is then released down natural channels to the Sacramento-San Joaquin Delta.

In the southern Delta, water is pumped by the Harvey O. Banks Delta Pumping Plant into the 444 mile-long California Aqueduct. The South Bay Aqueduct, located just south of the Banks Pumping Plant, conveys water to Alameda and Santa Clara counties. Water in the California Aqueduct travels along the west side of the San Joaquin Valley. Some SWP water is stored in the San Luis Reservoir, which is jointly operated by the DWR and the U.S. Bureau of Reclamation. From the San Luis Reservoir, waters in the SWP continue southward.

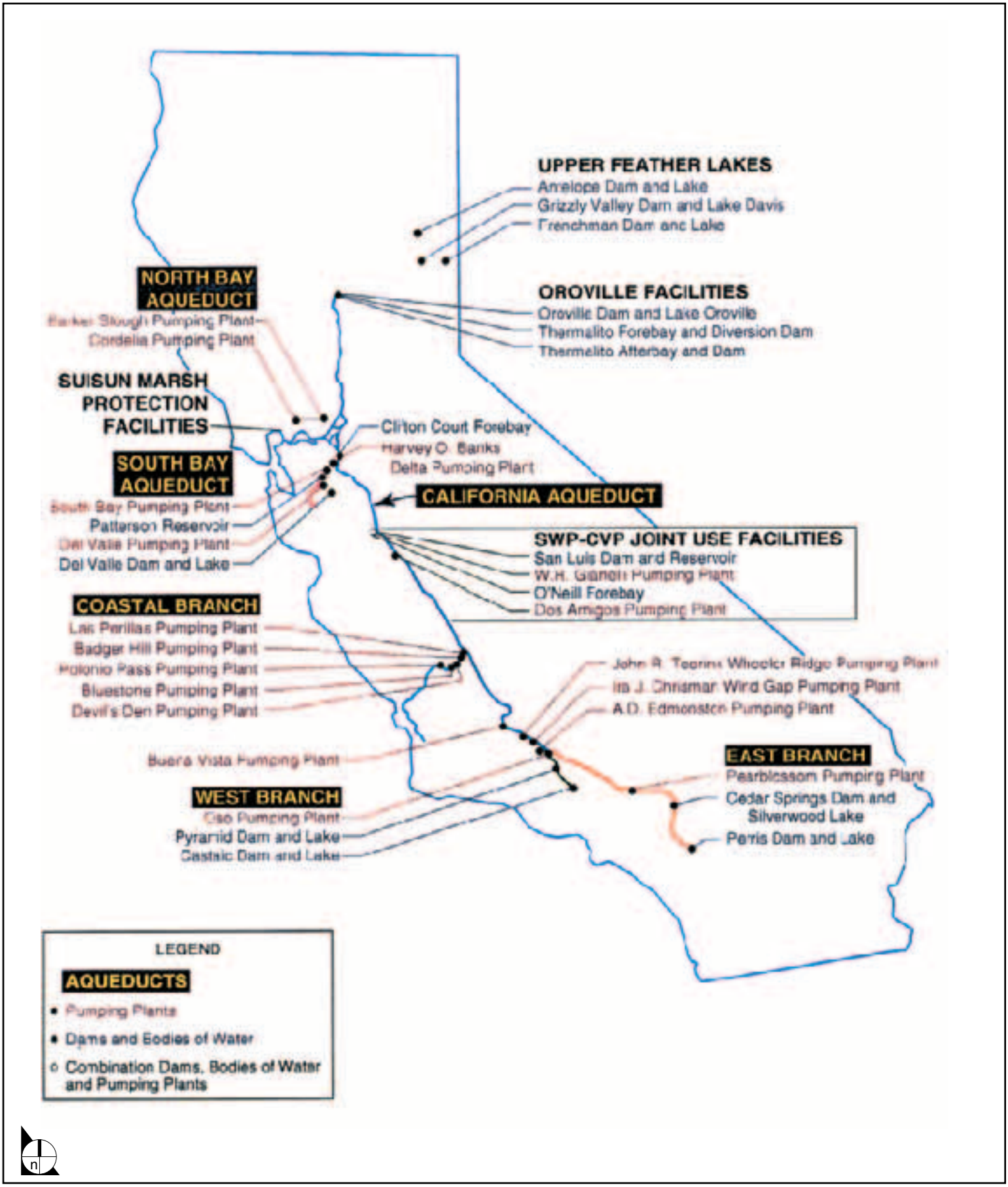
SWP water then flows south to the Tehachapi Mountains, where the A.D. Edmonston Pumping Plant lifts the water 1,926 feet to enter 10 miles of tunnels and siphons that traverse the Tehachapi Mountains. After crossing the Tehachapis, the aqueduct divides into two branches. The West Branch Aqueduct delivers water to Pyramid and Castaic reservoirs to serve CLWA and other SWP contractors in Southern California. The East Branch Aqueduct flows through the Antelope Valley and delivers water to Silverwood Lake. The water is then transported to San Bernardino and Riverside Counties, and stored in the Lake Perris reservoir.

Many other reservoirs add to the storage capacities of the SWP. **Table 4.8-7**, lists the major storage facilities of the SWP and their storage capacity. In addition to the water storage facilities included in the SWP system, additional storage is available within the SWP contractors' service area (e.g., 800,000 acre-feet of storage in the Diamond Valley Reservoir and 300,000 acre-feet in the Las Posas Basin within the service area of the Metropolitan Water District of Southern California).

Table 4.8-7
Major SWP Reservoirs

SWP Division (Location)	Reservoir	Total Storage (AF)
Oroville Field Division		3,762,670
	Frenchman Lake	55,480
	Antelope Lake	22,570
	Davis Lake	64,370
	Oroville Reservoir	3,537,580
	Thermalito Diversion Pool	13,350
	Thermalito Forebay	11,700
	Thermalito Afterbay	57,040
	Small Storage Facilities	580
	Aqueduct Pools	0
Delta Field Division		130,909
	Clifton Court Forebay	31,260
	Bethany Reservoir	5,070
	Lake Del Valle	77,110
	Small Storage Facilities	142
	Aqueduct Pools	17,327
San Luis Field Division (Joint Use)		1,148,967
	O'Neill Forebay (Total Storage = 56,430)	29,500
	San Luis Reservoir (Total Storage = 2,027,840)	1,062,183
	Los Banos Reservoir	34,560
	Little Panoche Reservoir	5,580
	Small Storage Facilities	0
	Aqueduct Pools	17,144
San Joaquin Division		27,541
	Small Storage Facilities	16
	Aqueduct Pools	27,525
Southern Division		979,182
	Silverwood Reservoir	74,970
	Lake Perris	131,450
	Quail Lake	7,580
	Pyramid Reservoir	171,200
	Elderberry Forebay	32,480
	Castaic Lake	323,700
	Castaic Lagoon	5,560
	Small Storage Facilities	1,580
	Aqueduct Pools	230,662
SWP Total		**6,049,269**
	Reservoirs & Small Storage Facilities	5,756,611
	Aqueduct Pools	292,658

Source: Data Handbook, State Water Project, 1997.



SOURCE: DWR (1997a)

FIGURE **4.8-18**

Principal State Water Program Facilities

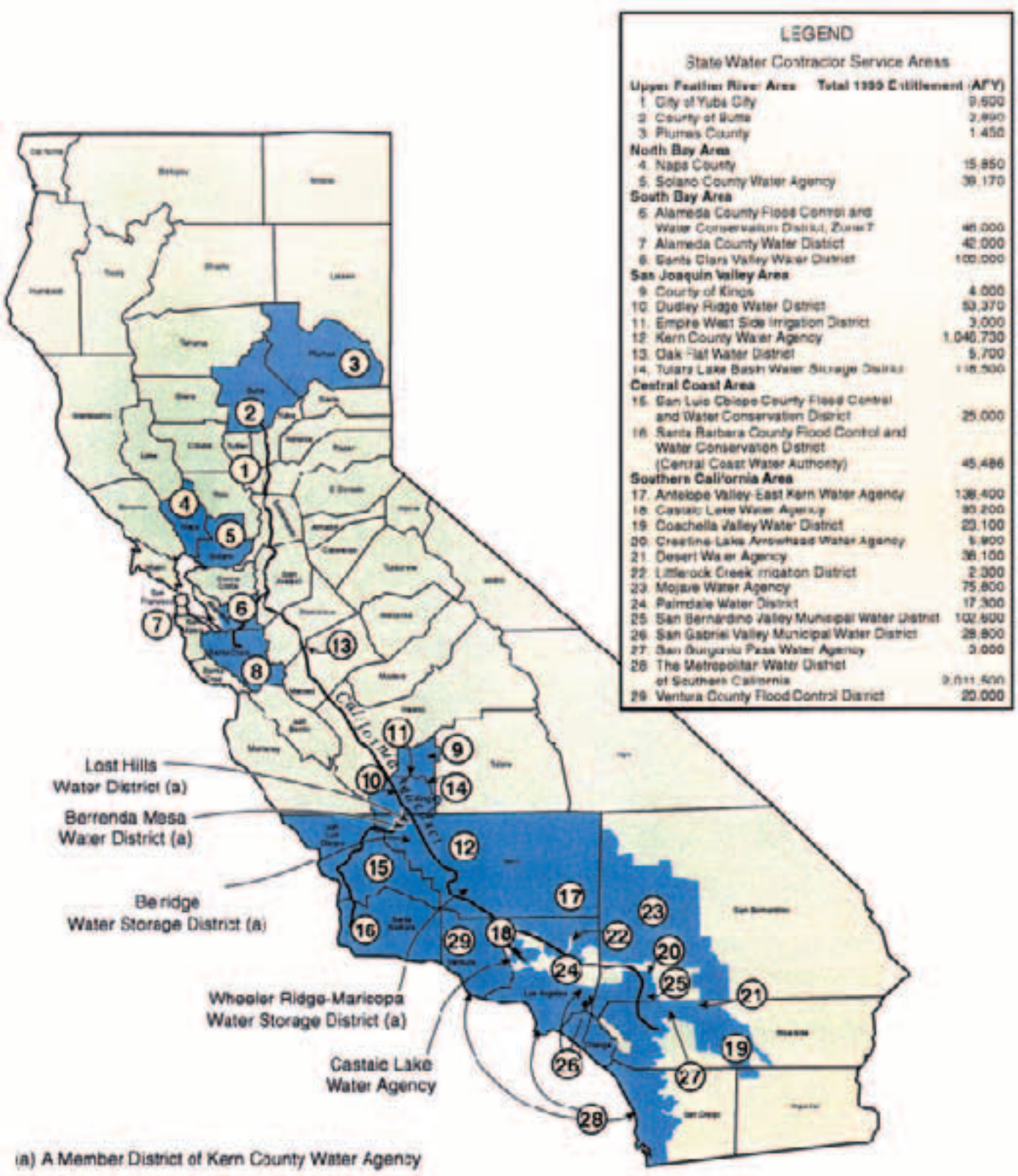


FIGURE **4.8-19**

State Water Program Contractor Service Areas

(7) SWP Water Deliveries

SWP Deliveries. In the early 1960s, DWR entered into individual water supply contracts with various agricultural and urban water suppliers or contractors. Each contractor (shown previously in **Figure 4.8-19**) was provided with a contract amount (Table A Amount) and capacity rights to the SWP aqueduct and storage system in return for payments intended to cover operation and maintenance, bondholder obligations and repayment of moneys loaned from the California Water Fund.

DWR water supply contracts require the SWP to deliver 4.2 million AFY to 29 SWP contractors. Although the SWP is not fully constructed and cannot yet deliver the full 4.2 million AFY, since the end of the six-year drought in 1992, the SWP has fully met SWP contractors' water needs every year, except the dry years of 1994 and 2001. Of SWP water deliveries, about 70 percent is delivered to SWP urban contractors and about 30 percent is delivered to SWP agricultural contractors. In 2003, DWR indicated that it can deliver 90 percent (or 3.71 million acre-feet) of SWP Table A Amount to its contractors. Ninety percent of CLWA's SWP maximum Table A Amount of 95,200 AFY equates to 85,680 acre-feet of water.[28] However, as discussed more fully below, the maximum Table A Amount contractually allocated does not necessarily result in equivalent deliveries of SWP water in any given year.

From statewide perspective, the maximum capacity of the overall SWP transportation system is generally limited by the capacity of the system pumps. Therefore, the capacity of the California Aqueduct is 10,300 cubic feet per second (cfs) at its northern end and 4,480 cfs below the Edmonston pumping plant. (1,000 cfs is approximately 82.6 acre-feet per hour, 1,980 acre-feet per day and 725,000 AFY.) If these transportation rates were maintained for a full year, they would result in the transport of approximately 7.2 million acre-feet near the Delta and 3.2 million acre-feet to users in Southern California. Examples of the capacity of the canals and tunnels in the SWP transportation system are shown in **Table 4.8-8**.

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[28] DWR NEWS, State Water Project Plans 100 Percent Deliveries, March 14, 2000, (http://wwwdwr.water.ca.gov/dir-dwr...00R2/Mar.14,00-SWP_Full_Deliv.html).
The DWR annually issues a series of allocation estimates, starting with conservative estimates in early winter months. Estimates are subject to change during the winter and spring months as more rainfall and snowpack data becomes available. DWR conducts five monthly snow surveys each winter and spring to assess snow conditions and make estimates about snowmelt runoff and future water supply. During the last six years, watersheds feeding the SWP have experienced heavy precipitation, which resulted in high volumes of water delivery through the SWP. Deliveries in wet years typically range around 3 million acre-feet. The current delivery projection is higher than prior years. For example, DWR estimates that the SWP can deliver about 3.71 million acre-feet during calendar year 2003. This current delivery allocation projection, although subject to change, is approximately 90 percent of the maximum Table A Amount requested by SWP contractors. See, Department of Water Resources, State Water Project Delivery Update, Water Deliveries, 2003 State Water Project Allocation Increase, May 16, 2003, http://www.dwr.water.ca.gov/water.html.

Table 4.8-8
Examples of SWP Transportation System Capacity

Location	Facility or Structure	Design Capacity (cfs)
Delta Intake	Clifton Court Forebay Channel	10,300
Near Kings/Kern County Line	SWP Aqueduct Canal	7,300
Grapevine	SWP Aqueduct Canal	4,400
South of the Tehachapis and before the East Branch/West Branch Split	SWP Aqueduct Canal	5,360
West Branch to Castaic Lake	Lower Quail Lake Canal	1,564

Source: Compiled by Impact Sciences, Inc.

The local supplies received by CLWA from the SWP are treated, filtered and disinfected at the two existing filtration plants in Santa Clarita Valley. The plants have a current capacity to treat a total of 58 mgd. From the existing plants, the treated water is delivered by gravity throughout the CLWA service area through a distribution network of pipelines and turnouts. One of the existing plants, the Earl Schmidt Filtration Plant, has a current design capacity of 33 mgd. CLWA is currently expanding the plant's treatment capacity to a total of 56 mgd. In addition, the process performance of the plant is being evaluated and will be improved to assure continuous compliance with state and federal water quality regulations. The expanded plant is scheduled to be on-line by mid-2005. CLWA has also begun the design and environmental review process for the expansion of the Rio Vista Water Treatment Plant from 30 to 60 mgd. Ultimate plant design planning by CLWA indicates that the combined treatment capacity of the treatment plants would be approximately 180 mgd.

(8) SWP Reliability

The maximum contractual amount of SWP Table A Amounts do not necessarily result in equivalent deliveries of SWP water in any given year. The demands of SWP contractors vary from year-to-year depending on many factors, including the amount of winter rains, agricultural markets, the availability (and cost) of other water resources, municipal and industrial demands and environmental requirements associated with the Sacramento-San Joaquin Delta (Delta), where the water supplied by the SWP originates. To account for these variable supplies and demands, DWR and the SWP contractors have developed a system that annually allows for the identification of the anticipated demands of each SWP contractor (a request of supply) and the system supplies (a DWR allocation of those supplies). Other water resources (Turnback Pool and Interruptible Water) are available from time-to-time to SWP contractors whose needs are not met by the annual allocation of Table A Amounts. The total planned

annual delivery capability of the SWP (approximately 4.2 million acre-feet) is distributed by contract among the 29 SWP contractors, based on their respective contractual Table A Amount. As a result of various factors, the SWP annual deliveries of both Table A Amount water and non-Table A Amount water have ranged from approximately 550,000 acre-feet to 3.52 million acre-feet (DWR 2003). In 1999, the SWP delivered approximately 3.1 million AFY of both Table A Amount and non-Table A Amount water. The SWP delivered approximately 3.5 million acre-feet of Table A Amount and non-Table A Amount water in 2000.[29] In 2003, DWR indicates that it can deliver 90 percent (or 3.71 million acre-feet) of the maximum contractual SWP Table A Amount to its contractors. Ninety percent of CLWA's maximum SWP Table A Amount of 95,200 AFY equates to 85,680 acre-feet of water.

CLWA's current maximum SWP Table A Amount of 95,200 AFY is affected by, and can be reduced due to, a number of factors, including hydrologic conditions, the status of SWP facilities' construction, environmental requirements and evolving policies for the Delta. Because of these factors, SWP supplies are subject to reduction, particularly during drought periods. The programs listed below have the potential to improve the reliability of SWP water.

Monterey Agreement/Amendments. As discussed above, the Monterey Agreement between DWR and the agricultural and urban contractors provides substantial opportunities for SWP contractors, including CLWA, to increase water management flexibility by providing more tools to maximize the use of existing facilities and, in doing so, increase water supply reliability. The Monterey Agreement changed SWP water allocation rules by specifying that, during drought years, project supplies are to be allocated proportionately based on the maximum contractual Table A Amount. Water is allocated to urban and agricultural purposes on a proportional basis, deleting a previous initial supply reduction to agricultural contractors. The agreement further defines and permits permanent sales of SWP Table A Amounts and provides for transfer of up to 130,000 acre-feet of annual Table A Amounts from agricultural use to municipal use, of which CLWA has purchased 41,000 acre-feet. The Agreement also allows SWP contractors to store water in another agency's reservoir or groundwater basin, facilitates the implementation of water transfers and provides a mechanism for using SWP facilities to transport non-project water for SWP water contractors. The Agreement provides greater flexibility for SWP contractors to use their share of storage in SWP reservoirs. CLWA currently has access to about 4,700 acre-feet of storage in Castaic Lake.

CALFED Bay Delta Program. The CALFED Bay Delta program is a cooperative state-federal process with the goal of developing a long-term solution to the many competing water needs of the Sacramento-

29 The State Water Project Delivery Reliability Report, 2003, Final, found at http://swpdelivery.water.ca.gov.

San Joaquin Bay-Delta. The program is a 30-year, three-phased effort addressing a number of issues including ecosystem quality, water quality, water system reliability and system vulnerability. Implementation of the CALFED improvements over time can significantly improve CLWA's ability to maintain delivery of high quality water and provide needed water supplies during dry years.

Interim Delta Improvements. Potential supply development for the SWP includes interim Delta improvements that involve: (1) south Delta channel enlargements and construction of four barriers to improve south Delta flow circulation; and (2) installation of acoustic fish barriers on the Sacramento River. The interim improvements would enable the use of additional pumps at Banks Pumping Plant when flow conditions are sufficient, and permit the relaxation of certain current operational constraints. It is also anticipated that these improvements would change the Delta fisheries on a positive basis. Therefore, the expected supply yield would improve. Although this solution is considered viable and cost-effective, it does not constitute a permanent solution to the Delta.

Full Delta Fix. As the overall demand for water increases and the need for low-salinity imported water intensifies, a long-term solution to the Delta becomes critical. It is expected that a Delta transfer facility would provide a long-term solution to Delta problems, increase supply reliability, reduce habitat impacts and improve the water quality of Delta diversions. Goals would be to minimize the effects of the SWP export pumps on Delta fisheries and greatly improve the quality of the exported water.

South of Delta Storage. The potential exists for additional storage south of the Delta. This storage could include both reservoir projects and groundwater banking/conjunctive-use storage. The reliability of the SWP supply would increase significantly, especially during dry years, with the development of south of Delta storage. However, the benefits of the storage would be maximized if a full Delta fix were implemented. As part of the CALFED analysis, approximately 3 million acre-feet of total storage capacity could be implemented south of the Delta.

Figure 4.8-20 and **Table 4.8-9**, below, summarize the variability in SWP supplies available to CLWA by the year 2020 under the following different CALFED improvement scenarios:

(a) **Under Existing Conditions**, based on the DWRSIM model and historical hydrologic conditions, CLWA would receive approximately 37,900 acre-feet about 10 percent of the time (which is considered to be in a dry period) and approximately 56,800 acre-feet about 50 percent of the time (which is considered to be in average/normal rainfall periods).

(b) **Under Interim Delta Improvements**, CLWA would receive approximately 40,200 acre-feet about 10 percent of the time and approximately 73,700 acre-feet about 50 percent of the time.

(c) **Under a Full Delta Fix**, CLWA would receive approximately 63,900 acre-feet about 10 percent of the time and approximately 95,200 acre-feet about 50 percent of the time.

(d) **Under a South of Delta Storage**, CLWA would receive its full Table A Amount about 50 percent of the time.

Figure 4.8-20
Projected State Water Deliveries

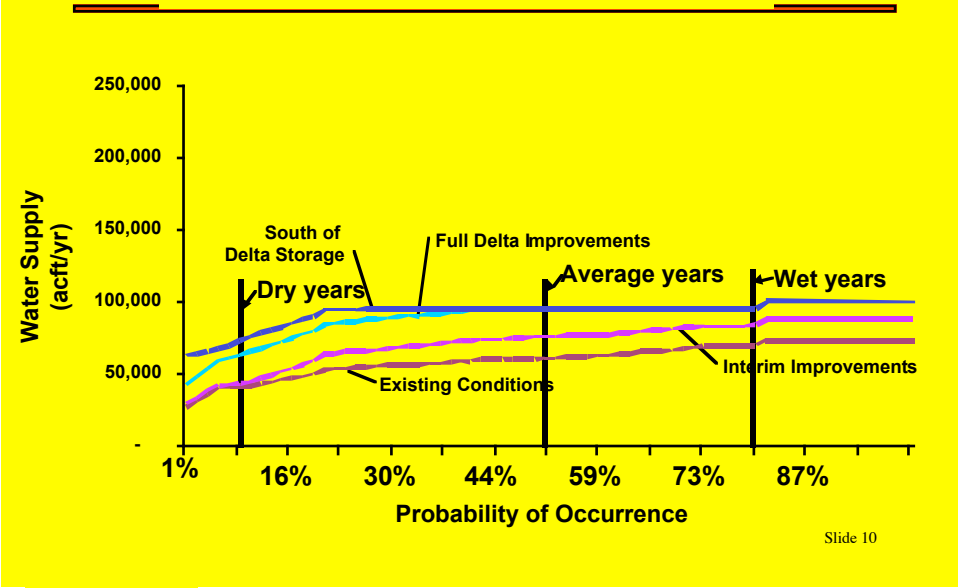


Table 4.8-9
Projected State Water Project Supplies
(acre-feet per year)

	Wet-Year	Average/Normal Year (50% Occurrence)	Dry-Year (10% Occurrence)
Existing Conditions	66,300	56,800	37,900
Interim Delta Fix	82,900	73,700	40,200
Full Delta Fix	95,200	95,200	63,900
South of Delta Storage & Full Delta Fix	95,200	95,200	75,800

Based on DWRSIM modeling (assuming full requests for all contractors).

DWRSIM and CALSIM II - Modeling Results. As stated above, the amount of water available to CLWA was calculated through the use of computer models, commonly known as the DWRSIM model and the CALSIM II model. The DWRSIM model, developed by DWR, was used to forecast CLWA water supply under various meteorological and land use changes as well as regulatory constraints. The reliability analysis derived from the DWRSIM model generally provides a conservative projection of SWP operations. For example, SWP delivery projections are usually based on *advance* requests reported by

SWP contractors. These requests generally overstate the *actual* need for SWP deliveries. Therefore, there is additional SWP water available for actual distribution despite the DWRSIM modeling results shown above. In addition, as a mathematical model, DWRSIM is limited to the amount of water actually requested and does not include water available in excess of requests. Therefore, as noted below, the modeling results should be supplemented with information based on historic availability of additional SWP water supplies.

DWR has prepared a new computer model, known as CALSIM II. CALSIM II simulates the operation of the SWP on a monthly basis over a 73-year historical record of rainfall and runoff (1922 – 1994). When compared with DWRSIM, CALSIM II forecasts that more water will be available in average/normal years (i.e., 59.7 percent under DWRSIM versus 75 percent under CALSIM) and less water will be available in single critical dry years (i.e., 39.8 percent under DWRSIM versus 20 percent under CALSIM). The analysis presented in this document utilizes a worst-case combination of the DWRSIM and CALSIM II models. (See, DWR's The State Water Project Delivery Reliability Report, Final, dated May 2003, attached to this analysis in **Appendix 4.8** for a complete description of the CALSIM II model.)

Historically, the SWP has delivered water in excess of SWP contractors' requests. From 1962 to 1999, the SWP delivered water in excess of the SWP contractors' requests in all but four years.

Drought Water Bank. Another program with the potential to improve the reliability of SWP water in drought periods is the state's Drought Water Bank. The Drought Water Bank is implemented as needed by an Executive Order by the Governor, or a finding by the DWR's director that water deliveries will be curtailed. The purpose of the Bank is to help California's urban, agricultural and environmental interests meet their water supply needs during dry years. The procedure was used successfully in 1991, 1992 and 1994 when DWR purchased water from willing sellers and sold the water to willing buyers under a set of allocation guidelines. However, in future dry years, the use of the state's Drought Water Bank would have to take into consideration local groundwater management ordinances, which restrict or control groundwater export. The proliferation of these local ordinances makes it less likely that the state's Drought Water Bank would rely on water transfers involving groundwater export in future dry years.

Drought Planning. In addition to the Drought Water Bank, the CALFED Record of Decision (August 28, 2000) called for the Governor to convene a panel, chaired by the DWR director, to develop a contingency plan for reducing the impacts of critical water shortages primarily for agricultural and urban water users. The contingency plan, known as the Governor's Advisory Drought Planning Panel, Critical Water Shortage Contingency Plan, December 29, 2000, building upon experience gained from implementing the Drought Water Bank, identifies available water resources (e.g., water transfers, water exchanges,

groundwater programs) and funding mechanisms to minimize the impacts created by drought conditions. The plan has been completed, circulated for public comment and finalized.

The contingency plan provides a brief background on California's water supplies and the hydrologic conditions potentially associated with critical water shortages. Chapter 2 describes changed water management conditions since the most recent statewide drought of 1987-1992. Chapter 3 describes the challenges in dealing with critical water shortages given these changed conditions. The challenges include constraints on availability and capacity of conveyance and storage facilities, regulatory restrictions and uncertainties, competition for limited water supplies among existing water purchasing programs and other identified issues. Chapter 4 presents the panel's recommendations for actions to be undertaken to address critical water shortages.

In the plan, the panel focused on the significant water management changes that have occurred since the statewide drought in 1987–1992. These developments include changes in water demand due to population growth, changes in institutional conditions affecting use of surface water and groundwater, construction of new water supply facilities, legislative changes and pending implementation of CALFED actions.

Since the last statewide drought of 1987–1992, two of the beneficial changes that have occurred in California are the construction of new water supply facilities and an expansion in groundwater recharge/storage capacity. **Table 4.8-10**, below, shows the major water conveyance facilities constructed or under construction since the last statewide drought.

Table 4.8-10
Large-Scale Conveyance Facilities Constructed Since the Last Drought

Facility	Agency	Length (miles)	Maximum Capacity (cfs)
Coastal Branch Aqueduct	Department of Water Resources	100	100
Eastside Reservoir Pipeline	Metropolitan Water District of Southern California	8	1,000
East Branch Enlargement	Department of Water Resources	100	2,100
	(this phase increased existing capacity by approximately 750 cfs)		
Mojave River Pipeline	Mojave Water Agency	70	94
Old River Pipeline (Los Vaqueros Project)	Contra Costa Water District	20	400
East Branch Extension (under construction)	Department of Water Resources	14	104
Inland Feeder Project (under construction)	Metropolitan Water District of Southern California	44	1,000
Morongo Basin Pipeline	Mojave Water Agency	71	100
New Melones Water Conveyance Project (Farmington Canal)	Stockton East Water District and Central San Joaquin Water Conservation District	21	500

Source: *Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000.*

In addition, there has been an expansion in groundwater recharge/storage capacity since the last statewide drought. **Table 4.8-11**, below, describes some of the larger groundwater recharge/storage projects currently operating in California. The projects that are now operational since the last drought are those operated by the Semitropic Water Storage District, the Arvin-Edison Water Storage District, the Kern Water Bank Authority, the Mojave Water Agency and the Calleguas Municipal Water District. These groundwater recharge/storage projects rely either wholly or in part on recharge supplies from the SWP. Therefore, the project's operations are subject to SWP restrictions in drought periods, as well as the availability of conveyance capacity. If water transfers provide a component of recharge supplies, availability of SWP conveyance capacity becomes a limiting factor (Contingency Plan, November 2000). As discussed above, the maximum capacity of SWP storage and conveyance facilities is extensive (4.2 million acre-feet); however, those facilities have not been completed. This capacity has been enhanced by the aforementioned groundwater recharge/storage facilities since the statewide drought of 1987–1992.

Table 4.8-11
Examples of Groundwater Storage Projects

Agency and Project Location	Comments
Alameda County Water District Niles Cone, Alameda County	Seawater intrusion management and conjunctive use, District recharges local runoff and imported surface supplies from its SWP 42 taf annual contractual Table A Amount. Average annual recharge of 25 taf.
Arvin Edison Water Storage District Kern County	A 350 taf banking program is being developed with MWD. Estimated extraction capability is 40 to 75 taf/year.
Calleguas Municipal Water District Las Posas Basin, Ventura County	Uses injection wells to recharge its imported MWD supplies. Maximum storage capacity of 300 taf. At full implementation, maximum annual extraction rate estimated to be 72 taf. Providing local emergency storage is a major project purpose.
City of Bakersfield Kern River Fan Area, Kern County	Initial operation of 2,800-acre recharge facility began in 1978. City has rights to Kern River water, and long-term contracts with three water agencies that store and extract water in coordination with the city.
Coachella Valley Water District Upper Coachella Valley, Whitewater River Channel Area	Recharge from local Whitewater River supplies and from MWD's imported Colorado River Aqueduct water exchanged for SWP contractual Table A Amounts of CVWD and Desert Water Agency.
Kern Water Bank Authority Kern River Fan Area, Kern County	6,800 acres of recharge basins. The Authority is a joint powers agency that operates the project on behalf of local water agencies. Recharge supplies may be local surface water or imported supplies.
The County of Los Angeles Department of Public Works, Los Angeles River and San Gabriel River watersheds, Los Angeles County	Extensive recharge facilities employing about 2,400 acres of spreading areas, and injection wells at three seawater intrusion barriers (Alamitos, Dominguez Gap, and West Coast). County operates the river systems for the dual purpose of flood control and groundwater recharge, and also recharges imported and reclaimed water provided by others.
Monterey County Water Resources Agency Salinas River Valley, Monterey County	Releases from MCWRA's Nacimiento and San Antonio Reservoirs are managed to provide recharge for upper valley. MCWRA distributes reclaimed water produced by the Monterrey Regional Water Pollution Control Agency for in-lieu recharge in the lower valley, to help reduce seawater intrusion. MCWRA's 45-mile distribution system can convey 19.5 taf of reclaimed water.
Mojave Water Agency Mojave River Basin, San Bernardino County	Basin has been adjudicated by court. The ephemeral Mojave River is the only local surface supply. To reduce overdraft, MWA's two new 71-mile pipelines import SWP supplies for recharge in spreading areas in the river channel. MWA's initial SWP contractual Table A Amount of 50.8 taf annually was augmented by the 1997 purchase of an additional 25 taf of annual Table A Amount.
Pioneer Project, Kern County Water Agency, Kern County	Recharge project with 1,200 acres of ponds capable of recharging 146 taf per year. Annual recovery capacity of 98 taf. Estimated storage of 400 taf. Project began operation in 1995.
Orange County Water District Santa River Watershed, Orange and Riverside Counties	Recharges Santa Ana River water regulated at Prado Dam, also recharges reclaimed water. Operates series of recharge basins along lower river and two seawater intrusion barriers. One barrier is jointly operated with the County of Los Angeles. Typically recharges about 300 taf annually.
Santa Clara Valley Water District Santa Clara County	District formed in 1929 to combat declining groundwater levels and associated land subsidence. Has 20 recharge basins covering about 390 acres, and also recharges in stream channels. District typically recharges over 100 taf annually, with a combination of local and imported supplies. Estimated operational storage is 550 taf.
Semitropic Water Storage District Kern County	Banking (in-lieu recharge) program with one maf storage capacity. Banking partners include MWD (350 taf), Santa Clara Valley WD (350 taf), Alameda County WD (50 taf), Zone 7 Water Agency (65 taf), Vidler Water Company (185 taf), The Newhall Land and Farming Company and the Castaic Lake Water Agency.
United Water Conservation District Santa Clara River Watershed, Ventura County	Operates Lake Piru on Piru Creek and Freeman Diversion Dam on the Santa Clara River in conjunction with spreading areas at Saticoy, El Rio and Piru.
Zone 7 of Alameda County Water Conservation and Flood Control District Alameda County	Recharges imported SWP water (46 taf annual contractual Table A Amount) in local stream channels.

Source: Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000.

(9) SWP - Other Water Deliveries

In addition to delivering Table A Amounts to the SWP contractors, the SWP conveys water to and stores water for contractors and other public agencies through other contracts and programs. (DWR Bulletin 132-98, November 1999, Ch. 9) These contracts and programs include, for example, the following:

Turnback Water Pool Program. Under Article 56(d) of the Monterey Amendments, the Turnback Water Pool Program was initiated through Notice to the SWP Contractors No. 97-3, dated February 5, 1997 (DWR Bulletin 132-98, November 1999, Ch. 9) All SWP contractors who signed Monterey Amendments are permitted to participate in the program. The program allows SWP contractors to offer a portion of their approved Table A Amounts for sale in a turnback pool for use outside their service area. Other contractors interested in purchasing this water can then request a portion or all of it. Based on supply and demand, the turnback water is then allocated between the selling and purchasing contractors. This program allows "excess" water to be made available to SWP contractors throughout the State of California.

Interruptible Water Program. The Interruptible Water Program allows an SWP contractor to take delivery of water over the approved and scheduled allocations for the current year. Interruptible water is available for delivery on a short-term basis as determined by the DWR, when scheduled project demands are being delivered and operational requirements for project water deliveries, water quality and other requirements are being met. (DWR Bulletin 132-98, November 1999, Ch. 9) CLWA is one of the SWP contractors that can participate in this program based upon its proportionate maximum Table A Amount.

Surplus Water Provisions. Pursuant to the Monterey Amendments, the Surplus Water Provisions allow certain SWP contractors to take delivery of "surplus" water; that is, water in excess of that required to meet all demands for Table A water. CLWA is one of the SWP contractors that can avail itself of surplus water as needed based upon its proportionate Table A Amount.

Carryover Water. For several years, DWR has offered SWP contractors the opportunity to carryover a portion of their undelivered Table A Amounts from one year for delivery during the next year. The carryover program was designed to encourage the most effective and beneficial use of water and to avoid obligating the contractors to use or lose the water by December 31 of each year. The SWP contractors' long-term water supply contracts and amendments state the criteria of carrying over Table A Amounts from one year to the next. CLWA is one of the SWP contractors that can avail itself of carryover water. In 1997, 263,759 acre-feet of carryover water was approved by DWR for future delivery to SWP contractors. (DWR Bulletin 132-98, November 1999, Ch. 9)

Both CLWA's SWP Table A Amount and SWP water from the foregoing programs are water supply sources that could be used in groundwater banking programs. These water supply sources are available during average/normal years for injection or "banking" in groundwater basins. The stored water can then be pumped when SWP supplies are reduced in dry years. In particular, these water supply sources could be available from CLWA for use in the Semitropic Groundwater Banking Project, which is discussed in further detail below.

e. Groundwater Banking and Conjunctive-Use Projects

With recent developments in conjunctive-use and groundwater banking programs, there are significant opportunities currently exist to improve the reliability of local and imported water supplies in Santa Clarita Valley. The term "conjunctive-use" generally means the coordinated operation of multiple water supplies to achieve improved supply reliability. Most conjunctive-use concepts are based on storing water supplies in times of surplus for use in times of drought. A typical program involves importation of additional surface supplies from the SWP during wet periods, recharging the water in a local groundwater basin and pumping out the stored water from wells when SWP supplies are reduced during a drought.

Groundwater banking programs generally involve storing available SWP supplies during wet years in groundwater basins (e.g., the San Joaquin Valley and the Saugus Formation). The water would be stored either directly by surface spreading or injection/extraction wells, or indirectly by supplying surplus SWP water to farmers in-lieu of groundwater pumping for agricultural uses. During dry periods, the stored water could be pumped out and exported to the Aqueduct, or used by farmers in exchange for their surface water allocations and delivered to CLWA through SWP facilities. Several potential conjunctive use and groundwater banking opportunities are available for use in the Santa Clarita Valley. Upon implementation, such programs can provide the following significant benefits in terms of water management and planning:

(a) A location to store available supplies in wet years, thus maximizing the efficient use of water resources;

(b) A dry-year supply that augments existing supplies reduced by drought or other shortages; and

(c) A storage "reservoir" that can be drawn upon when supplies are insufficient during unforeseen emergencies.

These benefits allow such programs to "firm up" and enhance the reliability of both existing and future water supplies. **Table 4.8-12** below summarizes the projected water supply benefits for each of the identified groundwater banking and conjunctive use projects projected by CLWA.

Table 4.8-12
Projected Groundwater Banking and Conjunctive-Use Supplies – CLWA (2020)[1]
(acre-feet per year)

Source	Dry Year
Kern Water Bank	25,000
Semitropic Water Bank	30,000
Kern Delta Water Bank	40,000
North Las Posas Water Bank	10,000
Total	**105,000**

[1] *Assumes Groundwater Banking Programs would only be called on in dry-years. All groundwater banking programs are available in wet and average/normal years. In 2010, the amount of supply expected from groundwater banking and conjunctive use projects is approximately 50,000* AFY.

Ongoing groundwater banking programs include the Kern Water Bank, the Semitropic Water Storage District, the Kern Delta Water District and the North Las Posas Water Bank. Each program is discussed in further detail below.

Kern Water Bank. The Kern Water Bank was established by DWR in 1988 as a statewide conjunctive-use program to increase the yield and enhance the reliability of the SWP. Eight elements were identified, seven sponsored by local agencies with the eighth being DWR's Kern Fan Element. The Kern Fan Element (later transferred to Kern Water Bank Authority) included the purchase of 19,900 acres of land and construction of recharge basins, extraction wells and related facilities. The original plan was to store SWP water underground in years of abundant supply and extract the banked water in dry years for use by SWP contractors. This original plan was divided into elements, such as Kern Fan, Semitropic and Cawelo. Initial studies indicated that the Kern Fan Element could store as much as 1,000,000 acre-feet of water and provide up to 140,000 acre-feet of water to the SWP in dry years. The other seven elements vary significantly in size. The Semitropic Local Element is the largest of these with more than 1,000,000 acre-feet of storage, while Cawelo Water District is the smallest with a storage capacity of about 110,000 acre-feet. The Semitropic element is discussed further below.

In 1994, the Kern Water Bank Authority (KWBA) was established to develop and operate the Kern Water Bank. The KWBA is a joint powers authority consisting of six water agencies. The KWBA constructed recharge basins and began recharging water in 1995. KWBA is now constructing additional basins, extraction wells and water conveyance facilities.

In October 1997, the KWBA, in conjunction with state and federal fish and wildlife agencies, established a Habitat Conservation Plan and Natural Community Conservation Plan that is preserving wildlife in the area while ensuring an adequate water supply for the future. When the KWBA's new water recharge facilities are completed, they will provide Kern County farming interests with the capability of storing more than 1,000,000 acre-feet of water on a permanent basis. Currently, more than 760,000 acre-feet is in storage.

Semitropic Water Storage District. The Semitropic Water Storage District (also referred to as "Semitropic" or "District") provides SWP for irrigation. The District is located in the San Joaquin Valley in the northerly part of Kern County immediately east of the California Aqueduct. Using the immense groundwater storage capacity available to Semitropic (one million acre-feet), the District has developed a groundwater-banking program. The District operates the program by taking additional SWP supplies in wet years and returning the water in dry years. As part of this dry-year return, Semitropic can leave its Table A Amount in the Aqueduct and increase its groundwater production. Semitropic has also constructed facilities so that groundwater can be pumped into their canal and, through reverse pumping plants, actually delivered to the California Aqueduct. Semitropic currently has six banking partners: the Metropolitan Water District, Santa Clara Valley Water District, Alameda County Water District, Alameda County Zone 7, Vidler Water Company and The Newhall Land and Farming Company. The total amount of storage under contract is approximately 1,000,000 acre-feet. The stored water may be extracted in annual amounts of up to 90,000 acre-feet for all banking partners except Newhall; Newhall can extract up to 4,950 AF annually from the bank. In 2002, CLWA entered into an agreement with DWR and the Kern County Water Agency for the interim banking of water in Semitropic.

In addition, Semitropic has recently completed environmental documentation to construct new storage and return facilities. These new facilities will provide Semitropic with the additional capability to extract and pump-back to the California Aqueduct approximately 200,000 acre-feet annually. The total return capability of Semitropic in dry years is expected to be approximately 290,000 acre-feet.

Kern Delta Water District. Kern Delta Water District is in the process of developing a banking agreement with the Metropolitan Water District. Kern Delta is in the San Joaquin Valley southwest of Bakersfield and obtains imported supplies from the Kern River, 180,000 acre-feet of pre-1914 rights, and the SWP under contract through Kern County Water Agency for a maximum annual Table A Amount of 25,000 acre-feet. Under the proposed Kern Delta banking program, in wet years, additional water would be supplied to Kern Delta where it would augment groundwater supplies through either direct groundwater recharge by spreading or by in-lieu replenishment. In dry years, previously stored supplies would be returned to the Metropolitan Water District, either by direct groundwater pumpback or

through exchange of other supplies available to Kern Delta. Total return capability in dry years would be 40,000 acre-feet, with a total storage capacity of 200,000 to 240,000 acre-feet.

North Las Posas Water Bank. The North Las Posas Groundwater Basin is about 18 miles long and 4.5 miles wide, and is located in Southern California near Los Angeles. Water to this area is supplied by the Calleguas Municipal Water District, which imports all of its water from the Metropolitan Water District.

Investigations have shown that the North Las Posas Groundwater Basin has available storage capacity of about 300,000 acre-feet, primarily as a result of historic groundwater production. It is projected that the North Las Posas Water Bank could be used to return up to 10,000 acre-feet of previously stored water when needed.

f. Water Transfers

Another opportunity available to CLWA for increasing water supplies and enhancing reliability is to participate in voluntary water transfer programs (UWMP, Ch. 2.0). Since the statewide drought of 1987-1992, water transfers have developed into a viable supplemental source to improve supply reliability. The initial concept for water transfers was codified into law in 1986 when the California Legislature adopted the "Katz" Law (California Water Code Sections 1810-1814) and the Costa-Isenberg Water Transfer Law of 1986 (California Water Code Sections 470, 475, 480-483). These laws help to define the parameters for water transfers and establish a variety of approaches through which water or water rights can be transferred among individuals or agencies.

A water transfer can involve water sales, water ranching/farming and water sharing, and usually occurs as a form of spot, option and core transfers agreements. The cost of water transfer varies depending on the type, term and location of the transfer. Up to 27 million acre-feet of water are delivered for agricultural use every year. Over half of this water is in the Central Valley, and much of it is delivered by, or adjacent to, SWP and Central Valley Project conveyance facilities. This allows for the voluntary transfer of water to many urban areas through SWP facilities, including the CLWA service area.

One of the most important aspects of any resource planning process is flexibility. A flexible strategy minimizes unnecessary or redundant investments (or stranded costs). The voluntary purchase of water between willing sellers and buyers can be an effective means of achieving flexibility. However, not all water transfers have the same effectiveness for ensuring flexibility. Within the resource planning process and through ultimate implementation, several different types of water transfers have been undertaken:

Core Transfers. Agreements to purchase a defined quantity of water every year, whether needed or not. These transfers have the benefit of more certainty in costs and supply, but tend to offset surplus imported water (available in most years) that is already paid for.

Spot Market Transfers. Water that is purchased only during the time of need (usually a drought). Payment for these transfers occurs only when water is needed, but there is usually greater uncertainty in terms of costs and availability of supply. An example of such a transfer was the state's Drought Water Bank. An additional risk of spot market transfers is that the purchase may be subject to institutional limits or restricted access (e.g., requiring the purchasing agency to institute rationing before it is eligible to participate in the program).

Option Contracts. Agreements that specify the amount of water needed and the frequency or probability that the supply will be called upon (an option). These transfers have the best characteristics of both core and spot transfers. With option contracts, the potential for redundant capacity is minimized, as are the risks associated with cost and supply availability.

The most viable types of water transfers are core and option transfers and, as such, represent the CLWA's long-term strategy. (UWMP, Ch. 2.0) The costs for these types of transfers have been estimated to be about $60 to $160 per acre-foot for core transfers (compared to the initial cost of $1,100 to $2,000 per acre-foot for SWP Table A water), and $250 per acre foot for option transfers. Although the option transfer costs might seem high, the equivalent average annual cost is much less, about $65 to $112 per acre foot. The reason the average annual option transfer costs are much lower is due to the variable likelihood that the transfers will be needed.

g. Water Exchanges: Brackish and Seawater Desalting

Water exchanges represent the use of water that belongs to another entity either by trading water for water or by paying the cost of the water development and transmission. One opportunity for future exchange is through brackish and seawater desalting. (UWMP, Ch. 2.0)

Large-scale seawater desalination processes usually occur by one of two means: membrane processes and thermal processes. Membrane processes such as reverse osmosis (RO) use pressure to push seawater through semi-permeable membranes. The membrane acts as a filter allowing water to pass but not dissolved solids and impurities. Thermal processes utilize heat to separate the water from the salt and other impurities in the seawater. Thermal facilities tend to be more common but are often located in

areas where fuel is inexpensive. Therefore, as membrane technology closes the cost gap, RO will become a less costly and more energy efficient desalination technology.

Desalination of seawater is technically feasible, but has historically been an expensive procedure. However, recent seawater desalination projects seem to indicate that the cost of seawater desalination, in some site-specific situations, has decreased in recent years. The competitive proposal process for the design, construction, and operation of the 25 mgd Tampa, Florida, seawater desalination plant gained worldwide attention. The best and final offer had a first year water cost of $560.00/acre-feet and a 30-year nominal cost of water of $680.00/acre-feet. This compares favorably to past desalination costs reported to be in the range of $1,300.00 to over $2,000.00 per acre-feet. The Tampa project includes a number of favorable factors that contribute to the low water price.

In Trinidad, a 23-year contract was awarded to build, own, and operate a 28.8 mgd seawater desalination facility. The plant will supply water at a first-year price of $865.00/acre-feet (1999).

A third example is the Long Beach Desalination Project, currently in the planning stages. Poseidon Resources, the Long Beach Water Department and Southern California Edison are key participants in this project. The project includes a 20-40 mgd desalination plant and appurtenant facilities. The $90 to $180 million private investment will present no financial risk to the public partners, while at the same time providing substantial water supplies.

Current projects would seem to indicate that the cost of seawater desalting is at a point where it could become a viable resource option. As discussed above, 20,000 to 40,000 AFY will be available as part of the proposed Long Beach project. CLWA has assumed that between 2,000 and 5,000 AFY of desalted water could be purchased for use in the CLWA service area.

h. Water Conservation and Water Supply Planning

In recent years, water conservation has become an increasingly important factor in water supply planning (UWMP, Ch. 5.0, 7.0). Although not considered a "supply" source, water conservation measures have the same effect by reducing overall water demand, making more water available for use at the local and state level. In the Santa Clarita Valley, CLWA and the four retail water purveyors have actively implemented water conservation programs for many years, and additional programs are planned for the future. (UWMP, Ch. 5) CLWA is now a signatory to the Urban Water Conservation Council Memorandum of Understanding regarding the use of best management practices.

In summary, CLWA and the purveyors have developed extensive water conservation efforts, and the CLWA service area has achieved significant reductions in actual water usage through these programs. During the early 1990s (hot/dry period), the overall water requirements, due to the effects of weather, were projected to increase by approximately 10 percent. As a result of the conservation efforts, the overall water requirement actually decreased by 20 percent.

CLWA has adopted the water conservation goal of an overall 10 percent reduction in normal demand. Residential and commercial water usage can be expected to decrease through the implementation of existing and future programs. CLWA and the purveyors assume that water conservation can decrease water usage in normal years by approximately 10 percent (which is considered a conservative estimate).

Water Demand Measures and Best Management Practices. The Urban Water Management Act lists 14 Demand Management Measures that correspond to the 14 urban Best Management Practices ("BMPs"), or water use efficiency measures, promulgated by the California Urban Water Conservation Council. Adoption of the BMPs is presently voluntary; about 250 water agencies throughout the state have committed to implement them.

The recent CALFED Bay-Delta Program required mandatory adoption of the BMPs by December 2002. The water agencies of the Santa Clarita Valley have committed to implement the BMPs.

Implementation of Best Management Practices. The Demand Management Measures/Best Management Practices that are currently being implemented by the Santa Clarita Valley water agencies, or planned for implementation, are listed below.

- **Water Survey Programs for Single and Multi-Family Residential Customers.** The programs target and market the identified residential customers. The water agencies in Santa Clarita Valley will continue to implement these surveys and later implement the BMP.

- **Residential Plumbing Retrofit.** The program identifies residences constructed since 1992 and develops distribution strategy for water saving devices. The water agencies in Santa Clarita Valley will continue to implement this program and later implement the BMP.

- **System Water Audits, Leak Detection and Repair.** This programs involves leak detection and repair. The water agencies in Santa Clarita Valley will continue to implement this activity.

- **Metering with Commodity Rates for New Connections and Retrofit of Existing Connections.** The metering of all new connections and retrofitting is already done by agencies in Santa Clarita Valley.

- **Large Landscape Conservation Programs and Incentives.** These programs offer water use surveys to non-residential customers with large landscape areas. The water agencies in Santa Clarita Valley are partially complying with this activity, and will later implement the BMP.

- **High Efficiency Washing Machine Rebate Program.** This program offers rebates for purchase of horizontal-axis washing machines. The water agencies in Santa Clarita Valley do not offer rebates (nor do local energy providers or wastewater agencies). Local agencies are exempt from implementation.

- **Public Information Program.** This program implements an appropriate public information program on water efficiency. The water agencies in Santa Clarita Valley offer a very extensive and effective, award-winning program.

- **School Education.** This program provides water efficiency classes and information to schools. The water agencies in Santa Clarita Valley offer an extensive and effective award-winning program.

- **Conservation Programs for Commercial, Industrial, and Institutional (CII) Customers.** These programs identify such accounts, rank them according to water use and offer water use surveys and incentives. The water agencies in the Santa Clarita Valley not yet implementing the programs will implement the BMP at a later date.

- **Wholesale Agency Programs.** CLWA provides financial incentives or equivalent to retailers, along with technical support and information. Local water agencies will continue to implement this activity.

- **Conservation Pricing.** The water agencies in the Santa Clarita Valley institute conservation pricing. Local agencies will continue to implement a variety of pricing structures that meet the terms of this requirement.

- **Water Conservation Coordinator.** The water agencies in the Santa Clarita Valley designate staff to oversee water conservation program implementation. Local agencies will continue to implement.

- **Water Waste Prohibition.** CLWA enforces measures prohibiting water waste; however, CLWA does not possess police powers.

- **Residential Ultra-Low-Flow Toilet (ULFT) Replacement Program.** The programs determine number of service connections constructed before 1992 and offer toilet replacements. Local agencies will implement this BMP at a later date.

In September 2003, CLWA developed a long-term Draft Report, Water Supply Reliability Plan. A copy of this document can be found in **Appendix 4.8** of this EIR. The primary objectives of the draft Water Supply Reliability Plan are to develop a protocol to identify current opportunities, evaluate opportunities using uniform economic criteria, and recommend a water supply reliability plan that focuses CLWA's efforts on the cost effective and beneficial opportunities. The recommended draft Water Supply Reliability Plan includes the following primary elements:

- Near-term acquisition of water banking capacity to allow banking of excess SWP water until the selected long-term banks have been developed.

- Acquisition of water banking capacity south of the Tehachapi Mountains to provide reliability for potential SWP conveyance disruptions.

- Acquisition of water banking capacity north of the Tehachapi Mountains to meet the additional identified water banking requirements not provided south of the Tehachapi Mountains.

The draft Water Supply Reliability Plan also includes a discussion of key implementation issues and a recommended implementation plan. The Plan recommends that CLWA provide a minimum storage capacity of 50,000 acre-feet by 2005, rising to 183,000 acre-feet by 2050. For additional information regarding these topics, please see the plan in **Appendix 4.8**.

i. Local Water Contingency Planning

In addition to the conservation programs, during the 1991 drought year, the local water agencies in the Santa Clarita Valley prepared and implemented a Water Shortage Contingency Plan. It was again implemented in 1994 due to the Northridge earthquake. In both instances, the Contingency Plan worked effectively. The summary provided below describes various aspects of the updated Water Shortage Contingency Plan for the Santa Clarita Valley. (UWMP, Ch. 6.0)

Drought Committees. In past droughts, two committees were formed to address drought conditions: the Upper Santa Clara Valley Water Committee, consisting of the local water agencies in the Santa Clarita Valley, and the City of Santa Clarita Drought Committee. Each reviewed information on water production and demand. The Water Committee agreed to cooperate in sharing water resources regardless of contractual or water rights during the emergency. The City committee made recommendations to the City Council and the water purveyors.

Drought Conditions. In the event of a continued drought, it is assumed that the SWP Table A deliveries to CLWA would be curtailed, and that a State Drought Water Bank would be formed. In addition, a combination of supplies would be available such as short-term water exchanges, participation in DWR's dry-year water program, deliveries from CLWA's flexible water account in Castaic Lake Reservoir, and local groundwater pumping in accordance with groundwater studies. Reclaimed water availability is also assumed to be available.

Earthquake or Other Natural Catastrophes. If a major earthquake were to occur, or if other catastrophic natural events were to occur elsewhere in the state, it could affect the Santa Clarita Valley. Local storage in reservoirs, combined with requests to the public to reduce consumption, would provide an adequate supply for about seven days. Experts agree that at least 72 hours may elapse before outside help is received; during this period and beyond, the pumping capacity of the retail agencies should provide sufficient water.

Contamination. No extended problems with water contamination are anticipated, since the quality of local supplies is good, and steps can be readily taken to isolate a contamination problem. As discussed above, the presence of perchlorate found in one area of the Saugus Formation is currently being addressed through the development of a cleanup plan for this Aquifer.

Stages of Action. The agencies have agreed on a four-stage rationing plan, when needed. The trigger points for these stages have been established, priorities set and consumption limits established. A public hearing must be called to implement the rationing plan, and various monitoring procedures have been adopted.

Taken together, an updated Water Shortage Contingency Plan for the Santa Clarita Valley is in place, and has been successfully implemented. (UWMP, Ch. 6.0)

j. Summary Of Water Supplies For Santa Clarita Valley

The reliability of water supplies available to the CLWA service area does not depend on the "Full Delta Fix" and other water supply improvements recommended by the CALFED Program. CLWA and the retail water purveyors in the Santa Clarita Valley continue to pursue and fund their own local water supply programs. Recently, local water reliability enhancement programs have been undertaken to ensure that the water needs of the service area can be met into the future. As part of this endeavor, numerous programs are being undertaken simultaneously to safeguard against the onset of the next dry year.

As an example, CLWA's long-term Capital Improvement Plan ("CIP") is currently funding the purchase of additional SWP supplies, groundwater storage programs both inside and outside CLWA's service area, surface water storage programs, water conservation and recycling programs, short-term pumping from the Saugus Formation and short-term exchanges from other agencies on an as-needed basis. In 2001 and 2002, CLWA took several specific actions to enhance, preserve and strengthen the quality and reliability of existing and future water supplies in the Santa Clarita Valley. Those actions included, among others, completing the preliminary design for expansion of the Earl Schmidt Filtration Plant from 25 mgd to 56 mgd; obtaining permission from DHS to increase filter flow at the Filtration Plant; negotiating a transfer of 8,786 AFY of 2001 Castaic Creek Flood Flows to CLWA for treatment and use; negotiating with DWR an extended carry-over program for 2001 SWP allocations; signing the Memorandum of Understanding Regarding Urban Water Conservation in California; working to complete acquisition of an additional 16,000 AFY of SWP Table A Amount, following appropriate environmental review, which is underway; and entering into an agreement to bank water in the Semitropic Water Storage District on an interim

basis. These measures implemented over time provide the assurance that alternative supplies will be available in the CLWA service area to meet local water demands well into the future. For long-term planning purposes, water supplies and facilities are added on an incremental basis and in advance of need.

At the same time, however, CLWA, the four local retail water purveyors and other purveyors in the state readily acknowledge that it would be economically imprudent now, or in the short-term, to acquire all of the water supplies and facilities needed for the next twenty-five to thirty years. This type of an approach would represent an unfair shift of costs from future customers in new developments to existing customers in existing developments. In fact, water agencies in California are generally prohibited by law from imposing fees and charges for water supplies and facilities unless those fees and charges are reasonably related to actual services provided.

(1) Availability of Local Supplies

As shown in **Table 4.8-13**, projected total future supplies from local groundwater and reclaimed water sources range from 85, 000 AFY in a dry year to 63,000 AFY in an average/normal year.

Table 4.8-13
Planned Local Supplies
(acre-feet per year)

Source	Average/Normal Year	Dry-Year
Groundwater		
Alluvial Aquifer	35,000	35,000
Saugus Formation	11,000	13,000
Saugus Formation (new wells)*	--	20,000
Reclaimed Water	17,000	17,000
Total Local Supplies	**63,000**	**85,000**

*Source: Santa Clarita Valley Water Report 2002, April 2003 and SB 610 Water Supply Assessment for the Riverpark Project, which are attached to this analysis in **Appendix 4.8**.*

* *Planned program for future implementation. According to the CLWA, prior to implementing increases in production from groundwater supplies, CLWA will analyze the feasibility, cost and potential water quality and environmental effects of such a program. However, preliminary analyses and recent studies have concluded that additional pumping can be carried out.*

(2) Availability of Imported Supplies

As shown below in **Table 4.8-14**, projected supplies from the SWP, water banking/conjunctive-use projects, and water transfers range from 61,273 AFY in average/normal years to 122,540 to 141,390 AFY in dry years.

Table 4.8-14
Planned Imported Supplies
(acre-feet per year)

Source	Average/Normal Year	Dry Years
SWP Supplies *	56,073	19,040 - 37,890
Banking/Conjunctive Use**	--	100,000
Water Transfers	5,200	3,500
Total Imported Supplies	**61,273**	**122,540-141,390**

*Source: The State Water Project Delivery Reliability Report, May 2003 and SB 610 Water Supply Assessment for the Riverpark Project, which are attached to this analysis in **Appendix 4.8**.*
** 56,800 acre-feet = 59.7 percent of maximum Table A Amount; 19,040 acre-feet = 20 percent of maximum Table A Amount; and 37,890 acre-feet = 39.8 percent of maximum Table A Amount.*
*** Planned programs for future implementation pursuant to UWMP 2000, Table 2-5 and SB 610 Water Supply Assessment for the Riverpark Project.*

(3) Total Water Supply Availability

As shown below in **Table 4.8-15**, for long-term planning purposes, total water supplies available to the CLWA service area range from 182,240 to 241,790 AFY in dry years, and from 103,200 to 157,100 AFY in average/normal years. For critical dry years, when the reliability of the SWP can be reduced to 20 percent of SWP maximum Table A Amount, CLWA would utilize dry year supplies available from the Saugus Aquifer, and water banking and conjunctive use projects as indicated in **Table 4.8-15**.

Table 4.8-15
Total Supplies
(acre-feet per year)

Source	Average/Normal Year	Dry Year
Local Supplies Groundwater		
Alluvial Aquifer	35,000	35,000
Saugus Formation	11,000	13,000
Saugus Formation (new wells)*	--	20,000
Reclaimed Water*	17,000	17,000
Imported Supplies		
SWP Supplies	56,073	19,040 -37,890
Water Banking/Conjunctive Use*	--	100,000
Water Transfers*	5,200	3,500
Total Supplies	**124,273**	**207,540 to 226,390**

*Source: The State Water Project Delivery Reliability Report, May 2003 and SB 610 Water Supply Assessment for the Riverpark Project, which are attached to this analysis in **Appendix 4.8**.*
** Planned programs for future implementation pursuant to the UWMP 2000, Table 2-6 and SB 610 Water Supply Assessment for the Riverpark Project.*

The remaining portion of this section summarizes "water demand" in the Santa Clarita Valley.

k. Water Demand In The Santa Clarita Valley

This section describes the historic, existing and projected water use (demand) within the CLWA service area.

CLWA provided historic and existing water usage in the Santa Clarita Valley and the methodology used to forecast future water demand for the valley. Water usage consists of residential, commercial, industrial, recreational, agriculture and other uses. Existing land-use data, new housing construction information and population data were also compiled for the Santa Clarita Valley. The information was then compared to historic trends in water service connections and customer water usage to determine the reasonableness of the projected information. In addition, the CLWA considered the effects of weather and conservation on historic water usage.

This section summarizes the historical and existing water demand in the Santa Clarita Valley and forecasts the water demand in the Valley through 2020.

(1) Historical And Existing Water Demand In Santa Clarita Valley

The historical and existing water usage was based upon service connections from the four retail water purveyors in the CLWA service area. As shown in **Table 4.8-16**, the total number of new service connections has increased from 39,299 in 1990 to 58,221 in 2002. This increase in the number of service connections represents slightly more than 500 per year in 1991, to a maximum of 4,200 in 2001, representing an average annual increase of 1,456 new service connections per year.

Table 4.8-16
Historical Number of Service Connections

Service Connections	1990	1992	1994	1996	1998	2000	2002
Valencia Water Co.	14,272	14,854	15,703	17,420	19,863	22,000	25,286
Newhall	5,854	6,144	6,294	6,477	6,585	7,200	7,700
Santa Clarita Water Division of CLWA	18,550	19,000	19,400	19,650	20,300	22,000	24,175
LA County #36	623	736	752	768	774	700	1,060
Total	**39,299**	**40,734**	**42,149**	**44,315**	**47,522**	**51,900**	**58,221**

Source: CLWA 2000; Santa Clarita Valley Water Report 2000 and 2002.

(2) Projected DMS Water Demand In Santa Clarita Valley (2015)

The DMS is an important regulatory component of the County's General Plan. The DMS acts as an early warning system to County decision-makers by providing information about the existing capacity of certain infrastructure, facilities and public services at the time a new development is considered in the four major "urban expansion areas" of the County's General Plan, including the Santa Clarita Valley. The goal of DMS is to identify the new infrastructure, facilities and public services that will be required for new development, and to ensure that the appropriate costs of expanding such infrastructure, facilities and services will be paid for by new development and not assumed by taxpayers in existing developments.

In accomplishing the goals stated above, the DMS determines the availability of certain infrastructure, facilities and services, including water services, on an individual and cumulative basis. The DMS utilizes a computer database that incorporates information supplied by service providers and determines capital facility capacity and demand placed on the system by existing, pending, approved and recorded projects for which land divisions have been filed within the four major "urban expansion areas" of the County's General Plan, including Santa Clarita Valley. The DMS is used to quantitatively determine project and cumulative impacts on certain essential infrastructure, facilities and services, including water service. In EIRs prepared for the County, whenever a proposed project would result in an exceedance of applicable infrastructure, facilities or services, a significant impact is identified and recommended mitigation measures are provided.

The "DMS Build-Out Scenario" entails buildout of subdivision projects listed in the County's Development Monitoring System (DMS), plus the Riverpark project. A DMS analysis is required by the County's General Plan for the cumulative analysis of certain utilities and services, including water service.

The County's DMS database includes all pending, recorded and approved projects for which land divisions have been filed within County unincorporated lands and within the City of Santa Clarita. The City plus County unincorporated area together constitute the County's Santa Clarita Valley Planning Area. A list of the future DMS development activity in the Santa Clarita Valley Planning Area is presented below in **Table 4.8-17**. The listing presented in **Table 4.8-17** does not include General Plan Amendment requests such as the Newhall Ranch Specific Plan. (General Plan Amendment requests are considered in the Santa Clarita Valley Cumulative Build-Out Scenario, which is considered more comprehensive than the DMS Build-Out Scenario. The Santa Clarita Valley Cumulative Build-Out Scenario is discussed in the section below).

Table 4.8-17
Cumulative Development Activity - DMS Build-Out Scenario -
Santa Clarita Valley Planning Area

Land Use Types	Pending Projects[a]	Approved Projects[b]	Recorded Projects	Total
Single-Family Units (detached)	7,142 du	8,109 du	8,385 du	23,636 du
Multi-Family Units	1,965 du	8,371 du	2,868 du	13,204 du
Mobile Homes	650 du			650 du
Commercial	305 ac	107 ac	60 ac	472 ac
Industrial	195 ac	188 ac	200 ac	583 ac

Source: The County of Los Angeles Service Provider Report, Santa Clarita Valley Water Service Purveyors, April 23, 2003.
[a] *Pending Projects: The County of Los Angeles and City of Santa Clarita subdivisions filed with the County of Los Angeles Department of Regional Planning, which are not yet recorded or expired.*
[b] *Approved: subdivisions approved by the County, which are not yet recorded or expired.*
[c] *Recorded: subdivisions recorded, but not yet built.*
du = dwelling units
ac = acres

Table 4.8-18 illustrates cumulative water demand for the Santa Clarita Valley service area under the DMS Build-Out Scenario.

Table 4.8-18
Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley - 2015 (acre-feet per year)

	Average Year		Dry Year[a]	
Santa Clarita Valley DMS Demand				
- Existing Plus DMS Demand	97,862		107,648	
Existing Demand		61,403		61,403
Pending Demand		7,045		7,045
Approved Demand		9,372		9,372
Recorded Demand		5,984		5,984
Other Demand (including Agriculture)[b]		7,100		7,100
Newhall Ranch Specific Plan[c]		6,958		6,958
Dry Year 10% Increase in Demand		0		9,786
- Riverpark Demand	697		697	
Dry Year 10% Increase in Demand		0		70
- Less Conservation	(9,856)		(10,842)	
Total[a]		**88,703**		**97,573**

[a] *Demand is increased by approximately 10 percent in dry years.*
[b] *This demand figure reflects a reduction in agricultural demand that would occur as the projects shown in the County's DMS are built. According to the Valencia Water Company (DiPrimio, Personal Communication, 2003) water demand in a critical dry year can be expected to decrease by approximately 20 percent through implementation of future water conservation practices in the CLWA service area. This analysis conservatively assumes a 10 percent reduction in critical dry year demand below dry year demand.*
[c] *The Newhall Ranch Specific Plan would only be partially built-out by 2015. It is assumed that development on the Specific Plan site would start to be occupied in 2005 and would be fully built out by 2030. This figure represents 10 years worth of development on the Specific Plan site.*

Without the Riverpark project, future DMS water demand plus existing urban and other demand (including reduced agricultural demand) would be in the total amount of approximately 97,862 AFY (including partial buildout of the Newhall Ranch Specific Plan by 2015 which has been added to the

demands shown in the DMS for the purpose of this analysis). With the water demand of the Riverpark project added (697 AFY in an average year and 767 AFY in a single dry year) and taking into consideration expected water conservation (9,856 AFY in an average year and 10,842 AFY in a dry year), total cumulative demand under the DMS Build-Out Scenario would be approximately 88,703 and 97,573 acre-feet of water per year in an average and dry year, respectively. While no one can precisely predict the year buildout of all projects listed in the DMS would occur, this analysis estimates that DMS buildout would likely occur over the next 10 to 11 years. This analysis assumes that all projects on the DMS buildout in 2015.

(3) Projected Water Demand In Santa Clarita Valley Up To 2025

In order to forecast future water demand through 2025, CLWA utilized both the extrapolation method (based on service connections) and the econometric method (based on land-use analysis) as the most accurate means of forecasting water demand through 2025. This combined forecast took the projected growth in new service connections, accounted for the effects of housing trends, land-use changes, development trends, weather and conservation effects to create an estimated increase in water demand through 2025.

Normal/Average Year Water Demand: Table 4.8-19 depicts the projected average/normal year water demand for the Santa Clarita Valley through 2020.

Table 4.8-19
Projected Normal/Average Year Water Demand
(acre-feet per year)

	2005	2010	2015	2020
Urban Uses	66,600	77,700	90,900	106,000
Agricultural Uses[1]	15,100	12,400	9,800	7,100
Total Projected Demand [2]	**81,700**	**90,100**	**100,700**	**113,100**

Source: Water Supply Assessment for the Riverpark Project, Santa Clarita Water Division of the Castaic Lake Water Agency, August 7, 2003.

1 *Agricultural water usage is expected to decrease from 17,800 AFY in 1999 to about 7,100 AFY by 2020 due to increased development in the Santa Clarita Valley. This decrease in agricultural demand includes the approximately 7,038 AFY of Newhall Land and Farming Company agricultural water that would be used to partially meet the potable water demands of the Newhall Ranch Specific Plan as Newhall Land and Farming Company's agricultural lands in Los Angeles County are converted to urban uses.*

2 *Does not include expected long-term water conservation savings of 10 percent.*

Using a straight-line projection, water demand is expected to increase to 123,570 AFY by 2025.

Single Dry Year Water Demand: CLWA evaluated the estimated dry-year demands and projected supplies for the year 2010 for the purpose of assessing a single dry year. This year was selected in order to show the results of local and imported water supply development over the next 10 years. In May 2003 DWR finalized its State Water Project Delivery Reliability Report. For the worst-case scenario single critical dry year (1977, with a one in 73 year probability of occurrence), DWR estimates that SWP deliveries to contractors would be approximately 20 percent of contract Table A Amounts. Single dry year demand in 2010 is estimated at 81,810 AFY (i.e., 90,900 acre-feet less 9,090 acre-feet (10 percent) to account for expected voluntary conservation).

Multiple Dry Year Water Assessment: CLWA estimated the minimum water supply available during each of the three water years, 2001, 2002, and 2003.[30] The surface and groundwater supplies included in this analysis are reflective of supplies available during the 1987-92 drought years, and in particular, 1990, 1991, and 1992. The supplies available from recycling projects are assumed to experience no reduction in a dry year but are also assumed not to be fully on-line at this early stage of the 20-year projection. Demand reductions of 10 percent based on short-term water conservation programs are assumed for these dry-year scenarios (this level of conservation was achieved during the 1987-1992 drought). If projected imported and local supplies are developed as indicated, no shortages are anticipated within the Agency's service area in the dry-year scenarios analyzed.[31] Years 1, 2 and 3 in **Table 4.8-20** represent demand projections for 2003 through 2005. The single and multiple dry year water supply and demand assessments from the UWMP are summarized in the following table.[32]

Table 4.8-20
Projected Dry Year and Multi-Dry Year Demand
acre-feet per year

		Multiple Dry Years		
	Single Dry Year	**Year 1**	**Year 2**	**Year 3**
Total Estimated Demand	90,900	82,000	83,300	84,600
Voluntary 10% Conservation	9,090	8,200	8,330	8,460
Total Net Demand	81,810	73,800	74,970	76,140

Information concerning "Future Planned Water Supply Programs" as listed below, from the UWMP and other sources was included to indicate examples of how CLWA would add reliability and flexibility to its

30 UWMP p. 4-3. Hot, dry weather may generate a 10 percent increase above normal in both urban and agricultural water usage. This percentage was used to generate the dry-year demands in Table 2.2.

31 UWMP p. 4-4.

32 Excerpted from Table 4-2 of the UWMP.

water supply portfolio. Programs such as these will be analyzed by CLWA and contracts entered into as need and cost-effectiveness are determined through time. Future Water Supply Assessments will reflect these contractual agreements.

Long-Term (2025) Dry Year Demand: To determine the projected water demand in dry years, CLWA relied on studies showing that hot-dry weather may generate a single-year 10 percent increase in both urban and agricultural water usage above and beyond the average/normal year water demand. Therefore, this percentage was used to generate the dry-year demands shown in **Table 4.8-21**. No conservation savings are reflected in the water demand projections shown in **Table 4.8-21**. **Table 4.8-21** also provides the overall projected water demand for the Santa Clarita Valley through 2020 in average/normal years and dry years.

Table 4.8-21
Projected Dry-Year Water Demand
(acre-feet per year)

	2005	2010	2015	2020
Total Projected Normal/Average Year Demand	81,700	90,100	100,700	113,100
Plus 10% Increase in Usage in Dry-Years	8,170	9,010	10,070	11,310
Total Projected Dry-Year Demand	**89,870**	**99,110**	**110,770**	**124,410**

Source: CLWA's *SB 610 Water Supply Assessment for the Riverpark Project* and *UWMP 2000, Table 3-5 and Table 4-2.*

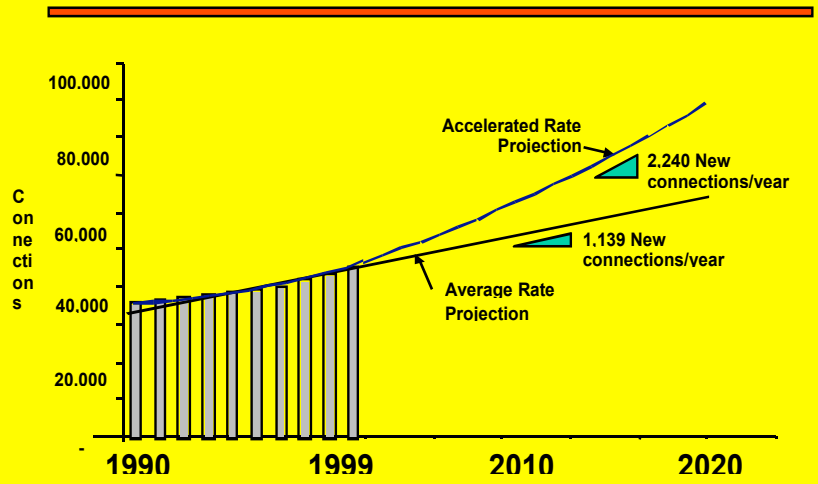
Water demand in dry years would increase to 135,927 acre-feet per year by 2025. In considering the future number of service connections needed within the CLWA service area, CLWA utilized the methodology, referred to as the extrapolation method. This method evaluates projected water usage based on the extrapolation of service connections throughout the CLWA service area. Using this method, service connections are exponentially projected for the CLWA service area through 2025. Under this method (exponential projection), the number of new service connections is projected to increase from 49,550 in 1999 to about 96,000 in 2020 and 107,200 in 2025, representing an annual average increase of about 2,240 new connections per year. Recent service connection data is generally consistent with this projected average. Connection data compiled and maintained by CLWA since 2000 shows 2,249 new connections in 2000, 2,822 new connections in 2001, and 2,080 new connections in 2002.[33]

Figure 4.8-21, below, depicts the historical and projected number of service connections in the CLWA service area by the year 2020. The figure shows about 96,000 new connections in 2020, with an average

[33] See, CLWA's SB 610 Water Supply Assessment for the Riverpark Project, which is attached to this analysis as **Appendix 4.8**.

annual increase of 2,240 connections per year from 2000 to 2020, using the accelerated rate projection); and it shows about 70,000 new connections in 2020, with an average annual increase of 1,139 connections per year from 2000 to 2020, using an average rate projection).

Figure 4.8-21
Historical and Projected Number of Service Connections



3. RIVERPARK WATER DEMAND AND SUPPLIES

As indicated in the SB 610 Water Supply Assessment for the Riverpark Project an adequate supply of water is available to meet the demands of the Riverpark project without creating significant environmental impacts.

a. Preface

This section is the "heart" of the **Water Services** section. This section demonstrates that adequate water sources will be available for buildout of the project by showing that the water purveyor serving the project site has a sufficient supply of water for its customers including those ultimately on the project site.

b. Water Demand and Delivery

(1) Riverpark Water Demand and Delivery

This section presents the water demand for the Riverpark project. In this discussion, the project's water demand is assessed in conjunction with the existing water demand in the Santa Clarita Valley, as well as the future cumulative water demand in the Santa Clarita Valley under near-term and long-term conditions.

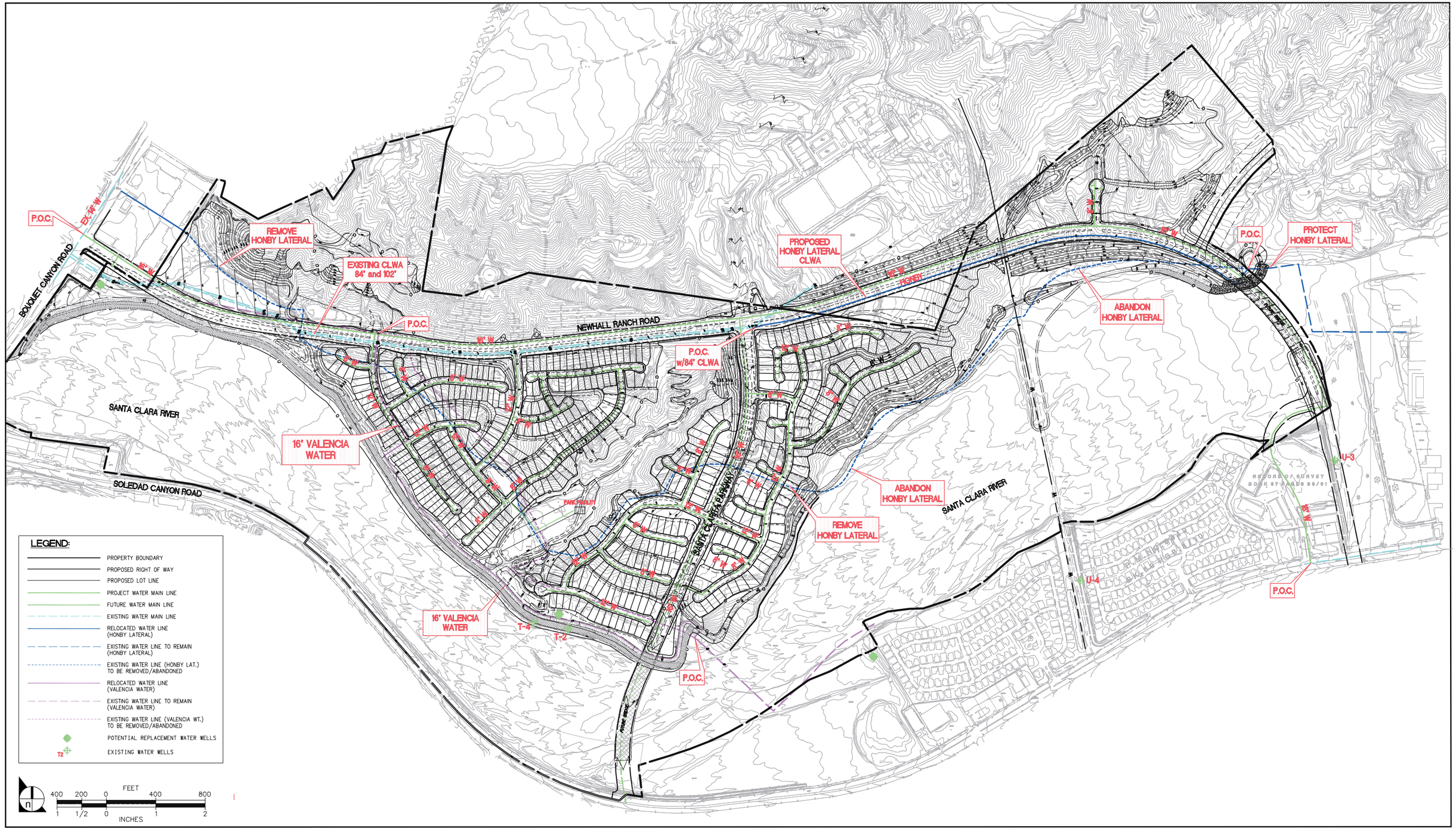
The Riverpark project is a proposed residential development consisting of single- and multi-family housing on a 695.4-acre site in the City of Santa Clarita. It includes 439 single-family dwellings, 744 apartments, 40,000 square feet of commercial building area, and a 29-acre passive park, of which a maximum of 8 acres would be landscaped and irrigated. The project site is located at the terminus of Newhall Ranch Road, east of Bouquet Canyon Road between CLWA property and the Santa Clara River, north of Soledad Canyon Road. Home construction is anticipated to begin in 2006 and will continue until buildout in 2009.

Using water demand factors provided by SCWD, the proposed project would consume approximately 697 AFY. The anticipated project demand for water is summarized in **Table 4.8-22, Estimated Water Demand,** below.

Table 4.8-22
Estimated Water Demand

Land Use Category	Amount	Water Duty Factor	Water Demand (AFY)
Single-Family Units	439 units	0.55 af/unit	241.45
Apartments	744 units	0.19 af/unit	141.36
Park	8 acres	3 af per acre	24.0
Other Misc. Landscaping (irrigated common landscaping, pocket parks, etc.)	93 acres	3 af per acre	279.0
Commercial (40,000 sq. ft.)	3 acres	0.0289 af/100 sq. ft.	11.56
TOTAL			**697.37**

Proposed On-Site Potable Water System: The proposed project will be served by a series of existing and proposed water lines and water tanks. The proposed project's water delivery system would consist of 16-inch water mains that generally follow the major roadways on and off the project site (i.e., Santa Clarita Parkway and Newhall Ranch Road). Additionally, a system of 8- and 12-inch water lines are proposed to follow the internal roadways of the project. The proposed 16-inch water main in Newhall Ranch Road, to be owned and operated by Santa Clarita Water Company (SCWC), is anticipated to connect to an existing 14-inch SCWC line in Bouquet Canyon Road. This existing line is a Zone A line (Bouquet Zone) (See, **Figure 4.8-22, Proposed On-Site Potable Water System for the location of proposed water zones)**. The water storage tank serving the Bouquet Zone is owned and operated by SCWC and is located just north of the project site and is situated at an elevation of 1,450 feet above mean sea level. From this point of connection at Bouquet Canyon Road, the Newhall Ranch Road main will continue east to proposed extension of Valley Center Drive. The main will then follow the alignment of Valley Center Drive to connect to an existing 10-inch line in Soledad Canyon Road (See, **Figure 4.8-22, Proposed On-Site Potable Water System**). This line is within Zone E (Honby Zone) and is fed from a tank three miles east of the project site (also owned and operated by SCWC). This water tank is situated at an elevation of 1,510 feet above mean sea level. A 16-inch water main is also proposed to be located in Santa Clarita Parkway with a connection at Newhall Ranch Road. This line is not proposed to be extended beyond the limits of development by this project. It is currently anticipated that both water production and storage will be accomplished off site at existing SCWC facilities, though the project includes a potential water tank, at one of two possible locations, if needed in the future to serve the project.



SOURCE: PSOMAS and Associates, 2003

FIGURE **4.8-22**

Proposed On-Site Potable Water System

Existing On-Site Water Infrastructure: Several existing water lines, belonging to Castaic Lake Water Agency (CLWA) and Valencia Water Company (VWC), currently traverse the project site. CLWA's Honby Lateral enters the project site at the eastern boundary. This 33-inch steel pipe continues west across the project site to a point of connection with an 84-inch CLWA water transmission line that exists in the future alignment of Newhall Ranch Road.

Additionally, CLWA is proposing to relocate and upgrade the Honby Lateral within the project site. This realignment and upgrade is part of CLWA's Capital Improvement Program, which was analyzed in a program EIR certified in 1998. CLWA will be preparing a separate project-level environmental document for the relocation and upgrade covering this portion of the Honby Lateral. The Honby Lateral does not provide water service to the Riverpark project.

In addition to the Honby Lateral, CLWA has two existing transmission lines that originate at the agency's water treatment plan north of the Riverpark site. These 84-inch and 102-inch lines travel downhill from the water treatment plant and continue, for the most part, along the currently graded future right-of-way for Newhall Ranch Road to a point of connection with Bouquet Canyon Road. The project proposes no change to these water lines.

VWC operates two water wells on the project site (T-2 and T-4), as well as two wells just off site (U-3 and U-4). There is an existing 12-inch water line that connects well U-4 to T-2. This line then becomes a 16-inch line at well T-2. This 16-inch line traverses the project site in a northwesterly direction until it reaches the currently graded alignment of Newhall Ranch Road. This line continues west and follows the graded roadway alignment. As this line exits the site at the northwestern boundary it ties into 12-inch and 14-inch lines. Valencia Water Company, in conjunction with project development, intends to relocate this line to behind the proposed bank stabilization and within "A" Street to a point of reconnection with the existing VWC line in Newhall Ranch Road. Additionally, VWC will replace the two existing on-site water wells in alternative locations on the project site. Valencia Water Company does not provide water service to the Riverpark project.

Project Fire Flows: The Los Angeles County Fire Department requires sufficient capacity for fire flows of 1,250 gallons per minute (gpm) at 20 pounds per square inch (psi) for a two hour duration for single family uses, and up to 5,000 gpm at 20 psi for a duration of up to five hours for multi-family and commercial uses with a first floor area of 35,000 square feet or greater (actual fire flow requirements would be confirmed for each use by the Los Angeles County Fire Department prior to Final Tract Map approval). Based on the experience of the project engineer, PSOMAS, the proposed water system would be able to meet both domestic and fire flow requirements of the project.

(2) Existing Conditions Plus Project Water Demand

This section describes the existing development in the Santa Clarita Valley, as well as the project water demand. **Table 4.8-23**, **Existing Plus Project Demand for the Santa Clarita Valley**, illustrates the project demand, in conjunction with existing demand in the Santa Clarita Valley.

Table 4.8-23
Existing Plus Project Demand for the Santa Clarita Valley
(acre-feet per year)

	Average Year	Dry Year[b]	Critical Dry Year[c]
Existing Demand[a]	62,023	68,225	68,225
Other Demand (Agricultural)[a]	15,278	16,806	16,806
Riverpark Demand	697	767	767
Critical Dry Year 10% Demand Decrease (Conservation)			(8,580)
Total Demand	**77,998**	**85,798**	**77,218**

[a] *Source: Santa Clarita Valley Water Report 2002, Prepared by the Castaic Lake Water Agency, Los Angeles County Waterworks District #36, Newhall County Water District, Valencia Water Company, April 2003.*

[b] *Demand is increased by approximately 10% in dry years. 2002, the year from which this demand was derived, was a dry year and already reflects the 10% increase in demand over a normal or average year. A dry year is a year when below average rainfall occurs after a normal or wet year.*

[c] *Demand in a critical dry year is expected to decrease by as much as 20% due to voluntary and mandatory planned purveyor conservation programs. This analysis assumes a critical dry year 10% reduction in demand from the dry year demand. A critical dry year is a year when rainfall is at a critically low level (i.e., a year that occurs once every 73 years). Such a demand reduction occurred in the last critical dry year experienced in the Santa Clarita Valley (1991).*

As shown, existing water demand in the Santa Clarita Valley is approximately 77,301 AFY in average years (this figure accounts for a dry year increase in water demand in 2002 of approximately 10 percent). Of this demand, approximately 62,023 acre-feet is related to urban or developed areas and approximately 15,278 acre-feet is related to other uses in the Santa Clarita Valley, including agricultural uses. When combined with the Riverpark water demand of 697 AFY, the total water demand in the Santa Clarita Valley would be approximately 77,998 acre-feet if Riverpark were completely built out today. The land use-related water demand would increase by approximately 10 percent in dry years, such as occurred in 2002, resulting in a water demand of approximately 85,798 AFY. In a critical dry year, such as occurred in 1991, demand could decrease by up to 20 percent due to conservation measures that would be enacted by the local water purveyors and CLWA. However, this analysis conservatively assumes that critical dry-year demand would decrease by 10 percent from the dry-year demand. During such extreme conditions, water demand in the Santa Clarita Valley with the Riverpark project would be approximately 77,218 acre-feet.

(3) Cumulative Water Demand

In order to analyze the cumulative water impacts of Riverpark in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project must be predicted. Section 15130(b) of the CEQA Guidelines allows two methods of prediction. The two methods are described as follows: "(a) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or (b) a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or area-wide conditions." In response to the CEQA requirements, three separate cumulative development scenarios are analyzed for this water analysis in order to meet CEQA requirements as well as the requirements set forth in SB 610 and the County's Development Monitoring System (DMS). The three cumulative scenarios analyzed are referred to below as the "SB 610 Water Supply Assessment Scenario," the "DMS Build-Out Scenario," and the "Santa Clarita Valley Cumulative Build-Out Scenario."

The list of cumulative projects used in this water analysis to assess cumulative impacts is not static. From time to time, the list of cumulative projects is increased or decreased as specific development proposals are applied for, withdrawn, approved, or denied by lead agencies. As part of this analysis, an attempt has been made to be as current as possible; however, it is possible that the list of projects maintained by the City of Santa Clarita or other surrounding jurisdictions will change while this analysis is a subject of public review.

(a) SB 610 Water Supply Assessment Scenario - Demands

As indicated previously, a water supply assessment was prepared for the Riverpark project by the Santa Clarita Water Division pursuant to SB 610. The conclusion of the water supply assessment is summarize below and a complete copy of the water supply assessment is attached to this analysis in **Appendix 4.8**.

Water demands were estimated under three scenarios for the SB 610 Water Supply Assessment. They include the average/normal water year, the single dry year, and multiple dry years. Under the average/normal conditions, water demand in the Santa Clarita Valley would be 81,700 acre-feet in year 2005, 90,100 acre-feet in year 2010, 100,700 acre-feet in year 2015 and 113,100 acre-feet in year 2020.

For the critical dry year (2010), which occurs once every 73 years, water demand in the Santa Clarita Valley would be 90,900 acre-feet less 9,090 acre-feet due to voluntary conservation of 10 percent for a net demand of 81,810 acre-feet (While in the last critical dry year, 1991, a conservation level of 20 percent was

achieved, this portion of the analysis is using a 10 percent reduction in demand is assumed in order to be conservative).

Under the multiple dry-year scenarios and after conservation of 10 percent, Year 1, 2 and 3 demands would be 73,800 acre-feet, 74,970 acre-feet, and 76,140 acre-feet, respectively.

(b) DMS Build-Out Scenario - Demands

The County's DMS database includes all pending, recorded, and approved projects for which land divisions have been filed within County unincorporated lands and within the City of Santa Clarita. The City plus County unincorporated area together constitute the County's Santa Clarita Valley Planning Area. **Table 4.8-24** illustrates cumulative water demand for the Santa Clarita Valley service area under the DMS Build-Out Scenario. It should be noted that this scenario also includes a portion of the Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan would only be partially built out by 2015, and it is assumed that development on the Specific Plan site would start to be occupied in 2005 and would be fully built out by 2030. The water demand of Newhall Ranch shown in **Table 4.8-24** represents 10 years worth of development on the Specific Plan site.

Table 4.8-24
Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley - 2015 (acre-feet per year)

	Average Years	Dry Years[a]
Santa Clarita Valley DMS Demand		
- Existing Plus DMS Demand	97,862	107,648
Existing Demand	61,403	61,403
Pending Demand	7,045	7,045
Approved Demand	9,372	9,372
Recorded Demand	5,984	5,984
Other Demand (including Agriculture)[b]	7,100	7,100
Newhall Ranch Specific Plan[c]	6,958	6,958
Dry Year 10% Increase in Demand	0	9,786
- Riverpark Demand	697	697
Dry Year 10% Increase in Demand	0	70
- Less Conservation	(9,856)	(10,842)
Total[a]	**88,703**	**97,573**

[a] *Demand is increased by approximately 10 percent in dry years.*
[b] *This demand figure reflects a reduction in agricultural demand that would occur as the projects shown in the County's DMS are built. According to the Valencia Water Company (DiPrimio, Personal Communication, 2003) water demand in a critical dry year can be expected to decrease by up to 20 percent through implementation of future water conservation practices in the CLWA service area.*
[c] *The Newhall Ranch Specific Plan would only be partially built out by 2015. It is assumed that development on the Specific Plan site would start to be occupied in 2005 and would be fully built out by 2030. This figure represents 10 years worth of development on the Specific Plan site.*

With the water demand of the Riverpark project (697 AFY in an average year and 767 AFY in a single dry year) and taking into consideration expected water conservation (9,856 AFY in an average year and 10,842 AFY in a dry year), total cumulative demand under the DMS Build-Out Scenario would be approximately 88,703 to 97,573 acre-feet of water per year in an average and dry year, respectively.

(c) Santa Clarita Valley 2025 Build-Out Scenario - Demand

CLWA and other retail water purveyors in the Santa Clarita Valley prepared the UWMP, December 2000. CLWA estimated of future water demand for the CLWA service area to the year 2020. The CLWA service area includes the Santa Clarita Valley and a portion of Ventura County. In all, the service area is approximately 192 square miles in size. CLWA and the local retail water purveyors undertook a comprehensive effort to project future water demands and supplies.

CLWA indicates that an extrapolation service connection analysis method produces the most accurate predictions of near-term demand (i.e., 10 to 20 years), but does not account well for economic changes over the long-term (i.e., 50 years). However, the Santa Clarita Valley is not expected to reach buildout by the year 2020. Therefore, another method is needed to estimate the water demand for the Santa Clarita Valley by the year 2025. The year 2025 water demand is included because SB 610 calls for an analysis 20 years into the future. Given that this project would begin construction in approximately 2005 if approved, 2025 was selected for the 20-year analysis.

In order to obtain the most accurate forecast of long-term water demand, CLWA combined the extrapolation/service connection analysis with the econometric/land-use analysis to project the estimated increase in water demand through 2020. **Table 4.8-25**, below, presents the predicted water demand of the Santa Clarita Valley, including Riverpark and the portion of Newhall Ranch constructed, in the year 2020.

Table 4.8-25
Scenario 3: Santa Clarita Valley 2025 Build-Out Scenario Water Demand
(acre-feet per year)

	Partial Buildout (year 2020)		Full Buildout (year 2025)	
	Average	**Dry**	**Average**	**Dry**
Build-Out Demand				
- DMS Demand	88,709	88,709	88,709	88,709
Dry Year 10% Increase in Demand	0	8,871	0	8,871
- Newhall Ranch Specific Plan [a]	10,437	11,481	13,972	15,369
- Riverpark Demand	697	697	697	697
- Additional Urban Demand	13,257	13,186	19,798	19,663
Dry Year 10% Increase in Demand	0	1,465	0	2,184
Total	**113,100**[c]	**124,410**[b]	**123,176**[d]	**135,494**[b]

[a] *Newhall Ranch buildout is assumed to occur from 2005 to 2030 at a rate of 864 dwelling units per year, with average water demands of 707 AFY.*
[b] *Demand is increased by approximately 10% in dry years (113,100 x 1.10 = 124,410 and 123,176 x 1.10 = 135,494). Water demand in a critical dry year can be expected to decrease by up to 20% through implementation of water conservation practices in the CLWA service area.*
[c] *Source: UWMP, December 2000, Table 3-5.*
[d] *Source: UWMP, December 2000, Table 3-5, using a straight-line projection from 2020 to 2025.*
Note: It is expected that the existing plus DMS demand would reach its peak in approximately 2015. The Newhall Ranch Specific Plan demand would begin in approximately 2005 and would reach its peak in approximately 2030. The additional urban demand would begin in approximately 2015, after DMS demand peaks.

As shown in **Table 4.8-25**, partial buildout of the Valley by the year 2020 would create an average year water demand of approximately 113,100 AFY. This water demand figure includes the water demand generated by the project and the portion of the Newhall Ranch Specific Plan that would be expected to build out by that time (i.e., a land use water demand of approximately 10,437 AFY). It also includes the water demand of additional urban development that would occur after the buildout of all projects listed in the County's DMS (i.e., approximately 13,257 AFY). In dry years, total demand would increase to approximately 124,410 AFY.

As shown in **Table 4.8-25**, again using this combined projection method and extrapolating out to 2025, the total water demand in the Santa Clarita Valley by the year 2025, including the project and other development over and above DMS, would be approximately 123,176 AFY in average years and approximately 135,494 AFY in dry years.

c. Riverpark Water Supplies

This section identifies the water sources that will be available to meet the water demand generated by buildout of the Riverpark project. This section also discusses Riverpark water supplies in conjunction

with existing near-term development and future cumulative long-term development in the Santa Clarita Valley.

As discussed in the above section, the projected total water demand for the Riverpark project is 697 AFY in years with average rainfall (an "average year"). Project water demand increases by approximately 10 percent in years with lower than average rainfall (a single "dry year") to a total of 767 AFY. To meet this demand, water would be provided to the project by the Santa Clarita Water Division (SCWD). The project site is located completely within the SCWD service area. Water sources expected to be used by SCWD include a combination of SWP water delivered through CLWA and local groundwater resources in the Alluvial and Saugus Aquifers. The amount delivered from each source varies year to year due to hydrologic and atmospheric conditions in the state.

(1) Existing Conditions Plus Project Water Demand and Supply

This section describes the existing development demand in the Santa Clarita Valley as well as the project water demand, measured against existing supplies. **Table 4.8-26, Existing Plus Project Demand and Supply for the Santa Clarita Valley**, illustrates that existing supplies exceed the project demand, in conjunction with existing demand in the Santa Clarita Valley. Existing water supplies exceed demand by 2,283 to 10,553 AFY in dry years and by 25,775 AFY in an average/normal year after adding the proposed project to existing demands. It should be noted that dry year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand.

Table 4.8-26
Existing Plus Project Demand and Supply for the Santa Clarita Valley
(acre-feet per year)

	Average Year	Dry Year [b]	Critical Dry Year [c]
Existing Demand[a]	62,023	68,225	68,225
Other Demand (agricultural)[a]	15,278	16,806	16,806
Riverpark Demand	697	767	767
Critical Dry Year 10% Demand Decrease (Conservation)			(8,580)
Total Demand	**77,998**	**85,798**	**77,218**
Existing Water Supply Programs Available:			
Local Supplies			
Alluvial Aquifer	**35,000**	**35,000**	**35,000**
Saugus Formation	**11,000**	**13,000**	**15,000**
Recycled Water	**1,700**	**1,700**	**1,700**
Imported Supplies[b]			
SWP Table A Amount	**56,073**	**37,890**	**19,040**
Semitropic Bank Account		**7,200**	**7,200**
Flexible Storage Account		**1,561**	**1,561**
Total Existing Supplies	**103,773**	**96,351**	**79,501**
Surplus/(Deficit)	**25,775**	**10,553**	**2,283**

[a] *Source: Santa Clarita Valley Water Report 2002, Prepared by the Castaic Lake Water Agency, Los Angeles County Waterworks District #36, Newhall County Water District, Valencia Water Company, April 2003.*

[b] *Demand is increased by approximately 10% in dry years. 2002, the year from which this demand was derived, was a dry year and already reflects the 10% increase in demand over a normal or average year. A dry year is a year when below average rainfall occurs after a normal or wet year.*

[c] *Demand in a critical dry year is expected to decrease by as much as 20% due to voluntary and mandatory planned purveyor conservation programs. This analysis assumes a critical dry year 10% reduction in demand from the dry year demand. A critical dry year is a year when rainfall is at a critically low level (i.e., a year that occurs once every 73 years). Such a demand reduction occurred in the last critical dry year experienced in the Santa Clarita Valley (1991).*

d. Cumulative Water Supply Analysis

The following discussion focuses on the cumulative impacts to water availability for the Santa Clarita Valley. The analysis evaluates cumulative impacts under the following three future water demand and supply scenarios:

- **Scenario 1**: Existing development within the CLWA service area, plus near-term projections, plus the project (referred to as the "SB 610 Water Supply Scenario"); and

- **Scenario 2:** Existing development within the CLWA service area, plus Development Monitoring System ("DMS") projections, plus the project (referred to as the "DMS Build-Out Scenario"); and

- **Scenario 3**: Buildout within the CLWA service area by 2025, plus active pending General Plan Amendment requests, plus the project (referred to as the "Santa Clarita Valley 2025 Build-Out Scenario").

(1) SB 610 Water Supply Scenario

As indicated previously, a water supply assessment was prepared for the Riverpark project by the Santa Clarita Water Division (SCWD) pursuant to SB 610. A complete copy of the water supply assessment is attached to this analysis in **Appendix 4.8**. In the assessment, SCWD concludes there will be a sufficient water supply available at the time the Riverpark project is ready for occupancy to meet the needs of the project in addition to existing and other planned future uses.

CLWA has existing water allocation rights and contracts to meet future demand as needed over time, and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers, including SCWD's customers. SCWD water rights and contracts for local supplies, in addition to imported supplies provided by CLWA, are sufficient to serve all of its existing and planned customers. SCWD has also identified an operational strategy combined with a prudent and flexible management approach to ensure water reliability.

SCWD's current service area-wide demand is approximately 27,000 AFY.[34] As mentioned previously, the Riverpark project will require 697 AFY at buildout. The conclusions of the SCWD as stated in the 2000 UWMP related to the requirements of the SB 610 for Riverpark are as follows:

Average/Normal Year Water Assessment. The UWMP indicates that no shortages are anticipated within the agency's service area in an average/normal water year through 2020 if projected imported and local supplies are developed as estimated.[35] Total projected water demands for the CLWA through the year 2020 are compared with the supplies projected to be available to meet demands in this analysis. The following table, **Table 4.8-27,** summarizes the data from the UWMP.

"Future Planned Water Supply Programs", as listed in **Table 4.8-27**, are included in the UWMP to indicate examples of how CLWA would add reliability and flexibility to its water supply portfolio. Programs such as these will be analyzed by CLWA and contracts entered into as need and cost-effectiveness are determined through time. Future water supply assessments will reflect these contractual agreements.

34 This represents average year demand. Dry year demand is approximately 10 percent higher.
35 Castaic Lake Water Agency, 2000 Urban Water Management Plan (December 2000) p.4-2.

Table 4.8-27
Average/Normal Water Year
Supply and Demand Assessment[a]
(acre-feet per year)

	Year 2005	Year 2010	Year 2015	Year 2020
Existing Water Supply Programs:				
Local Supplies				
Alluvial Aquifer	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700
Imported Supplies[b]				
SWP Table A Amount	56,073	56,073	56,073	56,073
Total Existing Supplies:	103,773	103,773	103,773	103,773
Total Estimated Demand	81,700	90,100	100,700	113,100
Difference - Surplus/(Deficit)	22,073	13,673	3,073	(9,327)
Future Planned Water Supply Programs:				
Local Supplies				
Recycled Water		9,000	14,000	17,000
Imported Supplies				
Water Transfers	5,200	5,200	5,200	5,200
Total Planned Supplies:	5,200	14,200	19,200	22,200
Net Water Surplus/(Deficit)	27,273	27,873	22,273	12,873

[a] *Excerpted from Table 4-1 of the UWMP.*
[b] *56,800 af represents approximately 59% of CLWA's contractual Table A Amount. Normal year supply based on assumptions from the UWMP. The DWR SWP Delivery Reliability Report 2003 indicates greater reliability of Table A deliveries (72 to 76%) than was assumed for the 2000 UWMP.*

Single Dry-Year Water Assessment. The UWMP evaluated the estimated dry-year demands and projected supplies for the year 2010 for the purpose of assessing a single critical dry year. This year was selected in order to show the results of local and imported water supply development over the next 10 years. In May 2003, DWR finalized its State Water Project Delivery Reliability Report. For the worst-case scenario single dry year (1977, with a one in 73 year probability of occurrence), DWR estimates that SWP deliveries to contractors would be approximately 20 percent of contract amounts. If projected imported and local supplies are developed as indicated, no shortages are anticipated within the agency's service area for the extreme-case single dry-year scenario analyzed.[36] In fact, as shown in **Table 4.8-27** water supplies exceed demand by 814 acre-feet without considering future planned water supply programs and supplies exceed demand by 81,614 acre-feet with the future programs in the single critical dry year (2010). It should be noted that dry-year supplies available above demand reflect water supplies that would be

36 UWMP p. 4-3. Hot, dry weather may generate a 10 percent increase above normal in both urban and agricultural water usage. This percentage was used to generate the dry-year demands.

available to purveyors in dry years. Purveyors would typically secure water from these available supplies only in amounts necessary to meet demand.

Multiple Dry-Year Water Assessment. The UWMP estimated the minimum water supply available during each of the three water years, 2001, 2002, and 2003. The surface and groundwater supplies included in this analysis are reflective of supplies available during the 1987-92 drought years, and in particular, 1990, 1991, and 1992. The supplies available from recycling projects are assumed to experience no reduction in a dry year but are also assumed not to be fully on-line at this early stage of the 20-year projection. Demand reductions of 10 percent based on short-term water conservation programs are assumed for these dry-year scenarios (this level of conservation was achieved during the 1987–1992 drought). If projected imported and local supplies are developed as indicated, no shortages are anticipated within the agency's service area in the dry-year scenarios analyzed.[37] Years 1, 2 and 3 in **Table 4.8-28** represent demand projections for 2003 through 2005. The multiple dry-year water supply and demand assessments from the UWMP are summarized in the following table.[38]

Information concerning "Future Planned Water Supply Programs" as listed below from the UWMP and other sources was included to indicate examples of how CLWA would add reliability and flexibility to its water supply portfolio. Programs such as these will be analyzed by CLWA and contracts entered into as need and cost-effectiveness are determined through time. Future Water Supply Assessments will reflect these contractual agreements. As shown, water supplies exceed demand by 9,251 to 11,851 acre-feet without considering future planned water supply programs and supplies exceed demand by 90,051 to 92,651 acre-feet with the future programs in multiple dry years. Again, it should be noted that dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these available supplies only in amounts necessary to meet demand.

37 UWMP, p. 4-4.

38 Excerpted from Table 4-2 of the UWMP.

Table 4.8-28
Dry-Year and Multi-Dry-Year Water Supply and Demand Assessment
(acre-feet per year)

	Single Dry Year	Year 1	Multiple Dry Years Year 2	Year 3
Existing Water Supply Programs				
Local Supplies				
Alluvial Aquifer	35,000	32,500	32,500	32,500
Saugus Formation	13,000	13,000	13,000	13,000
Recycled Water	1,700	1,700	1,700	1,700
Imported Supplies[a]				
SWP Table A Amount	19,040	37,890	37,890	37,890
Semitropic Bank Account	7,200	7,200	7,200	7,200
Flexible Storage Account	4,684	1,561	1,561	1,561
TOTAL EXISTING SUPPLIES	82,624	93,851	93,851	93,851
TOTAL ESTIMATED DEMANDS	90,900	82,000	83,300	84,600
Voluntary 10% Conservation	(9,090)	(8,200)	(8,330)	(8,460)
Difference - Surplus/(Deficit)	814	11,851	10,551	9,251
Future Planned Water Supply Programs	**(2010)[b]**			
Local Supplies				
Recycled Water		7,300		
Saugus (New Wells)		20,000		
Imported Supplies				
Water Transfers		3,500		
Water Banking/Conjunctive Use		50,000		
TOTAL FUTURE PLANNED SUPPLIES		80,800		

[a] *19,040 represents 20% of CLWA's contractual Table A Amount. 37,890 af represents 39.8% of CLWA's contractual Table A Amount. Dry-year supply based on assumptions from the UWMP. The DWR SWP Delivery Reliability Report 2003 indicates greater reliability of Table A deliveries than was assumed for the 2000 UWMP.*

[b] *The UWMP assumed a total of approximately 100,000 af in available future supplies by 2020. Therefore 50,000 af shown herein is assumed to be available by 2010.*

(2) DMS Build-Out Scenario (2015)

The DMS Build-Out Scenario entails existing development, buildout of the near-term subdivision projects listed in the County's DMS, plus a portion of the Newhall Ranch Specific Plan, plus the project. The analysis of this cumulative development scenario is required by the City for the cumulative analysis of water service. The County's DMS lists all pending, recorded and approved projects for which land divisions have been filed within County unincorporated lands and within the City of Santa Clarita. The City plus County unincorporated areas together constitute the County's Santa Clarita Valley Planning area.

Table 4.8-29, below, illustrates both the cumulative water demand (existing plus DMS) and supply for the Santa Clarita Valley. This cumulative water demand is compared to the near-term projected Santa Clarita Valley water supplies and the additional Newhall Ranch Specific Plan water supplies. As shown, there is an adequate supply of water expected in both average years and dry years and no cumulative water supply impacts would occur. In fact, the table shows that water supplies exceed demand for the DMS Development Scenario by 11,435 to 38,972 acre-feet in average years and by 7,120 to 78,657 acre-feet in a single dry year. However, it should be noted that dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand.

(a) DMS General Plan Consistency

The purpose of this subsection is to assess the Riverpark project's consistency with the County's General Plan DMS policies as they relate to water supply. As indicated previously in this section, the County's General Plan includes provisions known as the DMS to give decision makers information about the existing capacity of available public services at the time a new development proposal is considered in the four major Urban Expansion Areas of the County of Los Angeles General Plan (Antelope Valley, Santa Clarita Valley, Malibu/Santa Monica Mountains, and East San Gabriel Valley).[39] The goal of DMS is to identify what new public facilities will be required for the new development, and to ensure that the appropriate cost of any expansion of facilities will be paid for by that new development, and not assumed by the taxpayers.

In accomplishing the goal stated above, the DMS determines the availability of school, fire, sewerage, library, water and road services and facilities on an individual and cumulative basis. The DMS data used for this analysis includes:

(a) Inventory information reports for water, sewer and library services in the Santa Clarita Valley;

(b) Service Provider Reports for the water wholesaler (Castaic Lake Water Agency) and water retailers in Santa Clarita Valley and County Sanitation Districts Nos. 26 and 32; and

(c) A list of all pending, approved and recorded projects where land divisions have been filed within both the unincorporated area of the County and the City of Santa Clarita.

The DMS also works toward ensuring that the expansion costs of new development are paid for by that development.

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39 Resolution of the County of Los Angeles Board of Supervisors, Plan Amendment Case No. S.P. 86-173.

To ensure new development is located in close proximity to services and existing development, DMS states that in no event is the proposed development to be located beyond one mile of an existing development or service. Also, DMS states that new development is to be located within, generally, five miles of commercial services and job opportunities.

Table 4.8-29
Scenario 1: DMS Build-Out Scenario Demand and Supply for the Santa Clarita Valley
(acre-feet per year)

	Average Years		Dry Years	
Santa Clarita Valley Demand				
- Existing Plus DMS Demand [a]	97,862		107,648	
- Riverpark Demand	697		767	
- Less Conservation	(9,856)		(10,842)	
Total	**88,703**		**97,573**	
Santa Clarita Valley Supply [b]				
- Local Supply				
a. Groundwater				
Alluvial Aquifer	30,000 to 40,000		30,000 to 35,000	
Less Newhall Ranch Agricultural Water	(3,402)		(4,534)	
Saugus Aquifer	7,500 to 15,000		11,000 to 15,000	
Saugus Aquifer (new)	0	0	10,000 to 20,000	
Newhall Ranch Agricultural Water	3,402		4,534	
b. Reclaimed Water	1,700	10,737	1,700	10,737
Less CLWA Reclaimed Water Supply for Newhall Ranch	(1,017)		(1,017)	
Newhall Ranch WRP Supply	2,103		2,103	
CLWA Newhall Ranch Supply	1,017		1,017	
- Imported Supplies				
a. SWP Supplies [c]	56,800		37,900	
b. Water Banking/Conjunctive Use			10,000 to 52,500	
c. Desalination	2,000 to 3,000		2,000 to 3,000	
Total Supplies	**100,138 to 127,675**		**104,693 to 176,230**	
Total Supplies above Demand	**11,435 to 38,972** [d]		**7,120 to 78,657** [e]	

[a] *Complete buildout of DMS land uses is estimated to occur in 2015.*
[b] *Source: UWMP, December 2000, Tables 2-6 and 4-1, and the Water Supply Assessment for the Riverpark Project, August 2003, SCWD of CLWA.*
[c] *Consistent with the DWRSIM model, the figures show SWP allocation reduced in average years to approximately 59.7 percent of maximum allocation and in multiple dry years to approximately 39 percent of maximum allocation. The CALSIM II model projects that reliability in average years rises to approximately 75 percent and decreases to 20 percent in a single dry year. In any given year, the actual amount of SWP water deliveries could be above or below these model projections. Deliveries of water associated with the agency's SWP maximum allocation of 95,200 AFY are affected by a number of factors, including hydrologic conditions, the status of SWP facilities' construction, environmental requirements and evolving policies for the Bay-Delta. Programs are in place that have the potential to improve the reliability of imported water. As these programs are needed in dry years, they could be used up to the amounts indicated (as needed).*
[d] *The surplus shown above is the net water available for injection into banking programs (e.g., Semitropic Groundwater Banking Project, other groundwater banking projects, etc.).*
[e] *Dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these available supplies only in amounts necessary to meet demand.*

The DMS includes a computerized database that incorporates information supplied by service providers and determines capital facility capacity and demand placed on the system by existing, pending, approved

and recorded projects for which land divisions have been filed within the four major Urban Expansion Areas. The DMS is used to quantitatively determine project and cumulative impacts on many County and other public services. In EIRs, wherever a proposed development project would result in an exceedance of applicable County infrastructure or facilities (such as water supply), a significant impact is identified and mitigation is recommended as appropriate. The General Plan DMS requirements apply to "subdivisions" proposed within the Santa Clarita Valley.

This analysis addresses water supply requirements resulting from buildout of all pending, recorded, and approved projects listed in the County's DMS, plus the Riverpark project and a portion of the Newhall Ranch Specific Plan. As indicated in **Table 4.8-29**, **Scenario 1: DMS Build-Out Scenario Demand and Supply for the Santa Clarita Valley**, under the DMS analysis there is sufficient water supply for the entire demand of the Riverpark project and all pending approved and recorded projects in DMS. In fact, available water supplies would exceed demand by 11,435 to 38,972 AFY in an average year and supplies would exceed demand by 7,120 to 78,657 AFY in a dry year (dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand). Therefore, the Riverpark project is not expected to create any significant cumulative water availability impacts.

In addition to ensuring that an adequate supply of water is available for a project, DMS requirements also indicate that the project in question must be located within one mile of an existing development or service and that the development be located within generally five miles of commercial services and job opportunities. The Riverpark site is located immediately adjacent to existing development and is within the retail water service area of the Santa Clarita Water Division of CLWA. It is also within the wholesale service area of the Castaic Lake Water Agency.

Based on the information provided in this analysis, the Riverpark project is consistent with the General Plan DMS policies as they relate to water supplies.

(3) Santa Clarita Valley 2025 Build-Out Scenario

The Santa Clarita Valley 2025 Build-Out Scenario entails buildout of lands under the current land-use designations indicated in the County's Area Plan and the City of Santa Clarita's General Plan by the year 2025, plus the proposed Riverpark project, plus all known active pending General Plan Amendment requests for additional urban development in the County unincorporated area and the City of Santa Clarita.

Table 4.8-30, Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Supplies, and **Table 4.8-31, Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Demand and Supply**, summarize the cumulative water demand and supply for this build-out scenario. As shown, at partial buildout by the year 2020, there are adequate water supplies for the project. As a result, the Riverpark project is not expected to create any significant cumulative water availability impacts in either average/normal or dry years. In addition, as shown, at buildout by the year 2025, there are adequate water supplies for the project, with no significant cumulative water supply impacts occurring in either average/normal or dry years. In fact, the two tables show that water supplies exceed demand under this scenario in average and dry years in both 2020 and 2025.

Dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand. For a critical dry year, when reliability of the SWP could be reduced, CLWA would utilize both dry-year supplies available from the Saugus Aquifer, and water banking and conjunctive use projects as indicated in **Table 4.8-30**, which follows.

As depicted in **Table 4.8-30**, purveyors have access to an amount of water supplies that exceed demand during dry conditions. Therefore, no cumulatively significant water availability impacts would occur due to buildout of the Riverpark project.

(4) Conclusion – Cumulative Impacts

Because cumulative water supplies exceed demand, cumulative development (including the proposed Riverpark project) would not result in unavoidable significant cumulative impacts on Santa Clarita Valley water resources. This includes potential impacts to groundwater resources related to recharge potential. Based on the memorandum prepared by CH2Mhill entitled Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley (February 22, 2004; see **Appendix 4.8**), development of the proposed project site and other sites proposed for development in the Santa Clarita Valley, no significant project-specific or cumulative impacts would occur to the groundwater basin with respect to aquifer recharge. This is due to the fact that urbanization in the Santa Clarita Valley has been accompanied by long-term stability in pumping and groundwater levels, plus the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater that is in storage within the Valley. Therefore, cumulative mitigation measures are not required with respect to water resources.

Table 4.8-30
Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Supplies
(acre-feet per year)

	Buildout (year 2020)		Buildout (year 2025)	
	Average Years	Dry Years	Average Years	Dry Years
Santa Clarita Valley Water Supplies [a]				
Local Supply				
a. Groundwater				
Alluvial Aquifer	35,000	32,500	35,000	32,500
Saugus Aquifer	11,000	13,000	11,000	13,000
Saugus Aquifer (new wells)	0	20,000	0	20,000
b. Reclaimed Water	17,000	17,000	17,000	17,000
Newhall Ranch WRP Supply	3,155	3,155	5,258	5,258
Imported Supplies				
a. CLWA SWP Table A Water [b]	56,073	37,890	56,073	37,890
Newhall Nickel Water			1,468	1,607
Newhall Semitropic Groundwater B Storage				712
b. Water Banking/Conjunctive Use	0	100,000	0	100,000
Water Transfers	5,200	3,500	5,200	3,500
Total Supply	**127,428**	**227,045**	**131,199**	**219,767**

[a] *Source: UWMP, December 2000, Tables 2-2, 2-6 and 4-1.*
[b] *SWP maximum allocation reduced in average years to approximately 59.7% of maximum allocation and in dry years to approximately 39.8% of maximum allocation. In any given year, the actual amount of SWP water deliveries could be above or below these model projections.*

Table 4.8-31
Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Demand and Supply
(acre-feet per year)

	Buildout (year 2020)		Buildout (year 2025)	
	Average Years	Dry Years	Average Years	Dry Years
Total Build-Out Demand [b]	113,100[a]	124,410	123,176[c]	135,494
Santa Clarita Valley Water Supplies [d]	127,428	227,045	131,199	**219,767**
Total Surplus [e]	**14,328**	**102,635**	**7,823**	**84,273**

[a] *Source: 2000 UWMP, December 2000, Table 3-5 and the SB 610 Water Supply Assessment for the Riverpark Project.*
[b] *Demand is increased by approximately 10% in dry years.*
[c] *Source: UWMP, December 2000, Table 3-5, using a straight-line projection from 2020 to 2025.*
[d] *Source: UWMP, December 2000, Tables 2-2, 2-6 and 4-1.*
[e] *Dry-year supplies available above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these available supplies only in amounts necessary to meet demand.*

4.8.1 Water Quality

1. SUMMARY

The project site of approximately 695.4 acres is comprised primarily of vacant, undeveloped land, located in the center of the City of Santa Clarita and surrounded by urban uses. The site is contained within a tributary drainage area of approximately 835 acres that drains into a portion of the Santa Clara River designated as Reach 9 in United States Environmental Protection Agency (EPA) documents, and as Reach 7 in the Water Quality Control Plan (Basin Plan) for the Los Angeles Region. The project site sits at the western boundary of this latter reach. This reach of the river is generally dry for most of the year. Its intermittent flows occur primarily during the "rainy" months; consequently, except during storm events of sufficient size to create flows in this portion of the river, surface flows of Reach 7 do not reach downstream reaches of the river. Older residential, commercial, and industrial uses are located upstream and east of the project site, and residential and commercial uses are located downstream and west of the project site. The Saugus Treatment Plant is located immediately downstream from the project site, just across Bouquet Canyon Road at Soledad Canyon Road. A second sewage treatment plant, the Valencia Treatment Plant, is located farther downstream at a distance of approximately 2.5 miles. The site currently contains no drainage, water quality or erosion control structures or facilities, and, as a result, substantial amounts of runoff drain into the Santa Clara River during storm events.

The project proposes primarily residential uses, with a limited amount of commercial uses. In addition to residential and commercial structures and associated infrastructure, the project's improvements would include bank stabilization (primarily buried), toe or erosion protection, various outlet structures, the Newhall Ranch Road/Golden Valley Road Bridge and associated abutments and piers, and storm drain system structures that comply with the Natural River Management Plan (NRMP), as well as water quality control measures that comply with current federal, state and local storm water quality requirements. The project applicant proposes site design, source control and treatment best management practices (BMPs) as design features incorporated into the project.

The project would generate pollutants typical of urban residential and small commercial areas both during construction, and after the site is built out and occupied. In addition, the existing condition of the Santa Clara River, and the current water quality standards applicable to it give rise to water quality concerns. Primary pollutants of concern include minerals/salts, total suspended solids, nutrients, trace metals, pathogens, hydrocarbons, pesticides, and other toxics. Constituents for which sufficient data was available were analyzed quantitatively using a water quality model created to address the

project's features. Taking into account the project's non-structural and structural (treatment) best management practices (BMPs) design features, and evaluating the identified pollutants of concern, the following analysis concludes that project water quality impacts would be less than significant. The project would meet all applicable regional and local water quality requirements of the State Water Resources Control Board, the Regional Water Quality Control Board, Los Angeles Region, the National Pollutant Discharge Elimination System, the County of Los Angeles and the City of Santa Clarita during both construction and operation of the project. Further, each current and future development in the Santa Clarita Valley will also be required to meet all of those requirements to control storm water discharges of pollutants of concern for each such development. Consequently, no unavoidable significant project or cumulative project water quality impacts would occur.

2. INTRODUCTION

Storm water discharges consist of surface runoff generated from various land uses in the hydrologic drainage basins that discharge into water bodies of the state. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems. Absent special measures, development and urbanization typically increase pollutant loads for certain pollutants, volume and discharge velocity of storm water runoff. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Second, urban development can create new storm water pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, pesticides, household hazardous wastes, trash and other anthropogenic pollutants.

The information presented in this section is a summary of Water Quality Technical Report for Riverpark, prepared by PSOMAS (February 2004). This report is presented in its entirety in **Appendix 4.8** of this Environmental Impact Report. The report and this section only focus on the potential water quality impacts of the project. For analysis of the potential hydrological impacts of the project, see **Section 4.2**, **Flood**, **Appendix 4.2**, **Section 4.20**, **Floodplain Modifications**, and **Appendix 4.20**. For additional geological information, see **Section 4.1, Geotechnical Hazards,** and **Appendix 4.1**.

a. Summary

Potential changes in water quality are evaluated for each pollutant/constituent of concern based on runoff water quality modeling, literature information, and/or a qualitative assessment, depending on

the data available for assessing each constituent. Pollutants of concern were selected based on (a) pollutants commonly associated with urban storm water runoff, (b) the usefulness of a pollutant to represent surface water quality, and (c) water quality standards applicable to storm water runoff and receiving waters in the project vicinity (See heading **4.**, below). Impacts take into account changes in pollutant concentrations and the proposed project design features that have been designed to be consistent with or exceed federal, state, and local requirements.

The Event Mean Conditions (EMCs; defined below) used to characterize the existing and post-development storm water quality at the proposed project site are based on the regional data presented in the Geosyntec report (See **Appendix 4.8**). When quantitative analysis is possible and useful, project development scenarios were modeled based primarily on existing conditions for on-site and off-site areas, with a small fraction of agricultural land use located in contributing undeveloped upstream areas and a small fraction of commercial (storage yard) land uses located on site. Constituents modeled include total suspended solids (TSS), total phosphorus (TP), total nitrogen (TN), nitrate, total copper (Cu), total lead (Pb), total zinc (Zn), and chloride (Cl).

The level of significance of impacts was evaluated based on evaluation of California Environmental Quality Act (CEQA) Guidelines and City of Santa Clarita Environmental Guidelines relating to water quality. To evaluate whether the project would cause impacts under these thresholds, the following analysis was employed:

- Qualitative, and where valid results could be obtained, quantitative, analysis was performed to determine when increases of pollutant loads and concentrations could be expected to result from development of the project. Such increases are a potential indication of significant adverse impacts;

- If pollutant loads or concentrations are predicted to increase, the potential impacts are assessed on a pollutant-by-pollutant basis, by evaluating the compliance of the project with the requirements of applicable water quality requirements from the General MS4 Permit (defined below) and the General Construction Activity Storm Water Permit as those requirements relate to the particular pollutant of concern. Pollutant-specific BMPs are thereby identified for inclusion in the project and its SUSMP (defined below).

- Further, for pollutants predicted to increase, post-development pollutant predictions are compared to benchmarks that do not apply to storm water runoff, but do apply to the ultimate receiving water. These benchmarks include the Basin Plan (defined below) beneficial uses and narrative and numeric water quality objectives, as well as California Toxics Rule criteria. In the event that post-development predictions were to show that end-of-pipe storm water discharges would potentially exceed these receiving water benchmarks, further analysis would be necessary to determine the significance of these exceedances on the receiving water.

This analysis concludes that, with the controls discussed in this section in place, and with the implementation of the project design features (BMPs), no unavoidable significant project or cumulative project water quality impacts would occur.

b. Definitions

The following are definitions to several acronyms and terms that will be frequently used in this section of the EIR.

Acute Toxicity	A toxic effect which occurs immediately or shortly after a single, episodic exposure (four days or less).
Basin Plan	California Regional Water Quality Control Board, Los Angeles Region, Water Quality Control Plan (Basin Plan) for the Los Angeles Region (dated 13 June 1994 and approved 23 February 1995).
Beneficial Uses	The existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.[1]
Best Available Technology Economically Achievable (BAT)	A point source best management practice that reduces toxic (include heavy metals and man-made organics) and non-conventional (such as chloride, toxicity and nitrogen) pollutants in discharges.
Best Conventional Pollutant Control Technology (BCT)	A best management practice that reduces conventional pollutants (including TSS, oil and grease, fecal coliform, pH, and other pollutants) in discharges from construction sites.
Best Management Practices (BMPs)	In water pollution control, the best means available to control pollution of waterways from non-point sources, as opposed to best available technology,

1 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

	which applies to pollution control for point sources. Includes methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.[2]
Biofiltration swales	Biofiltration swales are vegetated channels specifically designed to remove particulates and to reduce the velocity of runoff through the storm system. Swales typically provide low to moderate treatment efficiencies and are mainly effective at removing debris and solid particles. Vegetated swales also help minimize overland and concentrated flow depths and velocities.
Capital Flood (Qcap)	Theoretical 50-year design storm assumed to occur over a drainage area that has been burned and that contributes debris to runoff. Use in design is required by Los Angeles County for major systems and sump conditions.
Chronic Toxicity	A toxic effect that occurs after repeated or prolonged exposure.
CDFG	California Department of Fish and Game.
CTR	California Toxics Rule (40 CFR 131.38).
CWA	The Federal Clean Water Act (33 U.S.C. Sections 1251 et seq.).
CDS	Continuous Deflective Separator (CDS) Units.
ESA	Endangered Species Act (7 U.S.C. Section 136, 16 U.S.C. Sections 460 et seq.).
EMC	Event Mean Concentration, which is the average concentration of a pollutant in the runoff from a storm event, equal to the total mass of pollutant divided by the total volume of storm runoff.

2 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

First Flush	The first storm events typically have higher concentrations of pollutants due to accumulation during the dry months. Pollutants deposited onto exposed areas can be dislodged and entrained by runoff; therefore, the storm water that initially runs off an area will be more polluted than the storm water that runs off after the initial rainfall. The storm water containing this high initial pollutant load is called the "first flush." Storm events occurring later in the wet season will typically have lower concentrations as less time elapses between storm events and less accumulation occurs. In general terms the water quality design storms defined by SUSMP approximate the first flush event (See SUSMP).
General MS4 Permit	Regional Water Quality Control Board, Los Angeles Region Order No. 01-182, NPDES Permit No. CAS004001 (December 13, 2001).
GSRDs	Gross Solids Removal Devices (GSRDs) are flow-through BMPs that are installed within a storm line in order to remove large sediment particles and associated storm water pollutants, as well as floatable trash, oils, and grease.
HSS	Hydrodynamic separation systems (HSS) are flow-through BMPs that are installed within a storm line in order to remove large sediment particles and associated storm water pollutants, as well as floatable trash, oils, and grease.
LACDPW	Los Angeles County Department of Public Works.
MEP	Maximum Extent Practicable, the standard established by Section 402(p) of the Federal Clean Water Act (33 U.S.C. Section 1342(p)) for the implementation of storm water management programs to reduce pollutants in storm water. CWA Section 402(p)(3)(B)(iii) requires that municipal permits "…shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the administrator or the state determines appropriate for the

control of such pollutants."[3] This standard has been defined to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived.[4]

MS4 — Municipal Separate Storm Sewer System, a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a state, city, county town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to "Waters of the U.S." (See definition, below).[5]

Non-Storm Water Discharge — Any discharge to a storm drain that is not composed entirely of storm water.[6]

NPDES — National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements, under CWA §§ 307, 402, 318 and 405. [7]

Planning Management BMPs — In water pollution control, advanced planning for installation of the best means available to control pollution of waterways to minimize run-off from new development and to aid in siting infrastructure so as to discourage development in environmentally sensitive areas that are critical to maintaining water quality. Also referred to as "site design BMPs."

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3 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.
4 February 11, 1993 memorandum issued by the Office of Chief Counsel of the State Water Resources Control Board.
5 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.
6 Id.
7 Id.

Receiving Waters	All surface water bodies in the Los Angeles Region that are identified in the Basin Plan and to which the proposed project discharges.[8]
RWQCB, or RWQCBLAR	Regional Water Quality Control Board, Los Angeles Region.
Source Control BMP	Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.[9]
SUSMP	The Los Angeles Countywide Standard Urban Storm Water Mitigation Plan, which addresses conditions and requirements of new development.[10]
SWRCB	State Water Resources Control Board.
Storm Water Clarifiers	Storm water clarifiers consist of water quality inlet devices (also commonly called oil/grit separators or oil/water separators) and a series of chambers that promote sedimentation of coarse materials and separation of free oil from runoff. The basic design of a storm water clarifier's series of chambers generally includes a sedimentation chamber, an oil separation chamber, and a discharge chamber. Additional screens may also be used to help retain larger or floating debris.
Storm Water Filters	Storm water filters are effective in removing several common pollutants from storm water runoff and typically have high removal efficiencies for sediment, biochemical oxygen demand (BOD), and fecal coliform bacteria.
SQMP	The Los Angeles Countywide Stormwater Quality Management Plan, which includes descriptions of programs, collectively developed by the permittees under the General MS4 Permit in accordance with provisions of

8 Id.
9 Id.
10 Id.

	the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.[11]
SWPPP	Storm Water Pollution Prevention Plan, a plan, as required by a State General Construction Activity Storm Water Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-storm water discharges and reduce pollutants in storm water discharges during activities covered by the General Permit.[12]
Structural BMP	Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.[13]
Total Maximum Daily Load	(TMDL) The sum of the individual waste load allocations for point sources and load allocations for nonpoint sources, and natural sources that a water body may receive without compromising the designated beneficial use.[14] TMDLs are designated only for impaired (i.e., Section 303(d) listed) water bodies and then only as necessary to address the impairment.
Treatment Control BMP	Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.[15] (See Structural BMP.)
ACOE	United States Army Corps of Engineers.
EPA	United States Environmental Protection Agency.
U.S. FWS	United States Fish and Wildlife Service.

11 Id.
12 Id.
13 Id.
14 Id.
15 Id.

Water Quality

Detention Basins — Impoundments where storm water is temporarily detained, allowing sediment and particulates to settle out. The basins collect litter, total suspended solids, settable solids, and pollutants that are attached (adsorbed) to the settled particulate matter. The basins can be designed as either above ground lined or unlined basins or as underground storage facilities.

Waters of the U.S. — All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters: (1) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industrial purposes by industries in interstate commerce. Also included are all impoundments of waters otherwise defined as "Waters of the U.S." under the definition; tributaries of water identified above; the territorial seas; and wetlands adjacent to waters (other than the waters that are themselves wetlands) identified above.[16]

By ACOE definition, "Waters of the U.S." are defined by the ordinary high water mark, which can be identified by physical characteristics, such as channel scouring, bank shelving, areas cleared of terrestrial vegetation, litter and debris, or other indications that may be appropriate.

Wetlands — Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for

16 33 CFR Part 328.3a.

life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[17]

c. Reference Materials and Documents

Portions of the following documents were used in connection with the preparation of this section.

- American Society of Civil Engineers. A Guide For Best Management Practice (BMP) Selection In Urban Developed Areas, 2001.
- California Regional Water Quality Control Board, Los Angeles Region Order No. 01-182 NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach (adopted 13 December 2001).
- California Regional Water Quality Control Board, Los Angeles Region, Water Quality Control Plan (Basin Plan) for the Los Angeles Region (dated 13 June 1994 and approved 23 February 1995).
- California Stormwater Quality Task Force, Construction Storm Water Sampling and Analysis Guidance Document to Assist Dischargers in Complying with California State Water Resources Control Board Resolution No. 2001-046, October 2001.
- California Water Resources Control Board Fact Sheet for Water Quality Order 99-08-DWQ: National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (General Permit).
- California Water Resources Control Board Resolution No. 2001-046: Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (adopted by the SWRCB on 26 April 2001).
- Caltrans. Gross Solids Removal Device Informational Guide. State of California Department of Transportation. June 2001.
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- Environmental Protection Agency. Sand Filters. EPA 832-F-99-007. 1999.
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17 33 CFR Part 328.3b.

- Federal Emergency Management Agency (FEMA) Flood Insurance Map 060729 0345C, September 9, 1989.

- GeoSyntec Consultants. Draft Storm Water Quality Assessment and Water Quality Management Plan for Newhall Ranch Development. September 24, 2002.

- Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, EPA 840-B-92-002, January 1993.

- John M. Tettemer & Associates, Natural River Management Plan for Santa Clara River from Castaic Creek to One-Half Mile Above the Los Angeles Aqueduct and Portions of the San Francisquito Creek and the Santa Clara River, South Fork [of the Santa Clara River], May 1997.

- Larry Walker Associates, Inc. Investigation of Structural Control Measures for New Development. Prepared for Sacramento Stormwater Management Program. November 1999.

- Los Angeles County Department of Public Works. Hydrology Manual, December 1991 and Sedimentation Manual, June 1993.

- Los Angeles County Department of Public Works, Hydrology Manual & Appendix, 1991.

- Los Angeles County of Public Works, Development Planning for Storm Water Management, A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP). September 2002.

- Los Angeles County of Public Works, Level of Flood Protection and Drainage Protection Standards, 1986.

- Los Angeles County, Environmental Document Reporting Procedures and Guidelines. Adopted November 17, 1987.

- State Water Resources Control Board, General Construction Activity Storm Water Permit (NPDES No. CAS000002, Order No. 99-08-DWQ), adopted August 19, 1999.

- State Water Resources Control Board, Modifications to the State Construction Activity Permit, Resolution Number 2001.046, adopted on April 26, 2001.

- SWQTF. California Storm Water Best Management Practice Municipal Handbook. Prepared by CDM for the Storm Water Quality Task Force. March 1993.

- United States, Federal Register, Volume 51, Number 219, Thursday, November 13, 1986.

- Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, 1998.

- United States Army Corps of Engineers & California Department of Fish and Game. Final Environmental Impact Statement/Environmental Impact Report. 404 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries Los Angeles County, Natural River Management Plan. Applicant, Valencia Company. August 1998.

- United States Army Corps of Engineers, Santa Clara River Adopted Discharge Frequency Values. Adopted May 3, 1994 by the United States Army Corps of Engineers, the Ventura County Flood Control Department and the Los Angeles County Department of Public Works.

- Valencia Company, Natural River Management Plan (Permitted Projects and Activities under the United States Corps of Engineers 404 Permit, California Department of Fish and Game 1603 Agreement and 2081 Permit. November 1998.

- WEF. Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87. 1998.

- Winer, R. National Pollutant Removal Performance Database for Stormwater Treatment Practices: 2nd Edition. Center for Watershed Protection. Ellicott City, MD. 2000.

3. EXISTING CONDITIONS

a. Physical Setting

The project site is comprised primarily of vacant, undeveloped land, located in the center of the City of Santa Clarita and surrounded by urban uses. (See **Figure 4.8.1-1**) The site lies within an approximately 835-acre tributary drainage area within the Santa Clara River watershed. The Santa Clarita River watershed includes many uses and conditions that contribute sediment and pollutants to the river and the tributary streams that feed the river. The site lies within that portion of the Santa Clara River designated as Reach 9 by the EPA and as Reach 7 by the RWQCB; that reach extends from the Lang Gauging Station (to the east of the project, downstream of Agua Dulce Canyon Creek) to Bouquet Canyon Road Bridge (located directly west of the project). The project site is located adjacent to the western border of the reach. (For convenience, this reach of the river will generally be referred to as Reach 7.)[18]

This reach is generally dry, containing relatively little water when compared to other reaches of the river. Its intermittent flows occur generally only during the "rainy" season during and immediately after storm events of sufficient size to cause flows. Therefore, the surface flows within Reach 7 typically do not flow to downstream reaches of the river, except during storm events of sufficient size and duration. Moreover, when water is present in this reach, it is almost always during the rainy winter months and typically lasts only for a few days after a storm event large enough to create flow.

The project lies upstream from two sewage treatment plants. The Saugus Treatment Plant is located immediately downstream from the project at the intersection of Bouquet Canyon Road and Soledad Canyon Road, and the Valencia Treatment Plant is located further downstream. Both treatment plants discharge treated water into reaches of the river lying downstream from the project. The outflow for

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18 As defined in the Water Quality Control Plan (Basin Plan) for the Los Angeles Region, the project area falls within the Santa Clara-Calleguas Hydrologic Unit (HU 403.00) and runoff from the Riverpark site discharges to the Santa Clara River, in the Upper Santa Clara River Hydrologic Area (HA 403.50) Eastern Hydrologic Sub-Area (HSA 403.51).

the Saugus Plant is located directly west of the Bouquet Canyon Road Bridge over the Santa Clara River.

The project site currently consists primarily of vacant/undeveloped land with a small portion that is being used by a contractor as a temporary storage yard. Some dryland farming has occurred in recent years. There are no existing drainage or water quality control improvements located within the project site. A portion of the site has historically been used for agricultural operations on which pesticides and fertilizers may have been applied. Based on a review of 1947 aerial photographs, a portion of the Riverpark project site north of the Santa Clara River was planted with row crops and three areas of the terrace east of the small canyon were plowed, apparently for hay. Row crops were also present on the flat land north of the site. Portions of the site have been used for dry farming since 1985. Because of the recent history of agricultural use of a portion of the site, existing storm water runoff at the site may still contain constituents common to agricultural uses. For instance, current high erosion rates from the disturbed soils at the site may result in elevated metal concentrations in the runoff.[19] Nitrates and pesticides may also be expected. Since no known grazing has occurred on the land, pathogens found on the site would be generated from sources typical of open space uses, such as rodents and other wild animal wastes.

(For a discussion of groundwater, see **Section 4.8 Water, Appendix 4.8**, and **Section 4.1, Geotechnical Hazards** and **Appendix 4.1**.)

b. Regulatory Setting

Storm runoff from the project site, and discharges of runoff into and/or encroachment upon natural drainages, wetlands, and/or flood plains are subject to the requirements of the federal Clean Water Act (33 U.S.C. §§ 1251 et seq.; CWA) and associated regulations, the State Porter-Cologne Water Quality Control Act (Cal. Water Code §§ 13000 et seq.) and associated regulations, and to requirements established by the EPA, SWRCB, RWQCBLAR, the Flood Control and Watershed Management Divisions of the Los Angeles County Department of Public Works (LACDPW), and the City of Santa Clarita. In addition, intrusions into jurisdictional areas are subject to the requirements of the CWA, Sections 1600–1607 of the State Fish and Game Code, and to requirements established by the ACOE and CDFG. Each of these requirements and agencies is discussed below.

19 High erosion rates contribute to higher sediment transport rates which may, in turn, result in elevated metal concentrations in surface runoff, as metals both adsorb to solids particulate matter (total suspended solids) and get washed off in dissolved forms.

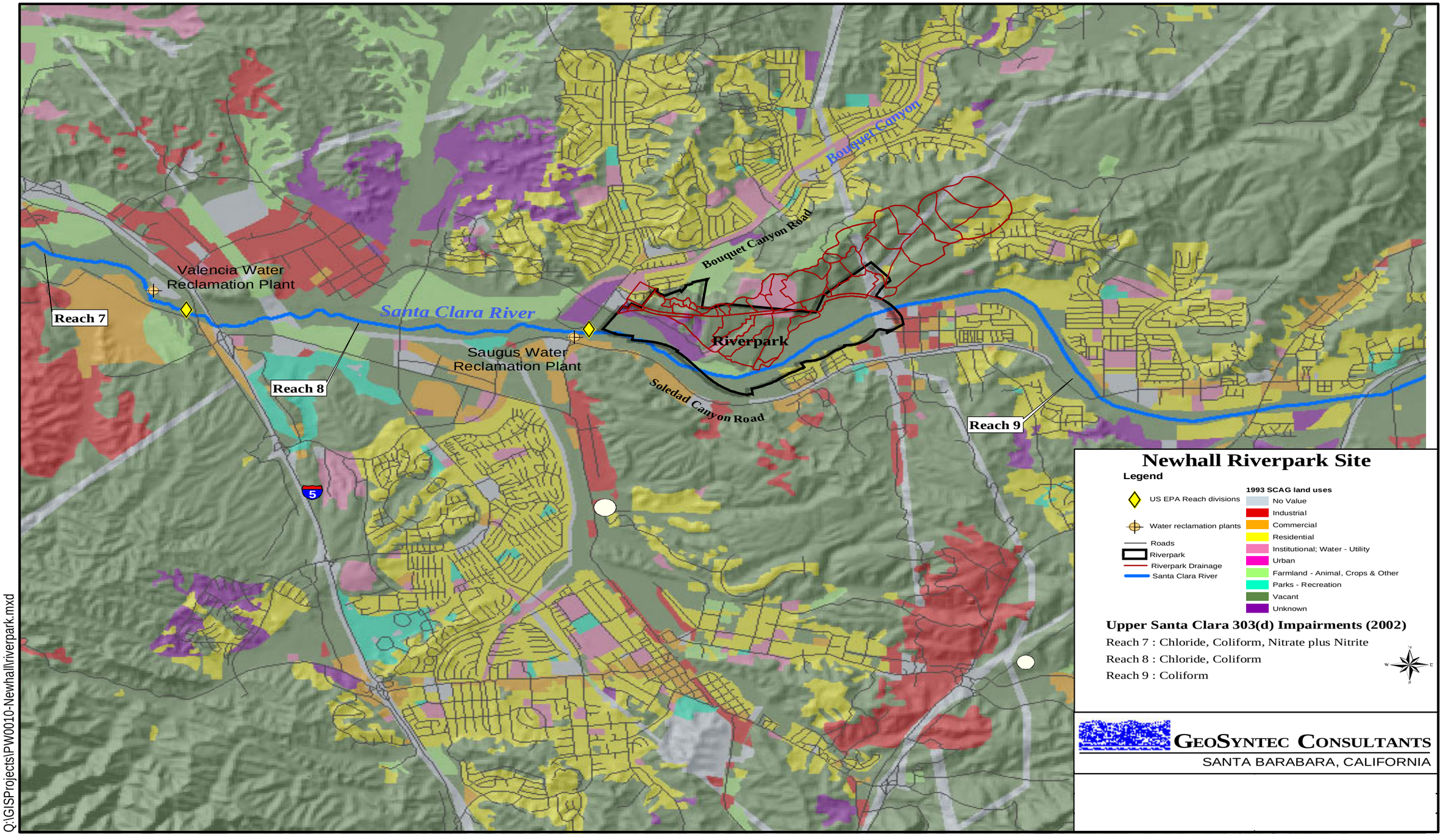

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FIGURE **4.8.1-1**

Surrounding Site Conditions

(1) Water Quality, In General

(a) Clean Water Act

The project would be subject to federal permit requirements under the Clean Water Act.

In 1972, the Federal Water Pollution Control Act (later referred to as the CWA) was amended to require that the discharge of pollutants to "Waters of the U.S." from any point source be effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. In 1987, the CWA was again amended to add Section 402(p), requiring that the EPA establish regulations for permitting of storm water discharges by municipal and industrial facilities and construction activities under the NPDES Permit Program. The EPA published final regulations directed at MS4s serving a population of 100,000 or more, and storm water discharges associated with industrial activities, including construction activities, on November 16, 1990. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by a NPDES Permit (Phase I Final Rule, 55 Fed. Reg. 47990). The EPA published final regulations directed at storm water discharges not covered in the Phase I Final Rule, including, as applicable here, small construction projects of one to five acres, on December 8, 1999 (Phase II Final Rule, 64 Fed. Reg. 68722).

Section 402(p) of the CWA provides that MS4 Permits must "…require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods and such other provisions as the [EPA] Administrator or the state determines appropriate for the control of such pollutants." The Office of Chief Counsel of the State Water Resources Control Board (SWRCB) has issued a memorandum interpreting the meaning of MEP to include considerations of technical feasibility, cost, and benefit derived with the burden being placed on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

The CWA authorizes the EPA to permit a state to serve as the NPDES permitting authority in lieu of the EPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act (Cal. Water Code §§ 13000 et seq.) authorizes the SWRCB, through (as applicable here) the RWQCBLAR, to regulate and control the discharge of pollutants into waters of the state. The SWRCB entered into a memorandum of agreement with the EPA, on September 22, 1989, to administer the NPDES Program governing discharges to "Waters of the U.S.

In addition, the CWA requires the states to adopt water quality standards for water bodies and have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, fishing etc.), along with water quality objectives necessary to support those uses. Water quality objectives can be numerical concentrations or levels of constituents, such as lead, and suspended sediment, or narrative statements that represent the quality of water needed to support a particular use. Because California had not established a complete list of acceptable water quality objectives to the EPA, the EPA, EPA Region IX (in which California lies) has established numeric water quality criteria applicable to all receiving waters for certain toxic constituents in the form of the California Toxics Rule (CTR) (40 CFR 131.38).

When designated beneficial uses of a particular water body are being compromised and fail to meet water quality objectives, Section 303(d) of the CWA requires identifying and listing that water body as "impaired". Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for each water quality constituent that compromises a beneficial use. A TMDL is an estimate of the total load of pollutants, from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (often with a "factor of safety" included). Once established, the TMDL is allocated among current and future dischargers into the water body.

Pursuant to Section 303(d) of the CWA, the reach of the river in which the project lies has been listed as being impaired for high coliform count. Although the RWQCBLAR has stated that it will be developing TMDLs for the Santa Clarita watershed, it has not yet done so, and the project is expected to proceed before applicable TMDLs are adopted. The portion of the Santa Clara River that extends through the project site lies within EPA Reach 9, which has been listed as being impaired pursuant to Section 303(d) of the CWA. (**Table 4.8.1-1, 2002 CWA Section 303(d) Listing and TMDL Priority Scheduling for EPA Reach 9**.)

Table 4.8.1-1
2002 CWA Section 303(d) Listing
and TMDL Priority Scheduling[1] For EPA Reach 9

Receiving Waters	Pollutant/Stressor	Source	TMDL Priority	Estimated Size Affected
Santa Clara River Bouquet Canyon Rd to Above Lang Gauging Station (Reach 9)	High Coliform Count	Nonpoint Source Nonpoint Source	Medium	21 miles

[1] *2002 CWA Section 303(d) List of Water Quality Limited Segment, Approved by SWRCB: 2/4/03.*

Impairments listed in reaches downstream from the project site (but not in EPA Reach 9) include chloride, high coliform, nitrate, and nitrite. (See **Table 4.8.1-2, 2002 CWA Section 303(d) Listing and TMDL Priority Scheduling for EPA Reaches 7 and 8**.)

Table 4.8.1-2
2002 CWA Section 303(d) Listing
and TMDL Priority Scheduling[1] for EPA Reaches 7 and 8

Receiving Waters	Pollutant/Stressor	Source	TMDL Priority	Estimated Size Affected
Santa Clara River W Pier Hwy 99 to Bouquet Canyon Rd (Reach 8)	Chloride High Coliform Count	Nonpoint/Point Source Nonpoint/Point Source	High Medium	5.2 miles 5.2 miles
Santa Clara River Blue Cut to West Pier Hwy 99 Bridge (Reach 7)	Chloride High Coliform Count Nitrate and Nitrite	Nonpoint/Point Source Nonpoint/Point Source Nonpoint/Point Source	High Medium Low	9.4 miles 9.4 miles 9.4 miles

[1] *2002 CWA Section 303(d) List of Water Quality Limited Segment, Approved by SWRCB: 2/4/03.*

(b) Statewide General NPDES Permit

To facilitate compliance with federal regulations, the SWRCB has issued two statewide general NPDES Permits for storm water discharges: one for storm water from industrial sites (not applicable to the project), and the other for storm water from construction sites (NPDES No. CAS000002, General Construction Activity Storm Water Permit, reissued on April 17, 1997, updated 2001). Under the General Construction Activity Storm Water Permit as reissued and updated, facilities discharging storm water associated with construction projects with a disturbed area of one or more acres (March 2003) are required either to obtain individual NPDES Permits for storm water discharges, or to be covered by the statewide General Construction Activity Storm Water Permit by completing and filing a Notice of Intent with the SWRCB. The General Construction Activity Storm Water Permit addresses both storm water and non-storm water discharges from construction sites.

The applicant under the General Construction Activity Storm Water Permit must ensure that a Storm Water Pollution Prevention Plan (SWPPP) is prepared, and a Notice of Intent (NOI) is filed with the SWRCB to comply with the state permit prior to issuance of a grading permit. The General Construction Activity Storm Water Permit relies upon BMPs to control pollutants.

The RWQCBLAR is the enforcement authority in the Los Angeles Region for the two statewide general permits, and all NPDES storm water and non-storm water permits issued by the RWQCBLAR. These construction sites and discharges are also regulated under local laws and regulations.

(c) Water Quality Control Plan (Basin Plan)

All of the activities under the NPDES program are aimed at meeting water quality objectives of receiving waters, which eventually discharge into receiving waters that often traverse multiple counties and cities.[20] The RWQCBLAR adopted the Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan designates the beneficial uses of receiving waters, including, (Basin Plan) Reach 7 of the Santa Clara River to which the project site currently discharges and the project would discharge, and specifies both narrative and numerical water quality objectives for these receiving waters in Los Angeles County. Because these standards are applicable to receiving waters, they are not a direct measure of storm water quality from the project site. However, water quality criteria from the Basin Plan are useful as benchmarks and are compared to post-project water quality results where possible in the analysis of potential impacts, below.

Again, the project site is located along Reach 7 of the Santa Clara River between Lang Gauging Station (to the east of the project, downstream of Agua Dulce Canyon Creek) and Bouquet Canyon Road Bridge (located directly west of the project). Under the Basin Plan, beneficial uses[21] for Reach 7 include Municipal and Domestic Supply; Industrial Supply; Industrial Process Supply; Agriculture; Groundwater; Contact Water Recreation; Non-Contact Water Recreation; Warm Freshwater Habitat; Wildlife Habitat; Rare, Threatened or Endangered Species; and Wetland Habitat.

Basin Plan Water Quality Objectives

Water quality objectives, as defined by the California Water Code Section 13050(h), are the "…limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area." Beneficial uses are designated under CWA Section 303 in accordance with regulations. The Basin Plan defines existing and potential beneficial uses for identified water bodies receiving discharges. The project is located along Reach 7 of the Santa Clara River. Beneficial uses identified for Reach 7 include those listed above.

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20 Receiving waters are designated bodies of water that receive discharge from developed areas at specific discharge points.

21 As designated under CWA Section 303 in accordance with regulations contained in 40 CFR 131.

Water quality objectives are the water quality standards used to assess the potential impact of project discharges on the water quality of receiving waters (not end-of-pipe discharges). **Table 4.8.1-3 Hydrologic and Surface Water Quality Objectives (Basin Plan and CTR Objectives)**, summarizes the numerical and narrative water quality objectives for the Santa Clara River reach (Reach 7) adjacent to which the project lies.

Table 4.8.1-3
Hydrologic and Surface Water Quality Objectives (Basin Plan and CTR Objectives)

Issue	Objective
HYDROLOGY	
Hydrology	Control post-development peak storm water runoff discharge rate, velocities, and duration in Natural Drainage Systems (mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. (General MS4 Permit p. 34; see also SUSMP requirements)
Storm water runoff numeric sizing criteria	Design standards for post-construction structural or treatment control BMPs employ a variety of measures to reduce the post-project discharge of pollutants to the MEP level. The numeric sizing requirements are either volume-based or based on local flow design criteria. The volume-based criteria require that storm water runoff be infiltrated (or treated) and peak flows be controlled based on flow design criteria. There are four options for determining volume of runoff that needs to be treated (1) the 85th percentile 24-hour runoff, (2) unit basin volume to achieve 80% or more volume treatment, (3) volume produced from a 0.75 inch storm, or (4) volume based on historical 24-hour rainfall. (See SUSMP p. 18-19 for full description)
SURFACE WATER QUALITY	
Minerals	
TDS	800 (mg/L) (Reach 7 of Santa Clara River Basin Plan p. 3-12).
Sulfate	150 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12).
Chloride	100 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12).
Boron	1.0 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12).
Sodium absorption ratio	5 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12).
Nutrients	
Nitrogen	5 mg/L ((Reach 7 of Santa Clara River Basin Plan p. 3-12).
Nitrogen (Nitrate, Nitrite)	Waters shall not exceed 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/L as nitrate, 10 mg/L as nitrate-nitrogen, or 1 mg/L as nitrite-nitrogen.
Ammonia	See Reach 7 of Santa Clara River Basin Plan Table 3-2 (WARM) for one-hour average concentrations for a range of pH and temperatures (as an example at 10 degrees C and pH of 7, total ammonia concentrations should be 25 mg/L).
Phosphorous	No criteria.
Dissolved oxygen (DO)	As a minimum, the mean annual DO concentration greater than 7 mg/L; no single determination less than 5.0 mg/L. For WARM designations, the DO concentrations shall not be depressed below 5 mg/L as a result of waste discharge. (Basin Plan p. 3-11)
Biochemical oxygen demand (BOD)	Waters shall be free of substances that result in increase in BOD that adversely affects designated beneficial uses. (Basin Plan)
Biostimulatory substances	Biostimulatory substances include excess nutrients and other compounds that stimulate aquatic growth. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance of adversely affects designated beneficial uses. (Basin Plan)

Issue	Objective
Toxic	
Toxicity	Waters maintained free of toxic substances in concentrations toxic to human, plant, animal, or aquatic life; survival of aquatic life in surface waters subject to waste discharge or other uncontrollable water quality factors shall not be less than for the same waterbody in areas unaffected by waste discharge; no acute toxicity in ambient waters including mixing zones; no chronic toxicity in ambient waters outside mixing zones. (Basin Plan p. 3-16)
Copper (acute)	27 ug/L (hardness value 200 mg/L). 52 ug/L (hardness value 400 mg/L).
Lead (acute)	200 ug/L (hardness value 200 mg/L). 480 ug/L (hardness value 400 mg/L).
Zinc (acute)	220 ug/L (hardness value 200 mg/L). 390 ug/L (hardness value 400 mg/L). (CTR objectives)
Chemical Constituents	MUN designated waters shall not contain concentrations of chemicals in excess of the limits specified in the Title 22 CCR (for inorganic and organic chemicals and fluoride). (Basin Plan p. 3-8)
Bioaccumulation	Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels that are harmful to aquatic life or human health. (Basin Plan p. 3-8)
Pesticides	Waters shall not contain concentrations of pesticides in excess of limiting concentrations in 22 CCR § 64444 (organics) (MUN). (Basin Plan p. 3-15 and Table 3-7)
Solid, Suspended or Settleable Materials	
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect designated beneficial uses; increased in natural turbidity attributable to controllable water quality factors are limited as follows: 20% increase or less where natural turbidity is between 0 and 50 NTU; 10% increase or less where natural turbidity over 50 NTU. (Basin Plan p. 3-17)
Solid, suspended, or settleable materials (including TSS)	Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-16)
Pathogens/Bacteria	
E. coli density	Less than 126/100 ML (geometric mean limit) (REC-1). (Basin Plan amendment)
E. coli density	Less than 235/100 ML (single sample limit) (REC-1). (Basin Plan amendment)
Fecal coliform density	Less than 200/100mL (geometric mean limit) (REC-1). (Basin Plan amendment)
Fecal coliform density	Less than 400/100mL (single sample limit) (REC-1). (Basin Plan amendment)
Qualitative BMP - Based	
Chlorine, total residual	Shall not be present in surface water discharges at concentrations exceeding 0.1 mg/L; shall not persist in receiving waters at any concentration that causes impairment of designated beneficial uses. (Basin Plan p. 3-9)
MBAS (methylene blue activated substances), such as detergents and other anionic surfactants	Less than or equal to 0.5 mg/L (MUN). (Basin Plan p. 3-11)
Floating materials	Waters shall not contain floating materials in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-9)
Oil & grease	Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect designated beneficial uses. (Basin Plan p. 3-11)

Issue	Objective
Constituents Not Typically Associated With Urban Development - BMP Controlled	
pH	Shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges; ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge. (Basin Plan p. 3-15)
PCBs	Pass-through or uncontrollable discharge limited to 70 pg./L 30-day average (human health) and 14 ng/L daily average (aquatic life); purposeful discharge prohibited. (Basin Plan p. 3-15)
Temperature	Water temperature shall not be altered by greater than 5 degrees F above natural temperature; Natural receiving water temperature shall not be altered unless it can be demonstrated that designated beneficial uses not adversely affected. (Basin Plan p. 3-16)
Taste and Odor	Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish/edible aquatic flesh, to adversely affect beneficial uses and cause nuisance. (Basin Plan, p. 3-16)
Radioactive Substances	Waters designated as MUN shall not contain concentrations of radionuclides in excess of Title 22 CCR. (Basin Plan p. 3-15)
Natural River Management Plan	
Exotic vegetation	Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects designated beneficial uses. (Basin Plan p. 3-9)
Wetlands hydrology	Natural hydrologic conditions necessary to support physical, chemical, and biological characteristics present in wetlands shall be protected to prevent significant adverse effects on a variety of parameters. (Basin Plan p. 3-17)
Wetlands habitat	Existing habitats and associated populations of wetlands fauna and flora shall be maintained. (Basin Plan p. 3-17)

(d) California Toxics Rule (CTR)

The California Toxics Rule (CTR) is a federal regulation issued by the EPA providing water quality criteria for protection of surface waters of the State of California with designated uses protective of human health or aquatic life. CTR criteria are applicable to the receiving water body and therefore should be applied based upon the probable hardness[22] values of the receiving waters. Only the acute criteria are applicable to evaluation of potential project impacts.[23] At higher hardness values for the receiving water copper, lead, and zinc are more likely to be complexed (bound with) components in the water column. This in turn reduces the bioavailability and resulting toxicity of these metals.

Available storm water monitoring data indicates that hardness values for the receiving waters in this reach of the river range between 280 and 320 mg/L. To assure assessment of the greatest reasonable level of potential impacts, hardness values of both 200 and 400 mg/L has been used in this assessment.

22 Hardness is defined as the sum of calcium and magnesium concentrations, both expressed as calcium carbonate.

23 Acute toxicity means a toxic effect, which occurs immediately or shortly after a single exposure, as compared to chronic toxicity, which indicates that a toxic effect that occurs after repeated or prolonged exposure.

Chronic CTR Criteria apply when aquatic life is exposed for a period of four days or longer. As storm water runoff flows typically last for a period of less than four days in this Reach of the Santa Clara River, the acute criteria are more appropriate criteria for assessing project impacts.

CTR water quality criteria, water quality objectives, and beneficial uses do not apply directly to discharges of storm water runoff. Nonetheless, these standards can provide a useful benchmark to assess the potential for project discharges to affect the water quality of receiving waters. In this analysis, the CTR and other water quality standards have been used as benchmarks to evaluate the potential ecological impacts of storm water runoff to the receiving waters of the proposed project.

Table 4.8.1-4, CRT Criteria and Associated Trace Metal Water Quality Parameters, shows the applied freshwater CTR criteria for two hardness values 200 mg/L and 400 mg/L.

Table 4.8.1-4
CRT Criteria and Associated Trace Metal Water Quality Parameters

Parameter	Units	California Toxics Rule – Freshwater Criteria Dissolved Metal Concentrations	
		Hardness: 400 mg/L	Hardness: 200 mg/L
		Acute	Acute
Copper (Cu)	ug/L[1]	52	27
Lead (Pb)	ug/L	480	200
Zinc (Zn)	ug/L	390	220

Source: PSOMAS, Water Resources Technical Report for Riverpark (February 2004).
[1] *ug/L stands for micrograms per liter.*

(e) General MS4 Permit

As stated above, on November 16, 1990, pursuant to Section 402(p) of the CWA, the EPA promulgated federal regulations (40 Code of Federal Regulations [CFR] Part 122.26) establishing requirements for storm water discharges under the NPDES program.

In California, the NPDES Permit Program is administered by the State Water Resources Control Board (SWRCB) through the RWQCBs as established by the State Porter-Cologne Water Quality Control Act.[24]

The project site, located within the City of Santa Clarita, falls within the jurisdiction of the RWQCB (Region 4), and the project is subject to the waste discharge requirements of the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) (**Appendix 4.8**). The County of Los Angeles and the City of Santa Clarita are Permittees under the General MS4 Permit and therefore has legal authority for enforcing the terms of the permit in its jurisdiction. The General MS4 Permit is intended to ensure that combinations of site planning, source control and treatment control BMPs are implemented to protect the quality of receiving waters. To do so, the General MS4 Permit requires that new development employ BMPs controlling pollutants in storm water runoff to the MEP (maximum extent practicable), including best management practices, source control and treatment techniques and systems, and site design planning principles addressing water quality.[25] Further, the Permittees under the MS4 Permit (the County of Los Angeles [Principal Permittee], and 84 incorporated cities, including the City of Santa Clarita) must ensure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively addressed.[26] The General MS4 Permit notes, by reference to the EPA's Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (August 26, 1996), that because of the nature of storm water discharges and the lack of detailed, documented, and accepted information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass) for many pollutants of concern, the permitting approach utilizing BMPs does, indeed, provide for the attainment of water quality standards and negates the need for numerical effluent criteria as a standard.

Among other things, the General MS4 Permit requires the co-permittees to prepare a SQMP specifying the BMPs that will be implemented to reduce the discharge of pollutants in storm water to the MEP. The various components of the SQMP, taken together, are expected to reduce pollutants in storm water and urban runoff to the MEP. The emphasis of the SQMP is pollution prevention through education,

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24 Division 7 of the California Water Code, also known as the Porter-Cologne Water Quality Control Act, establishes the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs) as the principle state agencies responsible for the protection and, where possible, the enhancement of the quality of California's waters. The SWRCB sets statewide policy, and together with the RWQCBs, implements state and federal laws and regulations.

25 General MS4 Permit, Order No. 01-182, NPDES Permit No. CAS004001 (**Appendix 4.8**), Finding Par. F.

26 Id.

public outreach, planning, and implementation of source control BMPs first, and then structural and treatment control BMPs next.[27]

The co-permittees must comply with these requirements by timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of the General MS4 Permit including any modifications.[28] The General MS4 Permit has identified special provisions for proper and effective implementation of storm water pollution prevention programs. As part of the SQMP, the co-permittees are required to implement a Development Planning Program that would require control of post-development peak storm water runoff discharge rates, velocities, and duration in natural drainage systems to prevent accelerated stream erosion and to protect stream habitat.[29]

Also, as part of the SQMP, the co-permittees must require new development to implement storm water quality control BMPs. The co-permittees must require new development to prepare project-specific Standard Urban Storm Water Management Plans (SUSMPs) setting forth the schedule of BMPs to be implemented, and maintenance and ownership of these BMPs. Under the General MS4 Permit, co-permittees are to publish guidelines for creating SUSMPs. The Los Angeles County Department of Public Works, Flood Control Division has published its SUSMP manual, the Manual for the Standard Urban Storm Water Mitigation Plan adopted by the County in September of 2002 and subsequently approved by the RWQCB (County SUSMP Manual). The EIR sets out the project's conceptual SUSMP, which complies with those County SUSMP Guidelines, the General MS4 Permit, and the existing components of applicable SQMPs.

(f) Los Angeles County Department of Public Works (LACDPW)

The Flood Control and Watershed Management Divisions of the LACDPW also regulate storm runoff and water quality as the Principal Permittee under the General MS4 Permit and under independent County ordinances. As previously mentioned, the City of Santa Clarita is a co-permittee under the General MS4 Permit and has legal authority for enforcing the terms of the permit in its jurisdiction.

Applicants for development projects have two major responsibilities:

- The first responsibility is to submit and then implement a SUSMP that contains design features and BMPs appropriate and applicable to the project. The RWQCB approved Los Angeles County's

27 Id.; see also, id. Part 4.
28 Id.
29 General MS4 Permit, Part 4.

SUSMP ordinance on March 8, 2000, which requires new construction and development projects to implement BMPs pursuant to the General MS4 Permit.

- The second responsibility, applicable to all construction projects with disturbed areas greater than one acre, is to prepare a Storm Water Pollution Prevention Plan (SWPPP) pursuant to the General Construction Activity Storm Water Permit.

For the Riverpark project, these plans must be submitted to and approved by the City of Santa Clarita prior to issuance of a grading permit.

Design standards for post-construction structural or treatment control BMPs were established in the General MS4 Permit and the County and City SUSMP ordinances, and are explained in the County SUSMP Manual. The General MS4 Permit and the County SUSMP Manual require that new developments and re-development projects employ a variety of general and land use measures, site design, source control and treatment BMPs to reduce post-development discharges of pollutants from storm water conveyance systems to the "maximum extent practicable."

In addition to the requirements identified above in **Section 4.2, Flood**, for preparing the hydrologic analysis for this project, the LACDPW issued a memorandum in 1986 entitled "Level of Flood Protection and Drainage Protection Standards" for development projects in Los Angeles County. The memorandum established Los Angeles County policy on levels of flood protection and requires that the following facilities be designed for the Capital Flood: all facilities not under State of California jurisdiction that intercept flood waters from natural drainage courses, all areas mapped as floodways, all facilities that are constructed to drain natural depressions or sumps, and all culverts under major and secondary highways. All facilities in developed areas that are not covered by the Capital Flood protection conditions must be designed for the Urban Flood, or runoff from a 25-year frequency design storm. Because the project would intercept flood flows from natural areas, its storm drainage facilities that accept these flows must be sized and designed for the Capital Flood.

In addition to meeting the required level of flood protection, the proposed project and all development in the Santa Clara River watershed must meet standards adopted by the LACDPW for the Santa Clara River and its major tributaries in the County Sedimentation Manual (p. 2-2 to 2-6). In addition, those projects located within the areas governed by the Natural River Management Plan (NRMP; described below) must meet the ACOE and CDFG guidelines, as outlined in the Santa Clara River EIS/EIR for the NRMP, which addresses potential impacts associated with improvements along and across a segment of the Santa Clara River within Newhall Land ownership (including the Riverpark project site).

In addition, the General MS4 Permit requires that the co-permittees control post-development peak storm water runoff discharge rates, velocities, and duration in natural drainage systems, including the Santa Clara River, to prevent accelerated stream erosion and to protect stream habitat.

(g) Water Quality Best Management Practices

In water pollution control, best management practices (BMPs) refer to the best means available to control pollution of waterways from non-point sources. For storm water runoff, Section 402(p) of the CWA provides that MS4 Permits must require controls to reduce the discharge of pollutants to the MEP. The MEP standard was clarified by the federal courts, which held that MEP did not require that municipal storm water discharges strictly comply with numeric water quality standards. (*Defenders of Wildlife v. Browner*, 191 F.3d 1159, 9th Cir. 1999). The MEP standard is attained by the use of BMPs. For a particular permit, the EPA generally bases the MEP standard on technological feasibility, water quality objectives, and other site-specific considerations.

BMPs are actions and procedures established to reduce the pollutant loadings in storm drain systems. The three main categories of BMPs are site design (or planning and management), source control and treatment control. Site design or planning management BMPs are used to minimize runoff from new development and to discourage development in environmentally sensitive areas that are critical to maintaining water quality. Source control BMPs are usually the most effective and economical in preventing pollutants from entering storm and non-storm runoff. Examples of source control BMPs that are relevant to the project include:

- Public Education/Participation activities that make information available to homeowner groups, associations, and municipalities for further distribution to homeowners and businesses.
- Materials Management activities, such as:

    1. Materials Use Controls, which include good housekeeping practices (storage, use and cleanup) when handling potentially harmful materials, such as cleaning materials, fertilizers, paint, pool chemicals and, where possible, using safer alternative products;

    2. Material Exposure Controls, which prevent and reduce pollutant discharge to storm water by minimizing the storage of hazardous materials (such as pesticides) on site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors; and

    3. Material Disposal and Recycling, which includes storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials. Household hazardous waste and used oil recycling at collection centers and round-up activities are very productive BMPs.

- Spill Prevention and Cleanup activities, which are directed toward reducing the risk of spills during the outdoor handling and transport of chemicals, and toward developing plans and programs to contain and rapidly clean up spills before they get into a storm drain system. These BMPs also deal with the prevention and reduction of pollution from vehicle leaks and spills from vehicles during transport, as well as aboveground storage tanks. These BMPs would be relevant to the construction of a gasoline station on the proposed commercial site, should one occur, and to construction vehicles.

- Illegal Dumping Controls, which consist of laws, ordinances and public education programs intended to prevent the dumping of waste products (solid waste/liquid waste and yard trash) into storm drain systems and watercourses.

- Street and Storm Drain Maintenance activities that control the movement of pollutants and remove them from pavement through catch basin cleaning, storm drain flushing, street sweeping, and by regularly removing illegally dumped material from storm channels and creeks. Modification of channel/creek characteristics to improve hydraulics and increase pollutant removals also enhances aesthetic and habitat value.

- Site design alternatives (e.g., roofs over fueling stations and car wash slabs, spill containment curbs around stored material, etc.).

- Good housekeeping practices including such activities as sweeping down driveways as opposed to washing them down.

Treatment Control BMPs involve physical treatment of the runoff, usually through structural means. These are also referred to as structural BMPs throughout this EIR section. A variety of treatment control measures have been utilized throughout the country for storm water quality; however, the effectiveness of these controls is highly dependent on local conditions, such as climate, hydrology, soils, groundwater conditions, and extent of urbanization.

Some of the more common Treatment Controls are:

- Oil/water separators, which are designed to remove one specific group of contaminants: petroleum compounds and grease. However, separators will also remove floating debris and settable solids.

- Infiltration, which refers to a family of systems in which the majority of the runoff from small storms is infiltrated into the ground rather than discharged to a surface water body. Infiltration systems include: ponds, vaults, trenches, dry wells, porous pavement, and concrete grids.

- Biofilters, which are of two types: swale and strip. A swale is a vegetated channel that treats concentrated flow. A strip treats sheet flow and is placed parallel to the contributing surface.

- In-line small footprint devices, such as Continuous Deflection Separators (CDS units), Hydrodynamic Separation Systems (HSS), and Gross Solids Removal Devices (GSRDS) that treat water quality flow rates (as opposed to flow volumes) and are preferred for larger, particulate pollutants.

- Extended water quality detention basins that are dry between storms. During a storm, the basin fills and a bottom outlet releases the storm water slowly to provide time for sediments to settle.

Wetland vegetation can be added to these basins to cleanse dry weather flows via natural processes.

- Media filtration consists of a settling basin followed by a filter. The most common filter medium is sand; some use peat/sand mixture.
- Multiple systems, which are a combination of two or more of the preceding controls in a series; also referred to as a "treatment train."

The flows from the project are treated and controlled by project design features that constitute a "treatment train" of BMPs, including the following for further detail on water quality control features, see discussion below.

Site Planning Strategies:

- Minimize Impervious Areas and Directly Connected Impervious Areas;
- Selection of Construction Materials and Design Practices;
- Conserve Natural Areas; and
- Protect Slopes and Channels with Vegetative Cover.

Source Controls:

- Drain Inlet Stenciling;
- Irrigation Controls and Management;
- Proper Storage and Application of Fertilizers and Pesticides;
- Community Education Program;
- Pavement Sweeping Program; and
- Litter Control Program.

Structural Treatment Controls (as shown and discussed below):

- Catch basin inserts;
- Biofiltration swales;
- Hydrodynamic Separator Systems/Gross Solids Removal Devices (GSRDs) (e.g., CDS Units); and
- Water Quality Detention Basins.

The project Drainage Concept (as illustrated in **Figure 4.8.1-2**, **Drainage Concept Map**) proposes structural treatment BMPs to mitigate potential storm water quality impacts of the project. These structural BMPs generally include water quality detention basins, a grassy swale, and hydrodynamic separator systems, such as Continuous Deflective Separator (CDS) Units, most of which are illustrated in **Figure 4.8.1-2**, **Drainage Concept Map**, and described below and in detail in **Appendix 4.8** of this EIR. Additional equivalent structural BMPs that could be implemented at the project site for CDS units and swales include catch basin inserts, storm water filters, and storm water clarifiers. These proposed water quality improvements are discussed below. (See also **Appendix 4.8**)

(2) Intrusions Into Jurisdictional Waters

(a) United States Army Corps of Engineers

The project would also be subject to federal permit requirements under Section 404 of the CWA. Section 404 of the CWA regulates activities that result in the location of a structure, excavation, or discharge of dredged or fill material into "Waters of the U.S.," which include wetlands along with non-wetland habitats, such as streams (including intermittent streams), rivers, lakes, ponds, etc., over which the ACOE has jurisdiction. The Santa Clara River, including that portion of the river that flows through the site, is designated by the United State Geological Survey as "Waters of the U.S." Two other drainages within the site are also considered "Waters of the U.S." and fall under U.S. ACOE jurisdiction (See **Section 4.6, Biological Resources**, for further information). These drainages are being altered by project development and will be subject ACOE permits and requirements.

Finally, certain proposed activities in or adjacent to the river, such as the construction of the bank stabilization, toe protection and outlet structures (discussed later in this EIR section) and the Newhall Ranch Road/Golden Valley Road Bridge were analyzed and are permitted under the already approved Natural River Management Plan (ACOE Individual Permit No. 94-00-504-BAH).[30] (See discussion of the Natural River Management Plan, below.)

(b) California Department of Fish and Game

The Santa Clara River and associated vegetation on the site are also potentially subject to regulation by the CDFG under Sections 1601-1603 of the California Fish and Game Code. Under Sections 1600-1607

30 The permit to construct improvements under the Natural River Management Plan comes from an ACOE Section 404 Permit, Fish and Game Incidental Take and 1603 Permit. The Santa Clara Natural River Management Plan consists of new bank protection, new or widened bridges, inlet structures, storm drain outlets and utility line crossings associated with the infrastructure and land developments near the Santa Clara River and its tributaries in the Santa Clarita Valley.

of the Code, the CDFG regulates activities that would alter the flows, beds, channels, or banks of streams and lakes. The term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blueline streams, and watercourses with subsurface flows. In addition to the Santa Clara River, there are seven other drainages within the site that fall under CDFG jurisdiction (See **Section 4.6, Biological Resources**, for further information). Affected on-site tributary drainages are identified and analyzed in **Section 4.6, Biological Resources**. The construction of the bank stabilization, toe protection and outlet structures (discussed later in this EIR section) and the Newhall Ranch Road/Golden Valley Road Bridge were analyzed and are permitted under the already approved Natural River Management Plan (ACOE Individual Permit No. 94-00-504-BAH).[31] (See discussion of the Natural River Management Plan below.) Project activities affecting the other drainages are subject to applicable CDFG requirements.

(3) Natural River Management Plan (NRMP)

(a) Background

On November 30, 1998, the ACOE, CDFG, and the RWQCB approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP is a long-term, master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and portions of two of its tributaries. More specifically, the NRMP governs a portion of the main-stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and portions of San Francisquito Creek and the Santa Clara River South Fork, in Los Angeles County, California. The project site is located within the portion of the river now governed by the NRMP.

31 The permit to construct improvements under the Natural River Management Plan comes from an Army Corps Section 404 Permit, Fish and Game Incidental Take and 1603 Permit. The Santa Clara Natural River Management Plan consists of new bank protection, new or widened bridges, inlet structures, storm drain outlets and utility line crossings associated with the infrastructure and land developments near the Santa Clara River and its tributaries in the Santa Clarita Valley.

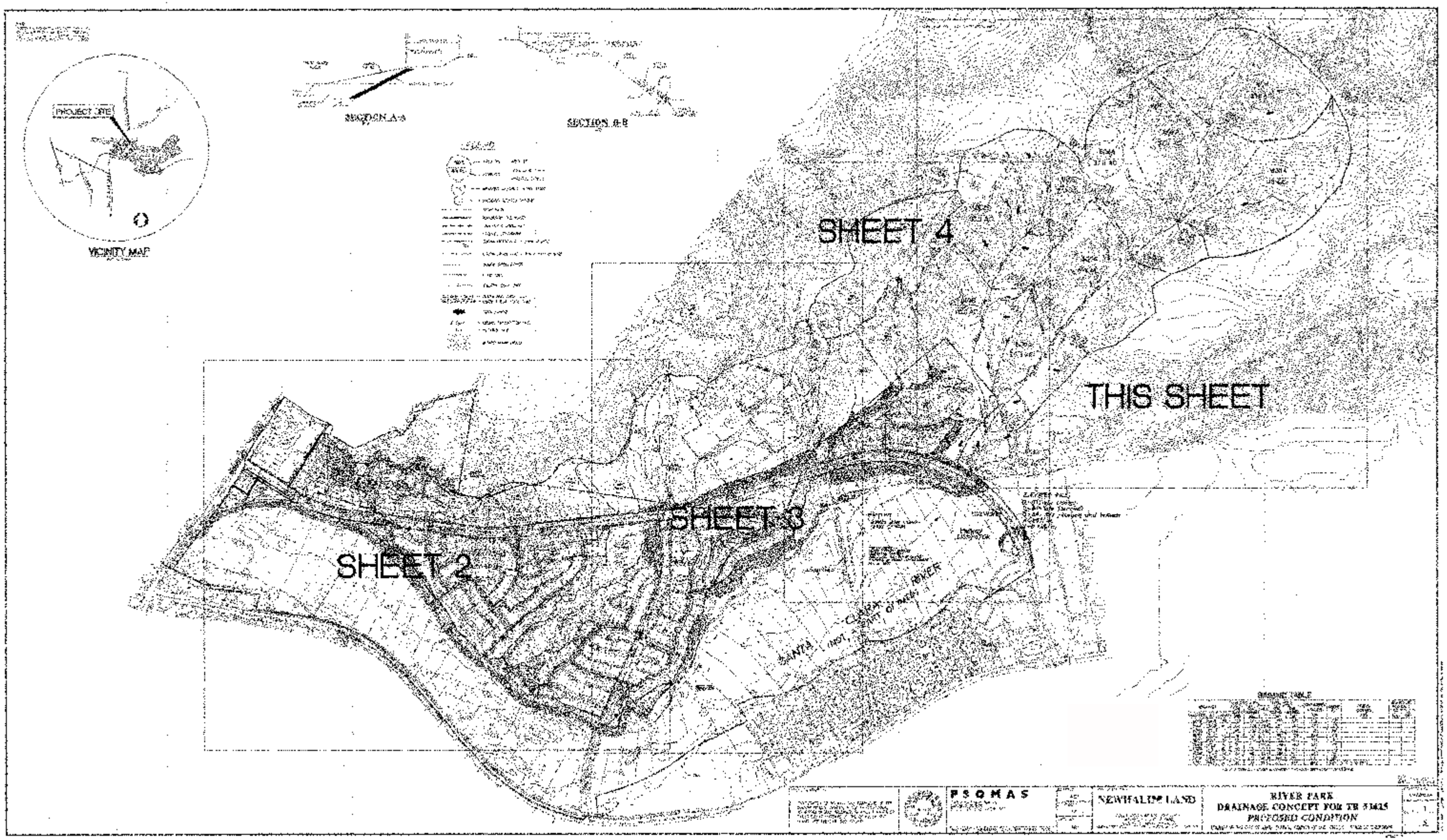

FIGURE **4.8.1-2**

Drainage Concept Map

In connection with this approval, the following permits were issued by the following agencies:

- United States Army Corps of Engineers – Permit No. 94-00504-BAH under Section 404 of the Federal Clean Water Act. Section 404 of the Federal Clean Water Act allows for certain activities that result in the discharge of fill or dredged materials into "Waters of the U.S." or in this case the Santa Clara River. Prior to issuing this permit, the ACOE had completed an endangered species consultation (pursuant to Section 7 of the Federal Endangered Species Act) with the United States Fish and Wildlife Service.

- California Department of Fish and Game (CDFG) - 1603 Streambed Alteration Agreement No. 5-502-97 and Incidental Take Permit No. 2081-1998-49-5. In summary, the Streambed Alteration Agreement allows for activities that alter the "…natural flow or change the bed, channel or bank of the river…." The Incidental Take Permit applies to all state listed species pursuant to Fish and Game Code Section 2081(b).

- California Regional Water Quality Control Board (Los Angeles Region) (RWQCB) – Order No. 99-104 related to waste discharge associated with the improvements included in the NRMP.

The NRMP was prepared in response to an ACOE request to prepare a long-range management plan for projects and activities potentially affecting the Santa Clara River and San Francisquito Creek. More specifically, the NRMP, and its certified EIS/EIR (NRMP EIS/EIR), analyze impacts associated with the implementation of various infrastructure improvements (bank stabilization, bridges, utility crossings, storm drain outlets, etc.) along and within portions of the Santa Clara River adjacent to Newhall Land properties, including the Riverpark project site. The NRMP, and its EIR/EIS, are available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California, and are incorporated in this EIR by reference.

Due to the discovery in 2001 of a southwestern arroyo toad (*Bufo californicus*) within the NRMP boundaries (in a location west of the confluence of San Francisquito Creek and the Santa Clara River, approximately 1.5 miles west of the Riverpark project site), additional ESA Section 7 consultation between the ACOE and the U.S. Fish and Wildlife Service was initiated. Prior to initiating this consultation, the ACOE and CDFG had removed certain stretches of the Santa Clara River and San Francisquito Creek from the consultation area as these areas lacked the necessary habitat requirements for the arroyo toad. The areas covered by the NRMP but designated as "no may effect" included the Santa Clara River 1,000 feet upstream of the Bouquet Canyon Road Bridge (including most of the Riverpark site), San Francisquito Creek north of the Newhall Ranch Road Bridge and the South Fork of the Santa Clara River south of the Valencia Boulevard Bridge. This consultation, along with the preparation of a Biological Opinion (dated November 15, 2002) resulted in the issuance of a modification to the 1998 Corps Section 404 Permit (issued June 23, 2003) that includes provisions for the protection of the arroyo toad in the affected NRMP area. (The Biological Opinion and the Section 404

modification are incorporated in this EIR and are also available at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California.)

(b) Implementation of the NRMP

The permits issued by the affected agencies (ACOE, CDFG, RWQCB) allow Newhall Land or its designee to engage in construction and maintenance activities for the various infrastructure improvements included within the NRMP. Within the project site, those improvements include the bank stabilization, toe or erosion protection, various outlet structures, and the Newhall Ranch Road/Golden Valley Road Bridge. The NRMP, through its permits and EIR/EIS, includes certain requirements, conditions, and mitigation measures associated with the implementation of the approved improvements.

Prior to initiating an individual project under the NRMP, such as the project bank stabilization or the Newhall Ranch Road/Golden Valley Road Bridge, Newhall Land (or its designee) must submit to the ACOE and CDFG a Verification Request Letter (VRL), VRL Variance or Request for Amendment and accessory documentation (maps, exhibits, photographs, etc.) showing that the particular planned improvement is consistent with the NRMP and the accessory agency permits.

Upon submittal of the VRL, the ACOE and CDFG have 45 days in which to make their determination on the individual project's consistency with the NRMP and accessory agency permits. The ACOE and CDFG approvals of the request constitute the final approvals from ACOE, CDFG, and RWQCB to initiate construction of the project.

(c) Application of the NRMP to the Project

As indicated above, various infrastructure improvements and subsequent maintenance activities are governed by and permitted through the approved NRMP and accessory agency permits. Those improvements addressed by the NRMP, and its EIS/EIR, that are located on the project site (but not all of which are proposed by the project) include:

- Bridges:
  - Project: Newhall Ranch Road/Golden Valley Road Bridge (6-lane), 550 feet long, 110 feet wide.
  - Future: Santa Clarita Parkway Bridge (6-lane), 500–1,000 feet long, 110 feet wide.

- Bank Stabilization (including accessory storm drain outlets and energy dissipaters):

  - Project: Approximately 2,500 feet of ungrouted rip-rap in certain areas from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.

  - Project: Approximately 11,000 feet of buried bank protection from Bouquet Canyon Road to the Newhall Ranch Road/Golden Valley Road Bridge.

The NRMP EIS/EIR reviewed and evaluated the biological context and impacts of these river-related improvements and imposed conditions to mitigate their potential impacts. The applicable improvements proposed by the Riverpark project will be finally permitted under the NRMP, via the VRL process described above, and will be subject to the NRMP's conditions/mitigation. To the extent that the project improvements differ from those approved in the NRMP, those differences are shown on **Figure 4.6-7, Riverpark Bank Lining,** in **Section 4.6** of this EIR.

4. WATER QUALITY METHODOLOGY

As described below, certain constituents of concern are analyzed quantitatively and others are analyzed qualitatively. With respect to both quantitative and qualitative analysis, an assessment of existing conditions is necessary to address potential storm water quality impacts of the project. With respect to quantitative analysis, currently there is limited monitored water quality data available for Reach 7 of the Santa Clara River. This reach has relatively little water in it when compared to other reaches of the river, and only intermittent flows. As such, surface flows in Reach 7 generally do not flow to downstream reaches of the river, except during storm events of sufficient volume and duration. When water is present in this reach, it is almost always during the rainy winter months and typically lasts only for a few days after a storm event large enough to create flow. Therefore, for this analysis, existing water quality for the reach of the river to which the project site ultimately discharges is based on Basin Plan water quality criteria and, for some constituents, is modeled based upon published pollutant generation rates for various land uses.[32]

For constituents of concern addressed quantitatively, the area proposed for development was modeled for three land-use/PDF scenarios: existing conditions using the existing conditions model (existing scenario), developed conditions without PDFs, and developed conditions with PDFs. (See **Table 4.8.1-5, Dominant Land Uses under Existing and Proposed Conditions**.) All BMPs (PDFs) were considered in this analysis.

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32 Los Angeles County 1994-2000 Integrated Receiving water Impacts Report, Los Angeles County Department of Public Works (July 2000).

A detailed description of the water quality modeling approach is presented in the Water Quality Technical Report (PSOMAS, February 2004; see **Appendix 4.8**). A statistically derived model based on relatively simple expressions describing rainfall/runoff relationships and estimated concentrations in storm water runoff was used to estimate the project impact. The volume of runoff is estimated from the Rational Formula, an empirical expression that relates runoff volume to the rainfall depth and the broad basin runoff response characteristics. The constituent concentration is represented by an expected average constituent concentration, the Event Mean Concentration (EMC), and a measure of the variability. The EMCs and variability are estimated from available monitoring data and are strongly dependent on land-use type. This information is used in a model to estimate runoff volumes, and pollutant concentrations and loadings for the four scenarios. The effects of PDFs are accounted for via the estimation of the amount of runoff "captured" and treated by the PDF (via simulation modeling) and estimates of the resulting effluent quality achieved based upon BMP performance information.

As described above, and as depicted below in **Table 4.8.1-5, Dominant Land Uses Under Existing Conditions**, the existing site land uses consist of a mixture of undeveloped property (open space), agriculture and a small percentage of commercial uses. The existing conditions were modeled based on the existing site land uses (existing scenario).

Table 4.8.1-5
Dominant Land Uses Under Existing Conditions

Land Use		Total Watershed Area (ac)	Total Watershed Area (ft^2)	Percent Total (%)
Existing Conditions in Tributary Watershed	Open Space	784.57	34,175,602	93.2%
	Agriculture	38.5	1,677,047	4.6%
	Commercial	18.4	801,498	2.2%
	Total[1]	841.47	36,654,147	100%

a. Pollutants of Concern

The applicable narrative and numerical standards and beneficial uses from the Basin Plan, as well as and CTR criteria for this reach of the river are set forth in **Table 4.8.1-6, Basin Plan Surface Water Quality Standards and Beneficial Uses and CTR Criteria for Reach 7 of the Santa Clara River Between Lang Gauging Station and Bouquet Canyon Road Bridge**. Reach 7 (EPA Reach 9) has been listed in CWA Section 303(d) as impaired for high coliform count.

Table 4.8.1-6
Basin Plan Surface Water Quality Standards and Beneficial Uses and CTR Criteria for Reach 7 of the Santa Clara River Between Lang Gauging Station and Bouquet Canyon Road Bridge

Issue	Objective	Project Development
HYDROLOGY		
Hydrology	Control post-development peak storm water runoff discharge rate, velocities, and duration in Natural Drainage Systems (mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. (General MS4 Permit p. 34; see also SUSMP requirements)	At project discharge locations (to the Santa Clara River), project design features address downstream impacts that would potentially accelerate downstream erosion and impair stream habitat. Typically, in smaller natural riverine systems, frequent discharges (on the order of the average annual and 2-year flows) dictate stream geomorphology. Extended and frequent discharges at these critical flow rates would potentially impact stream health. The project proposes water quality basins, which will capture small, frequent storms and release flows at non-erosive rates. To reduce storm flow velocities during smaller, more frequent flows (i.e., 2-year storm events) and to prevent erosion at storm water discharge points into the river, the project has incorporated energy dissipaters, consisting of either rip-rap or larger standard impact-type energy dissipaters, that would be constructed at affected storm system outlets in the river. These energy dissipaters would slow the rate of flow of runoff into the river in order to prevent erosion of the stream channel. Impacts associated with erosion and sediment deposition and streambed modification within the Santa Clara River are evaluated as a function of in-stream velocities, which are indicators for potential riverbed scouring. There would be no significant increases in velocity during the 5- and 10-year storm events, and decreases in river velocity for the 20- to 100-year storm events. Increases in areas of the floodplain that would be subject to velocities over 4 feet/second, an indicator velocity for erosion potential, during a 2-year storm event would be minimal, localized, and would be caused only by the smallest event scenario.

Issue	Objective	Project Development
Storm water runoff numeric sizing criteria	Design standards for post-construction structural or treatment control BMPs employ a variety of measures to reduce the post-project discharge of pollutants to the MEP level. The numeric sizing requirements are either volume-based or based on local flow design criteria. The volume-based criteria require that storm water runoff be infiltrated (or treated) and peak flows be controlled based on flow design criteria. There are four options for determining volume of runoff that needs to be treated: (1) the 85th percentile 24-hour runoff, (2) unit basin volume to achieve 80% or more volume treatment, (3) volume produced from a 0.75 inch storm, or (4) volume based on historical 24-hour rainfall. (See SUSMP p. 18-19 for full description)	The proposed water quality control extended detention basins (EDBs) are preliminarily sized to meet the minimum County SUSMP criteria, based on a 0.75 inch runoff event; however, the final capacity of the basins will be determined for project runoff and would be designed to capture 80% of annual runoff, which could be more than the 0.75 inch event. The size of the facilities will be finalized during the design stage by the project engineer with the final hydrology study, which is prepared and approved at the final engineering stage and prior to issuance of a grading permit.
SURFACE WATER QUALITY		
Minerals		
TDS	800 (mg/L) (Reach 7 of Santa Clara River Basin Plan p. 3-12)	Post project development, wet weather TDS levels are expected to decrease because of the increased area of imperviousness (less exposed soil). Due to lack of BMP removal data for this constituent, chloride levels may be used for evaluations and as an indicator of relative behavior of minerals in general. Even without taking into consideration the BMPs, post-project storm water levels of chloride were found to be lower than existing conditions. With proper implementation of the recommended structural BMPs (e.g., basins and swales), as well as source control BMPs the mitigated levels are expected to be further reduced and in compliance with the water quality objectives. Post development, minerals in dry weather flows may increase because dry weather flows often consist of irrigation runoff. However, dry weather flows will be treated in the proposed structural BMPs (basins and swales) and are not likely to discharge untreated. Furthermore, with implementation of other recommended source control BMPs (such as education programs for proper irrigation of landscaped areas, swales and basins), no adverse impact on TDS would occur.
Sulfate	150 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12)	See **TDS, Chloride**.
Chloride	100 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12)	This objective would not be exceeded, as project development would be expected to generate 10.0 mg/L without the application of any BMP. With the proper application of the recommended measures, chloride levels are expected to be further reduced. See **TDS**.
Boron	1.0 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12)	See **TDS**.

Issue	Objective	Project Development
Sodium absorption ratio	5 mg/L (Reach 7 of Santa Clara River Basin Plan p. 3-12)	See **TDS.**
NUTRIENTS		
In General		
		Implementation of construction and post-construction BMPs would control chemicals (antifreeze), fertilizers, and other possible sources of nutrients per General Construction Activity Storm Water Permit and General MS4 Permit Requirements. Potential source control BMPs include containment for vehicle maintenance areas during construction, chemical source control education guidelines for residents, containment BMPs for post-development vehicle maintenance land uses (such as gas stations), efficient irrigation, and an integrated fertilizer and pesticide management program for common areas. The recommended structural BMPs (detention basin, swale, and CDS units) are also expected to lower the nutrient concentrations and loads post project development because dry weather flows would not likely leave the site untreated. Quantitative assessment of pre- and post-development levels of Total Phosphorous (TP), show a reduction in concentrations post-development (mitigated conditions). Post-development nitrate levels are expected to decrease without any BMP and remain below the water quality objective (See below). While Total Nitrogen (TN) concentration is predicted to increase post-development (but reduced with the proposed BMPs), it also remains below the water quality objective (See below).
Nitrogen	5 mg/L ((Reach 7 of Santa Clara River (Basin Plan p. 3-12)	This objective would not be exceeded, as project development (with BMPs) would be expected to generate a Total Nitrogen (TN) concentration of 3.0 mg/L.
Nitrogen (Nitrate, Nitrite)	Waters shall not exceed 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/L as nitrate, 10 mg/L as nitrate-nitrogen, or 1 mg/L as nitrite-nitrogen.	In the nitrogen cycle, nitrogen forms in the order of decreasing oxidation state are: nitrate, nitrite, ammonia, and organic nitrogen. Nitrates are the most common form of nitrogen in water and are the necessary nutrients for algae and phytoplankton growth. Discharge of nitrates to surface water bodies greatly accelerates the natural process of eutrophication, causing algal blooms which ultimately lead to depleted oxygen levels and generally poor water quality. This objective would not be exceeded, as project development (without BMPs) would be expected to generate a Nitrate level of 1.2 mg/L, well below the standards of the objective. With proper implementation of the recommended BMPs, this level would be further reduced. Also, the expected post-development (with BMPs) total nitrogen level of 3.0 mg/L, is again well below the standard.
Ammonia	See Reach 7 of Santa Clara River Basin Plan Table 3-2 (WARM) for one-hour average concentrations for a range of pH and temperatures (as an example at 10 degrees C and pH of 7, total ammonia concentrations should be 25 mg/L).	Ammonia is not a pollutant typically associated with urban development of the type proposed, but rather is more often associated with discharges from point sources such a treatment plants. Ammonia is easily diluted and converted to nitrate. Modeling based on available data would not yield results that can be directly compared with the water quality objectives due to the lack of reliable data. However, both existing and post-project Nitrate levels are well below water quality objectives, making it unlikely that any ammonia present in storm water could form nitrate sufficient to exceed the applicable water quality objectives. See **Nutrients, In General**.
Phosphorous	No criteria.	Based on modeling, the post-development (with BMPs) TP concentrations and loads are expected to be lower than existing conditions.

Issue	Objective	Project Development
Dissolved oxygen (DO)	As a minimum, the mean annual DO concentration greater than 7 mg/L; no single determination less than 5.0 mg/L. For WARM designations, the DO concentrations shall not be depressed below 5 mg/L as a result of waste discharge. (Basin Plan p. 3-11)	Adequate DO levels are required to support aquatic life. Depressed levels may lead to anaerobic conditions. Source control BMPs would control chemical sources contributing to DO depressions (e.g., antifreeze and fertilizer). (See **Nutrients, In General**) Modeling shows TP and nitrate will be reduced from existing conditions. TN will be well under water quality objectives. Therefore, it is expected that the project (with BMPs) will not adversely impact water quality DO levels and will be in compliance with the regulatory standards. See **Nutrients, In General**.
BOD (Biochemical oxygen demand)	Waters shall be free of substances that result in increase in BOD which adversely affects designated beneficial uses. (Basin Plan)	Source control BMPs, including covering sources of food waste such as restaurant trash and commercial loading areas and directing flows from restaurants and commercial loading areas to CDS units or other filtering mechanisms, will control wastes that contribute to increased BOD. See, anticipated post-development nutrient reductions and compliance with the regulatory objectives. See also, **General, DO**.
Biostimulatory substances	Biostimulatory substances include excess nutrients and other compounds that stimulate aquatic growth. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance of adversely affects designated beneficial uses. (Basin Plan)	With proper application of the recommended BMPs (source control and structural) the expected nutrients levels are expected to be below the water quality objectives. No adverse effect relating to these substances is expected.
TOXICS		
Toxicity	Waters maintained free of toxic substances in concentrations toxic to human, plant, animal, or aquatic life; survival of aquatic life in surface waters subject to waste discharge or other uncontrollable water quality factors shall not be less than for the same waterbody in areas unaffected by waste discharge; no acute toxicity in ambient waters including mixing zones; no chronic toxicity in ambient waters outside mixing zones. (Basin Plan p. 3-16)	Toxics typically associated with urban development of the type proposed may include heavy metals, including copper, lead and zinc, associated with the design elements and car operations, as well as pesticides used in landscaping applications. During construction of the project, synthetic organic compounds (such as adhesives, cleaners, sealants and solvents), pesticides, trace metals as well as other waste products (e.g., paint, concrete mix, solid/sanitary wastes) could have the potential to create to adverse toxic conditions. However, with proper implementation of the recommended source-control and structural BMPs, these adverse impacts will likely be prevented. Quantitative analysis indicates that post-development metals concentrations should be well below CTR criteria. Construction and post-construction BMPs (both structural and source control) would be implemented to control heavy metals and pesticides in storm water runoff per the requirements of the General Construction Activity Storm Water Permit and the General MS4 Permit. Pesticides, and other applied chemicals would be controlled through source control BMPs, including efficient irrigation, integrated fertilizer and pesticide application and management plan, restrictions on residential design elements (such as copper downspouts), as well as structural measures (detention basin, swale and CDS units) which will provide treatment of both wet weather and dry weather flows. Recent bans on most urban use of chlorpyrifos and diazinon will also reduce toxics (pesticides).

Issue	Objective	Project Development
Toxicity (cont.)		Furthermore, a SWPPP will be developed prior to the construction project and implemented to control construction related impacts from the project. The key elements of the SWPPP will address: source identification, erosion control, stabilization, sediment control, post-construction BMPs and non-storm water management, as well as "good housekeeping"/waste management and control, maintenance, repair training and inspection issues. With the proper implementation of the SWPPPs recommended source control and structural BMPs, toxics are not expected to be discharged from the construction site.
Copper (acute)	27 ug/L (hardness value 200 mg/L) 52 ug/L (hardness value 400 mg/L)	Post development dissolved copper is predicted to be 20 ug/L, below the CTR criteria (at both hardness levels). In comparisons with the CTR objectives, the acute levels were considered due to the episodic nature of storm events. Heavy metal toxicity is usually much lower in hard water than in soft water. The CTR criteria at 200 mg/L hardness were primarily used for comparison with model results. The 200 mg/L hardness is somewhat larger than the mean land use specific runoff range reported by L.A. County (25 to 185 mg/L), but much lower than the monitored average value of 408 mg/L for the area (Geosyntec, 2002). Therefore, the 200 mg/L assumption is believed to be conservative as the CTR criteria are applicable to receiving waters only (not storm water runoff). See **Toxicity**.
Lead (acute)	200 ug/L (hardness value 200 mg/L) 480 ug/L (hardness value 400 mg/L)	Post development dissolved lead is predicted to be 5.6 ug/L, well below the CTR criteria (at both hardness levels). In comparisons with the CTR objectives, the acute levels are considered due to the episodic nature of storm events. Heavy metal toxicity is usually much lower in hard water than in soft water. The CTR criteria at 200 mg/L hardness were primarily used for comparison with model results. The 200 mg/L hardness is somewhat larger than the mean land use specific runoff range reported by L.A. County (25 to 185 mg/L), but much lower than the monitored average value of 408 mg/L for the area (Geosyntec, 2002). Therefore, the 200 mg/L assumption is believed to be conservative as the CTR criteria are applicable to receiving waters only (not storm water runoff). See **Toxicity**.
Zinc (acute)	220 ug/L (hardness value 200 mg/L) 390 ug/L (hardness value 400 mg/L) (CTR objectives)	Post development dissolved lead is predicted to be 103 ug/L, well below the CTR criteria (at both hardness levels). In comparisons with the CTR objectives, the acute levels are considered due to the episodic nature of storm events. Heavy metal toxicity is usually much lower in hard water than in soft water. The CTR criteria at 200 mg/L hardness were primarily used for comparison with model results. The 200 mg/L hardness is somewhat larger than the mean land use specific runoff range reported by L.A. County (25 to 185 mg/L), but much lower than the monitored average value of 408 mg/L for the area (Geosyntec, 2002). Therefore, the 200 mg/L assumption is believed to be conservative as the CTR criteria are applicable to receiving waters only (not storm water runoff). See **Toxicity**.
Chemical Constituents	MUN designated waters shall not contain concentrations of chemicals in excess of the limits specified in the Title 22 CCR (for inorganic and organic chemicals and fluoride). (Basin Plan p. 3-8)	With proper implementation of the recommended BMPs (both source control and structural) the chemical constituents in storm water discharged from the site will be controlled per General MS4 and General Construction Activity Storm Water Permit requirements. The heavy metals compounds are anticipated to be well below CTR criteria and the nitrogen compounds well below the Basin Plan standards. As a result, no adverse effect from these chemical constituents is anticipated as a result of the project. See **Toxicity**.

Issue	Objective	Project Development
Bioaccumulation	Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels that are harmful to aquatic life or human health. (Basin Plan p. 3-8)	With proper implementation of the recommended BMPs (both source control and structural) toxics in storm water discharged from the site will be controlled per General MS4 and General Construction Activity Storm Water Permit requirements. Heavy metals are anticipated to be well below CTR criteria. As a result, no adverse effect on bioaccumulation is anticipated as a result of the project. See **Toxicity**.
Pesticides	Waters shall not contain concentrations of pesticides in excess of limiting concentrations in 22 CCR § 64444 (organics) (MUN). (Basin Plan p. 3-15 and Table 3-7)	When properly implemented and designed, the recommended source control and structural BMPs will control pesticides and other toxics in storm water per General MS4 and General Construction Activity Storm Water Permit requirements. Heavy metals are anticipated to be well below CTR criteria. With the proper implementation of the recommended BMPs (both source control and structural BMPs, no adverse effect on bioaccumulation is anticipated as a result of the project. Recent bans on most urban use of chlorpyrifos and diazinon will also reduce toxics (pesticides). See **Toxicity**.
SOLID, SUSPENDED OR SETTLEABLE MATERIALS		
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect designated beneficial uses; increased in natural turbidity attributable to controllable water quality factors are limited as follows: 20% increase or less where natural turbidity is between 0 and 50 NTU; 10% increase or less where natural turbidity over 50 NTU. (Basin Plan p. 3-17)	Insoluble particles of soil, as well as other materials impede the passage of light through water by scattering and absorbing the rays (reference: Hammer M, 1931. "Water and Waste-Water Technology"). Reduction in TSS, which is primarily reduction of sediment in storm water, will result in a reduction in turbidity. Therefore, the 42% reduction in TSS levels (See **Solids**, below) will contribute to lower turbidity in the post-developed conditions. With project development no adverse impacts are expected. However, during the construction project, the grading and other soil disturbance activities have the potential to cause erosion and sedimentation and therefore release of solids (suspended or settleable). Without any controls, this could contribute to adverse turbidities. However, with the proper implementation of the SWPPP and the recommended erosion and sediment control practices, these potential impacts are not expected to occur.
Solid, suspended, or settleable materials (including TSS)	Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-16)	With project development (without BMPs) less TSS may be expected from the site (157 v. 217 mg/L). With the proper implementation of the BMPs an even further reduction (about 42%) is expected as compared to existing conditions (125 v. 217 mg/L). However, during the construction project, the grading and other soil disturbance activities may cause erosion and sedimentation and therefore release of solids (suspended or settleable). Without any controls, this may attribute cause adverse conditions. However, with the proper implementation of the SWPPP and the recommended erosion and sediment control practices, these impacts are expected to be reversed.
PATHOGENS/BACTERIA		
		Changes in concentrations of pathogens associated with urban development are difficult to evaluate for a number of reasons. Further, because holding times for bacterial samples are necessarily short, most storm water programs do not collect flow-weighted composite samples that potentially could produce reliable statistical estimates of pathogen concentrations. Measurements of indicator organisms are not necessarily reliable indicators of viable pathogenic viruses, bacteria, or protozoa. Moreover, there are numerous sources of pathogens, including birds and other wildlife, as well as domesticated animals and pets. Open space areas can have high levels of coliform associated with wildlife sources, but are typically lower in pathogen concentrations than urban land uses.

Issue	Objective	Project Development
		Development of the project site would reduce the natural sources of pathogens, but without source control BMPs would increase pet waste sources. Septic tanks would not be used in the project and illicit sewer connections would not be expected, eliminating a major urban source of pathogens in runoff. The project will require source control and structural BMPs in compliance with the General MS4 and General Construction Activity Storm Water Permits, including pet waste collection bags, pet waste educational materials, adequate connection and maintenance of sewer lines, and sediment removal BMPs, such as water quality basins. With proper implementation of the recommended BMPs, the post-development bacteria concentrations are anticipated to be significantly reduced. However, due to lack of reliable data for modeling, it is not possible to reliably quantify the expected EMCs (and loads) for bacteria.
E. coli density	Less than 126/100 ML (geometric mean limit). (REC-1) (Basin Plan amendment)	See **Pathogens/Bacteria General**.
E. coli density	Less than 235/100 ML (single sample limit). (REC-1) (Basin Plan amendment)	See **Pathogens/Bacteria General**.
Fecal coliform density	Less than 200/100mL (geometric mean limit). (REC-1) (Basin Plan amendment)	See **Pathogens/Bacteria General**.
Fecal coliform density	Less than 400/100mL (single sample limit). (REC-1) (Basin Plan amendment)	See **Pathogens/Bacteria General**.
QUALITATIVE BMP - BASED		
Chlorine, total residual	Shall not be present in surface water discharges at concentrations exceeding 0.1 mg/L; shall not persist in receiving waters at any concentration that causes impairment of designated beneficial uses. (Basin Plan p. 3-9)	The main typical source of chlorine is the disinfection of wastewaters with chlorine. The proposed land uses are not expected to produce chlorine-type wastes. However, construction and post-development source control BMPs would be employed in compliance with the General MS4 and General Construction Activity Storm Water Permits to address possible sources of chlorine discharge. BMPs will include educational materials for residents prohibiting draining of pools to storm drains as well as prohibitions for building contractors precluding any discharge of test water for water pipes and sprinkler systems to storm drain systems. Non-storm water management measures will be implemented during the construction project.
MBAS (methylene blue activated substances), such as detergents and other anionic surfactants	Less than or equal to 0.5 mg/L (MUN). (Basin Plan p. 3-11)	MBAS, related to the presence of detergents in runoff, may be incidentally associated with new urban development, but more commonly with point sources such as treatment plants. The project will have no planned illicit sewer connections or septic tanks, eliminating domestic sources from contributing to this pollution problem. Further, the project would employ source control and structural BMPs consistent with the General MS4 and General Construction Activity Storm Water Permit to control wash water from various sources. E.g., educational materials for homeowners regarding elimination of discharges from car washing to the storm drain system, control of construction vehicle wash water, control of construction street and pavement washing activities.
Floating materials	Waters shall not contain floating materials in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-9)	Floating materials including trash and debris will be controlled through source control BMPs (education and outreach programs, street sweeping), as well as structural BMPs (CDS, detention basins, drainage inlet screens; as well possible use of catch basin inserts).

Issue	Objective	Project Development
Oil & grease	Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect designated. beneficial uses (Basin Plan p. 3-11)	The structural control measures proposed for this project (detention basins, swale and CDS units with oil-absorbent materials), when properly designed and maintained have a high potential for removing oil and grease. Additional measures may include storm water filters and clarifiers that also have very good removal capabilities. In addition, source control measures are proposed to control excessive concentrations during and post-construction of the project. With the proper implementation of these measures, no adverse impacts are expected.
CONSTITUENTS NOT TYPICALLY ASSOCIATED WITH URBAN DEVELOPMENT - BMP CONTROLLED		
pH	Shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges; ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge. (Basin Plan p. 3-15)	BMPs in accordance with General MS4 and General Construction Activity Storm Water Permits will control discharge of the few constituents associated with urban development that could that be associated with changes in pH. For example, construction BMPs to control applications involving fresh concrete and lime would be included in the SWPPP as well as non-visible pollutant monitoring in cases where discharge might be expected. Post-development BMPs include restrictions on residential design features (metal roofs, copper features). Post development features, such as cured concrete storm drains and water quality basins can be expected to provide substantial buffering for any post-development high pH storm water flows.
PCBs	Pass-through or uncontrollable discharge limited to 70 pg./L 30-day average (human health) and 14 ng/L daily average (aquatic life); purposeful discharge prohibited. (Basin Plan p. 3-15)	The project would not include PCB-producing uses. Paving would stabilize soils that may contain pre-existing PCBs (from historical uses); structural BMPs such as detention basins and swales trap particulate matter. On this basis, no adverse impacts are expected.
Temperature	Water temperature shall not be altered by greater than 5 degrees F above natural temperature; Natural receiving water temperature shall not be altered unless it can be demonstrated that designated beneficial uses not adversely affected. (Basin Plan p. 3-16)	Santa Clara River has only episodic flows primarily during the "rainy" season during and immediately after storm events of sufficient magnitude to cause flows. With BMPs, the proposed project land uses would not significantly increase temperature of storm water runoff.
Taste and Odor	Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish/edible aquatic flesh, to adversely affect beneficial uses and cause nuisance. (Basin Plan, p. 3-16).	There are no known taste- or odor-producing substances expected from the proposed land uses at the project site and/or during the construction project. Even so, the recommended source control and structural BMPs would control substances that may significantly change taste and odor.
Radioactive Substances	Waters designated as MUN shall not contain concentrations of radionuclides in excess of Title 22 CCR. (Basin Plan p. 3-15).	In addition to natural sources, radioactive substances are typically generated from mining and/or industrial activities. Based on the proposed land uses, radioactive substances are not expected from the project site.

Issue	Objective	Project Development
NATURAL RIVER MANAGEMENT PLAN		
Exotic vegetation	Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects designated beneficial uses. (Basin Plan p. 3-9)	Meet Natural River Management Plan requirements.
Wetlands hydrology	Natural hydrologic conditions necessary to support physical, chemical, and biological characteristics present in wetlands shall be protected to prevent significant adverse effects on a variety of parameters. (Basin Plan p. 3-17)	Meet Natural River Management Plan requirements.
Wetlands habitat	Existing habitats and associated populations of wetlands fauna and flora shall be maintained. (Basin Plan p. 3-17)	Meet Natural River Management Plan requirements.

Pollutants of concern for the proposed project were chosen for discussion and analysis based upon typical pollutants found in urban runoff (EPA 1993), as well as receiving water beneficial uses, and pollutants that can be expected to impact beneficial uses of the receiving waters as evidenced by the CWA section 303(d) listing for designated reaches of the Santa Clara River (discussed below).[33] The primary pollutants of concern chosen for analysis are:

- Solid, Suspended or Settleable Materials;
- Nutrients (Phosphorus, Nitrogen, etc.);
- Trace Metals (Copper, Lead, Zinc);
- Pathogens;
- Hydrocarbons;
- Pesticides and other Toxics; and
- Minerals/Salts (Chloride, etc.)

33 2002 CWA Section 303(d) List of Water Quality Limited Segment, Approved by SWRCB (4 February 2003).

The following constituents were quantitatively analyzed based on availability of numeric data:

- Total Suspended Solids (TSS);
- Total Phosphorous (TP);
- Total Nitrogen (TN);
- Nitrate;
- Total Copper (Cu);
- Total Lead (Pb);
- Total Zinc (Zn); and
- Chloride (Cl).

The previously described model created by PSOMAS to estimate concentrations and loads uses EMCs (statistical measures of the concentrations of the modeled constituents based on empirical storm water monitoring data) as model input. The above constituents were selected for modeling in this water quality analysis because statistically significant, suitable, and high confidence monitoring data is available to estimate potential project effects. (GeoSyntec Consultants, September 24, 2002). These measures are more robust as the data for these parameters have been collected over a range of storm events using flow composite sampling methods at similar land uses, and the data for these constituents are consistently measured at levels above the method detection levels.

To the extent that there are reliable data on the effectiveness of structural BMPs, that data was used in the modeling; however, source controls were not included in the analysis, since it is difficult to measure their efficacy quantitatively. Due to the absence of substantial research, BMP removal effectiveness data for nitrate and chloride are limited and therefore accurate modeling of the BMP effectiveness for these constituents with respect to ultimate effluent concentrations is not possible. The analysis for nitrate and chloride is therefore limited to assessing potential changes to water quality from existing to proposed conditions, without considering effectiveness of proposed BMPs. The water quality model does not include analysis of loads following application of storm water treatment (or structural) BMPs (mitigated conditions). As a result, the comparison between existing and proposed conditions overestimates potential impacts.

The following constituents of concern are analyzed qualitatively in this analysis, but were not modeled because other indicator constituents were modeled (boron, sulfate) or due to limited storm water

monitoring data and because the constituents are more difficult to accurately measure, and consequently are not amenable to developing reliable quantitative data.

1. TDS (Total Dissolved Solids) is a water quality parameter defining the concentration of dissolved organic and inorganic chemicals in water. After suspended solids are filtered from water and water is evaporated, dissolved solids are the remaining residue. Due to lack of BMP removal data for TDS, chloride levels may be used for evaluations and as an indicator of behavior of minerals in general.

2. Sulfate is a salt or ester of sulfuric acid, originating from the oxidation of sulfite ores, the presence of shales, and the existence of industrial wastes. Sulfate is one of the major dissolved constituents in rain. As with TDS, lack of BMP removal data for this constituent requires the evaluation of indicator pollutants, such as chloride.

3. Boron is a trace mineral found mainly in seawater. As with TDS, lack of BMP removal data for this constituent requires the evaluation of indicator pollutants, such as chloride.

4. SAR, or sodium absorption ratio, is a ratio for irrigation waters, used to express the relative activity of sodium ions in exchange reactions with soil. As with TDS, lack of BMP removal data for this constituent requires the evaluation of indicator pollutants, such as chloride.

5. Various forms of hydrocarbons are common constituents associated with urban runoff; however, these constituents are difficult to measure because of laboratory interference effects, sample collection challenges (hydrocarbons tend to coat sample bottles), and they are typically measured with single grab samples, making it difficult to develop reliable modeling data (e.g., storm water event mean concentrations [EMCs] which are used to represent probable concentrations in storm water runoff). Because it was not possible to represent conditions with confidence, this constituent could not be reliably modeled.

6. Organic Compounds include a wide range of chemicals such as pesticides, hydrocarbons, and solvents. Industrial processes will not be present on the project site and therefore industrial chemicals such as solvents are not expected to pose a hazard to water quality. The use of solvents will be very limited and primarily indoors. Hydrocarbons and pesticides are potential sources of pollution for the project site and are believed to be the primary types of organic compounds likely to be present. As hydrocarbons and pesticides are addressed individually in this document, the general category of organic compounds is addressed through assessment of these constituents.

7. Pesticides in urban runoff are often at concentrations that are below detection limits for most commercial laboratories; and therefore there are limited statistically reliable data on pesticide concentrations in urban runoff.

8. Human pathogens typically are not directly measured in storm water monitoring programs because of the difficulty and expense involved. Unfortunately, most indicators are not very reliable for storm water conditions; in part because storm water tends to mobilize these bacteria from many other non-human sources, many of which include non-pathogenic bacteria. For this reason, and because holding times for bacterial samples are necessarily short, most storm water programs do not collect flow-weighted composite samples that potentially could produce reliable statistical estimates of pathogen concentrations.

9. Oxygen Demanding Substances are compounds that can be biologically degraded through aerobic processes. Compounds such as nutrients in fertilizers and food wastes in trash are examples of the most likely oxygen demanding compounds to be present on the project site. As nutrients and trash are

addressed individually in this document the general category of oxygen demanding substances is addressed through assessment of these constituents.

As discussed below, an effective approach for addressing potential storm water impacts of urban development is to identify and impose project-specific BMPs to complement regional BMPs addressing water quality issues on a watershed or regional basis. Construction impacts are addressed, primarily through a SWPPP consistent with the requirements for coverage under the State's General Construction Activity Storm Water Permit (discussed below), and longer-term post-construction impacts are addressed, primarily, under a SUSMP. The SWPPP contains certain additional elements related to post-construction impacts, requiring, for example, descriptions of post-construction BMPs, but is not as comprehensive as the SUSMP. The BMPs specified in this document provide a framework for future preparation of the SUSMP.

b. Event Mean Concentrations Used For Quantitative Analysis

Storm water runoff water quality will vary within a storm event depending on the rainfall pattern and storm duration (intra-event variability). Because of this variability, water quality concentrations are often expressed in the form of event mean concentrations (EMCs), which are the concentrations that would be measured if the entire runoff from an event were captured and mixed before sampling. The extensive use of EMCs to characterize storm water quality was initiated in the EPA's Nationwide Urban Runoff Program (NURP) (EPA, *Nationwide Urban Runoff Program*, Executive Summary, 1983).

Storm water runoff quality will also vary from storm to storm (inter-event variability) depending on a variety of conditions, including the characteristics of the storm event, the time between storms, conditions in the watershed, and time of year. This latter effect is particularly important in semi-arid environments where there is a dry and wet season, and where soil saturation and runoff vary greatly depending on the season and changes in long-term climate cycles. Because of this intra- and inter-event variability, storm water quality is often expressed and evaluated statistically.

The Ventura County Flood Control District conducts storm water monitoring from areas with specific land uses. Results from agricultural storm water monitoring efforts during the years 1997, 1998, and 1999 were used to develop model input concentrations for agricultural land use event mean concentrations (EMCs).[34] (**Appendix 4.8**) The Los Angeles County Storm Water Monitoring Program also conducts comprehensive wet weather monitoring and publishes EMCs for several different constituents and a variety of land uses (RWQCB, 2001), by land use. This data was used to provide EMCs for the existing

[34] An EMC is the average concentration of a pollutant in the runoff from a storm event, equal to the total mass of pollutant divided by the total volume of storm runoff.

and proposed land uses because of the relatively close location of the Los Angeles County monitoring stations to the project site, because the monitored land uses were representative of the proposed development land uses, and because the data evaluates storm water quality unique to specific land uses rather than data from mixed land uses.

The EMCs used to characterize the existing (and developed) storm water quality at the proposed project site are based on the regional data presented in the Geosyntec report (See **Appendix 4.8**). Existing conditions for the project development were modeled based primarily on existing land uses for on-site and off-site areas, with a small fraction of agricultural land use located in contributing undeveloped upstream areas and a small fraction of commercial (storage yard) land uses located on-site. Constituents modeled include total suspended solids (TSS), total phosphorus (TP), total nitrogen (TN), nitrate, total copper (Cu), total lead (Pb), total zinc (Zn), and chloride (Cl). **Table 4.8.1-7, Land Use Representative Event Mean Concentrations (EMCs) Used to Characterize Existing and Developed Storm Water Quality Conditions**, provides a summary of the EMC values drawn from the Los Angeles and Ventura County storm water data used to characterize existing (and developed) storm water quality conditions at the project site.

Table 4.8.1-7
Land Use Representative Event Mean Concentrations (EMCs) Used to Characterize Existing and Developed Storm Water Quality Conditions

	Pollutant EMCs							
	TSS	TP	TN[3]	Nitrate	Cu	Pb	Zn	Chloride
Land Use[1]	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Agriculture[2]	1176	2.7	18.83	11.1	0.132	0.047	0.324	24.2
Transportation	78	0.44	2.65	0.7	0.056	0.0103	0.29	5.6
Single-Family Residential	95	0.39	3.84	0.86	0.015	0.0097	0.08	5
Multi-Family Residential	46	0.19	3.16	1.1	0.012	0.0058	0.15	12.7
Commercial	66	0.39	4.04	0.48	0.039	0.018	0.24	49.8
Open Space[4]	186	0.16	1.89	1.05	0.015	0.0025	0.05	6.6

[1] *EMCs for each land use are based on L.A. County Storm Water Monitoring Data (1994–2000), unless noted.*
[2] *Calculated mean concentrations for agricultural land uses are based on analysis of Ventura County Agricultural Monitoring Data. (Geosyntec, 2002)*
[3] *Total nitrogen estimated from sum of Total Kjeldahl Nitrogen (TKN) and nitrates.*
[4] *Includes park uses.*

Based on monitoring data from Ventura County, EMC values for the "pollutants of concern"[35] from agricultural uses are typically about 4 to 19 times higher than they are from open space/vacant land uses, with the exception of fecal coliform EMC, which is about 20 percent higher for agricultural uses. (**Appendix 4.8**) The pollutants of concern for a project are determined by several factors: pollutants associated with the proposed uses, receiving water limitations, and regulatory constraints. The Ventura County information is useful because of similar site conditions, land uses and pollutants. Because a small portion of the Riverpark site has historically been under agricultural production, the expected existing storm water pollutant loads at the site should be in the range between those expected from open space and those expected from agricultural uses. Loads within this range will vary since the various pollutants have different survival rates and behavior over time and under various conditions.

For a discussion of the rainfall and runoff estimations used in this analysis, see **Appendix 4.8**, Water Quality Technical Report (PSOMAS February 2004).

c. Land Uses Under Existing and Proposed Conditions

The land use assumptions used for the pre- and post-development conditions are shown in **Table 4.8.1-8, Dominant Land Uses Under Existing and Proposed Conditions**. Pre-development conditions were modeled based primarily on existing land uses, with a small fraction of agricultural and commercial (storage yard) land uses. Post-development conditions at the site would include open space, commercial, transportation, single-family residential and multi-family residential land uses. Land uses for off-site tributary areas consist primarily of open space land uses with a small fraction of agricultural uses. **Table 4.8.1-8**, thus also shows a summary of the changes in dominant land uses from existing to proposed conditions and the percent land use for each condition.

35 GeoSyntec Consultants. September 24, 2002. Draft Storm Water Quality Assessment and Water Quality Management Plan for Newhall Ranch Development.

Table 4.8.1-8
Dominant Land Uses Under Existing and Proposed Conditions

Land Use		Total Watershed Area (ac)	Total Watershed Area (ft^2)	Percent Total (%)
Existing Conditions in Tributary Watershed	Open Space	784.57	34,175,602	93.2%
	Agriculture	38.5	1,677,047	4.6%
	Commercial	18.4	801,498	2.2%
	Total[1]	841.47	36,654,147	100%
Proposed Conditions in Tributary Watershed	Open Space	547.1	23,831,490	65.2%
	Agriculture	38.5	1,677,047	4.6%
	Commercial	22.2	967,024	2.6%
	Transportation	34.07	1,484,078	4.1%
	Single Family	152.1	6,625,424	18.1%
	Multi Family	45.6	1,986,320	5.4%
	Total[1]	839.57	36,571,384	100%

[1] *Slight reduction in the proposed condition total area (2 acres) is due to on-site grading and rounding of numbers.*

It must be noted that the assumption that the existing condition of the site is primarily results in understating the site's actual condition. Even though the site is primarily open space now, portions have historically been put to agricultural use, and the effects of that use (i.e., the use of pesticides) may still affect the quality of the runoff from the site. Consequently, the assumption that the site is primarily open space is conservative, and the actual level of the modeled constituents is likely higher than shown below.

5. EXISTING SURFACE WATER QUALITY

As stated above, analysis of pollutants of concern for the project were analyzed quantitatively where there was sufficient reliable data on which to base the analysis, and qualitatively where such data was not available.

a. Assessment of Quantitatively Addressed Pollutants

To help address potential storm water quality for the proposed Riverpark development, a pollutant load model was developed for analysis of existing, proposed and mitigated conditions.

Under existing conditions the project site is currently vacant and there are no water quality control improvements located within the project site. The water quality parameters that were incorporated in the pollutant load computation methodology for the pre-development, as well as post- and mitigated-development, conditions were presented above. The pollutant load computation methodology was also

discussed above. The following summary includes discussion of pollutants of concern, event mean concentrations, rainfall and runoff estimation methods, a brief description of the calculations used in the pollutant load model for the Riverpark development and the applied CTR criteria. Pre-developed conditions were modeled based primarily on existing land uses (existing scenario). As discussed in the PSOMAS report (**Appendix 4.8**), various data sources were examined to estimate the anticipated performance of BMPs including catch basin inserts, swales, detention basins, and Continuous Deflective Separators (CDS) units (refer to the Geosyntec report incorporated into the PSOMAS report for further discussion and noted references).

The results of the pollutant load analysis for existing, proposed and mitigated conditions are presented in **Tables 4.8.1-9** and **4.8.1-10. Table 4.8.1-9** shows a summary of the pollutant concentrations whereas **Table 4.8.1-10** shows a summary of the pollutant loads.

Table 4.8.1-9
Pollutant Concentration Results for Riverpark Development
Based On Assumption of Existing Land Uses (mg/L)

Total Area		Runoff Volume	Modeled Constituents							
			TSS	TP	TN[2]	Nitrate[1]	Cu	Pb	Zn	Chloride[1]
ac	ft[2]	ft[3]/yr	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
841.5	36,654,147	9,423,531	217	0.29	2.8	1.43	0.02	0.0058	0.08	11.2

*Source: PSOMAS Associates (February 2004) (**Appendix 4.8**)*
[1] Mitigated Pollutant Removal not Included in Water Quality Model.
[2] Total nitrogen estimated from sum of Total Kjeldahl Nitrogen (TKN) and nitrates.

Table 4.8.1-10
Pollutant Load Results for Riverpark Development
Based On Assumption of Existing Land Uses

Total Area		Runoff Volume	Modeled Constituents							
			TSS	TP	TN[2]	Nitrate[1]	Cu	Pb	Zn	Chloride[1]
ac	ft[2]	ft[3]/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr	lbs/yr
841.5	36,654,147	9,423,531	127,946	170	1,648	840	13	3	46	6,589

*Source: PSOMAS Associates (February 2004) (**Appendix 4.8**)*
[1] Mitigated Pollutant Removal not Included in Water Quality Model.
[2] Total nitrogen estimated from sum of Total Kjeldahl Nitrogen (TKN) and nitrates.

b. Assessment of Qualitatively Addressed Constituents

Many constituents of concern, including sulfates, boron, SAR, ammonia, pathogens, pesticides, and hydrocarbons, as discussed below, are not easily modeled due to limited or non-existent monitoring data, difficulty in measuring pollutant concentrations, or due to pollutant concentrations that are below reporting limits.

(1) TDS, Sulfate, Boron and SAR (Minerals/Salts)

Minerals, including salts, and nutrients are likely to be entering into the site runoff in the existing condition due to the fact that open space soils are currently exposed to the runoff. However, these constituents are most often associated with marine soils and coastal environments, so are not likely to appear in project site runoff.

(2) Ammonia (Nutrient)

Ammonia is typically found in low concentrations in runoff, as it is easily diluted and oxidized to nitrate. Consequently, its presence in runoff is measured by the nitrate concentrations in runoff.

(3) Pathogens

Pathogens in the Santa Clara River may adversely affect the potential and existing designated beneficial uses of the river. (For potential impacts on biota, please see **Section 4.6, Biological Resources**.) Typical sources of pathogens in urban storm water runoff include pet wastes, improperly functioning septic tanks, and illicit sewer connections to the storm drain system. Other sources of pathogens are primarily due to non-domestic animal wastes, particularly waterfowl.

The concentrations of pathogens associated the existing scenario are difficult to evaluate for a number of reasons. Measurements of indicator organisms are not necessarily reliable indicators of viable pathogenic viruses, bacteria, or protozoa. Moreover, there are numerous sources of pathogens including birds and other wildlife, as well as domesticated animals and pets. Open space areas can potentially have high levels of coliform associated with this type of land use due to wildlife sources, but are typically lower in pathogen concentration than urban land uses.

(4) Pesticides

While pesticides are subject to degradation, they vary in how long they maintain their ability to eradicate pests. Some break down almost immediately into nontoxic by products, while others can remain active for longer periods of time. Currently, pesticide sampling data is unavailable for the soils of the planned construction areas of the proposed project site. The vacant land areas proposed for residential development are in a generally undeveloped condition without extensive use of pesticides. However, pesticides were likely used on the portion of the site historically devoted to agricultural use, and on the off-site agricultural areas that drain onto the site.

(5) Hydrocarbons

Various forms of hydrocarbons (oil and grease) are common in urban runoff; however, these constituents are difficult to measure and are typically measured with grab samples, making it difficult to develop reliable EMCs for modeling. Based on this consideration, hydrocarbons were not modeled but are addressed qualitatively.

Hydrocarbons are a broad class of compounds, most of which are non-toxic. Hydrocarbons are hydrophobic (low solubility in water), have the potential to volatilize, and most forms are biodegradable. A subset of hydrocarbons, Polynuclear Aromatic Hydrocarbons (PAHs), can be toxic depending on the concentration levels, exposure history and sensitivity of the receptor organisms. Of particular concern are those PAHs compounds associated with transportation related combustion products.

The current concentration of hydrocarbons in the runoff is likely to be relatively small, as the project site is generally vacant open space land. However, there may be some hydrocarbon-containing runoff from the construction storage yard located in the valley in the central portion of the site.

c. Runoff Volume, Velocity and Duration

Typically in smaller natural riverine systems, frequent discharges (on the order of the average annual and 2-year flows) dictate stream geomorphology. Extended and frequent discharges at these critical flow rates would potentially impact stream health. Currently, discharges from the site are not concentrated into centralized outlet locations by constructed physical constraints. However, surface water flows naturally form paths of least resistance and either concentrate at existing topographic

depressions or cut channels that serve as concentrated discharge locations. (See **Section 4.2, Flood** and **Appendix 4.2**)

6. PROJECT DESIGN FEATURES

The project is proposed for development into primarily residential uses. Upon completion of the development, site and upstream runoff would flow through the site via a storm drain system that would extend from the upper end of the developed area, down to the Santa Clara River. It is proposed to control post-development runoff through a combination of grading, storm drainpipes, channels, catch basins, outlet structures, and channel lining/bank stabilization along the river. These facilities and structures constitute the conceptual SUSMP for the project. The selection of the particular BMPs for the project with respect to SUSMP will be made at the final design stage in compliance with the General MS4 Permit and as directed by this EIR.

The major structural project BMPs include: water quality detention basins, a grassy swale, and hydrodynamic separator systems/GSRDs (e.g., CDS units). However, only the water quality detention basins and hydrodynamic separator systems were modeled for treatment.

The project would result in conversion of approximately 40 percent of the mostly vacant site into commercial, residential, recreational and transportation land uses with associated infrastructure. With project development, concentrations of existing pollutants could increase and new pollutants could be introduced on the site. Where constituent levels increase, post-construction structural (treatment) BMPs are required. These BMPs must comply with local regulations (SUSMPs). Furthermore, by definition, implementation of BMPs must utilize Best Available Technologies (BATs) to the Maximum Extent Practicable (MEP) should any potential point sources locate within the commercial area of the project.

Project Design Features (PDFs) can be grouped into 3 categories: site planning, source control, and treatment.

a. Site Planning BMPs

Site planning BMPs are practices designed to minimize runoff and the introduction of pollutants in storm water runoff. Site planning principles that will be taken into account in preparing the SUSMP for the project are listed by design principal.

(1) Minimize Impervious Area and Directly Connected Impervious Areas

- Minimize impervious areas by maintaining open space areas and incorporating landscaped areas over substantial portions of the project area. Pervious areas are currently predicted to comprise approximately 74 percent of the site, with approximately 150 acres to be landscaped and irrigated. Single-family residential landscape areas will be determined by zoning requirements and design objectives.

- Minimize directly connected impervious area by draining parking lots to landscaped areas or bioretention facilities to promote filtration and infiltration of storm water, if landscaping slopes are less than 2 percent and the project is not adjacent to steep slopes; or treat with catch basin inserts.

- Utilize vegetated areas, e.g., setbacks, end islands, and median strips, for biofiltration and bioretention of nuisance and storm runoff flows from parking lots;

- Increase building density (number of stories above or below ground, build up rather than out).

(2) Selection of Construction Materials and Design Practices

- Select building materials for roofs, roof gutters and downspouts that do not include exposed copper or zinc.

- Construct streets, sidewalks, and parking lot aisles to the minimum widths specified in by the City's requirements and in compliance with regulations for the Americans with Disabilities Act and safety requirements for fire and emergency vehicle access. Incorporate landscaped buffer areas between sidewalks and streets.

- Construct on-site detention facilities. Water quality basins will be incorporated into the development.

- Prohibit septic tanks.

(3) Conserve Natural Areas

- Concentrate or cluster development on the least environmentally sensitive portions of the project site while leaving the remaining land in a natural, undisturbed condition. For example, 330.8 acres consisting of the Santa Clara River and surrounding areas are being preserved.

- Maximize canopy interception and water conservation by preserving existing native trees and shrubs in natural open space areas and including native or drought plants in development plant palettes.

- Use natural drainage systems to the maximum extent practicable or create drainages (e.g., vegetated swales) that mimic natural conveyances and allow for storm water infiltration as well as pollutant removal.

- Maximize canopy interception and water conservation by preserving existing native trees and shrubs (e.g., riparian area) and planting additional native or drought tolerant trees and large shrubs. The open space areas will help protect sensitive areas such as wildlife corridors and

habitat of sensitive plant and animal species. A landscaping plan for the project will conform to County of Los Angeles/City of Santa Clarita requirements for use of drought resistant plants.

Over one-half of the site would be preserved as open space, and the vegetation in these areas will remain.

(4) Protect Slopes and Channels

- Protect slopes: minimize erosion potential (predominantly sandy soils) with vegetative cover, route flows safely from or away from steep and or sensitive slopes, stabilize disturbed slopes. All slopes will be designed and constructed to minimize erosion.
- Protect channels: control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems; stabilize channel crossings; ensure that increases in runoff velocity and frequency caused by the project do not erode the channel; install energy dissipaters, such as riprap, at the outlets of storm drains or conveyances.

Required slope planting would be implemented on all graded slopes. Additional erosion protection such as drains would also be implemented. The project proposes water quality basins, which would capture small, frequent storms and release flows at non-erosive rates. To reduce storm flow velocities during smaller, more frequent flows (i.e., 2-year storm events) and to prevent erosion at storm water discharge points into the river, the project has incorporated energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters would be constructed at affected storm system outlets in the river. These energy dissipaters would slow the rate of flow of runoff into the river in order to prevent erosion of the stream channel.

b. Source Controls

Effective management of wet and dry weather water quality begins with limiting pollutant sources. The following source control best management practices will be incorporated into the storm water management and treatment system for the project in order to help limit the change in runoff and the amount of pollutants in storm water runoff and dry weather (nuisance) flows.

- Drain Inlet Stenciling or Signage ;
- Irrigation Controls and Management ;
- Proper Application of Fertilizers and Pesticides;
- Community Education Program;
- Capture of majority of storm water runoff and all nuisance flows;
- Pavement Sweeping Program;

- Litter Control Program & Design of Trash Storage Areas;
- Centralized Car Washing Facilities;
- Proper Connection and Maintenance of Sewer Lines;
- Activity restrictions (Conditions, Covenants, and Restrictions);
- BMP maintenance; and
- Common Area Drainage Facility Inspection.

Drain Inlet Stenciling: Stenciling (or signage) is intended to raise public awareness and limit illegal dumping of trash, debris, oil, and other pollutants into storm drains. "Stenciling" will either be accomplished via a traditional stencil or via the use of grates with text or another equivalent method.

Irrigation Controls and Management: Irrigation controls will help ensure that irrigation is conducted efficiently. Where feasible, plants with similar watering requirements will be grouped in order to reduce excess irrigation runoff and promote surface filtration. Efficient irrigation systems reduce irrigation runoff and conserve water resources; such systems may include computerized and/or radio telemetry that controls the amount of irrigation based on soil moisture or other indicators. Considering that irrigation in semi-arid areas substantially exceed mean annual precipitation, irrigation control is clearly one of the most effective traditional controls for low flow runoff. In addition, drought-resistant plant materials will be incorporated into landscape plans.

Proper Application of Fertilizers and Pesticides: Best Management Practices will be implemented for minimizing the application of fertilizers, pesticides, and other landscape management products on slopes and landscaped areas maintained by either the HOA or property owners. Examples of these management practices include, but are not to limited to, the use of slow release fertilizers, applying fungicides only to the greens to limit the use of pesticides, and closely monitoring weather forecast to ensure appropriate timing (during dry periods) for the application of landscape management products. An integrated fertilizer and pest management control plan will be developed in reliance on the Los Angeles Unified School District list of acceptable chemicals for use in common areas.

Community Education Program: Public education will be used to reduce the potential for hazardous materials entering the storm drain system. This will be accomplished through brochures or other materials distributed to property managers, owners and occupants, and employees at the time of initial sale or lease of property or hiring of employees and periodically thereafter. These brochures will discuss, among other topics and as appropriate for the audience:

- the importance of downstream water bodies, the storm water system, management of fertilizers, pesticides, and other harmful chemicals,

- impacts of dumping oil, antifreeze, pesticides, paints, and other pollutants into storm drains and proper handling and disposal of these materials,
- effective cleaning practices such as the cleaning of vehicles only in maintenance areas where the water will be recycled or routed to the sanitary sewer system to prevent nuisance flows,
- benefits of the prevention of excessive erosion and sedimentation,
- importance of cleaning up pet waste and using pet waste collection bags,
- education regarding the impacts of draining pool water (chlorinated) into the storm drain system,
- benefits of proper landscaping practices,
- pavement clean-up practices, and/or
- impacts of over-irrigation.

Capture of Storm Water Runoff and Nuisance Flows: This source (i.e., pollutants are retained at the source) and treatment control will be achieved through the use of the BMPs described in detail in this section. Grease traps will be included for restaurants. Draining swimming pools into the storm drains will be prohibited.

Pavement Sweeping Program: The majority of the roads in the project are proposed to be dedicated to the public, and would thus be maintained by the City of Santa Clarita. The City has street sweeping programs that will help control trash and vegetation debris and sediment that may accumulate on roadways. Any private roads (Area C) would be maintained by a private service. The parking areas in the commercial area would also be maintained by a private service.

Litter Control Program and Design of Trash Storage Areas: The litter control program will focus on litter control for common areas. A program of this type typically consists of the placement and emptying of trash receptacles, ensuring that trash bins are maintained in the closed position. Removing trash from parking areas and landscaping is also a component of this program. In conjunction with the litter control program trash storage areas will be designed prevent introduction of this pollutant into runoff. The design principles to prevent this from occurring are impervious surfaces for storage areas which prevent run-on from adjacent areas, no connection of trash drains to the storm drain system, and lids on all trash receptacles in addition to roofs or awnings to minimize direct precipitation.

Centralized Car Washing Facilities: Centralized car washing facilities will be provided for the multi-family complexes with 100 units or more. The runoff from these facilities will be directed into the sewers, not the storm drains.

Proper Connection and Maintenance of Sewer Lines: Sewer lines will be properly connected and adequately maintained.

Activity restrictions (Conditions, Covenants, and Restrictions): City maintenance and implementation of BMPs or Conditions, Covenants, and Restrictions (CC&Rs) will be prepared requiring maintenance and implementation of BMPs by the HOA for the purpose of surface water quality protection, or use restrictions will be developed through lease terms.

BMP Maintenance: City or Home Owners Associations (HOAs) will be responsible for the inspection and maintenance of structural BMPs within their boundaries.

Common Area Drainage Facility Inspection: Privately-owned common area drainage facilities will be inspected each year and, if necessary, cleaned and maintained prior to the storm season, no later than October 1st of each year. Drainage facilities include catch basins and inlets, water quality basins, detention basins, and open drainage channels.

c. Structural Components of the Storm Water Treatment System

The project Drainage Concept (as illustrated in **Figure 4.8.1-2**, **Drainage Concept Map**) proposes structural BMPs to mitigate potential storm water quality impacts of the project. These structural BMPs generally include water quality detention basins, a grassy swale, and hydrodynamic separator systems, such as Continuous Deflective Separator (CDS) Units, most of which are illustrated in **Figure 4.8.1-2, Drainage Concept Map**, and described in detail below and in **Appendix 4.8** of this EIR. Additional equivalent structural BMPs that could alternatively be implemented at the project site include catch basin inserts, storm water filters, and storm water clarifiers. Concrete will be used for all storm drains and basins. These proposed water quality improvements are discussed below. (See **Appendix 4.8**)

Parties typically responsible for the proposed BMPs post construction include public agencies, landscape maintenance districts, or homeowners' associations. Responsible parties for the proposed water quality improvements include the City of Santa Clarita and/or County of Los Angeles and the project's homeowners' association (HOA).

(1) Water Quality Detention Basins

To reduce pollutants in the "first flush" runoff, a series of pipes and outlets would intercept first flush runoff from paved developed areas and discharge it to above-ground and/or subsurface water quality control detention basins.

As shown in **Figure 4.8.1-2, Drainage Concept Map**, water quality control detention basins are proposed at the discharge points from hydrologic sub-area 200, including portions of sub-area 400 (Water Quality Basin A) and hydrologic sub-areas 300 and 350, including portions of sub-area 400 (Water Quality Basin B). Detention basins are proposed at these discharge points because they would effectively treat the majority of constituents generated at the site once developed and there is an availability of land at these locations. Specifically, Water Quality Basin A is located in sub-area 205 and is proposed for treating runoff from the 200 series drainage area. Water Quality Basin B is located in sub-area 308 and is proposed for treating runoff from the 300 and 400 series drainage areas.

The proposed water quality control detention basins are preliminarily sized to meet the minimum Los Angeles County SUSMP criteria, based on a 0.75 inch runoff event; however, the final capacity of the basins will be determined for project runoff, as well as runoff from undeveloped upstream areas, and would be designed to capture 80 percent of annual runoff, which could be more than the 0.75 inch event. The size of the facilities will be finalized during the design stage by the project engineer with the final hydrology study, which is prepared and approved at the final engineering stage and prior to issuance of a grading permit. This report will be reviewed by both the City of Santa Clarita and the County of Los Angeles as both agencies will be accepting different parts of the storm drain system. The water quality control detention basins would be designed to empty within 24 to 40 hours. The 24-hour limit would allow adequate settling time for the settable solids, while the 40-hour limit would provide vector (e.g., mosquito) control. Figure III-3 of the February 2003 PSOMAS report in **Appendix 4.8** provides a conceptual schematic of a water quality outlet design used as a part of the detention basin design.

Detention Basins have low to moderate maintenance requirements; however, maintenance is necessary to assure their performance, enhance aesthetics, and protect structural integrity. Typical operational and maintenance requirements for detention basins include:

- Dispersion of alluvial sediment deposition at inlet structures, thus limiting the extended localized ponding of water.
- Periodic sediment removal to ensure adequate storage and treatment volume.
- Monitoring of the basin to ensure it is completely and properly drained.
- Outlet riser cleaning.
- Vegetation management to prevent marsh vegetation from taking hold, and to limit habitat for disease-carrying fauna.
- Removal of graffiti, litter, vegetative and other debris.

- Preventative maintenance on monitoring equipment.
- Vegetative stabilization of eroding banks.

(2) Biofiltration Swales

A biofiltration swale is proposed in sub-area 308 to convey runoff from developed areas in the canyon to proposed Water Quality Basin B. Biofiltration swales are vegetated channels specifically designed to remove particulates and to reduce the velocity of runoff through the storm system. Swales typically provide low to moderate treatment efficiencies and are mainly effective at removing debris and solid particles. Vegetated swales also help minimize overland and concentrated flow depths and velocities. In addition, storm water from commercial parking lots will be directed from those lots and other vehicle-intensive uses through CDS units (See below) with oil absorbent materials to swales and planters.

Typical maintenance and monitoring requirements for swales include:

- Vegetation management to maintain adequate hydraulic functioning and to limit habitat for disease-carrying animals.
- Animal and vector control.
- Periodic sediment removal to optimize performance.
- Trash, debris, grass trimmings, tree prunings, and leaf collection and removal to prevent obstruction.
- Removal of standing water, which may contribute to the development of aquatic plant communities or mosquito breeding areas.
- Erosion and structural maintenance to prevent the loss of soil and maintain the performance of the swale.

(3) Hydrodynamic Separator Systems and Gross Solids Removal Devices

Hydrodynamic separation systems (HSS) and Gross Solids Removal Devices (GSRDs) are flow-through BMPs that are installed within a storm line in order to remove large sediment particles and associated storm water pollutants, as well as floatable trash, oils, and grease. They are typically designed to allow particulate matter to fall out of suspension and settle in a collection chamber, while floatable materials are collected above the water surface.

For the proposed Riverpark development, HSS and/or GSRDs, such as a Continuous Deflective Separator (CDS) unit, are recommended for use at various locations in the proposed storm drain systems.

These units are used based upon pollutants of concern and land availability. A CDS unit with oil absorbent materials is recommended for treating runoff from sub-area 900. A CDS unit is proposed at this location because the land use is commercial, which will yield pollutants (oil and grease from potential restaurants and gas station) best treated by a CDS unit given the land area available. The systems typically provide low to moderate treatment efficiencies and are recommended for in-line treatment of storm water runoff from drainage areas where construction of larger BMPs may be infeasible. The PSOMAS report in **Appendix 4.8** shows a conceptual schematic of an HSS, while, for informational purposes, Figure III-8 shows a conceptual schematic of an inclined screen GSRD, and Figure III-9 shows a conceptual schematic of a linear radial GSRD. Although maintenance requirements vary greatly depending on the particular model and manufacturer, they are typically maintained quarterly to yearly for clean outs. Cleaning after a storm event may also be required. Inspection will be required to make certain that the unit is operating correctly and to make any repairs.

(4) Catch Basin Inserts

Catch basin inserts are an option for consideration at various locations to treat runoff before it enters the storm drain system by filtering or screening out sediments and associated storm water pollutants during dry weather and low flow events. Catch basin inserts are one of the few BMPs that the County of Los Angeles will currently accept for maintenance—along with CDS units. During large flow events, they are typically designed to allow storm water runoff to bypass the inlet device and continue directly into the storm drain system. Although treatment levels are generally low for the pollutants of concern for this project, the inserts would provide pre-treatment of storm water runoff prior to further treatment at downstream BMPs. Drainage inserts could be replaced with HSSs or GSRDs that perform similar functions and are interchangeable. For example, if for some reason the implementation of a CDS should be deemed infeasible at the final engineering stage, a catch basin insert would be used in its place. Figure III-6 in the PSOMAS report in **Appendix 4.8** shows a conceptual schematic of a catch basin insert. Although maintenance requirements vary greatly depending on the particular model and manufacturer, they are typically maintained quarterly to yearly for clean outs. Cleaning after a storm event may also be required. Inspection will be required to make certain that the unit is operating correctly and to make any repairs.

(5) Storm Water Filters

Storm water filters are another option for consideration, as they are effective in removing several common pollutants from storm water runoff and typically have high removal efficiencies for sediment, biochemical oxygen demand (BOD), and fecal coliform bacteria.

One of the many examples of a storm water filter is the sand filter, which consists of two or three chambers or basins. The first is the sedimentation chamber, which removes floatables and heavy sediments. The second is the filtration chamber, which removes additional pollutants by filtering the runoff through a sand bed. Finally, the third is the discharge chamber from which the treated filtrate is normally discharged through an underdrain system.[36]

Typical operational and maintenance requirements for sand filters include:

- Providing adequate access for inspection and maintenance,
- Removal of accumulated trash, paper and debris,
- Corrective maintenance including removal and replacement of top layers of media,
- Complete replacement of filter media every 3 to 5 years, and
- Periodic removal of vegetative growth.

(6) Storm Water Clarifiers

A storm water clarifier or equivalent is an option for treating storm runoff from the 500 series drainage area (See **Figure 4.8.1-2**). Storm water clarifiers consist of water quality inlet devices (also commonly called oil/grit separators or oil/water separators) and a series of chambers that promote sedimentation of coarse materials and separation of free oil from runoff. The basic design of a storm water clarifier's series of chambers generally includes a sedimentation chamber, an oil separation chamber, and a discharge chamber. Additional screens may also be used to help retain larger or floating debris. A typical schematic of water quality inlet is included in the PSOMAS report in **Appendix 4.8** as Figure III-5. Although maintenance requirements vary greatly depending on the particular model and manufacturer, they are typically maintained quarterly to yearly for clean outs. Cleaning after a storm event may also be required. Inspection will be required to make certain that the unit is operating correctly and to make any repairs.

(7) Trash Area Design

Trash areas for commercial areas will be paved, designed not to allow run-on, screened or walled to prevent off-site transport of trash; and covered to minimize direct precipitation. Connection of trash area drains to the municipal storm drain system will be prohibited.

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[36] An underdrain is an underground drain or trench with openings through which the water may percolate from the soil or ground above.

(8) Protect Slopes and Channels

Storm water BMPs will be included to decrease the potential for erosion of slopes and/or channels, and may include appropriate conveyance structures, landscaping, etc.

(9) Hillside Landscaping

Hillside areas that are disturbed by project development shall be landscaped with deep-rooted, drought tolerant plant species selected for erosion control.

(10) Community Car Wash Racks

In multi-family complexes larger than 100 dwelling units where car washing is allowed, a designated car wash area that does not drain to a storm drain system shall be provided for common usage. Wash waters from this area may be directed to the sanitary sewer (with the prior approval of the sewering agency); to an engineered infiltration system; or to an equally effective alternative. Pre-treatment may also be required.

7. PROJECT IMPACTS

The Riverpark project would have less than significant impact on storm water quality during the construction and post development phases of the project.

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines state that a project would normally have a significant effect on the environment if it would:

- violate any water quality standards or waste discharge requirements?[37]
- create or contribute runoff water which would…provide substantial additional sources of polluted runoff?[38]
- otherwise substantially degrade water quality?

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37 Water quality standards typically to receiving waters, not to "end-of-pipe" runoff discharges. Nevertheless, receiving water standards are used as benchmarks for assisting in determining significance, as described below.

38 Capacity issues are discussed and analyzed in **Section 4.2, Flood**.

- impact storm water management in any of the following ways:[39]

  i) Potential impact of project construction and project post-construction activity on storm water runoff?
  ii) Potential discharges from areas for materials storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?
  iv) Significant and environmentally harmful increases in erosion of the project site or surrounding areas?[40]
  v) Storm water discharges that would significantly impair or contribute to the impairment of the beneficial uses of receiving waters or areas that provide water quality benefits (e.g., riparian corridors, wetlands, etc.).

To evaluate whether the project would cause impacts under these thresholds, the following analysis was employed:

- Qualitative, and where valid results could be obtained, quantitative, analysis was performed to determine when increases of pollutant loads and concentrations could be expected to result from development of the project. Such increases are a potential indication of significant adverse impacts;

- If pollutant loads or concentrations are predicted to increase, the potential impacts are assessed on a pollutant-by-pollutant basis, by evaluating the compliance of the project with the requirements of applicable water quality requirements from the General MS4 Permit and the General Construction Activity Storm Water Permit, as those requirements relate to the particular pollutant of concern. Pollutant-specific BMPs are thereby identified for inclusion in the project and its SUSMP.

- Further, for pollutants predicted to increase, post-development pollutant predictions are compared to benchmarks that do not apply to storm water runoff, but do apply to the ultimate receiving water. These benchmarks include the Basin Plan beneficial uses and narrative and numeric water quality objectives, as well as California Toxics Rule criteria. In the event that post-development predictions were to show that end-of-pipe storm water discharges would potentially exceed these receiving water benchmarks, further analysis would be necessary to determine the significance of these exceedances on the receiving water.

b. Water Quality Impacts During Construction

The site that will be disturbed for construction of the project would be larger than one acre. Therefore, the project during its construction phase would be required to comply with the State General Construction Activity Storm Water Permit and the provisions in the General MS4 Permit addressing control of construction phase water impacts. Accordingly, the threshold question is whether or not the

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39 These thresholds are components of the threshold stated above and combine standards from the State's General Construction Activity Storm Water Permit and the General MS4 Permit. These thresholds therefore constitute "triggers" for requiring implementation of BMPs to the MEP, as provided in those permits. The CEQA, MEP, and sizing criteria are legally enforceable requirements.

40 Potential erosion impacts during operation of the project are addressed in **Section 4.2, Flood**. This section therefore addresses potential erosion impacts on water quality during the construction phase.

project complies with the State General Construction Activity Storm Water Permit and the provisions in the General MS4 Permit addressing control of construction phase water impacts.

During construction, pollutant export from the site could increase significantly as a result of soil disturbance and construction operations. As discussed above, runoff from lands with a history of agricultural production typically contain total suspended solids (sediments), pesticides, trace metals (associated with sediment), nutrients, and pathogens. Initial clearing and grading operations during construction would expose much of the surface soils and release these pollutants into site runoff. Unless adequate erosion controls are installed and maintained at the site during construction, significant quantities of sediment may be delivered to the downstream receiving waters, along with attached soil nutrients and organic matter, resulting in a significant water quality impact.

Other pollutants that could be generated on the site during construction include nutrients, trace metals, pesticides, construction chemicals, and miscellaneous wastes. Each of these is discussed below:

- **Nutrients:** Nitrogen, phosphorous, and potassium are the major nutrients used for fertilizing new landscape at construction sites. Heavy use of commercial fertilizers can result in discharge of nutrients to water bodies where they may cause excessive algae growth.

- **Trace Metals:** Over half of the metal load carried in storm water is associated with sediments as metals both adsorb[41] to solids particulate matter (total suspended solids) and get washed off in dissolved forms. Galvanized metals, paint, or preserved wood may contain metals which may, if uncontrolled, enter the storm water and impact downstream receiving waters.

- **Pesticides:** Unnecessary or improper application of pesticides may directly or indirectly contaminate surface water bodies.

- **Other Toxic Chemicals:** If improperly stored and/or disposed of, synthetic organic compounds (such as adhesives, cleaners, sealants, and solvents) that may be used at construction sites will have a significant impact on receiving waters.

- **Miscellaneous Wastes:** Miscellaneous wastes may include wash water from concrete mixers, paints and painting equipment cleaning activities, solid wastes from land clearing activities, wood and paper material from packaging of building material, and sanitary wastes. Improper disposal of construction wastes may directly or indirectly pollute runoff and receiving water bodies.

However, as discussed above, the project must comply with the State's General Construction Activity Storm Water Permit and the General MS4 Permit. To do so, the project construction sites must ensure, as a minimum, (1) that sediments generated on the project site are retained using adequate treatment control or structural control BMPs; (2) that construction-related materials, wastes, spills, or residues are retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or

41 Adsorption refers to the process of one material attracting and holding molecules of another substance to the surface of its molecules.

adjacent properties by wind or runoff; (3) that non-storm water runoff from equipment and vehicle washing and any other activity are contained at the project site; and (4) that erosion from slopes and channels is controlled by implementing an effective combination of BMPs (as approved in RWQCB Resolution No. 99-03), such as inspecting graded areas during rain events, planting and maintenance of vegetation on slopes, and covering erosion susceptible slopes.[42]

In addition, a local SWPPP must be prepared and submitted for approval prior to issuance of a grading permit for the construction of the project.[43] The SWPPP would be designed and implemented to address site-specific conditions related to project construction, and would include the PDFs. The SWPPP would identify the sources of sediment and other pollutants that may affect the quality of storm water discharges, and would identify appropriate construction site BMPs and maintenance schedules, and the rationale for selecting or rejecting BMPs.[44] The following BMPs are typical construction site BMPs that are recommended for the project and included as PDFs. The recommended BMP categories include measures for temporary sediment control, temporary soil stabilization, scheduling, preservation of existing vegetation, conveyance controls, wind control, temporary stream crossings, waste management as well as many other measures which may be implemented during the construction of the project. (See General Construction Activity Storm Water Permit.) These measures are consistent with requirements set forth in the General Construction Activity Storm Water Permit. The following is a brief overview of the main BMPs directed at reducing storm runoff pollutants and eliminating non-storm water discharges.

(1) Erosion Control

During construction, erosion control techniques to retain soil and sediment on the site must be implemented. Particular attention must be paid to large mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great. Typical measures that may be considered include appropriate vegetation of exposed areas, minimizing disturbed areas, diversion of runoff (such as earth dikes, temporary drains, slope drains), velocity reduction (outlet protection, check dams, and slope roughening/terracing) as well as dust control measures (such as sand fences, watering, etc.).

42 General MS4 Permit, Part 4, E.
43 Id.
44 Id.

(2) Stabilization

All disturbed areas of the construction site must be stabilized during the project. Example measures may include: blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments. The construction entrance/exit must also be stabilized (e.g., aggregate underdrain with filter cloth).

(3) Sediment Control

These measures include BMPs that will prevent a net increase of sediment load in storm water discharge relative to pre-construction levels. Sediment control BMPs are recommended at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season. Sediment control practices may include filtration devices and barriers (such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters) and/or settling devices (such as sediment traps or basins).

(4) Non-Storm Water Management

Possible non-storm water discharges from the construction site to receiving waters must be properly controlled. Examples of non-storm water discharges include: watering for dust control purposes, and vehicle and equipment wash down wastes. Non-storm discharges (e.g., irrigation or equipment cleaning) should be eliminated or reduced to avoid significant impacts. The SWPPP will identify BMPs to be implemented in order to minimize the impact of such discharges on water quality. Such measures generally focus on good housekeeping activities, including: designating and lining concrete washout areas, removing construction debris in a timely manner, providing enclosures and, if appropriate, secondary containment for fuels and lubricants, and avoiding over-applying fertilizers and pesticides as part of soil stabilization and landscaping. Receptacles for trash and other smaller debris will be required. Wash-out areas for concrete trucks and equipment, paint and stucco equipment, and other construction materials shall be designated, and containment measures employed, to prevent discharges of construction materials. Construction vehicle wash areas shall be designated and containment measures employed to prevent discharges of wash water. Construction street and pavement washing shall be controlled to preclude discharges of wash water. Discharging super-chlorinated water pipe and sprinkler system flushing and test water to storm drain system shall be prohibited.

In addition to the construction related, non-storm water discharges discussed above, additional types of discharges in this category would include discharges from activities such as dewatering, water line

testing and sprinkler system testing. It is typically not feasible to contain these sorts of construction-related discharges on site. The General Construction Activity Storm Water Permit authorizes these types of activities, so long as associated discharges (a) comply with Section A.9 of the General Construction Activity Storm Water Permit, (b) do not cause or contribute to a violation of any water quality standard, and (c) do not violate any other provisions of the General Construction Activity Permit, and (d) are not prohibited by the Basin Plan. The SWPPP will contain BMPs designed to control pollutants in these types of discharges, including a prohibition against discharging super-chlorinated water associated with line flushing and testing into storm drains, and control mechanisms for discharges related to dewatering activities for grading.

With implementation of the foregoing mitigation measures or equivalent, the potential construction impacts on water quality would be reduced to a less than significant level.

c. Post-Development Water Quality Impacts

For the constituents of concern discussed above for which there is sufficient empirical data, post-development water quality impacts are estimated using a statistical model. The model is used to estimate the impact of the project both with and without the BMPs that have been incorporated into the project as project design features (PDFs). For the constituents that cannot be modeled (because of insufficient data), a qualitative assessment of the project's potential impacts is provided.

(1) Quantitative Assessment of Modeled Constituents

A water quality model was used to estimate certain storm water constituent loads and concentrations. The model results for the developed conditions include predicted loads and concentrations from the modeled project areas before and after treatment in the modeled treatment PDFs. Results from the water quality model (described in the Water Quality Technical Report, PSOMAS, February 2004; **Appendix 4.8**) are reported as average annual values for loads and concentrations. Significance of any impacts resulting from predicted increases in pollutant levels is assessed by evaluating the ability of BMPs specified for inclusion in the project SUSMP to control the pollutant of concern in compliance with the General MS4 Permit and the General Construction Activity Permit. Further, post-project pollutant levels are compared to receiving water benchmarks to substantiate conclusions regarding significance.

(a) Water Quality Modeling – Runoff Volumes

Table 4.8.1-11, Average Storm Runoff Volumes for Water Quality Modeling, shows the estimated storm water runoff volumes for the existing and developed conditions and developed conditions with PDFs for the 835 acres analyzed (i.e., changes in land use).

Table 4.8.1-11
Average Storm Runoff Volumes for Water Quality Modeling

Site Conditions	Average Annual Runoff Volume (acre-feet)
Existing	216.3
Developed	316.8
Developed w/ PDFs	316.8
% Change[1]	46%

*Source: PSOMAS (February 2004) (**Appendix 4.2**).*
[1] Percent change from Existing to Developed with PDFs (negative sign indicates decrease).
Percent computations are based on the results generated with more decimal places (than the ones presented here).

The runoff volume estimates by the water quality model are used in combination with storm water event mean concentrations (EMCs) to estimate the average annual pollutant loads and concentrations contained in the following sections.

(b) TSS, Nutrients and Minerals/Salts: Concentrations and Loads

Table 4.8.1-12, Annual Average Storm Water TSS, Nutrient & Mineral/Salt Loads Comparison to Existing Scenario, shows the predicted average annual TSS, nutrient (TP, TN, nitrate) and mineral/salt (chloride) loads for existing and developed conditions. Loads of TP, TN, nitrate and chloride are predicted to increase for the developed conditions without treatment by the PDFs; however, loads of TSS after treatment are predicted to decrease.

Table 4.8.1-12
Annual Average Storm Water TSS, Nutrient & Mineral/ Salt Loads Comparison to Existing Scenario (lbs/yr)

Site Conditions	Modeled Constituent – Loads TSS (lbs/yr)	TP (lbs/yr)	TN[1] (lbs/yr)	Nitrate[2] (lbs/yr)	Chloride[2] (lbs/yr)
Existing	127,946	170	1648	840	6,589
Developed	135,523	308	2,846	1,035	8,605
Dev w/ PDFs	108,031	236	2612	N/A	N/A
% Change[3]	-16%	39%	58%	23%[2]	31%[2]

*Source: PSOMAS (February 2004) (**Appendix 4.8**):*
[1] Total nitrogen estimated from sum of Total Kjeldahl Nitrogen (TKN) and nitrates.
[2] The percent change for nitrate and chloride are based on load without PDFs, presenting a worst-case scenario.
[3] Percent change from Existing to Developed with PDFs (negative sign indicates decrease).
Percent computations are based on the results generated with more decimal places (than the ones presented here).
*See **Appendix 4.8** for computation procedure.*

The comparison of the existing conditions model pre- and post-development concentration results are shown in **Table 4.8.1-13, Average Annual Storm Water TSS, Nutrient & Mineral/Salt Concentrations Comparison to Existing Scenario**. Reductions in TSS, TP, nitrate and chloride concentrations are predicted with development with the PDFs due to the change from open space to urban land uses, while TN concentrations are predicted to increase after treatment.

Table 4.8.1-13
Annual Average Storm Water TSS, Nutrient & Mineral/ Salt Loads Comparison to Existing Scenario (mg/L)

Site Conditions	Modeled Constituent – Concentrations TSS (mg/L)	TP (mg/L)	TN[1] (mg/L)	Nitrate[2] (mg/L)	Chloride[2] (mg/L)
Existing	217	0.29	2.85	1.43	11.2
Developed	157	0.36	3.3	1.20	10.0
Dev w/ PDFs	125	0.27	3.0	N/A	N/A
% Change[3]	-42%	-5%	8%	-16%[2]	-11%[2]

*Source: PSOMAS (February 2004) (**Appendix 4.8**).*
[1] Total nitrogen estimated from sum of Total Kjeldahl Nitrogen (TKN) and nitrates.
[2] The percent change for nitrate and chloride are based on load without PDFs, presenting a worst-case scenario.
[3] Percent change from Existing to Developed with PDFs (negative sign indicates decrease).
Percent computations are based on the results generated with more decimal places (than the ones presented here).
*See **Appendix 4.8** for computation procedure.*

Decreases in TSS, TP, nitrate and chloride indicate that the project will not result in significant adverse impacts to water quality with respect to these pollutants of concern. A further evaluation of these pollutants of concern and of potential impacts related to increases in TN (Total Nitrogen) is discussed in the following pages.

(c) Copper, Lead and Zinc: Constituent Loads and Concentrations

Due to consistently low concentrations of dissolved lead in the available storm water runoff data (most reported dissolved lead values are below detection levels in urban runoff; see **Appendix 4.8**), it was not possible to develop reliable EMC parameters for most land uses in order to model dissolved lead. This constituent was therefore modeled as total lead. The results for the total lead may be compared to the dissolved metal criteria in order to assess the significance of impacts. This comparison renders values that are very conservative, because predicted total lead measurements would exceed dissolved lead measurements, and lead is highly associated with particulates in urban runoff (80 to 95 percent is typical in the particulate form) and is therefore typically readily removed from runoff through sedimentation.

Table 4.8.1-14, Average Annual Storm Water Trace Metal Concentrations Comparison to Existing Scenario, shows that loads of copper, lead and zinc are predicted to increase in the developed conditions with PDFs. **Table 4.8.1-15, Average Annual Storm Water Trace Metal Concentrations Comparison to Existing Scanario**, shows that, with the implementation of the PDFs, decreases in the concentration of dissolved copper and total lead are predicted as compared to the existing condition, while moderate increases in the concentrations of dissolved zinc would remain. Decreases in copper and lead concentrations indicate that the project will not significantly impact water quality with respect to these pollutants of concern. Increases in zinc concentrations may indicate a potential water quality impact, but, as discussed below, modeled results for zinc are substantially lower than the CTR acute criteria for that metal zinc, indicating a less than significant impact on water quality.

Table 4.8.1-14
Average Annual Storm Water Trace Metal Concentrations Comparison to Existing Scenario (lbs/yr)

Site Conditions	Modeled Constituent – Loads Dissolved Copper (lbs/yr)	Total Lead (lbs/yr)	Dissolved Zinc (lbs/yr)
Existing (OS)	13	3	46
Developed	22	7	100
Dev w/ PDFs	17	5	89
% Change[1]	31%	67%	93%

*Source: PSOMAS (February 2004) (**Appendix 4.8**)*
[1] Percent change from Existing to Developed with PDFs (negative sign indicates decrease).
Percent computations are based on the results generated with more decimal places (than the ones presented here).
*See **Appendix 4.8** for computation procedure.*

Table 4.8.1-15
Average Annual Storm Water Trace Metal Concentrations Comparison to Existing Scenario (mg/L)

Site Conditions	Modeled Constituent – Loads Dissolved Copper (mg/L)	Total Lead (mg/L)	Dissolved Zinc (mg/L)
Existing (OS)	.02	.0058	.08
Developed	.02	.0083	.12
Dev w/ PDFs	.02	.0045	.10
% Change[1]	-10%	-3%	31%

*Source: PSOMAS (February 2004) (**Appendix 4.8**)*
[1] Percent change from Existing to Developed with PDFs (negative sign indicates decrease).
Percent computations are based on the results generated with more decimal places (than the ones presented here).
*See **Appendix 4.8** for computation procedure.*

Decreases in dissolved copper and total lead concentrations indicate that the project will not result in significant adverse impacts to water quality with respect to these pollutants of concern. A further evaluation of these pollutants, and of potential impacts related to increases in concentrations of dissolved zinc are discussed below in the evaluation of metals under heading **(d)** below.

(d) Comparison with Water Quality Criteria

Model results are compared below to Basin Plan surface water quality objectives and CTR acute criteria for metals and inland surface water designated MUN[45] for TSS, nutrients, minerals/salts, and metals in order to assess the potential for post-development pollutant levels to exceed the receiving water standards. For results of comparison to Basin Plan surface water quality objectives, see **Table 4.8.1-3, Analysis of Project Development Against Hydrologic and Surface Water Quality Objectives (Basin Plan and CTR Criteria)**. For results of comparison to CTR criteria, also see **Table 4.8.1-16, Comparison with CTR Acute Criteria for Copper, Lead, and Zinc**, below.

Table 4.8.1-16
Comparison with CTR Acute Criteria for Copper, Lead, and Zinc

Modeled Development Condition (835 acres)	Dissolved Metal CTR Criteria & Mean Modeling Results		
	Copper (mg/L)	Lead (mg/L)[1]	Zinc (mg/L)
CTR Acute Criteria[2] (at hardness of 400 mg/L)	.052	.480	.390
CTR Acute Criteria (at hardness of 200 mg/L)	.027	.200	.220
Existing (Existing scenario)	.02	.0058	.08
Developed w/o PDFs	.02	.0083	.12
Dev w/ PDFs	.02	.0045	.10
% Difference CTR Acute Criteria -- Dev w/ PDFs (at hardness of 400)	-62%	-99%	-74%
% Difference CTR Acute Criteria -- Dev w/ PDFs (at hardness of 200)	-26%	-98%	-55%

*Source: PSOMAS (February 2004) (**Appendix 4.8**).*
[1] Total lead results compared to dissolved criteria.
[2] The CTR criteria have been converted from ug/L to mg/L.

(1) Total Suspended Sediment

TSS is predicted to decrease by 42 percent in the post-development condition with PDFs as compared to existing conditions (post-development 125 mg/L v. existing condition of 217 mg/L). The Basin Plan sets forth a narrative water quality objective for solid, suspended or settleable materials. The Basin Plan requires that "Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors." Predicted reductions in TSS post-development with PDFs indicate that, with proper implementation of BMPs during and after development, no adverse impacts related to turbidity or suspended or settleable

45 In 1988, the State Board adopted the Sources of Drinking Water Policy (SWRCB Resolution No. 88-63) which directed the Regional Boards to add the Municipal and Domestic Supply (MUN) Beneficial Use for all water bodies not already so designated, unless they met certain exception criteria." (SARWQCB, 1995.) The receiving waters in the area are not specifically designated MUN; the MUN criteria are used for comparison purposes in this instance.

materials will occur. Post-development, the following are examples of BMPs to be included in the project SUSMP as set forth under the **Project Design Features** heading, above, to address this pollutant of concern: (a) site planning BMPs, such as protection of slopes and channels with vegetation, maximizing canopy interception of rainfall, and stabilization of storm drain outlet areas; (b) source controls, including efficient irrigation, street sweeping; (c) treatment controls, including detention basins and CDS units. These BMPs would control suspended and settleable solids such than no nuisance or adverse effect on beneficial uses of receiving waters will occur.

During construction of the project, the grading and other soil disturbance activities could, in the absence of appropriate BMPs, potentially cause erosion and sedimentation resulting in a release of suspended or settleable solids creating the potential for a significant adverse construction impact. However, preparation and implementation of a SWPPP in compliance with the General Construction Activity Permit, specifying the erosion and sediment control BMPs described under heading **6.**, above, would mitigate this potential impact to a level of insignificance. For example, use of temporary soil stabilization and erosion control measures, including hydromulch, tackfiers, fiber matrices, and other erosion-resistant soil coverings combined with sediment control BMPs will control discharge of sediments and other settleable and suspended solids such that no adverse effect on beneficial uses of receiving waters will occur.

Another Basin Plan standard relevant to the discussion of TSS and suspended and settleable solids is the Basin Plan standard for turbidity. The Basin Plan states that "Waters shall be free of changes in turbidity that cause nuisance or adversely affect designated beneficial uses; increased in natural turbidity attributable to controllable water quality factors are limited as follows: 20 percent increase or less where natural turbidity is between 0 and 50 NTU; 10 percent increase or less where natural turbidity over 50 NTU (Basin Plan)." Turbidity is a measure of the extent to which insoluble particles of soil and other materials impede the passage of light through water. While TSS levels and turbidity levels are not directly proportional, reductions in TSS levels will contribute to lower turbidity in the post-development with PDF conditions, primarily due to BMP control of sediment and other solids as discussed above. As a result of these BMPs, impacts to turbidity will be less than significant.

For these reasons, with proper implementation of BMPs, TSS impacts to water quality will be insignificant.

(2) Salts and Minerals

The Basin Plan requires that receiving waters not exceed the following concentrations of minerals/salts: 100 mg/L of chloride, 1.0 mg/L of boron, 150 mg/L of sulfates, 800 mg/L of TDS, and 5 mg/L of SAR (sodium absorption ratio). As explained above, based on available data, chloride was modeled as an indicator of minerals and salts in storm water. As shown above, the mean annual chloride concentration in storm water runoff from the project area tributary to receiving waters would be about 10 mg/L without implementation of the PDFs. Reductions in salts and minerals are expected in the post-development condition primarily because the increased area of imperviousness will reduce exposed soils to runoff, which is the primary source for salts in runoff. PDFs, including detention basins, swales, would be expected to reduce concentrations of salts and minerals further, but by an amount that cannot currently be quantified. Even without quantifying the effectiveness of the PDFs for chloride, the expected post-development concentration of 10 mg/L is well below the numerical Basin Plan water quality objective of 100 mg/L. As a result, it is anticipated that the post-development concentrations of salts and minerals in storm flows, including TDS, chloride, boron, sulfates, SAR, will be well within Basin Plan receiving water requirements, and no significant adverse water quality impacts related to these pollutants of concern are anticipated.

Discharge of salts/minerals could increase during construction and dry weather flows. Construction grading and soils disturbance activities could increase sediment, and associated salts and minerals in runoff. However, implementation of construction BMPs as part of the SWPPP in compliance with the General Construction Activities Permit, including the erosion and sediment control BMPs specified above, will mitigate this potential impact to a level of insignificance.

Concentrations of salts/minerals might increase in post-development dry weather flows because dry weather flows often consist of irrigation runoff. However, BMPs specified for inclusion in the project SUSMP, including source controls, such as efficient irrigation and use of drought tolerant vegetation in common and commercial areas, and swales and detention basins, dry weather flows would be detain and treated. Further, based on design of the detention basins and swales, it is not likely that dry weather flows will be discharged from detention basins. With implementation of such BMPs, potential impacts to water quality related to salts and minerals associated with post-development dry weather flows would be mitigated to a level of insignificance.

For these reasons, with proper implementation of BMPs, impacts to water quality related to salts and minerals will be insignificant.

(3) Nutrients (TP, TN, Nitrate, Ammonia, DO, BOD, Biostimulatory Substances)

The Basin Plan includes standards within this category for the following constituents: nitrogen, nitrogen as nitrate and nitrite, ammonia, phosphorous, dissolved oxygen (DO), biochemical oxygen demand, and biostimulatory substances. The Basin Plan's narrative objectives for ammonia, dissolved oxygen, biochemical oxygen demand and biostimulatory substances are shown in **Table 4.8.1-17, Basin Plan Standards for Nutrients,** below. The Basin Plan does not contain numeric or narrative objectives for total phosphorus or TN. The criteria for nitrate-nitrogen and nitrite-nitrogen are 10 mg/L for nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/L as nitrate, 10 mg/L as nitrate-nitrogen, or 1 mg/L as nitrite nitrogen, and the objective for nitrogen is 5 mg/L. As **Table 4.8.1-17, Basin Plan Standards for Nutrients,** shows, the objective for ammonia is based on its oxidization to nitrate.

Table 4.8.1-17
Basin Plan Standards for Nutrients

Constituent of Concern	Basin Plan Standard
Nitrogen (Nitrate, Nitrite)	Waters shall not exceed 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/L as nitrate, 10 mg/L as nitrate-nitrogen, or 1 mg/L as nitrite-nitrogen.
Nitrogen	5 mg/L ((Reach 7 of Santa Clara River Basin Plan p. 3-12)
Ammonia	See Reach 7 of Santa Clara River Basin Plan Table 3-2 (WARM) for one-hour average concentrations for a range of pH and temperatures (as an example at 10 degrees C and pH of 7, total ammonia concentrations should be 25 mg/L).
Phosphorous	No criteria.
Dissolved oxygen (DO)	As a minimum, the mean annual DO concentration greater than 7 mg/L; no single determination less than 5.0 mg/L. For WARM designations, the DO concentrations shall not be depressed below 5 mg/L as a result of waste discharge. (Basin Plan p. 3-11)
Biochemical oxygen demand (BOD)	Waters shall be free of substances that result in increase in BOD which adversely affects designated beneficial uses. (Basin Plan)
Biostimulatory substances	Biostimulatory substances include excess nutrients and other compounds that stimulate aquatic growth. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance of adversely affects designated beneficial uses. (Basin Plan)

The model results predict nitrate concentrations on the order of 1.20 mg/L before implementation of PDFs, which is a reduction from existing conditions and which is well below the Basin Plan's objective. The model results further predict TN concentrations of 3.0 mg/L after implementation of PDFs, which is a slight increase over existing conditions, but below the Basin Plan water quality criterion of 5.0 mg/L. While the Basin Plan does not contain objectives for TP for comparison with model results, model results

show that, with the implementation of the PDFs, concentrations of TP would be expected to decrease as compared to existing conditions.

The decreases in TP and nitrate concentrations indicate that the project would result in reducing certain nutrients below existing levels. In addition, proper implementation of construction and post-development BMPs in the project SUSMP and BMP would control oxygen demanding chemicals and biochemicals, and other nutrients, including TN and ammonia, associated with construction and development as required by the General MS4 Permit and General Construction Activity Permit. Control of these substances, in turn, prevents adverse conditions associated with low Dissolved Oxygen in receiving waters, adverse increases in BOD, and excessive levels of biostimulatory substances.

For example, during construction source control BMPs, including designation of construction vehicle maintenance areas and preclusion of discharges from these areas, would control the chemical sources that contribute to dissolved oxygen, such as anti-freeze. In addition, source control and application of construction guidelines for landscaping materials, including fertilizers, combined with erosion and sediment control BMPs will prevent nutrients from impairing runoff. Such construction BMPs, described more fully under heading **6**., above and integrated into the project as project design features (PDFs), reduce construction impacts to water quality related to nutrients, BOD, low DO, and biostimulatory substances to levels of insignificance.

Post-construction BMPs to be incorporated into the project SUSMP will similarly control nutrients in post-development storm water and nutrient related adverse effects. Examples of these BMPs include efficient irrigation for common areas, preparation and implementation of an integrated fertilizer and pesticide management plan, base on Los Angeles Unified School District guidelines, covering sources of food waste areas in commercial areas (such as restaurant trash, if restaurants locate at the project), designation of special areas for use of fluids related to vehicle maintenance, including anti-freeze, and directing storm flows away from the sources of chemical and food waste will control chemicals, nutrients and other wastes in a manner that reduces impacts of the project for these water quality-related parameters to a level of insignificance.

Post-development dry weather flows could contain elevated levels of nutrients in the absence of appropriate BMPs. However, the BMPs described in the preceding paragraph, combined with swales and water quality basins with sufficient capacity to make dry weather flow discharges from detention basins unlikely, combine to mitigate potential impacts from nutrients associated with dry weather flows, and potential adverse changes in BOD, biostimulatory substances and DO to a level of insignificance.

With respect to ammonia, this pollutant is not typically associated with urban development of the type proposed by the project, but rather is more often associated with discharges from point sources such as treatment plants, which discharge downstream of the project area. The primary purpose of the ammonia objective is to preclude adverse effects related to dilution of ammonia resulting production of nitrate. Nitrate levels are anticipated to decline post-project, and ammonia levels are not anticipated to increase substantially with proper implementation of the BMPs described above. As a result, with proper implementation of BMPs, project impacts to water quality related to this pollutant of concern will be insignificant.

For these reasons, the project water quality impacts related to nutrients would be less than significant.

(4) Metals

Mean storm concentrations for the metal results were shown previously in **Table 4.8.1-16** along with CTR criteria based on hardness values of 400 mg/L and 200 mg/L. While post-development concentrations of zinc are anticipated to increase, modeled metal results for copper, lead and zinc are substantially lower than the CTR acute criteria for copper, lead, and zinc. This indicates that metal concentrations would result in a less than significant impact on water quality.

In addition to the fact that post-development concentrations of metals are anticipated to be within CTR benchmark criteria, construction and post-construction BMPs to be incorporated into the SWPPP and project SUSMP will control pollutant sources for heavy metals. For example, the SUSMP will include BMPs such as prohibition of copper and zinc roofing materials, downspouts and other architectural design elements. Further, commercial parking lots will be designed to drain to swales and other biofilters, reducing discharge of metals associated with vehicle usage. The project SWPPP will include BMPs such as designation of vehicle storage and maintenance areas and preclusion of discharges from some areas, which will control discharge of metals associated with construction vehicles. For these reasons, project impacts to water quality, with proper implementation of BMPs, would be insignificant.

(5) Assessment of Qualitatively Addressed Constituents

Many constituents of concern, including pathogens, pesticides, and hydrocarbons, as discussed below, are not easily modeled due to limited or non-existent monitoring data, difficulty in measuring pollutant concentrations, or due to pollutant concentrations that are below reporting limits.

(a) Pathogens

Pathogens in the Santa Clara River may adversely affect the potential and existing designated beneficial uses of the river, particularly water contact recreation. (For potential impacts on biological resources, please see **Section 4.20, Floodplain Modifications**.) Typical sources of pathogens in urban storm water runoff include pet wastes, improperly functioning septic tanks, and illicit sewer connections to the storm drain system. Other sources of pathogens are primarily due to non-domestic animal wastes, particularly waterfowl.

The change in concentrations of pathogens associated with development of the site compared to the existing scenario is difficult to evaluate for a number of reasons. Also, because holding times for bacterial samples are necessarily short, most storm water programs do not collect flow-weighted composite samples that potentially could produce reliable statistical estimates of pathogen concentrations. Measurements of indicator organisms are not necessarily reliable indicators of viable pathogenic viruses, bacteria, or protozoa. Moreover, there are numerous sources of pathogens including birds and other wildlife, as well as domesticated animals and pets. Open space and agriculture areas can potentially have high levels of coliform associated with this type of land use due to wildlife sources, but are typically lower in pathogen concentration than urban land uses.

The development of the project site would reduce the natural sources of pathogens by reducing use of these areas by wildlife. However, without source control BMPs, development would increase pet waste sources. Septic tanks would not be used in the project and illicit sewer connections would not be permitted, eliminating major urban sources of pathogens in runoff.

While the conversion of open spaces or agriculture to urban development may result in some increase in pathogens levels, the project will require source control and structural BMPs in compliance with the General MS4 Permit and the General Construction Activity Storm Water Permit, all of which would help control coliform levels. These BMPs would include: availability of pet waste collection bags (mutt mitts), distribution of pet waste educational material, adequate connection and maintenance of sanitary sewer lines, and sediment removal BMPs such as water quality basins, as well as maintenance of PDFs for removal of bacteria and all pollutants associated with sediment in the water quality basins.

With proper implementation of the recommended BMPs, the post-development bacteria concentrations are anticipated to be significantly reduced.

(b) Pesticides and Other Toxics

Toxics typically associated with urban development of the type proposed may include heavy metals, including copper, lead and zinc (discussed above), pesticides used in landscaping applications, and other chemical constituents.

During construction of the project, synthetic organic compounds (such as adhesives, cleaners, sealants and solvents), pesticides, trace metals as well as other waste products (e.g., paint, concrete mix, solid/sanitary wastes) could have the potential to create to adverse toxic conditions. However, with proper implementation of the recommended source-control and structural BMPs, these adverse impacts will be prevented. A SWPPP will be developed prior to the construction project and implemented to control construction related impacts from the project. The key elements of the SWPPP will address: source identification, erosion control, stabilization, sediment control, post-construction BMPs and non-storm water management, as well as "good housekeeping"/waste management and control, maintenance, repair training and inspection issues. With the proper implementation of the SWPPPs recommended source control and structural BMPs, toxics are not expected to be discharged from the construction site.

As discussed above, quantitative analysis indicates that post-development metals concentrations should be below CTR criteria. Construction and post-construction BMPs (both structural and source control) would be implemented to control heavy metals and pesticides in storm water runoff pursuant to the requirements of the General Construction Activity Storm Water Permit and the General MS4 Permit. Pesticides, and other applied chemicals would be controlled through source control BMPs, including efficient irrigation, an integrated fertilizer and pesticide application and management plan, restrictions on residential design elements (such as copper downspouts), as well as structural measures (detention basin, swale and CDS units) which will provide treatment of both wet weather and dry weather flows.

Further, with proper implementation of the recommended BMPs (both source control and structural), the chemical constituents in storm water discharged from the site will be controlled as required pursuant to the General MS4 and General Construction Activity Storm Water Permits. The heavy metals compounds are anticipated to be well below CTR criteria and the nitrogen compounds well below the Basin Plan standards. As a result, no adverse effect from chemical constituents or from bioaccumulation is anticipated as a result of the project.

The EPA has recently banned the pesticides diazinon and chlorpyrifos (commonly used urban pesticides) for most urban applications (EPA, June, 2002).[46] These pesticides will not be used for landscape maintenance in the post-development conditions of the project. Source control measures such as education programs for owners, occupants, and employees in the proper application, storage, and disposal of pesticides are some of the most promising strategies for controlling the pesticides that will be used post-development and are recommended for both the residential and commercial portions of the project. Structural controls are typically not as effective due to the persistent nature of many pesticides; also these compounds generally exhibit varied potential for biodegradation. Many pesticides are relatively insoluble in water and therefore tend to adsorb to the surfaces of sediment, which may settle out of the water column in the water quality basins. Sedimentation should achieve some removal of pesticides from storm water in the PDFs.

While pesticides are subject to degradation, they vary in how long they maintain their ability to eradicate pests. Some break down almost immediately into nontoxic by products, while others can remain active for longer periods of time. While pesticides that degrade rapidly are less likely to adversely affect non-targeted organisms, in some instances it may be more advantageous to apply longer lasting pesticides if it results in fewer applications or smaller amounts of pesticide use. While some increase in pesticide use is likely to occur as the result of development due to maintenance of landscaped areas particularly in the residential portions of the development, careful selection, storage and application of these chemicals will help prevent water quality impacts from occurring. With appropriate management and storage of pesticides, no adverse impacts are expected to occur with development.

Pesticides from the historical agricultural use of the site would decrease in site runoff with site development. Any residual agricultural pesticides on the site would not enter site runoff because the soils containing them would be overcovered with impervious surfaces or landscaping that would cover or stabilize sediments.

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46 Changes to the use of chlorpyrifos include reductions in the residue tolerances for agricultural use, phases out nearly all indoor and outdoor residential uses, and also stops non-residential uses where children may be exposed. In Orange County, residential use accounts for around 90 percent of total chlorpyrifos (USEPA, June 2002). Retail sales of chlorpyrifos were stopped by December 31, 2001, and structural (e.g., construction) uses will be phased out by December 31, 2005. Some continued uses will be allowed, for example public health use for fire ant eradication and mosquito control will be permitted by professionals.

Permissible uses of diazinon will also be restricted. All indoor uses are prohibited (as of 12/2002) and retailers were required to end sales for indoor use on December 2002. All outdoor non-agricultural uses will be phased out by December 31, 2004. Therefore it is likely that the EPA agreement will eliminate most of the use of diazinon within the area. The use of diazinon for many agricultural crops has been eliminated (EPA 2001), while some use of this chemical will continue to be permitted for some agricultural activities.

With such controls over the use of pesticides, with the metals below CTR criteria, and with the implementation of the PDFs, including efficient irrigation, an integrated fertilizer and pesticide management plan, restrictions on residential design features (such as copper downspouts), detention basins to contain dry weather flows, and bans on substances such as chlorpyrifos and diazinon, no significant impact on water quality would be caused by toxic substances.

(c) Hydrocarbons

Hydrocarbons are a broad class of compounds, most of which are non-toxic. Hydrocarbons are hydrophobic (low solubility in water), have the potential to volatilize, and most forms are biodegradable. A subset of hydrocarbons, Polynuclear Aromatic Hydrocarbons (PAHs), can be toxic depending on the concentration levels, exposure history and sensitivity of the receptor organisms. Of particular concern are those PAHs compounds associated with transportation related combustion products.

The concentration of hydrocarbons is expected to increase slightly under post-development project conditions with treatment of storm water runoff in the PDFs. Because of the nature of the development (primarily residential and limited commercial), the major source of oil and grease would be from roads, driveways and parking areas, although the commercial parking lots would also provide sources for hydrocarbons.

The PDFs are expected to prevent hydrocarbons from reaching levels of concern in storm water runoff discharged from the project site. The proposed structural BMPs (PDFs), detention basins, swales and CDS units) have a high potential for removing oil and grease, and are expected to remove significant amounts of these pollutants from site runoff prior to its discharge into the river. CDS units with oil absorbent pellets placed in the solids containment chamber to promote higher removals of free oil and grease are recommended for the site. Biofiltration swales and water quality basins would also reduce oil and grease concentrations in the runoff. Additional measures may include storm water filters and clarifiers which also have very good removal capabilities. In addition, source control measures are proposed to control excessive concentrations during and post-construction of the project. Although vehicle emissions and leaks are the primary source of hydrocarbons in urban areas, it is anticipated that the majority of vehicles in the proposed development will in general be well maintained and newer models which will also help to limit emissions and leaks.

One source of information on PAH levels in urban runoff is the Los Angeles County Monitoring Program. Los Angeles County conducted PAH analyses on 27 storm water samples from a variety of land uses in

the period 1994-2000. For those land uses where sufficient samples were taken and were above detection levels to estimate statistics, the mean concentrations of individual PAH compounds ranged from 0.04 to 0.83 ug/L. The reported means were less than acute toxicity criteria available from the literature (Suter and Tsao, 1996). Moreover, the Los Angeles County data do not account for any treatment, whereas the treatment in the project PDFs should result in a reduction in hydrocarbon concentrations. This makes it very unlikely that impacts will occur to the receiving water due to hydrocarbon loads or concentrations.

Consequently, no significant impacts on water quality would be caused by hydrocarbons.

(d) Other Constituents of Concern (Chlorine, MBAS, Floating Materials, pH, PCBs, Temperature, Taste and Odor, Radioactive Substances and Natural River Management Plan Constituents)

Chlorine (total residual): The main typical source of chlorine is the disinfection of wastewaters with chlorine, although chlorine is also found in swimming pool water. The proposed land uses are not expected to produce chlorine-type wastes. However, construction and post-development source control BMPs would be employed in compliance with the General MS4 and General Construction Activity Storm Water Permits to address possible sources of chlorine discharge. BMPs will include educational materials for residents prohibiting draining of swimming and other pools to storm drains as well as prohibitions upon building contractors precluding any discharge of test water for water pipes and sprinkler systems to storm drain systems. Non-storm water management measures will be implemented during the construction project. With such controls and implementation of these PDFs, no significant impact on water quality would be caused by chlorine.

Methylene Blue Activated Substances (MBAS): MBAS, related to the presence of detergents in runoff, may be incidentally associated with new urban development, but are more commonly associated with point sources such as treatment plants. The project will have no planned illicit sewer connections or septic tanks, eliminating domestic sources from contributing to this pollution problem. Further, the project employs source control and structural BMPs consistent with the General MS4 and General Construction Activity Storm Water Permit to control wash water from various sources, e.g., educational materials for homeowners regarding elimination of discharges from car washing to the storm drain system, control of construction vehicle wash water, control of construction street and pavement washing activities, and control of domestic car washing in the multi-unit areas. With such controls and implementation of these PDFs, no significant impact on water quality would be caused by MBAS.

Floating Materials: Floating materials, including trash and debris, will be controlled through source control BMPs (education and outreach programs, street sweeping), as well as structural BMPs (including trash HSS/GSRDs [CDS units], detention basins, drainage inlet screens, as well possible use of catch basin inserts, covered public area trash receptacles, etc., as described above under heading **6.**). With such controls and implementation of these PDFs, no significant impact on water quality would be caused by floating materials.

pH: Adverse changes in pH are not typically associated with urban development. Even so, the project's implementation of BMPs in accordance with the General MS4 and General Construction Activity Storm Water Permits will control discharge of the few constituents associated with urban development that could that be associated with changes in pH. For example, construction BMPs to control applications involving fresh concrete and lime would be included in the SWPPP, as well as non-visible pollutant monitoring in cases where discharge might be expected. Post-development BMPs include restrictions on residential design features (metal roofs, copper features). Post-development features, such as cured concrete storm drains and water quality basins can be expected to provide substantial buffering for any post-development high pH storm water flows. With such controls and implementation of these PDFs, no significant impact on the ambient pH of the receiving waters would be caused by the project.

PCBs: PCBs are not typically associated with urban residential development, and the project would not include PCB-producing uses. Paving would stabilize soils that may currently contain pre-existing PCBs (from historical uses). Structural BMPs such as detention basins and swales will trap particulate matter. As such, the project would not result in a significant water quality impact due to PCBs.

Temperature: Uses that cause adverse changes in the temperature of receiving waters are not typically associated with urban development. Moreover, the Santa Clara River has only episodic flows primarily during the "rainy" season during and immediately after storm events of sufficient magnitude to cause flows. Ambient temperature levels in the river would not be significantly affected by the project, as no project use would increase water temperature. With the project BMPs, the proposed project land uses would not significantly increase temperature of storm water runoff.

Taste and Odor-Producing Substances: There are no known taste- or odor-producing substances expected from the proposed land uses at the project site and/or during the construction project. Even so, the recommended source control and structural BMPs would control substances that may significantly change taste and odor. With the project BMPs, the proposed project land uses would not generate taste or odor-producing substances in concentrations that would cause significant adverse affects on water quality.

Radioactive Substances: Waters designated as MUN shall not contain concentrations of radionuclides in excess of Title 22 CCR (Basin Plan p. 3-15). Radioactive substances are typically generated from mining and/or industrial activities, as well as from natural sources. Based on the proposed land uses, radioactive substances are not expected from the project site and, therefore, no project land use would cause a significant adverse impact on water quality through the generation of radioactive substances.

Natural River Management Plan Constituents: The project will protect the Santa Clara River environment as required by the Natural River Management Plan, including by removing exotic vegetation and preserving natural hydrologic conditions and existing habitats to the greatest extent possible (See **Sections 4.6, Biological Resources, 4.2, Flood**, and **4.20, Floodplain Modifications,** for further analysis and discussion).

(6) Volume, Velocity and Discharge Duration

Typically, in smaller natural riverine systems, frequent discharges—on the order of the average annual and 2-year flows—dictate stream geomorphology. Extended and frequent discharges at these critical flow rates could potentially impact stream health. The General MS4 Permit notes that increased volume, velocity, and discharge duration of storm water runoff from developed areas potentially accelerate downstream erosion and impair stream habitat, and requires that "Permittees shall control post-peak storm water runoff in Natural Drainage Systems to prevent accelerated stream erosion and protect stream habitat." At project discharge locations (to the Santa Clara River), project design features address downstream impacts that would potentially accelerate downstream erosion and impair stream habitat.

The project proposes water quality basins, which capture small, frequent storms and release flows at non-erosive rates. The proposed water quality control extended detention basins are preliminarily sized to meet the minimum County SUSMP criteria, based on a 0.75 inch runoff event; however, the final capacity of the basins will be determined for project runoff and would be designed to capture 80 percent of annual runoff, which could be more than the 0.75 inch event. The size of the facilities will be finalized during the design stage by the project engineer with the final hydrology study, which is prepared and approved at the final engineering stage and prior to issuance of a grading permit.

To reduce storm flow velocities during smaller, more frequent flows (i.e., 2-year storm events) and to prevent erosion at storm water discharge points into the river, the project has also incorporated energy dissipaters, consisting of either rip-rap or larger standard impact-type energy dissipaters, and stabilization features that would be constructed at affected storm system outlets in the river. These

energy dissipaters would slow the rate of flow of runoff into the river to non-erosive velocities, in order to prevent erosion of the stream channel.

Impacts associated with erosion and sediment deposition and streambed modification within the Santa Clara River are evaluated as a function of in-stream velocities, which are indicators for potential riverbed scouring. There would be no significant increases in velocity during the 5- and 10-year storm events, and decreases in river velocity for the 20- to 100-year storm events. Increases in areas of the floodplain that would be subject to velocities over 4 feet/second, an indicator velocity for erosion potential, during a 2-year storm event would be minimal, localized, and would be caused only by the smallest event scenario, making erosion and scour in those areas controllable by dissipaters as prescribed for this project and consistent with the NRMP. (See further discussion in **Section 4.2, Flood**)

(7) Non-Storm Flows

(a) Dry Weather Flows

In urban areas with land uses similar to the project's proposed development plan, dry weather (or nuisance) flows are typically due to activities such as irrigation of landscaped areas and/or car and street washing. As described above, the land uses proposed for the project are mostly single-family and apartment-type residential uses, streets, open space/park areas, and small areas of commercial uses. Of the overall approximately 695.4-acre development, approximately 445.8 acres are to be dedicated to the City of Santa Clarita, and the remaining 249.6 acres represent project development (which includes open spaces).

Geosyntec (2002) has estimated that dry weather flow contributions from urbanized areas are about 2.93 x 10^{-4} cfs/acre. Using this rough estimate, it could be expected that as much as 0.15 acre-feet of dry weather flow could be generated on a daily basis from the project's urbanized areas. The proposed structural BMPs (detention basins, swales and CDS units) are expected to treat and lower the mineral and nutrient concentrations and loads in dry weather flows, which would not likely leave the site. Additionally, a permanent water quality pool will be established within the detention basins to provide effective treatment of dry weather flows. These pools would have sufficient storage volume (and residence time) to allow for effective pollutant removal. Factors such as vector control and other maintenance issues would be considered in the design of the detention basin.

Otherwise, sediment mobilization in urban areas is generally associated with storm water events and associated rainfall intensity. Dry weather flows are typically low in sediment because the flows are

relatively slow, which causes sediment to settle out or to be filtered out by algae and other plants growing in the receiving waters. As a result, pollutants associated with suspended solids (e.g., phosphorous, some trace metals, and some pesticides) are typically found in very low concentrations in dry weather flows.

Principal sources of human-derived pathogens in dry weather flows are leaking septic systems, cross-connections between sanitary sewers and storm drains, and leakage from the sanitary sewer system into groundwater, which feeds non-storm flows. Pet wastes can also be a source of pathogens. However, since the project will have new storm drain and sanitary sewer systems, and with implementation of the source control and structural BMPs, pathogen concentrations and loads in dry weather flows are not expected to cause significant adverse impacts on water quality.

As a result of the project, dry weather flows are expected to be comparable to existing flows. The project, therefore, would not significantly impact dry weather flows.

(8) Groundwater

Groundwater levels and quality are expected to change minimally, if at all, as a result of the project.

(a) Groundwater Levels

A major factor affecting groundwater infiltration is the change in the amount of impervious surfaces from the undeveloped condition. Currently, virtually no portion of the project site is covered with an impervious surface, and, therefore, the site generally permits the infiltration of rainfall. The conversion of the current open space to the developed condition will reduce the infiltration of rainfall, and would tend to reduce infiltration from the site into the groundwater. However, since approximately 74 percent of the project site is currently expected to remain pervious, and approximately 150 acres would be landscaped and irrigated, those portions of the site would largely continue to serve as a recharge area and thus the potential impacts due to development would be reduced. As a result, groundwater levels are expected to remain similar or become slightly lower than existing conditions. (For further discussion of groundwater levels and recharge, see **Section 4.1, Geotechnical Hazards** and **Section 4.8, Water Services**.)

(b) Groundwater Quality

The concern for groundwater quality impacts arises largely from the potential for the infiltration of water contaminated with pollutants associated with urban runoff. Of particular concern is the infiltration of storm water collected and treated in water quality basins and in other types of water quality controls (e.g., landscaped areas used for bioretention). Research conducted on the effects on groundwater from storm water infiltration by Pitt et al. (1994) indicate that the potential for contamination is strongly dependent on a number of factors including the local hydrogeology and the chemical characteristics of the pollutants of concern.

Local hydrologeologic data indicate that the depth to groundwater varies from approximately 5 feet along the margins of the Santa Clara River, and from a minimum depth of 14.25 feet within Open Space Lot 360 in the south central portion of the site to 34 feet deep in the eastern portion of the site at the future Newhall Ranch Road alignment just east of the proposed development (See **Section 4.1, Geotechnical Hazards**).

Chemical characteristics that influence the potential for groundwater impacts include high mobility (low absorption potential), high solubility fractions, and abundance in storm water. As a class of constituents, trace metals tend to adsorb onto soil particles and are filtered out by the soils. This has been confirmed by extensive data collected beneath storm water detention/retention ponds in Fresno (conducted as part of the Nationwide Urban Runoff Program) that showed that trace metals tended to be adsorbed in the upper few feet in the bottom sediments. More mobile constituents such as nitrate would have a greater potential for infiltration.

The conversion from open space/agriculture to urban land uses would likely result in a reduction in nitrate because of the reduced application of fertilizers in urban versus agricultural areas. Also, some of the constituents of concern would be treated in the water quality basins, which could be viewed as pretreatment prior to infiltration. The project, therefore, would not significantly impact groundwater quality.

8. MITIGATION MEASURES ALREADY INCORPORATED INTO PROJECT DESIGN

4.8.1-1 To reduce pollution from impacts from the "first flush" runoff, a series of pipes and outlets would be constructed pursuant to Los Angeles County Department of Public Works requirements

to intercept first flush runoff from paved developed areas and channel it to above ground and/or subsurface water quality control basins.

4.8.1-2 The project is required to comply with the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) to reduce the discharge of pollutants to the maximum extent practicable.

4.8.1-3 To treat storm water, two water quality detention basins, a grassy swale, and hydrodynamic separator systems would be constructed.

4.8.1-4 Post-construction structural or treatment control BMPs to minimize or prevent storm water pollutants from discharging into the Santa Clara River shall, at minimum, include:

- water quality detention basins;
- a grassy swale; and
- hydrodynamic separator systems, such as Continuous Deflective Separator (CDS) units.

Additional equivalent BMPs that could alternatively be implemented at the project site include:

- catch basin inserts;
- storm water filters; and
- storm water clarifiers.

9. MITIGATION MEASURES PROPOSED BY THIS EIR

a. Construction Impacts

(1) Existing Regulations and Standard Conditions

4.8.1-5 All necessary permits, agreements or letters of exemption from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, and/or the Regional Water Quality Control Board for project-related development are to be obtained prior to start of soil-disturbing activities.

4.8.1-6 Prior to start of soil-disturbing activities at the site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared in accordance with and in order to partially fulfill the California State Water Resources Control Board Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit). The SWPPP shall meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP shall be certified the City of Santa Clarita in accordance with the signatory requirements of the General Construction Permit and implemented concurrently with commencement of the soil-disturbing activity.

4.8.1-7 Per the April 26, 2001 modification to the General Construction Permit, a contingency "Sampling and Analysis Plan" shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the storm events to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP.

4.8.1-8 Following the completion of the construction project and when the site has been stabilized, a Notice of Termination shall be filed with the RWQCB.

The project is expected to have a less than significant impact on surface water quality, as discussed above, and accordingly, no water quality mitigation measures are required under CEQA. Nonetheless, the project proponent proposes to include the following measures to improve further the quality of storm water runoff from the project site.

4.8.1-9 During construction, delineate and flag the smallest site disturbance area possible to minimize soil compaction and restricting temporary storage of construction equipment in these areas, as appropriate.

b. Operational Impacts

The project is expected to have a less than significant impact on surface water quality, as discussed above, and accordingly, no water quality mitigation measures are required under CEQA. Nonetheless, the project proponent proposes to include the following measures to improve further the quality of storm water runoff from the project site.

4.8.1-10 For treatment efficiency, the biofiltration swale shall maximize length and minimize depths. Slopes of the swale shall also be kept to between 2 and 5 percent to prevent scouring.

4.8.1-11 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any detention basins on the site, which include:

- Dispersion of alluvial sediment deposition at inlet structures, thus limiting the extended localized ponding of water.
- Periodic sediment removal to ensure adequate storage and treatment volume.
- Monitoring of the basin to ensure it is completely and properly drained.
- Outlet riser cleaning.
- Vegetation management to prevent marsh vegetation from taking hold, and to limit the growth of habitat for disease-carrying fauna.
- Removal of graffiti, litter, vegetative and other debris.
- Preventative maintenance on monitoring equipment.
- Vegetative stabilization of eroding banks.

4.8.1-12 The homeowners' association or the City of Santa Clarita shall be responsible for the maintenance and monitoring of any biofiltration swales on the site, which include:

- Vegetation management to maintain adequate hydraulic functioning and to limit habitat for disease-carrying animals.
- Animal and vector control.
- Periodic sediment removal to optimize performance.
- Trash, debris, grass trimmings, tree prunings, and leaf collection and removal to prevent obstruction.

- Removal of standing water, which may contribute to the development of aquatic plant communities or mosquito breeding areas.

- Erosion and structural maintenance to prevent the loss of soil and maintain the performance of the swale.

Although maintenance requirements vary greatly depending on the particular model and manufacturer, biofiltration swales shall be maintained quarterly to yearly for clean-outs. Cleaning after a storm event shall be required. Inspection will be required to make certain that the unit is operating correctly and to make any repairs.

4.8.1-13 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any storm water filters on the site, to include:

- Providing adequate access for inspection and maintenance.

- Removal of accumulated trash, paper and debris.

- Corrective maintenance including removal and replacement of top layers of media.

- Complete replacement of filter media every 3 to 5 years.

- Periodic removal of vegetative growth.

4.8.1-14 The homeowners' association or the City of Santa Clarita shall be responsible for the operation and maintenance of any storm water clarifiers on the site, which include:

- Inspection prior to the beginning of the storm season.

- Regular inspection following storm events.

- Removal of accumulated sediment, trash and debris.

4.8.1-15 Monthly street sweeping shall occur in high traffic areas and annual or semi-annual street sweeping shall occur in areas with low rates of traffic and little pedestrian use.[47] The homeowners' association or private property owner shall be responsible for sweeping the private streets.

4.8.1-16 "Low-impact" vegetation[48] shall be planted in common areas. This vegetation requires minimal irrigation, fertilizing and pest control, and could include native and/or non-invasive plants.

4.8.1-17 An education program shall be developed and implemented for the residents and landscape contractors regarding activities and practices that could affect water quality, such as carpet and other cleaners that are not properly disposed of, residential car washing, and animal waste management, such as the importance of cleaning up after pets and not feeding wild animals, such as pigeons, seagulls, ducks and geese. Community car washes shall only take place in areas that are drained to the sanitary sewer system. Pet bags would be provided along trails.

4.8.1-118 On-site features that attract wild animals shall be kept to a minimum in order to minimize pathogens in the storm system.

4.8.1-19 Pesticide applications shall be managed through educational and other source control efforts, including the installation of efficient landscape irrigation systems in common areas and the development of guidance on applying these types of chemicals for contractors maintaining landscape areas. Examples of material which may be used for education may include educational pamphlets currently available through the City of Santa Clarita, L.A. County and/or other sources (i.e., http://www.americanoceans.org/runoff/epa-bro.htm). Because of the concerns regarding indicators of human pathogens, education programs shall emphasize animal waste management, such as the importance of cleaning up after pets and not feeding wild animals, such as pigeons, seagulls, ducks and geese. The project applicant shall create and distribute these pamphlets to landscape contractors prior to on-site planting.

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47 In compliance with the MS4 Permit, the City of Santa Clarita currently has a sweeping program in place for its curbed streets. In accordance with the permit, high priority streets (those with high volumes) are swept at least twice per month. Even though, the City does not currently collect data to measure water quality improvements associated with sweeping activities, it is anticipated that continued implementation of this program will result in water quality enhancement.

48 Low impact vegetation refers to the integration of green space, native landscaping, natural hydrologic functions, and various other techniques to generate less runoff from developed land. Low impact vegetation promotes transpiration, direct uptake, and microbial decomposition of water pollutants, such as hydrocarbons.

4.8.1-20 The project applicant shall prepare an herbicide/pesticide program to be utilized by landscaping contractors on commonly owned landscaped areas. This program shall include requirements to minimize the use of herbicides and pesticides in these landscaped areas and shall be prepared and in place prior on-site planting.

10. CUMULATIVE IMPACTS

It has been estimated that approximately 4 percent of that portion of the Santa Clara River watershed found in Los Angeles County would be developed and approximately 2.5 percent of the portion of the watershed found in Ventura County would be developed.[49] Each development project in the Santa Clara River watershed (1,634 sq. miles) will be of varying character and size, will have its own unique topographic and geologic characteristics, will have flood and water quality impacts that will be unique to the geologic/soil conditions of the site, to the tributary watershed in which it is located, and to the reach of the Santa Clara River to which it drains, either directly or indirectly, and will be subject to the development criteria of the jurisdiction in which it is located.

All development within the portion of the watershed of the Santa Clara River located in Los Angeles County, including that within the City of Santa Clarita, is required to comply with the LACDPW Qcap requirements to ensure that upstream or downstream flooding does not occur and to ensure that downstream erosion and sedimentation do not occur. Compliance with these requirements ensures consistency with the County's Qcap model. Pursuant to LACDPW requirements, all drainage systems in developments that carry runoff from developed areas must be designed for the 25-year Urban Design Storm, while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps must be designed for the 50-year Capital Flood Storm. LACDPW also prohibits significant increases in off-site post-development storm flows and significant increases in storm flow velocities. Development in the Los Angeles County portion of the watershed must also comply with LACDPW design criteria. As a result of compliance, overall storm runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would be free of the debris that is typical of undeveloped watersheds and flow velocities would not increase significantly. Because on-site facilities would already have been built for burned and bulked flows from undeveloped areas, they would have more than adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop.

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49 Alex Sheydayi, Deputy Director, Ventura County Public Works Agency, Flood Control Department, statement made at the Santa Clara River Enhancement and Management Plan Steering Committee Meeting, May 30, 1995.

Further, all development within the portion of the watershed of the Santa Clara River located within the jurisdiction of the RWQCB, including that within the City of Santa Clarita, is required to comply with the orders and regulations issued by the RWQCB, as well as those issued by the SWRCB, the NPDES, the County of Los Angeles, and the City of Santa Clarita and federal law during both construction and operation of the project. Further, each current and future development in the Santa Clarita Valley will also be required to meet all of those requirements to control storm water discharges of pollutants of concern for each such development.

As the analysis of project development demonstrates, development in minor drainage courses within Reach 7 of the Santa Clara River in compliance with these requirements would result in less than significant impacts. Additionally, as a policy, both the City of Santa Clarita and the LACDPW prohibit significant increases in flow velocity from a project site; therefore, adherence to this policy would result in no significant cumulative increases in velocity or erosion/sedimentation impacts along that portion of the Santa Clara River, which drains to this watershed.

Other projects within the City of Santa Clarita and Los Angeles County would be subject not only to the same general requirements as the proposed Riverpark project, but also to such other requirements as the City of Santa Clarita (as applicable), the LACDPW and the RWQCB may specifically identify for them based on their unique characteristics.

The analysis of project conditions, above, demonstrates that project development, which must comply with all of these City, County, state and federal requirements, would not create any significant impacts. Compliance with the Basin Plan, the General MS4 Permit and the General Construction Activity Storm Water Permit controls pollutants in runoff from the project, and thus runoff from the project causes no incremental increase in the cumulative impact of watershed-wide development.

Because the cumulative project storm water quality improvements in the City of Santa Clarita and Los Angeles County would be required to conform to all of the above-referenced requirements, no potentially significant cumulative project flooding impacts are expected to occur from the incremental impacts of the project. These water quality standards will ensure that no potentially significant cumulative impacts will occur.

a. Water Quality

If not properly controlled, the cumulative effects on water quality from future development within the Santa Clara River watershed could be adverse and potentially significant. The nature of the land uses

involved, the manner in which runoff is controlled prior to discharge pursuant to the requirements of the controlling jurisdictions (i.e., LACDPW, City of Santa Clarita, Ventura County Flood Control District, SWRCB and RWQCB), and the manner in which urban wastes are managed and prevented from becoming part of the storm water runoff would all affect the significance of such cumulative water quality impacts by lessening them.

Overall, the project would be expected to improve surface water quality conditions in the watershed, as compared to existing conditions. The project would increase storm water runoff volumes in the watershed by increasing impervious surfaces at the site; however, as discussed in **Section 4.2, Flood**, overall storm water runoff will decrease. Moreover, as discussed above, in certain respects, water quality of the runoff from the site would be expected generally to improve over the existing conditions, particularly over the conditions in the agricultural areas. Those constituents whose concentrations and/or loading in runoff may increase with the proposed development are not expected to create significant adverse impacts and are anticipated to be controlled effectively through the use of project-specific BMPs (PDFs). Dry weather flows are expected to be adequately treated, and are unlikely to leave the site.

Regional plans and programs, including, without limitation, the Basin Plan and the General MS4 Permit are designed to preserve and enhance water quality and protect the beneficial uses of all regional waters within Region 4. The Basin Plan and the General MS4 Permit include narrative and numerical water quality objectives and parameters that must be attained or maintained to protect the designated beneficial uses of Reach 7 of the Santa Clara River. Through such means, the RWQCB regulates water quality in Los Angeles and Ventura Counties, including the Santa Clara River watershed, and it is the responsibility of the local jurisdictions (i.e., the City of Santa Clarita, LACDPW Watershed Management Division, the Ventura County Flood Control District and the RWQCB) to ensure that future development within the watershed would comply with the same or similar types of water quality requirements as the proposed project. Therefore, with these requirements in place, no cumulative water quality impacts are anticipated.

b. Conclusion

In conclusion, all cumulative projects within the tributary watershed and within other undeveloped areas of the City are required to meet the same or similar general water quality requirements as the proposed project, and other site-specific requirements that the LACDPW Flood Control Division, Watershed Management Division, and the RWQCB may specifically identify for those projects. These

requirements serve to avoid the potential for water quality impacts in the Santa Clara River and its tributaries.

11. CUMULATIVE MITIGATION MEASURES

No significant cumulative water quality impacts would occur; therefore, no cumulative mitigation measures are recommended.

12. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

Implementation of the aforementioned PDFs and mitigation measures would reduce water quality impacts to less than significant levels. Therefore, no unavoidable significant impacts are anticipated.

b. Cumulative Impacts

Because all development within the 834-acre tributary watershed to the Santa Clara River must comply with federal, SWRCB, RWQCB, LACDPW Watershed Management Division, and City of Santa Clarita requirements to ensure that water quality impacts do not exceed thresholds of significance, no unavoidable significant water quality impacts would be created.

4.9 SOLID WASTE DISPOSAL

1. SUMMARY

Upon project buildout and assuming no solid wastes from the proposed project would be recycled (a worst-case scenario), the project would generate a total of 10,203 pounds of solid waste per day. This is equivalent to approximately 1,862 tons per year. Although the project would generate approximately 1,862 tons of waste per year, it can be assumed that the project will meet the current recycling goals of the community and, therefore, generate 931 tons per year. This is based on the current City diversion rate of 50 percent of waste disposal. The project may also generate household-type hazardous wastes. Cumulative development within the Santa Clarita Valley area would generate 393,455 tons per year of solid waste, as well as hazardous waste. The project's 1,862 tons per year (without recycling) would represent 0.47 percent of this Valley-wide total. Land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory and political constraints. This is not to say, though, that alternative solid waste disposal technologies that could substantially reduce landfill disposal will not be developed and legislatively approved in the future; given the market forces that drive the solid waste industry, it seems reasonable to assume they will. However, until other disposal alternatives that will be adequate to serve existing and future uses for the foreseeable future are found and because landfill space is a finite resource project, the potential project and cumulative solid and hazardous waste impacts are considered unavoidably significant.

2. INTRODUCTION

a. Solid Waste Disposal Options

The City of Santa Clarita has the responsibility to develop plans and strategies to manage solid waste generated within its jurisdiction. The Los Angeles County Department of Public Works (LACDPW) has the responsibility to develop plans and strategies to manage and coordinate the solid waste generated (including hazardous waste) in the County unincorporated areas and address the disposal needs of Los Angeles County as a whole. In the past, solid waste was simply collected and disposed of at landfills in the local vicinity. More recently, many jurisdictions—such as the County of Los Angeles—are stating that existing local landfill space may reach capacity in the very near future. Given recent landfill expansions and the proposed hauling of waste by rail to remote landfill locations, the City of Santa Clarita does not agree with these conclusions.

In response to this dilemma, alternative methods of collection, transfer, disposal, and the reduction, recycling and re-use of solid waste have been implemented. The City's methods to reduce the amount of waste disposed of in landfills include: residential curbside co-mingled recyclable materials collection (proposed), separation and recycling, commercial and industrial recycling and waste prevention education. The technology and economics for these options are changing on an almost daily basis based on the cost of virgin materials and landfill tipping costs. As an example, twenty years ago few people would have envisioned the amount of recycling that occurs today.

This EIR analyzes the solid waste impacts of the project and recommends known means to reduce the amount of solid waste going to landfills. Prediction, however, of the type of disposal and recycling options that will be available for on-site application in the future is difficult and speculative due to the changing dynamics of the field.

Specifically, this EIR section compares the solid waste generation of the proposed project with the capacity of the existing landfills operating within Los Angeles County that accept waste from municipalities and unincorporated areas. This is considered a worst-case scenario as it assumes no development of new landfills, no implementation of other disposal options and no disposal at landfills outside of Los Angeles County. The reader should be aware that it is unlikely that this scenario would occur.

Information in this section was derived from the year 2000 annual updates to the City of Santa Clarita Source Reduction and Recycling Element (SRRE) (July 22, 1991), the City of Santa Clarita Household Hazardous Waste Element (HHWE) (August 2, 1991), and the City of Santa Clarita Non-disposal Facility Element (April 15, 1994), as well as Approaching an Integrated Solid Waste Management System for Los Angeles County, (May 2, 1997), the City of Santa Clarita Annual AB 939 Report for 2000 (August 2001), and the City of Santa Clarita Waste Generation Base Year Study for Reporting Year 2000 (March 2002).

Currently, most solid waste is disposed of in local landfills. Since 1997, the City has diverted from 44 to 51 percent through recycling efforts, in an increasing effort to meet the provisions of the California Integrated Waste Management Act (AB 939) to increase the diversion to 50 percent by year 2000 (discussed below). This diversion will increase the life expectancy of landfills, but not eliminate the need for new landfill space. As growth occurs throughout southern California, new landfill space will need to be developed and maximized and/or other waste disposal alternatives will need to be implemented.

It is extremely speculative to identify specific options that will be implemented to dispose of solid waste twenty, fifty, or one hundred years from now. The City of Santa Clarita SRRE notes that regional competition for ever-scarce landfill space makes planning uncertain. New capacity is highly problematic, reflecting a series of individual siting decisions as opposed to a comprehensive strategic choice. The City has adopted strategies to address solid waste needs:

- Aggressive implementation of diversion programs, including source reduction recycling efforts, composting and waste education prevention efforts;
- Dependence on Chiquita Canyon Landfill through 2019;
- Use of alternative regional landfills, including Sunshine Canyon, Puente Hills and Antelope Valley Landfills; and
- Use of rail facilities as soon as these become available, to secure a more stable and dependable access to disposal capacity.

Since the adoption of the City's SRRE and HHWEs, there have been substantial changes in the methods of waste reduction and recycling. "Since the SRREs were prepared in the early 1990s, technologies have improved, new markets have developed, existing markets have expanded, and the overall economics of waste diversion are increasingly positive. The County believes that addition of new landfill capacity in the County promises to maintain competition for disposal, and thus will keep disposal costs down. However, inexpensive disposal is only one factor to consider in developing an integrated solid waste management program; source reduction, recycling, collection, transfer and composting are also factors to be considered. Landfills often have hidden (and potentially huge) costs associated with their operation, especially if environmental cleanup or risks to human health are involved. On the other hand, diversion has no such future costs and provides the current benefits of local jobs and raw materials for new or existing industries."[1]

b. Plans and Policies for Solid Waste Disposal

A consequence of California's growth has been a substantial increase in solid waste generation, which has necessitated the need for additional landfill space. Landfills are also seen as undesirable land uses; consequently, approvals for new landfills and expansions of existing landfills have proven very difficult to obtain, often taking up to ten years. This situation has focused increased public attention on what is believed to be decreasing landfill capacity. In 1989 legislation in the State of California required cities and counties to reduce the amount of solid wastes entering existing landfills, recycling,

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1 Approaching an Integrated Solid Waste Management System for Los Angeles County, California, May 2, 1997, GBB, Solid Waste Management Consultants.

reuse and waste prevention efforts, pursuant to the California Integrated Waste Management Act (CIWMAC). This legislation established reduction mandates of at least 50 percent reduction by year 2000.

(1) California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the state to prepare a SRRE to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible." Noncompliance with the goals and timelines set forth within AB 939 can be severe, as the bill imposes fines up to $10,000 per day on jurisdictions (cities and counties) not meeting these recycling and planning goals.

The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 has established waste management hierarchy as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation;
- Disposal.

(2) California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. If by September 1, 1994, a local agency did not adopt its own ordinance based on the CIWMB model, the CIWMB model took effect for that local agency. The City of Santa Clarita chose to use the CIWMB Model Ordinance by adopting City Resolution No. 93-97 in July 1993.

The Model Ordinance (provided in **Appendix 4.9, Solid Waste Disposal Data**) is used by the City as the basis for imposing recycling conditions on new development projects and on existing projects that add 30 percent or more to their existing floor area. The Model Ordinance requires that any new development project[2] for which an application is submitted on or after September 1, 1994, include "adequate, accessible, and convenient areas for collecting and loading recyclable materials." For subdivisions of single-family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision. The Model Ordinance also requires recycling areas to be:

- compatible with nearby structures;
- secured and protected against adverse environmental conditions;
- clearly marked, and adequate in capacity, number, and distribution;
- in conformance with local building code requirements for garbage collection access and clearance;
- designed, placed and maintained to protect adjacent developments and transportation corridors from adverse impacts, such as noise, odors, vectors, or glare;
- in compliance with federal, state, or local laws relating to fire, building, access, transportation, circulation, or safety; and
- convenient for persons who deposit, collect, and load the materials.

(3) City of Santa Clarita Source Reduction and Recycling Element (SRRE)

The City of Santa Clarita SRRE was prepared in response to AB 939. It describes policies and programs that will be implemented by the City to achieve the state's mandates of 25 and 50 percent waste disposal reductions by the years 1995 and 2000, respectively. Per the Integrated Waste Management Act of 1989, the SRRE projects disposal capacity needs for a fifteen-year period. The current SRRE fifteen-year period commenced in 1991. The City of Santa Clarita is in full compliance with the SRRE with regard to preparation of plans and policies.[3]

(4) City of Santa Clarita Household Hazardous Waste Element (HHWE)

AB 939 requires every city and county within the state to prepare an HHWE and to provide for management of household hazardous waste generated by the residents within its jurisdiction. The City

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2 The ordinance defines a development project as "a project for which a building permit is required for a commercial, industrial, or institutional building, marina, or residential building having five or more living units, where solid waste is collected and loaded and any residential project where solid waste is collected and loaded in a location serving five or more living units."

3 Telecommunication with Benjamin Lucha, Environmental Analyst, Environmental Services Division, City of Santa Clarita, November 25, 2002.

household hazardous waste management program, consisting of collection and public education/information services, has been formulated to serve residents throughout the City in a convenient and cost-effective manner. In addition to reducing the amount of waste that might otherwise be sent to a landfill as required by AB 939, these programs are important facets in the City's effort to clean up the solid waste stream. The City of Santa Clarita adopted its HHWE in 1991.

(5) City of Santa Clarita Non-Disposal Facility Element (NDFE)

AB 939 requires every city and county within the state to prepare and adopt an NDFE identifying all existing, expansions of existing, and proposed new non-disposal facilities which will be needed to implement the local jurisdiction's SRRE. The City's NDFE identifies one proposed and one existing materials recovery facilities/transfer station that the City intends to utilize to implement its SRRE and meet the diversion requirements of AB 939. In addition, the City's NDFE also identifies the utilization of the Chiquita Canyon Landfill for diversion of yard trimmings. The Chiquita Canyon Landfill received approval to operate a composting facility and the composting operation was initiated in October 1996.

(6) City of Santa Clarita Beyond 50 Percent Waste Reduction by 2000

In July 1996 the City Council adopted the Beyond 50 Percent Waste Reduction by 2000 Report. The report identifies the current state of waste management service provided to residents. The report found that a franchise arrangement for Citywide refuse collection remains the most cost-effective alternative for the City to comply with the established waste reduction goal of 50 percent by year 2000.

(7) Approaching an Integrated Solid Waste Management System for Los Angeles County

This report identifies issues regarding waste generation, waste management and assumptions used in the Draft Countywide Siting Element.

(8) Los Angeles Countywide Siting Element

In 1997, the County of Los Angeles prepared a countywide siting element that estimates the amount of solid wastes generated in the County and proposes various diversion and alternate disposal options. The City of Santa Clarita disagrees with some of the findings and conclusions of the Los Angeles Countywide Siting Element.

3. EXISTING CONDITIONS

a. City of Santa Clarita Integrated Solid Waste Management Program

The City of Santa Clarita has established a comprehensive Integrated Waste Management Program, which incorporates the hierarchy of preferred solid waste management practices as established by AB 939. These are, in order of priority: (1) Source Reduction, (2) Recycling, (3) Composting, (4) Transformation and (5) Landfilling. City-sponsored programs intended to address these solid waste management practices include:

- Curbside residential and commercial recycling;
- Curbside Christmas tree recycling;
- Educational outreach;
- Yard trimming recycling;
- Certified oil recycling collection centers;
- Participation in the Household Hazardous Waste Program;
- Home Composting Program;
- City Facilities Recycling Program;
- City Facilities Procurement Policy;
- Curbside Oil and Filter Recycling; and
- Earth Month and Earth Day Activities.

b. Existing Solid Waste Generation

In 2000, approximately 307,465 tons of solid waste was generated by uses in the City of Santa Clarita.[4] With implementation of the waste diversion measures mentioned previously, 134,632 tons, 43.8 percent, were diverted from landfills.[5]

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4 City of Santa Clarita Waste Generation Base Year Study for Reporting Year 2000, page E-3, March 22, 2002, SCS Engineers.

5 Ibid.

(1) Site-Specific Solid Waste Generation

Except for major site grading for water utilities between 1989 and 1994, the majority of the site has been generally undeveloped land. There are pipeline and utility corridors across the site. Currently, the site is occupied by a construction company office housed in a temporary trailer, a temporary storage building, a maintenance building, and a storage yard. The construction company buildings currently on site occupy approximately 5,566 square feet. The buildings are located in a small valley in the central portion of the northern half of the site. This portion of the site was previously occupied by Los Angeles Fire Camp 4. The camp buildings were last occupied by the Saugus Unified School District until the buildings were demolished in 1995. Since 1985, the agricultural operations on the project site have been limited to dryland farming, primarily hay crops and, during various seasons, beekeepers work on the site.

Based upon a commercial office generation rate, construction company uses generate 43 pounds per day, or eight tons per year of solid waste.

c. Existing Solid Waste Collection and Disposal in the City of Santa Clarita

(1) Solid Waste Collection

Three private haulers are franchised by the City of Santa Clarita Department of Field Services to collect residential, commercial and industrial waste in the City of Santa Clarita. These haulers operate under two franchise systems—one for commercial/industrial uses and one for residential uses. Under the residential franchise, the three haulers provide semi-and fully automated weekly service for recycled materials, trash and yard trimmings. When collected, the waste may be taken to any landfill that is willing to accept it and which provides the greatest economic advantages to the hauler, based on location and disposal fees. At this time, the City exports nearly 100 percent of its wastes to the Chiquita Canyon Landfill.[6]

Currently, most solid waste collected within Los Angeles County by private haulers is disposed of within the County. However, this is not to say with absolute certainty that independent solid waste haulers do not or would not take solid wastes over the County line. Landfills in the California desert, which would receive Los Angeles area waste by rail car, are currently in the permit process. Inter-county transfer of solid waste may occur in the near future if landfills outside of Los Angeles County

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6 Telecommunication with Benjamin Lucha, Environmental Analyst, Environmental Services Division, City of Santa Clarita, November 25, 2002.

provide greater economic advantages to haulers or if landfills within the County reach capacity. The U.S. Supreme Court has ruled that jurisdictional solid waste disposal restrictions infringe on a landfill operator's ability to actively participate in interstate commerce.[7] In that case, the court ruled that the City of Philadelphia could not prevent the State of New Jersey from bringing solid waste to Philadelphia for disposal.

(2) Solid Waste Disposal

Figure 4.9-1 illustrates the locations of Los Angeles County landfills in relation to the project site while **Table 4.9-1** identifies the anticipated remaining capacity and anticipated remaining years of operation of each landfill based on the June 1997 Los Angeles County Countywide Siting Element (most recent document available).[8] Recent landfill expansions are reflected in **Table 4.9-1**. The Chiquita Canyon Landfill, approved for expansion to extend the life of this landfill to 2019, assuming the acceptance of the maximum daily tonnage of 6,000 tons of solid waste;[9] the Antelope Valley Landfill, approved for expansion to extend the life of this landfill to 2008, assuming the acceptance of the maximum daily tonnage of 1,800 tons of solid waste;[10] and the Lancaster Landfill, approved for expansion to extend the life of this landfill to 2030, assuming the acceptance of the maximum daily tonnage of 1,700 tons of solid waste.[11]

These landfills are classified as major landfills, which are defined as those facilities that receive more than 50,000 tons of solid waste per year. Additionally, these landfills are classified as Class III since they are permitted to accept only non-hazardous wastes. As shown in **Table 4.9-1**, with the approval of the Chiquita, Antelope Valley, and Lancaster Landfill expansions, Los Angeles County's landfills have adequate capacity to service the existing population and planned growth until the year 2010. However, capacity will extend beyond the year 2010, particularly when combined with other events that have expanded landfill capacity within the County. This includes recent agreements between Orange County and Waste Management, Inc. (WMI), which diverts waste (168,000 tons per year), from San Diego County that was imported into Los Angeles County. This waste now goes to Orange County instead of Los Angeles County. Also, an agreement between Orange County and Taormina Industries, which mainly serves Los Angeles County, calls for 2,000 tons of solid waste per day to be diverted to Orange County landfills. In fact, recent studies indicate that landfill capacity is

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7 Philadelphia vs. New Jersey, 98 Supreme Court 2531, 1978.

8 Where noted in **Table 4.9-1**, this table was updated by Impact Sciences in 2002 to include recent landfill expansions.

9 California Integrated Waste Management Board website, October 25, 2002.

10 Ibid.

11 Telecommunication with Kay Krumwied, Lancaster Landfill, December 4, 2002.

extended to 2014—fifteen years later and beyond the AB 939 planning period.[12] After that time, the daily volume of solid waste generated would exceed the volumes that these landfills are permitted to accept unless new landfills or other disposal alternatives are approved.

As discussed above, nearly 100 percent of wastes collected by haulers from the City of Santa Clarita and not diverted would go to the Chiquita Canyon Landfill, located approximately six miles west of the project site. Currently, very small amounts of waste generated by uses in the City of Santa Clarita and not diverted are sent to the Puente Hills Landfill in Whittier, Sunshine Canyon Landfill in Sylmar, and the Antelope Valley II Landfill in Palmdale.[13]

d. Landfill Expansion and Development Plans

(1) Expansion Plans

Two of the landfills identified in **Table 4.9-1**, the Bradley Landfill West and Puente Hills Landfill, are in the process of applying for expansion in order to provide additional capacity. Both of these landfills could serve the Santa Clarita Valley, including the proposed project site, as well as the surrounding region.

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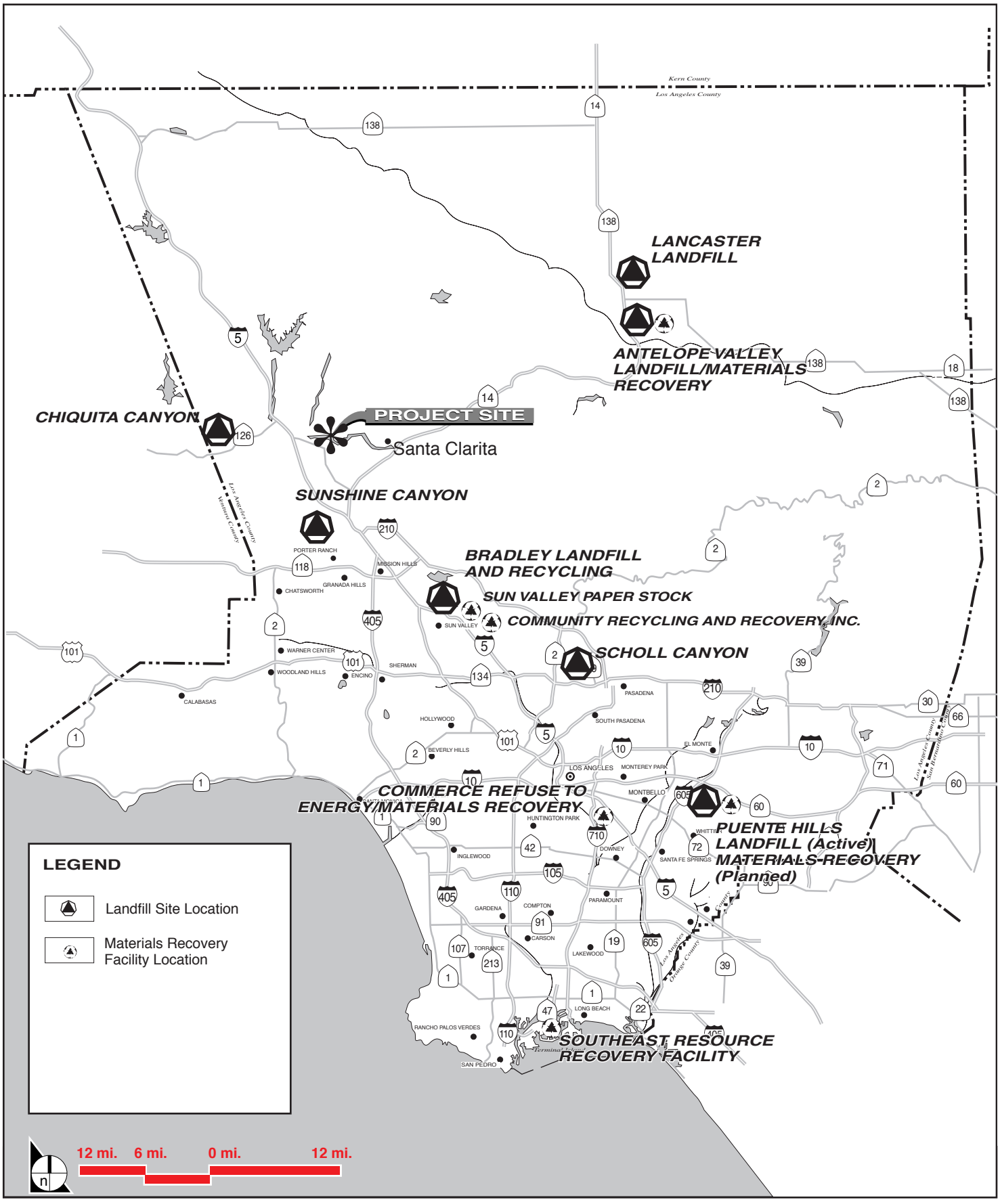
12 Approaching an Integrated Solid Waste Management System for Los Angeles County, California, May 2, 1997, GBB, Solid Waste Management Consultants.

13 City of Santa Clarita Waste Generation Base Year Study for Reporting Year 2000, March 22, 2002, SCS Engineers.



SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **4.9-1**

Locations of Major Los Angeles County Landfill Sites

112-16•08/03

Table 4.9-1
Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County

Year	Waste Generation Rate[1] (tpd-6)	Percent[2] Diversion	Total Disposal Need (tpd-6)	Expected Daily Tonnage[3] - Six-Day Average (Remaining Landfill Capacity at Year's End - Million Tons)													Daily Disposal Capacity Shortfall (Excess) (tpd-6)
				Puente Hills	Calabasas[9]	Scholl[9]	Bradley	Chiquita[4]	Sunshine	Pebbly Beach	San Clemente	Brand Park	Antelope Valley[6]	Burbank[9]	Lancaster[7]	Whittier[9]	
1995	49,133	25.00%	36,849	12,000 (29.3)	2,159 (15)	1,448 (10.91)	6,000 (7.6)	1,389 (1.9)	6,000 (16.9)	15 (0.042)	2.0 (0.048)	28 (0.59)	750 (2.1)	132 (6.4)	1,000 (0.47)	232 (2.7)	
1996	50,406	30.00%	35,285	12,000 (25.6)	2,107 (14.4)	1,413 (10.5)	6,000 (5.8)	1,389 (1.9)	6,000 (16.0)	15 (0.037)	2.0 (0.047)	27 (0.58)	1,400 (1.7)	129 (6.3)	1,000 (0.16)	227 (2.6)	(22,234)
1997	51,290	35.00%	33,339	12,000 (21.8)	2,039 (13.8)	1,367 (10.0)	6,000 (3.9)	1,389	6,000 (14.1)	15 (0.032)	1.9 (0.047)	26 (0.57)	1,400 (1.3)	125 (6.3)	1,000 C	219 (2.5)	(2,720)
1998	52,123	40.00%	31,274	12,000 (18.1)	1,970 (13.2)	1,321 (9.6)	6,000 (2.0)	6,000	6,000 (12.2)	15 (0.028)	1.9 (0.046)	25 (0.57)	1,400 (0.8)	121 (6.2)	1,700	212 (2.5)	(2,269)
1999	52,582	45.00%	28,920	12,000 (14.4)	1,889 (12.6)	1,266 (9.2)	6,000 (0.1)	6,000	6,000 (10.3)	15 (0.023)	1.8 (0.046)	24 (0.56)	1,400 (0.4)	116 (6.2)	1,700	203 (2.4)	(1,972)
2000	53,611	50.00%	26,830	12,000 (10.6)	1,833 (12.0)	1,229 (8.9)	C	6,000	6,000 (8.5)	15 (0.018)	1.7 (0.045)	24 (0.55)	1,400 C	112 (6.2)	1,700	197 (2.3)	2,042
2001	54,815	50.00%	27,407	12,000 (6.9)	1,872 (11.4)	1,256 (8.5)		6,000	6,000 (6.6)	15 (0.014)	1.8 (0.045)	24 (0.54)	1,800	115 (6.1)	1,700	201 (2.3)	3,946
2002	55,792	50.00%	27,896	12,000 (3.1)	1,906 (10.8)	1,278 (8.1)		6,000	6,000 (4.7)	15 (0.009)	1.8 (0.044)	25 (0.54)	1,800	117 (6.1)	1,700	205 (2.2)	4,372
2003	56,839	50.00%	28,420	12,000 P	1,941 (10.2)	1,302 (7.7)		6,000	6,000 (2.9)	15 (0.004)	1.8 (0.044)	25 (0.53)	1,800	119 (6.1)	1,700	209 (2.1)	4,830
2004	57,824	50.00%	28,912		1,975 (9.6)	1,325 (7.2)		6,000	6,000 (1.0)	C	1.9 (0.043)	25 (0.52)	1,800	121 (6.0)	1,700	212 (2.1)	17,260
2005	58,750	50.00%	29,375		2,007 (9.0)	1,346 (6.8)		6,000	6,000 C		1.9 (0.042)	26 (0.51)	1,800	123 (6.0)	1,700	216 (2.0)	17,679
2006	59,692	50.00%	19,846		2,039 (9.0)	1,367 (6.4)		6,000			1.9 (0.042)	26 (0.50)	1,800	125 (5.9)	1,700	219 (1.9)	24,090
2007	60,628	50.00%	30,314		2,071 (8.3)	1,389 (6.0)		6,000			1.9 (0.041)	27 (0.50)	1,800	127 (5.9)	1,700	223 (1.9)	24,499
2008	61,557	50.00%	30,778		2,103 (7.7)	1,410 (5.5)		6,000			2.0 (0.041)	27 (0.49)	1,800	129 (5.9)	1,700	226 (1.8)	24,905
2009	62,478	50.00%	31,239		2,134 (7.0)	1,431 (5.1)		6,000			2.0 (0.040)	27 (0.48)	1,800	131 (5.8)	1,700	229 (1.7)	25,307
2010	63,390	50.00%	31,695		2,165 (5.7)	1,452 (4.6)		6,000			2.0 (0.039)	28 (0.47)	1,800	133 (5.8)	1,700	233 (1.7)	25,705
⇓						3,400		6,000					1,800		1,700		
2016		50.00%				3,400		6,000					1,800		1,700		
⇓						3,400		6,000							1,700		
2017		50.00%				3,400		6,000							1,700		
⇓						3,400		6,000							1,700		
2019		50.00%				3,400		6,000							1,700		
⇓						3,400		6,000							1,700		
2024		50.00%				3,400[8]											
⇓								6,000							1,700		
2030		50.00%													1,700		

Source: Los Angeles County Department of Public Works, Los Angeles County Countywide Siting Element, (Alhambra, California: June 1997), Table 4-5.

[1] The Waste Generation Rate was estimated using the County Integrated Waste Management Board's adjustment methodology, utilizing population and economic projections available from the State Department of Finance and the Southern California Association of Governments.

[2] Diversion Rate 25% in 1995, increase to 50% by 2000 and thereafter.

[3] Expected Daily Tonnage Rates are based on permitted daily capacity for the Antelope Valley, Azusa, BKK, Bradley, Lancaster, Lopez, Pebbly Beach, Puente Hills, Spadra, and Sunshine landfills. The expected daily tonnage rate for Brand Park, Bradley, Burbank, Calabasas, Chiquita, San Clemente, Scholl, and Whittier (Savage) landfills are based on the average daily tonnages for the period of 1/1/95 to 12/31/95.

[4] California Integrated Waste Management Board website, October 25, 2002. Permitted for an additional 23 million tons.

[5] On 10/3/96, the Azusa Land Reclamation Landfill ceased accepting non-inert solid waste for disposal, but continues to accept inert waste.

[6] California Integrated Waste Management Board website, October 25, 2002.

[7] Telecommunication with Kay Krumwied, Lancaster Landfill, December 4, 2002. Permitted for an additional 22.6 million tons.

[8] Los Angeles County Countywide Integrated Waste Management Plan 2001 Annual Report, Appendix E.2-1.

[9] Restricted Wasteshed.

C = Closed due to Exhausted Capacity.
P = Closed due to Permit Expiration.

Table 4.9-2 provides a summary of the expansion plans for Bradley Landfill West and Puente Hills Landfill. Expansion of these landfills would provide an additional 41,537,922 tons of capacity with a daily capacity of 14,200 tons.

Table 4.9-2
Proposed Major Landfill Expansion Plans in Los Angeles County

Landfill	Operator/ Owner	Anticipated Expansion Capacity (million tons)[1]	Current Daily Capacity (tons)	Years of Add'l Capacity	Expansion Location
Puente Hills[2]	Sanitation Districts of Los Angeles County	38,000,000[3]	12,000[4]	10	Adjacent
Bradley Landfill West[5]	Waste Management, Inc.	3,537,922	2,200	5	Adjacent
	Totals	**41,537,922**	**14,200**	**15**	

Source: Impact Sciences, Inc. (November 2002).
[1] *As the expansion plans have not yet been approved, exact expansion capacity has not yet been identified.*
[2] *Telecommunication with Theresa Dodge, Supervisor, Solid Waste Division, Sanitation Districts of Los Angeles County, December 4, 2002.*
[3] *Office of Planning and Research CEQAnet website, December 5, 2002.*
[4] *The landfill currently accepts 72,000 tons per week, with 13,200 accepted Monday through Friday, and the remainder on Saturday. Seventy two thousand was divided by six to get an average daily figure for purposes of this table.*
[5] *Telecommunication with Bruce Matlock, Health and Safety Supervisor, Bradley Landfill West, December 4, 2002.*

4. PROJECT IMPACTS

The project would generate solid waste during the construction and operational stages of development. Where the solid wastes are disposed of and how they are recycled are driven by economics and adopted City of Santa Clarita and state regulations. Furthermore, the amount of solid waste entering landfills versus the amount generated would be based on a number of variables. These include market demand for recyclables (fluctuations in prices for recyclables will affect willingness to recycle certain materials), product packaging, purchase of reusable products (e.g., cloth diapers), disposal alternatives (incineration within co-generation plants), as well as recycling regulations.

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines questioned if the project:

- would be served by a landfill with sufficient capacity to accommodate the project's solid waste disposal need.

As solid waste collection service and landfill capacity already exist in the project area, the City's Environmental Guidelines will be used as the significance threshold criteria. Therefore, for the

purpose of this EIR, a project would cause a significant solid waste (including hazardous waste) impact if it does not implement measures to reduce the amount of solid waste entering landfills in accordance with state and County standards and/or if future capacity at existing landfills would be inadequate to serve the project.

b. Construction-Related Impacts

Site preparation (vegetation removal and grading activities) and construction activities would generate a total of approximately 15,399 tons, or an average of approximately 3,850 tons per year of construction wastes over the four year buildout of the project assuming no recycling, or approximately 7,700 total tons assuming a 50 percent diversion rate.[14] These waste materials are expected to be typical construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes. Construction activities could also generate hazardous waste products. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County.

Generally, typical construction-related solid waste is composed of small scrap materials and construction employee food waste. The waste generation typically occurs over short time periods and ceases upon completion of the construction stage; in the case of the proposed project, construction would occur intermittently over an estimated four-year period. Unless construction-related wastes are recycled, construction solid waste generation would have a significant impact on the capacity of the City's solid waste management system. Also, an adequate amount of landfill space has not been ensured to accommodate long-term solid waste generation at current disposal rates. Therefore, even with mitigation, the project's construction-related solid waste impact would be considered significant.

c. Operation-Related Impacts

Buildout of the project is estimated to require approximately four years. At buildout, the project would generate approximately 10,203 pounds of solid waste per day, or 1,862 tons per year, as shown in **Table 4.9-3**.[15] This quantity represents the project's solid waste generation under a worst-case scenario without any recycling activities in place. Under the City Model Ordinance, however, the uses within the project would be required to provide adequate areas for collecting and loading recyclable materials

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14 Assumes a generation rate of 90 tons per acre of construction waste. Project gross developable acreage is 171.10. Refer to **Project Description, Section 1.0**.

15 This solid waste generation may also include household-type hazardous wastes. Examples of household hazardous wastes include drain openers, oven cleaners, toilet bowl cleaners, ammonia-based cleaners, floor and furniture polishes, enamel or oil-based paints, anti-freeze, pesticides/herbicides/fungicides, pool acids.

in concert with Countywide efforts and programs to reduce the volume of solid waste entering landfills. Although the project would generate approximately 1,862 tons per year it can also be assumed that the project will meet the current recycling goals of the community and in actuality, only generate approximately 931 tons per year due to City diversion rates and a mandate to divert at least 50 percent of potential waste disposal.

Table 4.9-3
Daily Project Solid Waste Generation for Project (No Recycling)

Land Use	Units	Generation Factor (pounds/day)[1]	Total Waste Generation (pounds/day)	Total Waste Generation (tons/year)
Residential				
Single-Family Detached	439 du	11.18	4,907	896
Multi-Family or Attached	744 du	6.41	4,770	870
Commercial	40,000 sq. ft.	0.01	526	96
Total			**10,203**	**1,862**

Source: Impact Sciences, Inc. (March 2003).
du = dwelling unit, sq. ft. = square feet
[1] *The solid waste generation rates are derived from the Ventura County Solid Waste Management Department's Guidelines for the Preparation of Environmental Assessments for Solid Waste Impacts. The Los Angeles County solid waste generation factor of 11 pounds/capita/day was not used in this analysis because it is very general and may not yield an accurate solid waste generation analysis for the project. These factors do not reflect any recycling activities.*

Recent expansion approvals, and proposals for expansion, at several County landfills compel the conclusion that solid waste disposal facilities and other options will be available in the future. It is reasonable to assume that new facilities and other options will be created to meet this demand and to reap the financial benefits of providing this service. However, as only three facilities have recently been approved for expansion, project impacts are considered significant. Therefore, even with mitigation, the project's solid waste impact would be considered significant.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

4.9-1 Solid waste collection/recycling areas are to be compatible with nearby structures, secure, protected against adverse environmental conditions, clearly marked, adequate in capacity, number and distribution, and contain a sufficient number of bins, to serve the recycling needs of the development (Model Ordinance).

4.9-2 Design and construct collection/recycling areas to accommodate front-loader packing trucks, including maneuvering room (Model Ordinance).

4.9-3 Design and construct driveways and/or travel aisles with adequate width and maneuverability space for unobstructed garbage collection, trash container storage and vehicle access and clearance (Model Ordinance).

4.9-4 Post signs at all access points of the recycling areas that clearly identify all recycling and solid waste collection and loading areas and the materials accepted therein (Model Ordinance).

6. MITIGATION MEASURES PROPOSED BY THIS EIR

a. General

4.9-5 Locate recycling/separation areas in close proximity to dumpsters for non-recyclables, elevators, loading docks, and primary internal and external access points.

4.9-6 Locate recycling/separation areas to not be in conflict with any applicable federal, state or local laws relating to fire, building, access, transportation, circulation, or safety.

4.9-7 Locate recycling/separation areas so they are convenient for those persons who deposit, collect, and load the recyclable materials.

4.9-8 Place recycling containers/bins so that they do not block access to each other.

4.9-9 Reduce yard waste on the project site through the use of xeriscape techniques and the use of drought-tolerant and native vegetation in common area landscaping wherever possible.

4.9-10 For commercial developments and residential buildings having five or more living units, no refuse collection or recycling areas are to be located between a street and the front of a building.

4.9-11 Install on-site trash compactors for non-recyclables in all restaurants/food services areas.

4.9-12 If possible, kitchen, garage or garden design shall accommodate trash and recyclable components to assist in the City's recycling efforts. This includes a design to accommodate a minimum of three 90-gallon containers in locations allowable under the CC&Rs.

4.9-13 First-time buyers shall receive educational material on the City's waste management efforts. Educational material shall be passed to consecutive buyers using the CC&Rs.

4.9-14 The applicant shall comply with all applicable state and Los Angeles County regulations and procedures for the use, collection and disposal of solid and hazardous wastes.

b. Construction

4.9-15 Place recycling bins for glass, metals, paper, wood, plastic, greenwastes, and cardboard on construction sites to ensure their use by construction workers to then be trucked to recycling/processing facilities.

4.9-16 In construction specification and bid packages, require building materials made of recycled materials, to the extent possible.

7. CUMULATIVE IMPACTS

As discussed earlier in this section, new landfills will need to be developed and/or other waste disposal options implemented to accommodate future growth. These options may include diversion/transformation as the preferred methods for addressing solid waste and specific and practical applications (i.e., market development, public education and public policy initiatives).[16] In the future, haulers will have flexibility to determine where solid waste is ultimately disposed of based on economic factors.

Because solid waste (including hazardous waste) can be disposed of outside of Los Angeles County and because solid waste disposal is driven by a free-enterprise system, it is reasonable to assume that, to some degree, solid waste generated by cumulative development would be disposed of outside Los Angeles County, and likely, outside of the State of California. Given this assumption, the cumulative projects area could encompass a geographic area beyond the jurisdictional boundaries of the City of Santa Clarita, Los Angeles County and could, conceivably, extend beyond state boundaries. It is beyond the scope of this EIR and too speculative to attempt to quantify the solid waste that could be generated by cumulative development that is proposed in greater Los Angeles County or the region beyond, or to assess the landfills that might be available or, more importantly, other solid waste disposal options which could be available. Therefore, the focus of this cumulative impact analysis is the cumulative impacts of this project in combination with other expected future growth in the Santa Clarita Valley at its buildout.

The Santa Clarita Valley Cumulative Build-out Scenario entails buildout of all lands under the current land use designations indicated in the City of Santa Clarita General Plan, Los Angeles County Santa Clarita Valley Area Plan, plus the project, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and in

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16 Approaching an Integrated Solid Waste Management System for Los Angeles County, California, (May 2, 1997) GBB, Solid Waste Management Consultants.

the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-out Scenario is presented below in **Table 4.9-4**.

Under this scenario, which includes the project, total solid waste generation would be 393,455 tons per year (see **Appendix 4.9** for detailed calculations). The project's share of 1,862 tons per year would represent 0.47 percent of this total.

Table 4.9-4
Cumulative Development Activity - Santa Clarita Valley Cumulative Build-out Scenario

Land Use Types	Cumulative Buildout w/o Project	Project	Cumulative Buildout w/ Riverpark[1]
Single-Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,849,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		279,340 students
High School	12,843 students		12,958 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,238.0 ac		1,238.0 ac
Developed Parkland	464.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sg = special generator; ac = acres
[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development and active pending General Plan Amendment requests.*
[2] *Special Generators include Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

It is reasonable to assume that the market forces that drive the waste disposal industry will put pressure on the industry and governmental agencies to continually identify new economically feasible means of waste disposal in the future to accommodate this growth. However, because new facilities are not available, cumulative project impacts are considered significant.

8. CUMULATIVE MITIGATION MEASURES

There are no cumulative mitigation measures known to be available that would mitigate significant impacts.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Even with mitigation, the project's solid waste impacts would be considered significant.

b. Cumulative Impacts

Land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory and political constraints. This is not to say, though, that alternative solid waste disposal technologies that could substantially reduce landfill disposal will not be developed and legislatively approved in the future; given the market forces that drive the solid waste industry, it is reasonable to assume they will.

Until long-term landfill space or other disposal alternatives will be adequate to serve existing and future uses for the foreseeable future, project and cumulative solid and hazardous waste impacts within the City will be considered unavoidably significant.

4.10 EDUCATION

1. SUMMARY

Public elementary, junior high school and high school education in the project area is currently provided by the Saugus Union School District and the William S. Hart Union High School District. The Saugus Union School District provides elementary school (K through 6) service to the project area while the William S. Hart Union High School District provides junior high (7 and 8) and high school (9 through 12) service.

It is estimated that the project would generate 288 new elementary students, 71 new junior high students and 115 new high school students in the Saugus and Hart districts at buildout. The Saugus District is operating within its total capacity. Student enrollment in the Hart District exceeds available capacity even with the use of portable classrooms. Consequently, the additional students from the Riverpark project would have a significant impact on the Hart District without mitigation.

Project applicant compliance with the School Facilities Funding Agreement Between the Saugus Union School District and the Newhall Land and Farming Company (February 1997) and the School Facilities Funding Agreement Between the William S. Hart Union High School District and the Newhall Land and Farming Company (October 1998) was designed to mitigate all project impacts to these districts to less than significant levels. Because the school districts agree that compliance with the school district agreement will mitigate all project impacts on school facilities, the Riverpark project would result in no significant impact on these districts, and no additional project mitigation is required.

Cumulative student generation under the DMS Build-Out Scenario and under the Santa Clarita Valley Build-Out Scenario cannot be accommodated by existing or planned facilities within the school facilities that serve the Valley and cumulative impacts on the districts would be significant. Compliance, as appropriate, with existing School Facilities Funding Agreements and/or other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements) would reduce cumulative development impacts on the school districts to below a level of significance and no unavoidable significant cumulative impacts to educational services are anticipated.

2. INTRODUCTION

The project site is within the Saugus Union School District (Saugus District) and the William S. Hart Union High School District (Hart District). This section of this EIR evaluates impacts of the project on schools in those districts that currently provide public elementary, junior high, and high school education in the project area.

3. EXISTING CONDITIONS

The Saugus District provides elementary school service (grades K through 6), while the Hart District serves the project area for junior high education (grades 7 and 8) and high school education (grades 9 through 12).

a. Saugus Union School District

There are a total of fourteen elementary schools within the Saugus Union School District. Total enrollment within the District for year 2002-03 is 10,060, while total capacity with the use of both permanent and temporary (i.e., portable) classrooms is 11,360. There is remaining capacity for 1,300 students and all of the schools are currently operating under capacity, although several are nearing capacity. The district has plans to construct four new elementary schools within its jurisdiction, and all four schools are partially funded (50 percent of total cost) under existing mitigation agreements and/or local bond funding. The remaining 50 percent (State New Construction Grants) of the construction costs is currently unfunded. The district also proposes to replace Bouquet Elementary School with a permanent school of a larger capacity, and to add nine additional classrooms to Mountainview Elementary School.[1] State School Construction Bonds were approved by the California electorate in November 2002 authorizing $13.2 billion of school facility construction funding which eliminated a backlog of approximately $4 billion, and provides substantial additional funds for new construction. Additionally, legislation has been approved to place another State School Construction Bond authorization before the voters at the 2004 Primary Election in the amount of $12 billion.

b. William S. Hart Union High School District

There are a total of four junior high schools and four high schools within the William S. Hart Union High School District (Hart District). Total student capacity within the District is 15,330 within 396

1 Harold J. Pierre, P.E., Saugus Union School District, correspondence to Impact Sciences, Inc., 13 November 2002.

permanent and 226 temporary (relocatable) classrooms. Total student enrollment in the District in October 2002 was 17,970, which is 2,640 more students than can be accommodated by the District. In order to accommodate these students, future schools in the District include:

- Rio Norte Junior High School (opening fall 2003);
- Golden Valley High School (opening fall 2004);
- Rancho Pico Junior High School (opening fall 2005); and
- West Ranch High School (opening fall 2006).[2]

These four schools would increase the capacity of the District for an additional 2,400 junior high students and 5,200 high school students. These schools are being funded through SB 50 (discussed below) and Hardship funds under SB 50.

c. School Funding

The state has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the state passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

Senate Bill (SB 50) and Proposition 1A (both of which passed in 1998) provided a comprehensive school facilities financing and reform program by, among other methods, authorizing a $9.2 billion school facilities bond issue, school construction cost containment provisions, and an eight-year suspension of the Mira, Hart, and Murrieta court cases.[3] Specifically, the bond funds are to provide $2.9 billion for new construction and $2.1 billion for reconstruction/modernization needs. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions (e.g., general plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart, and Murrieta court cases. According to Government Code Section 65996, the

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2 Larna Baril, William S. Hart Union High School District, correspondence to Impact Sciences, Inc., 20 January 2002.

3 Mira/Hart/Murrieta allowed cities and counties to use their legislative power over land use (a part of what is called their "police power") to assist school districts by requiring developer fees, land dedications, or other measures to fully mitigate the impacts of development on school facilities.

development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." These provisions are in effect until 2006 and will remain in place as long as subsequent state bonds are approved and available.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a District. These three levels include:

Level 1: Level 1 fees are the base statutory fees. As of January 23, 2002, Level 1 fees are $2.14 per square foot for new residential development and $0.34 per square foot of chargeable, covered and enclosed floor space for new commercial/industrial development. These amounts currently represent the maximum that can currently be legally imposed upon new development projects by a school district unless the district qualifies for a higher level of funding. Payment of this fee is deemed to constitute full, complete, and adequate mitigation of project impacts on school facilities.

Level 2: Level 2 fees allow the school district to impose developer fees above the statutory levels, up to 50 percent of certain costs under designated circumstances. The state would match the 50 percent funding if funds are available.

Level 3: Level 3 fees apply if the state runs out of bond funds after 2006, allowing the school district to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school moneys.

Under Level 2, the governing board of a school district may require a developer to finance up to 50 percent of new school construction costs. However, in order to qualify for Level 2 funding the district must satisfy at least one of the following four requirements until January 1, 2000, or satisfy at least two of the four requirements after January 1, 2000:

1. Impose a Multi Track Year Round Education (MTYRE) with:

    - at least 30 percent of K-6 enrollment in the high school attendance area on MTYRE for unified and elementary school districts; or
    - at least 30 percent of high school district enrollment on MTYRE; or
    - at least 40 percent of K-12 enrollment on MTYRE within boundaries of the high school attendance area for which the district is applying for funding.

2. Place a local bond measure on the ballot in the last four years which received at least 50 percent plus 1 of the votes.

3. District has issued debt or incurred obligations for capital outlay equal to a specified (under Government Code 65995.5(b)(3)(C)) percentage of its local bonding capacity.

4. At least 20 percent of teaching stations within the district are relocatable classrooms.

To accommodate students from new development projects, school districts may alternatively finance new schools through special school construction funding resolutions (e.g., the Valley-Wide Joint Fee Resolution)[4] and/or agreements between developers, the affected school districts and, occasionally, other local governmental agencies. These special resolutions and agreements often allow school districts to realize school mitigation funds in excess of the developer fees allowed under SB 50. Relative to the proposed project, the applicant is currently subject to the Saugus District School Facilities Funding Agreement and two Hart School Facilities Funding Agreements. The school districts agree that compliance with these school district agreements will mitigate the impacts of all projects listed in the agreements on their school facilities. Both of these agreements were entered into prior to November 1998 and both are grand-fathered for purposes of SB 50 (Government Code Section 65995(c)(1) and (2), and the provisions of these Agreements control over any fee limitations imposed by SB 50. Each agreement is discussed individually below.

(1) The Saugus School Facilities Funding Agreement

In February 1997, the Saugus Union School District entered into an agreement entitled "School Facilities Funding Agreement Between the Saugus Union School District and the Newhall Land and Farming Company." Through compliance with this Agreement, the applicant satisfies its mitigation obligations to the Saugus Union School District by agreeing to provide the land, buildings,[5] furnishings and equipment necessary to construct new elementary schools to serve students generated by Newhall

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4 The "Valley-Wide Joint Fee Resolution," requires that the County withhold approval of any development project requiring a zone change or general plan amendment unless and until the project applicant agreed to pay the affected school districts a "School Mitigation Payment" of $2.50 per square foot of assessable residential area. The $2.50 per square foot fee was to be adjusted annually for inflation. Currently, the School Mitigation Payment is $2.84 per square foot of residential space, with 55 percent (approximately $1.56) paid to the Hart District and 45 percent (approximately $1.28) paid to the Newhall and Saugus Districts when projects are in the Hart, Newhall, or Saugus Districts, or 35 percent (approximately $0.99) paid to the Hart District and 65 percent (approximately $1.85) paid to the Castaic District when projects are in the Hart and Castaic Districts. In 1996, four of the five school districts, including Newhall and Hart, withdrew from the agreement contending that state matching funds were not available from the state and consequently the fee was inadequate.

5 According to the Agreement, school facilities would be constructed in accordance with the requirements and specifications contained in the Education Code and the Applicant Handbook for State School Building Lease-Purchase Program put out by the Office of Public School Construction as those requirements and specifications exist at any given time.

Land and Farming Company projects (including the proposed project).[6] The Saugus School Facilities Funding Agreement is grandfathered for purposes of satisfying the provisions of SB 50 and consequently the provisions of this Agreement take precedent over any fee limitations imposed by SB 50.

(2) Hart School Facilities Funding Agreement

The Hart District has entered into a School Facilities Funding Agreement with The Newhall Land and Farming Company in October 1998 which conditionally obligates the Newhall Land and Farming Company to provide for up to three additional junior high schools and two additional senior high schools to the Hart District.

Compliance with the Agreement constitutes the entire extent of the project applicant's obligation to provide the means necessary for the Hart District to obtain the school facilities needed to house students generated by The Newhall Land and Farming Company's projects. As a result, compliance with the agreement would satisfy all of proposed project's obligations to the Hart District with respect to its junior and senior high school impacts, and ensures that the project would have no direct or cumulative impacts on the school district. The Hart School Facilities Funding Agreement is grandfathered for purposes of satisfying the provisions of SB 50 and consequently the provisions of this Agreement take precedent over any fee limitations imposed by SB 50.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines suggests that a project would result in a significant impact if it would result in:

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

The project is evaluated relative to this criterion below.

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[6] Although the Saugus School Funding Agreement operates apart from and in lieu of the Valley-Wide Joint Fee Resolution, its purpose is similar. Like the Valley-Wide Joint Fee Resolution, the Saugus Funding Agreement serves to ensure that the project's impacts on the Saugus Union School District are mitigated to below a level of significance and that the County DMS is satisfied.

b. Proposed Residential Units

The number of additional students that may be generated by any given development project is determined by the number and type of residential units to be developed. The project includes 744 multi-family and 439 single-family dwellings. These units would likely be served by Emblem Elementary School or Bridgeport Elementary School in the Saugus District. The closest schools in the Hart District to the project site are Arroyo Seco Junior High School and Saugus High School.

c. Student Generation Rates

The number of students that would be generated by each new housing unit is referred to as the "student generation rate". Student generation rates are largely calculated by categorizing the existing number of students within the particular school district by the type of home in which they live (single family, multi-family, and apartment), and then dividing the total number of students in each category by the total number of homes of each type. Student generation rates per housing type for the Saugus District and Hart District are provided in **Table 4.10-1, Student Generation Rates**.

Table 4.10-1
Student Generation Rates

	Student Generation Rate		
School District	**Single Family**	**Multi-Family**	**Apartment**
Saugus Union Elementary[1]	0.431	0.0556	0.1326
W. S. Hart Junior High[2]	0.104	0.037	0.038
W. S. Hart Senior High[2]	0.179	0.064	0.054

[1] *Personal communication with Jean Sisson, Saugus Union School District, November 13, 2003.*
[2] *Davis Demographics and Planning (December 12, 1995). These represent actual student generation rates and are from the October 1998 School Facilities Funding Agreement between The Newhall Land and Farming Company and the Hart District.*

d. Total Number of Additional Students Generated

Based on the number and type of housing units to be generated by the project and the student generation rate for each type of housing unit, the project would generate a total of 288 elementary students, 74 junior high school students and 119 senior high school students (see **Appendix 4.10** for calculations).

(1) Project Impacts to Saugus District

Project elementary students would likely attend Emblem Elementary School or Bridgeport Elementary School. Emblem is located at 22635 Espuella Drive in Saugus, less than 0.25-mile north-northwest of the project site. Bridgeport is located at 23670 Newhall Ranch Road. No busing would be necessary for project students. Emblem school has a permanent capacity of 430 and a temporary capacity of 340, resulting in a total capacity of 770 students. Student enrollment for the 2002-03 school year is 488; so, this school is currently operating under capacity with remaining room for 282 students. This available capacity is less than needed by the project; therefore, the project would require additional facilities, such as additional classrooms, to accommodate its students. The School Funding Agreement between Newhall Land and Farming Company and Saugus School District would provide funding to ensure that adequate school capacity would be available to serve the students generated by the project.[7] As a result, no project impacts to the Saugus District would occur.

(2) Project Impacts to Hart District

Project junior high students would likely attend Arroyo Seco Junior High School located at 27171 Vista Delgado Drive, approximately 1.25 miles northwest of the project site. No busing would be necessary for these students. This school has a permanent capacity for 930 students and a temporary capacity for 659, resulting in a total capacity for 1,589 students. Student enrollment for the 2002-03 school year is 1,568, so this school is currently operating slightly under capacity with remaining room for 21 students. This available capacity, which is less than needed to serve the Riverpark project, may not be available at project buildout in year 2009, and new school facilities would be needed.

Project high school students would likely attend Valencia High School located at 27801 North Dickason Drive in Valencia, approximately 2.25 miles northwest of the project site. Because this school is more than 2 miles from the project site, busing may be necessary for these students. This school has a permanent capacity of 1,924 and a temporary capacity of 840, making a total capacity for 2,764 students. Student enrollment for the 2002-03 school year is 3,253, so this school is currently operating over capacity.

Under the School Funding Agreement between Newhall Land and Farming Company and William S. Hart Union High School District, the project developer would provide up to three additional junior high schools and two high schools to the District that would ensure adequate school capacity to serve

7 Harold J. Pierre, P.E., Saugus Union School District, correspondence to Impact Sciences, Inc., 13 November 2002.

this project and other Newhall Land and Farming Company projects. As a result, no direct project impacts to the Hart District would occur.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project has not incorporated any mitigation measures into its design.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

Project participation in the School Facilities Funding Agreements with the Saugus and Hart Districts fully mitigates project specific impacts on these districts. These agreements provide full funding of the costs to construct new schools necessary to house the additional students generated by the project. No further mitigation is required.

7. CUMULATIVE IMPACTS

As required by CEQA, the cumulative impact on schools caused by the project and other related future residential development is assessed in this section. In order to improve the accuracy of estimates of future residential development, the amount of future residential development within the Districts was analyzed under two different scenarios: Build-Out Scenario A and Build-Out Scenario B. Each of these scenarios is discussed individually below.

a. DMS Build-Out Scenario

DMS Build-Out Scenario assumes complete buildout for the project and those subdivision projects listed in the County's Development Monitoring System (DMS) for the Saugus District and the Hart District. County DMS data used for this analysis includes all pending, recorded and approved residential projects involving land divisions located in these two school districts. Copies of the County DMS Inventory Information reports for the two school districts are found in **Appendix 3.0**.

A summary of development by school district under DMS Build-Out Scenario is presented in **Table 4.10-2, Summary of Cumulative Projects by School District – DMS Build-Out Scenario (Pending, Approved, and Recorded Projects)**. As shown, the junior high schools in the Hart District serve a smaller number of cumulative residential units than the senior high schools. This variation exists because two school districts in the Santa Clarita Valley serve grades 7 and 8 students (Hart District and Castaic Union School District), while only one district serves high school students (Hart District).

Under Build-Out Scenario A with the project, there would be an additional 5,742 elementary school students, 3,236 junior high school students and 6,047 senior high school students that would need to be served by the Saugus and Hart Districts (student generation calculations are provided in **Appendix 4.10**). Based on an elementary school classroom size of 20 and a junior and senior high school classroom size of 32, these students would require a total of 287 additional elementary school classrooms, 101 additional junior high school classrooms and 189 additional senior high school classrooms.

Table 4.10-2
Summary of Cumulative Projects by School District – DMS Build-Out Scenario
(Pending, Approved, and Recorded Projects)

School District	Residential Units		
	Single Family	Multi-Family	Total Units
Saugus Union			
Cumulative Projects	10,437	4,087	14,524
Proposed Project	439	744	1,183
Total	10,876	4,831	15,707
Hart Jr. High			
Cumulative Projects	18,594	9,440[1]	28,034
Proposed Project	439	744	1,183
Total	19,033	10,184	29,217
Hart Sr. High			
Cumulative Projects	23,343	12,196[1]	35,539
Proposed Project	439	744	1,183
Total	23,782	12,870	36,722

Source: Los Angeles County Department of Regional Planning, Service Provider Report (October 16, 2002). The published DMS Service Provider Report of October 16, 2002 does not include Newhall Ranch residential units.
[1]Includes 273 mobile homes.

As previously discussed, the Saugus District proposes construction of four new elementary schools within its jurisdiction, and proposes to replace Bouquet Elementary School with a permanent school of a larger capacity, and to add nine additional classrooms to Mountainview Elementary School. The new school construction, however, has not been fully funded. Unless new school construction funding becomes available to the Saugus District, cumulative school impacts to the Saugus District under Cumulative Build-Out Scenario A would be significant.

The Hart District will construct two new junior high schools with a combined capacity of 2,400 students and two new high schools with a combined capacity of 5,200 students. These schools are being funded primarily through SB 50 and Hardship funds under SB 50. Given that existing schools in the District are already operating over capacity and that the four new schools would not have enough capacity to

serve these new junior high and high school students, cumulative impacts to the Hart District under this scenario would be significant.

b. Santa Clarita Valley Cumulative Build-Out Scenario

Santa Clarita Valley Cumulative Build-Out Scenario entails full buildout of both the project and all lands under the current land use designations indicated in the Los Angeles County Santa Clarita Valley Area Plan and the City of Santa Clarita General Plan, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. (In this EIR section, the Santa Clarita Valley Planning Area is often referred to as the "Valley".)

Future development activity (with the proposed Riverpark project) expected in the Valley under Build-Out Scenario B is presented below in **Table 4.10-3, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario**.

The focus of the cumulative impact analysis under Build-Out Scenario B is on determining whether the cumulative increase in the residential population from Valley buildout, in combination with the project, would adversely impact the affected school districts that serve the residents of the Santa Clarita Valley (i.e., Castaic Union School District, Newhall School District, Saugus Union School District, Sulphur Springs School District, and William S. Hart Union High School District).

Cumulative development under Build-Out Scenario B would generate 39,756 elementary school students, 14,106 junior high school students and 22,797 senior high school students that would need to be accommodated by all of the school districts in the Santa Clarita Valley (see **Table 4.10-4, Student Generation as a Result of Cumulative Projects – Cumulative Build-Out Scenario B**). Capacity for these students has yet to be planned in the school districts that serve the Santa Clarita Valley and, unless they can be accommodated, Build-Out Scenario B would result in a significant impact.

Table 4.10-3
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	279,340 students		279,340 students
High School	12,958 students		12,958 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,238.0 ac		1,238.0 ac
Developed Parkland	464.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Agua Dulce Airport.*

Table 4.10-4
Student Generation as a Result of Cumulative Projects –
Cumulative Build-Out Scenario B

School District	Single-Family Units	Students Per Unit	Multi-Family Units	Students Per Unit	Mobile Home Units	Students Per Unit	Number of Students	Number of Classrooms[6]
Newhall (K-6)	13,771	0.348	10,163	0.166[1]	1,497	0.07	6,584	329
Hart Jr. (7-8)	54,065	0.1671	23,697	0.0224[2]	2,123	0.0224[2]	9,613	300
Hart Sr. (9-12)	83,212	0.2426	45,163	0.0552[3]	2,123	0.0552[3]	22,797	712
Saugus (K-6)	23,241	0.4982	6,963	0.0556	50	0.0556	11,972	599
Castaic (K-5)	31,744	0.3021	22,349	0.104[4]	25	0.104[4]	11,917	596
Castaic (6-8)	22,381	0.1578	16,001	0.06[5]	25	0.06[5]	4,493	225
Sulphur Springs (K-6)	21,666	0.38	9,283	0.10	1,219	0.17	9,283	464
Totals[7]	—	—	—	—	—	—	76,659	3,225

[1] *Multi-family student generation rate is the midpoint between a multi-family rate of 0.078 and apartment rate of 0.253 students per unit for the Newhall School District.*
[2] *Multi-family and mobile home student generation rate is the midpoint between the multi-family rate of 0.0311 and apartment rate of 0.0137 for Hart Junior High School.*
[3] *Multi-family and mobile home student generation rate is the midpoint between the multi-family rate of 0.0789 and the apartment rate of 0.0315 for Hart Senior High School.*
[4] *Multi-family and mobile home student generation rate is the midpoint between the multi-family of 0.1079 and apartment rate of 0.0998 for Castaic Union Elementary Schools.*
[5] *Multi-family and mobile home student generation rate is the midpoint between the multi-family of 0.0618 and apartment rate of 0.0585 for Castaic Union Middle Schools.*
[6] *Assumes 30 students per classroom for the Newhall, Saugus Union, Castaic Union and Sulphur Springs Union School Districts and 32 students per classroom for the William S. Hart Union High School District.*
[7] *Due to overlap of district boundaries, residential unit categories cannot be totaled.*

8. CUMULATIVE MITIGATION MEASURES

There is a cumulative impact if the project does not contribute its fair share to mitigate education impacts. However, which the noted school funding agreements that the project Applicant has entered into with respective school districts the project will not contribute to education impacts. Cumulative impacts on schools may be mitigated through the School Facilities Funding Agreements between the districts and the Newhall Land and Farming Company for its projects, or through other mechanisms, such as SB 50, the Valley-Wide Joint Fee Resolution, and/or future facilities funding agreements between the districts and the developers of new residential projects. Assuming such mechanisms are implemented for each new residential development, cumulative impacts on schools caused by other future residential development would be mitigated to less than significant.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Specific Impacts

With project compliance with the School Facilities Funding Agreements with the Saugus and Hart Districts, project impacts associated with education would be less than significant. No unavoidable project specific significant education impacts are anticipated.

b. Cumulative Impacts

Compliance, as appropriate, with existing School Facilities Funding Agreements and/or other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements) would reduce cumulative development impacts on the school districts that serve the Santa Clarita Valley to below a level of significance. Therefore, no project unavoidable significant cumulative impacts to educational services are anticipated.

4.11 LIBRARY SERVICES

1. SUMMARY

Library services for the proposed project and the Santa Clarita Valley area are provided by the County of Los Angeles Public Library system. The City of Santa Clarita contracts with the County of Los Angeles for public library services. The Santa Clarita Valley area is served by three County libraries (Valencia, Newhall, and Canyon Country Jo Anne Darcy) and a mobile library service. Existing library space in the Santa Clarita Valley does not meet the County Public Libraries library planning standards.

Development of the proposed project would result in increased demands on library facilities and would, according to County Library planning standards, create a demand for 1,789 gross square feet of library space and 7,152 items (books, periodicals, audio cassettes, videos, etc.). Recommended payment of the City adopted library impact fee, $640.00 per new residential dwelling unit as of November 2002, for new library construction and book purchases would reduce this impact to a less than significant level. In addition, revenues collected by the City of Santa Clarita over the course of buildout of the project would fund library service in the Santa Clarita Valley and also reduce impacts.

2. INTRODUCTION

Information in this section was derived from the Los Angeles County Development Monitoring System (DMS) and from communication with representatives of the Los Angeles County Public Library.

3. EXISTING CONDITIONS

a. Los Angeles County Public Library

The Los Angeles County Public Library operates facilities and services countywide in both unincorporated and incorporated areas of the County. The City of Santa Clarita contracts with the County of Los Angeles for library services.

b. Santa Clarita Valley Public Libraries

As illustrated in **Figure 4.11-1, Library Locations**, the Los Angeles County Public Library services the entire Santa Clarita Valley with three libraries and mobile library services. The three libraries include the Valencia Library, the Canyon Country Jo Anne Darcy Library, and the Newhall Library. A description of the three libraries and the mobile book service as of November 2002 follows.[1]

(1) Valencia Library

The Valencia Library, located at 23743 West Valencia Boulevard in Valencia, serves as the main library within the Santa Clarita Valley and is located approximately 1.6 miles southwest of the project site. This library is a government publications repository. The library is approximately 23,966 square feet in size and contains approximately 272,809 items (books, periodicals, audiocassettes, videos, etc.) in its collection. The library is open Monday through Thursday 10:00 AM to 9:00 PM, Friday 10:00 AM to 6:00 PM, Saturday 10:00 AM to 5:00 PM and Sunday 1:00 PM to 5:00 PM. The library maintains a staff of 13 full-time employees, 40 part-time employees, and 10 volunteers who work 35 hours per week.

(2) Newhall Library

The Newhall Library located at 22704 West 9th Street in Newhall, approximately 3.4 miles south of the project site, serves as a branch library to the Valencia Library. This library is approximately 4,842 square feet in size and contains approximately 77,693 items in its collection. The library operating hours are Monday through Wednesday 10:00 AM to 8:00 PM, Thursday and Friday 10:00 AM to 6:00 PM, and Saturday 10:00 AM to 5:00 PM. The library maintains a staff of four full-time employees, 11 part-time employees, and four volunteers who work 21 hours per week.

(3) Canyon Country Jo Anne Darcy Library

The Canyon Country Jo Anne Darcy Library, located at 18601 Soledad Canyon Road in Canyon Country, approximately 3.9 miles east of the project site, also serves as a branch library to the Valencia Library. The Canyon Country Jo Anne Darcy Library is approximately 5,050 square feet in size and contains a total of 91,534 items in its collection. The library operating hours are Monday through Wednesday 10:00 AM to 8:00 PM, Thursday and Friday 10:00 AM to 6:00 PM, and Saturday 10:00 AM to 5:00 PM. The

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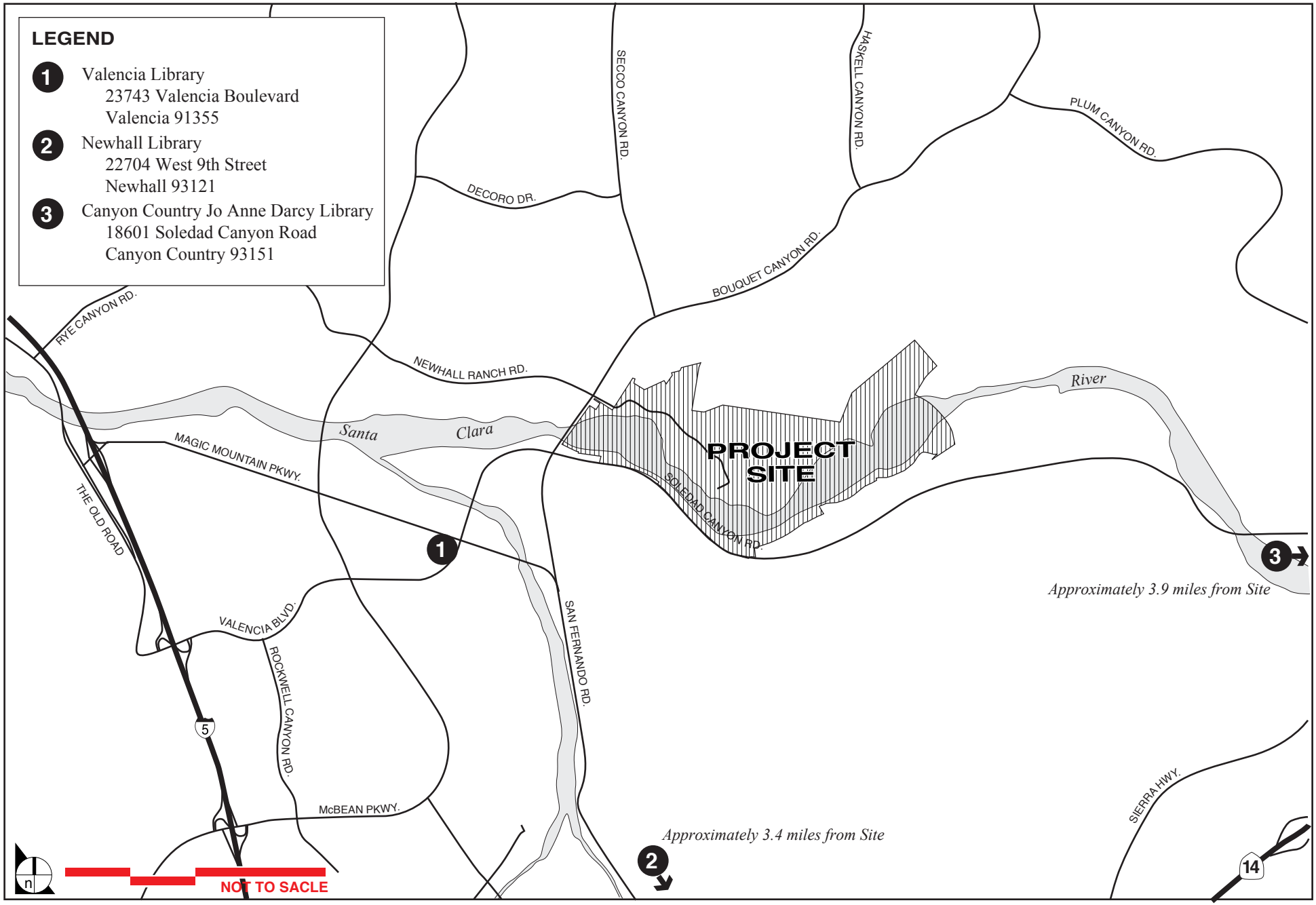
1 Written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002 (**Appendix 4.11**).



SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **4.11-1**

Library Locations

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library maintains a staff of 5 full-time employees, 20 part-time employees, and 5 volunteers who work 26 hours per week.

(4) Mobile Library Services

A mobile library service is also provided to the outlying areas of the Valley, such as Val Verde, Aqua Dulce, Acton, Castaic, and the Friendly Valley Senior Community. This mobile library consists of one vehicle and contains 15,452 items in its collection. Because the project site is not in an outlying area, it would have no impact on County mobile library facilities.

c. Funding and General Level of Service

The County Library has adopted a planning standard of 0.50 gross square feet and 2.0 items (books, periodicals, audio cassettes, videos, etc.) per capita.[2] At the time of this writing, Valley-wide library square footage totals 33,858 square feet and items total 457,488.[3] The library facilities and books and other materials in the Santa Clarita Valley area are at 0.23 square feet per capita and 2.47 items per capita, respectively.[4] Therefore, the Santa Clarita Valley area does not meet the County Public Library's desired planning standard for library space, but exceeds the standard for library items.

Funding sources for the Public Library consist of, in descending proportions, property taxes, County General Fund allocation, a special tax, and revenue from fines, fees and other miscellaneous sources.[5] The Board of Supervisors has, for several years, made an allocation from the County General Fund. However, there is no guarantee of ongoing funding from the County General Fund as a specific budget allocation. Decisions on funding for the Public Library are made on an annual basis by the Board of Supervisors based on total available funding for all County services. The funding in the Public Library's operating budget does not provide for the replacement or the expansion of library facilities. Currently, the only funding available for the replacement or expansion of library facilities is that generated from the developer fee program. At present time, the developer fees collected in the Santa Clarita planning area are insufficient for the construction of new facilities.[6]

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2 Ibid.

3 This includes all the items from Valencia, Newhall, and Canyon Country Jo Anne Darcy Libraries, plus the mobile library collection of 15,452 items.

4 Written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002 (**Appendix 4.11**).

5 Ibid.

6 Ibid.

In 1992, the state shifted property tax revenues from library operations to help finance education. In response to this lost revenue, in 1994 the County Board of Supervisors adopted a community facilities district for extended library services and facilities in the unincorporated areas of the County and twelve cities, including the unincorporated area of the Santa Clarita Valley. On June 3, 1997, Proposition L was passed by a 2/3 majority which assesses a special yearly tax of $22.00/parcel for library services.[7] Proposition L affects the unincorporated areas and eleven cities, including the City of Santa Clarita.

On October 27, 1998, the County Board of Supervisors established a permanent library fee of $569.87, on all new residential development in the Santa Clarita Valley to mitigate impacts to the Library under its DMS policies. On March 9, 1999, the City of Santa Clarita formally adopted the library fee, which is currently $640.00. The Public Library's mitigation fee is subject to an annual Consumer Price Index (CPI) adjustment.[8]

While demands for library services are not met by the County library system, other library resources may be available to area residents, including those located at local colleges (e.g., College of the Canyons, Masters College, and California Institute of the Arts), high schools, and junior high schools. Public and private educational facilities have rules and regulations concerning availability of general public use of library facilities. These services augment County facilities by providing some residents alternative sources for library materials. Some of these library facilities charge a fee to use their materials, and their use can be restricted.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

Significance threshold criteria for library services are not specified in either CEQA or City of Santa Clarita EIR Guidelines. However, the County of Los Angeles Public Library has provided County staff with data for use in the County's DMS. Based upon this data, the County's DMS uses the following guidelines for library service:

- 0.50 gross square feet of library facilities per capita, and
- 2.0 library material items per capita.

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7 Telephone interview with Fred Hungerford, Staff Services, Los Angeles County Public Library, July 7, 1997.

8 Written correspondence from Michele Mathieu, County of Los Angeles Public Library, Library Headquarters, November 26, 2002 (**Appendix 4.11**).

As proposed, the project would increase demand on existing Los Angeles County Library services through its residential development. The impact of the proposed project on library services is addressed below.

b. Proposed Improvements

The proposed project would involve development of 1,183 housing units with an estimated population of 3,576 residents (refer to **Section 4.17, Population/Housing/Employment**).

c. Construction-Related Impacts

Construction of the project itself would not generate a resident population; therefore, no library impact is expected due to project construction.

d. Operational-Related Impacts

As discussed previously, the Santa Clarita Valley area is currently under-served with regard to library facilities.

Development of the proposed project would increase demand on library services presently provided in the Santa Clarita Valley, thereby increasing the existing need for additional facilities and books. Based on the present condition, the level of service provided by existing library facilities in the Santa Clarita Valley is not adequate to meet the increased demand of the proposed project. Without mitigation, project impacts upon existing library services would be considered significant.

Specifically, based on planning guidelines of 0.50 square feet of library facilities per capita and 2.0 library books per capita, it is anticipated that the proposed project population of 3,576 would require a total of 1,789 gross square feet of library facilities and 7,152 additional materials for the library system's collection. Please refer to **Appendix 4.11** for calculations.

Residents that would occur due to development of the proposed project would generate new tax revenues. Funding sources for the County Library consist of property taxes, state assistance, and revenue from fines, fees, and other miscellaneous revenue.

In the opinion of the County Public Library staff, this level of increased funding addresses only library operations and, because of the uncertainty of the level of General Fund contribution, it is not adequate to offset the impact of the project on the County Library's ability to construct new libraries and purchase

new items (books, periodicals, audio cassettes, videos, etc.). Consequently, the revenues collected would, according to the County Public Library, not adequately cover all the costs of serving the project, and it would create a significant impact on the library system if library facilities construction and items are not provided for. However, it is the opinion of the County Board of Supervisors and the County Public Library that payment of the library fee, $640.00 per unit of residential development, as previously described, would mitigate new development impacts on the County Public Library to a less than significant level. Based on the current library mitigation fee of $640.00 per unit, the estimated fees that would be collected from the project to pay for new library construction and item purchases would be a maximum of $757,120.00 ($640.00 x 1,183 units = $757,120.00), if all approved units are constructed.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

4.11-1 The applicant shall pay the current library fee ($640.00 per residential unit as of November 2002) to the City of Santa Clarita to offset the demand for library items and building square footage generated by the proposed project or whatever fee is established by either the City or County at the time of building permit issuance, whichever is higher. The library mitigation payment shall be made on a building permit by building permit basis. This current per unit mitigation fee of $640.00 would generate at least a total of $757,120.00 in library facility fees if all units proposed were built, and would fund new library space and materials which would be needed to serve the project.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

Provided that the project applicant pays the library fees as adopted by City and County Ordinance, no further mitigation measures are required.

7. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project were predicted. For this EIR, two separate cumulative development scenarios are compared with existing conditions to meet City of Santa Clarita and CEQA requirements.

a. DMS Build-Out Scenario

The first scenario (herein referred to as the "DMS Build-Out Scenario") entails buildout of only the subdivision and parcel maps listed in the County's Development Monitoring System (DMS) plus the proposed project. The City imposes the County's DMS while the City's infrastructure master plan is under development. The County DMS lists all pending, recorded and approved projects involving land divisions located on unincorporated lands in the Santa Clarita Valley and within the City of Santa Clarita. A list of the future DMS subdivision activity (with and without the proposed project) expected to occur within the service boundary of the County Library (the Santa Clarita Valley Planning Area) is presented below in **Table 4.11-1, DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project**.[9]

Table 4.11-1
DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project

Land Use Types	DMS Buildout w/o Riverpark[1]	Riverpark	DMS Buildout w/ Riverpark[1]
Single-Family	62,472 du	439 du	62,911 du
Multi-Family	29,037 du	744 du	29,781 du
Mobile Home	1,818 du		1,818 du
Commercial Retail	9,545,009 sq. ft.	40,000 sq. ft.	9,585,009 sq. ft.
Hotel	670 rooms		670 rooms
Sit-Down Restaurant	146,340 sq. ft.		146,340 sq. ft.
Fast Food Restaurant	15,100 sq. ft.		15,100 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	300,000 sq. ft.		300,000 sq. ft.
Hospital	222,800 sq. ft.		222,800 sq. ft.
Library	129,110 sq. ft.		129,110 sq. ft.
Church	323,190 sq. ft.		323,190 sq. ft.
Industrial Park	19,042,611 sq. ft.		19,042,611 sq. ft.
Business Park	3,100,321 sq. ft.		3,100,321 sq. ft.
Manufact./Warehouse	3,006,821 sq. ft.		3,006,821 sq. ft.
Utilities	1,037,240 sq. ft.		1,037,240 sq. ft.
Commercial Office	3,388,869 sq. ft.		3,388,869 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	345.0 ac		345.0 ac
Developed Parkland	110.0 ac	29 ac	139.0 ac
Special Generator[2]	296.0 sg		296.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator
[1] *Los Angeles County Department of Regional Planning, Service Provider Report (October 12, 2003) using data for the William S. Hart Union High School District, which encompasses the Santa Clarita Valley Planning Area. Includes existing development as contained in Santa Clarita Valley Consolidated Traffic Model, (November 2002).*
[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

As shown, buildout of this scenario without the project would result in an additional demand for 43,398 square feet of library space and for 222,554 items (books, periodicals, audiocassettes, videos, etc.).

9 Los Angeles County Department of Regional Planning, Inventory Information for Library Service, (September 9, 1998).

With the proposed project, these numbers would increase by 1,789 square feet and 7,152 items to a total additional demand at DMS Buildout of 45,187 square feet and 229,706 items.

Over the four-year build-out period for the project, other development activity will occur throughout the Santa Clarita Valley. This growth will cumulatively impact the Los Angeles County Library system of the Santa Clarita Valley area. Library impact data on these projects, taken from a recent Inventory Information report prepared by the County's Department of Regional Planning for the three libraries located within the Santa Clarita Valley, are summarized in **Table 4.11-2, Cumulative Library Impacts – DMS Build-Out Scenario**.

Table 4.11-2
Cumulative Library Impacts – DMS Build-Out Scenario

Library	Existing Supply	Existing Demand[1]	Cumulative Demand[2]	Total Demand[3]
Santa Clarita Valley				
Space (square feet)	33,858	62,518	43,398	105,916
Items[4]	348,467	320,598	222,554	543,152
Project				
Space (square feet)	0	0	1,789	1,789
Items	0	0	7,152	7,152
Totals				
Space (square feet)	33,858	62,518	45,187	107,705
Items	348,467	320,598	229,706	550,304

Source: Los Angeles County Department of Regional Planning, Inventory Information for Library Service, (October 12, 2003.

[1] *Represents the square footage and number of books required to serve the existing population.*
[2] *Represents additive requirement of square footage and number of books demanded by DMS plus project.*
[3] *Represents existing demand plus cumulative demand (does not include existing supply).*
[4] *Items = books, periodicals, audiocassettes, videos, etc.*

Operation of these facilities could be financed by new development through new tax revenue generated in the County on an on-going annual basis, a portion of which could be allocated by the County Board of Supervisors to the County Public Library. It is the opinion of County Public Library staff, however, that funding allocations from tax revenues would not be adequate to offset the full impact of cumulative development on the library system and that cumulative development would create a significant impact on the Library's ability to construct new libraries and purchase new books. Therefore, the City or the County requires that new development in the Valley either pay the current library fee, $640.00 as of November 2002, per residential unit or construct library facilities in the Valley per County Public Library guidelines to mitigate cumulative impacts on the County Public Library. Without payment of the fee, impacts would be cumulatively significant.

b. Santa Clarita Valley Cumulative Build-Out Scenario

The second scenario (herein referred to as the "Santa Clarita Valley Cumulative Build-Out Scenario") entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the General Plan, plus the proposed project, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. In this report, this area is often referred to as the "Valley". A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.11-3, Cumulative Development Activity - Santa Clarita Valley Cumulative Build-Out Scenario with Project**.

Table 4.11-3
Cumulative Development Activity - Santa Clarita Valley Cumulative Build-Out Scenario with Project

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		278,953 students
High School	12,843 students		12,843 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	464.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

Upon buildout of the SCV Cumulative Build-Out Scenario, existing population plus new residential development (including the proposed project) would total 438,867 and would create a total demand for 219,434 square feet of library facilities or 185,576 square feet more than the existing 33,858 square feet,

and 877,734 items, or 420,246 items more than the existing 457,488 items. Please refer to **Appendix 4.11** for calculations. As under the previous scenario, operation of these facilities could be financed by new development through the new tax revenue that new development would generate for the County on an on-going annual basis. However, because it is the opinion of County Public Library staff that funding allocations from tax revenues would not be adequate to offset the full impact of buildout on the Library's ability to construct new libraries and purchase new books, the City requires that new development either pay the current library fee, $640.00 as of November 2002, per residential unit or construct library facilities in the Valley per County Public Library guidelines as mitigation to cumulative impacts on the County Public Library. Without payment of the fee, cumulative impacts would be significant.

8. CUMULATIVE MITIGATION MEASURES

The project would be required to pay library fees or construct library facilities in the Valley that will mitigate its cumulative impacts to library services. No additional cumulative mitigation measures are required.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

With implementation of the above identified mitigation measures, impacts associated with library services would be reduced to below a level of significance. No unavoidable project specific significant impacts are anticipated.

b. Cumulative Impacts

Implementation of the same mitigation measures as recommended for the proposed project would result in reducing the cumulative development impacts on the County Public Library to below a level of significance. Therefore, no unavoidable significant cumulative impacts are anticipated.

4.12 PARKS AND RECREATION

1. SUMMARY

There are several existing and proposed local parks in the vicinity of the project site. Such facilities include parks maintained by the City of Santa Clarita, regional parks maintained by Los Angeles County, the State of California, and the Federal Government. The City of Santa Clarita has an established trail system, which provides local community and regional links to trails. This system is the Santa Clarita Backbone Trails. There is also a developed "paseo" system (pedestrian/bicyclists only walkways), which runs through the community of Valencia. The City of Santa Clarita Department of Parks, Recreation and Community Services has determined that there is a Citywide shortage of active parkland. According to the City of Santa Clarita Department of Parks, Recreation and Community Services, as of November 2002, the City has 590 fewer acres of active parklands than is ideal.

The project incorporates a 29-acre active/passive park, which will have direct access to the City's Santa Clara River Trail, a portion of which is proposed for construction as a part of this project. The alignment of Newhall Ranch Road (including the Newhall Ranch Road/Golden Valley Road Bridge) and a water quality basin, the entire 300 acres of river area within the project boundaries (defined by a 404/1603 jurisdictional delineation per the already approved Natural River Management Plan) will remain in a natural state (except for bank stabilization). Measured under the identified significance threshold, the Riverpark project is in compliance with Quimby Act parkland standards and would not result in significant unavoidable impacts to local parks and recreation facilities.

Implementation of cumulative projects would incrementally increase demand for local active park facilities in an area where such facilities are already below locally adopted standards. However, the proposed project will meet and exceed the City and Quimby Act local parkland standards with a combination of a public park and private recreational facilities. Furthermore, future development projects would also be subject to the City and Quimby Act requirements, which would mitigate the demands associated with each future project. Given this, no significant cumulative parkland impacts are expected to occur.

2. INTRODUCTION

Information in this section is derived from the City of Santa Clarita Department of Parks and Recreation and Community Services, City of Santa Clarita General Plan, and local, County, state and federal recreation facility records.

a. City Park Standards

The City of Santa Clarita Department of Parks, Recreation and Community Services provides local park and recreation facilities and services for the City of Santa Clarita. Local parks in the City are categorized as either neighborhood parks or community parks.

Neighborhood parks are usually 5 to 10 acres in size, and are often sited in residential neighborhoods adjacent to elementary schools. Neighborhood parks include at least two of the following amenities[1]:

- children's play area(s), including tot lots (at a rate of one per 5,000 persons served);
- tennis courts (at a rate of one for each 2,000 persons served);
- baseball/softball and football area(s) (at a rate of one baseball diamond per 12,000 persons served, one softball diamond per 6,000 persons served, one football/soccer field per 1,500 persons served);
- baseball/volleyball area(s) (at a rate of one per 500 persons served); and
- racquetball court(s) (at a rate of one per 2,000 persons served).

Community parks are 10 to 40 acres in area with amenities that may include, among other things, a community building, swimming pool, multi-purpose fields, hard court areas, picnic areas, and parking.

Section 66477 of the State Government Code allows cities and counties to require, as a condition of approval of a subdivision, the dedication of land or the payment of a fee in lieu of dedication, or a combination of both, for park or recreational purposes at a standard of 3 acres per 1,000 population. This legislation is commonly called the "Quimby Act".

As allowed under the Quimby Act, the City's Unified Development Code (UDC) requires 3 acres per 1,000 persons using the latest State Department of Finance population figures.[2] The City UDC identifies the following park and recreation facilities that may be eligible for Quimby credit: publicly- or privately-owned playgrounds, tennis, basketball or other similar game court areas,

1 City of Santa Clarita General Plan, p. PR-5.
2 City of Santa Clarita Unified Development Code, Chapter 16.15.

swimming pools, athletic fields, picnic areas, and other types of natural or scenic areas that comply with established criteria and as recommended by the Department of Parks, Recreation and Community Services for passive or active recreation.[3] Partial credit may be permitted for private parkland usable for active recreational purposes. The amount of the credit may be based on the commitment of the developer to install within the private open space any of the local park basic elements listed below, or a combination of such and other recreation improvements that will meet the specific recreation needs of future residents of the area[4]:

(a) 3 acres of open turf less than 3 percent slope for soccer, football, golf, basketball, etc.,

(b) recreation building and facilities,

(c) court areas, and

(d) recreational swimming areas (minimum 800 square feet surface area).

Traditionally, Quimby credit is given for active parkland and not open space.

The City also requires parallel and adjacent Class I bike trails along all new major and secondary highways.

3. EXISTING CONDITIONS

There is no developed or undeveloped parkland existing on the project site. There are a variety of public park and private recreation areas located within the vicinity of the project site (see **Figure 4.12-1, Existing and Proposed City of Santa Clarita Parks**). The City of Santa Clarita Department of Parks, Recreation and Community Services has determined that there is a Citywide shortage of local parkland. According to Department staff, the City of Santa Clarita is, as of November 2002, deficient by 590 acres of local (neighborhood and/or community) parkland.[5] The following is a discussion of local and regional parks and trails in the City's planning area.

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3 City of Santa Clarita Unified Development Code, Chapter 16.15.
4 City of Santa Clarita Unified Development Code, Chapter 16.15.090.
5 Telecommunication with Tom Reilly, Park Development Administrator, City of Santa Clarita, November 2002.

a. Local and Regional Parks

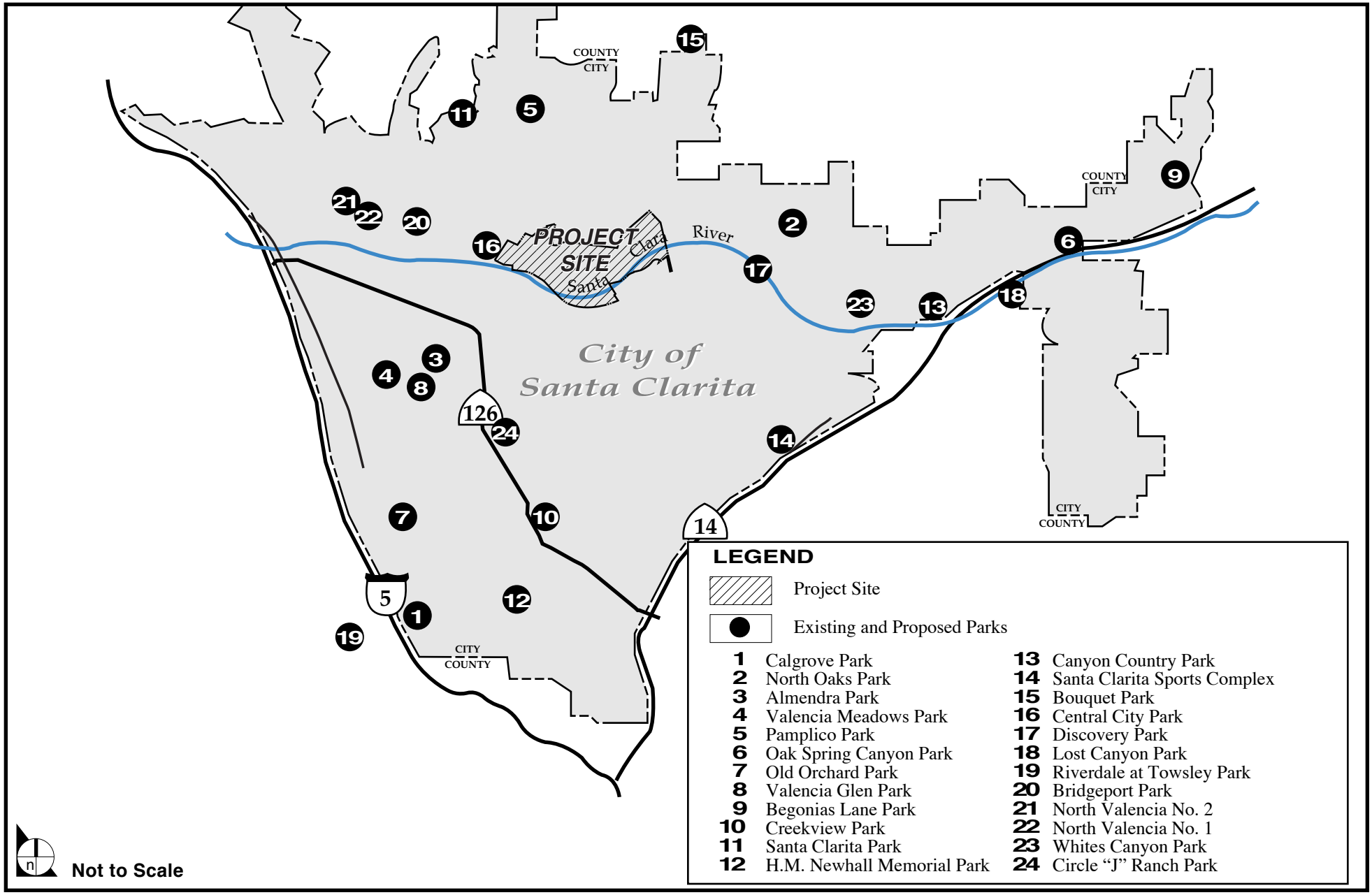
(1) City of Santa Clarita Parks

There are 24 existing or approved for development parks under the jurisdiction of the City of Santa Clarita, the locations of which are illustrated in **Figure 4.12-1, Existing and Proposed City of Santa Clarita Parks**. As shown in **Table 4.12-1, Existing and Proposed City of Santa Clarita Parks**, of the 24 parks totaling 376.25 acres, seven are either currently undeveloped or partially developed. The developed parks contain amenities, such as children's play areas, multi-purpose fields, restrooms, volleyball courts, picnic tables, etc. Also within the City of Santa Clarita planning area are four golf courses: three public (Vista Valencia Golf Course, TPC Valencia and Robinson Ranch) and two private (Valencia Country Club and Friendly Valley Country Club). Despite these facilities, however, the City of Santa Clarita Department of Parks, Recreation and Community Services has determined that there remains a Citywide shortage of active local parkland given the City's current population estimate.[6]

(2) County Parks within the City's Planning Area

County parks located within the jurisdictional boundaries of the City of Santa Clarita or within its established planning area are described in **Table 4.12-2, Existing and Proposed County and State Parks and Recreation Facilities in the City of Santa Clarita Planning Area**, and illustrated in **Figure 4.12-2, County and State Park Facilities**. Shown in **Figure 4.12-2**, but not identified in **Table 4.12-2** because it is outside of the City's planning area, is the 745-acre County Vasquez Rocks Natural Park area in Aqua Dulce. Most of the County's parks are community-orientated and regional in nature, having parkland in excess of 10 acres in area. Of the 23 County existing and proposed parks in the City's planning area, two are 50 acres or larger in area.

6 Id.



SOURCE: City of Santa Clarita General Plan, City of Santa Clarita Department of Parks, Recreation and Community Services, Jan 2001; Impact Sciences, Apr 2003.

FIGURE **4.12-1**

Existing and Proposed City of Santa Clarita Parks

LEGEND

- Project Site
- Park Location

1 Hasley Canyon County Park
2 Del Valle Park
3 William S. Hart Park
4 Stevenson Ranch Community Park
5 Castaic Sports Complex
6 Val Verde Community Regional Park
7 Placerita Canyon State Park
8 Plum Canyon Park
9 Northbridge Park
10 Towsley Canyon Park
11 Santa Clarita Woodlands State Park
12 Vasquez Rocks County Park
13 Castaic Lake State and County Recreation Area
14 Chesebrough Park
15 Copper Hill Park
16 North Lake Park
17 North Park
18 Pacific Crest
19 Pico Canyon Park
20 Dr. Richard Rioux Memorial County Park
21 River Village
22 Westcreek Park
23 Whites Canyon Park

SOURCE: Santa Clarita General Plan; Impact Sciences, Apr. 2003.

FIGURE **4.12-2**

County and State Park Facilities

Table 4.12-1
Existing and Proposed City of Santa Clarita Parks

	Parks	Acreage	Location	Condition
1	Calgrove Park	0.25	24602 Little Oak Lane, Newhall	Undeveloped
2	North Oaks Park	2.30	27824 N. Camp Plenty Rd., Canyon Country	Developed
3	Almendra Park	4.30	23420 Alta Madera Dr., Valencia	Developed
4	Valencia Meadows Park	4.80	25671 Fedala Rd., Valencia	Developed
5	Pamplico Drive Park	5.00	22444 Pamplico Dr., Saugus	Developed
6	Oak Spring Canyon Park	5.00	28920 Oak Spring Cyn. Rd., Canyon Country	Developed
7	Old Orchard Park	5.40	25023 Avenida Rotella, Valencia	Developed
8	Valencia Glen Park	5.50	23750 Via Gavola, Valencia	Developed
9	Begonias Lane Park	5.00	14911 Begonias Lane, Canyon Country	Developed
10	Creekview Park	8.00	22200 Park Street, East Newhall	Developed
11	Santa Clarita Park	7.50	27285 Seco Canyon Rd., Saugus	Developed
12	H.M. Newhall Memorial Park	15.00	24923 Newhall Ave., Newhall	Developed
13	Canyon Country Park	17.20	17615 Soledad Canyon Rd., Canyon Country	Developed
14	Santa Clarita Sports Complex	20.00	26407 Golden Valley Rd., Canyon Country	Developed
15	Bouquet Canyon Park	9.00	28127 Wellston Dr., Saugus	Developed
16	Central City Park	108.00	27150 Bouquet Canyon Rd., Saugus	80 acres developed 28 acres for future expansion
17	Discovery Park	20.00	27150 Canyon View Dr., Canyon Country	Undeveloped
18	Lost Canyon Park	40.00	Lost Cyn Rd/La Veda Ave., Canyon Country	Undeveloped
19	Rivendale Park	60.00	24255 The Old Rd., Newhall	Undeveloped
20	Bridgeport Park	16.0	Bridgeport Development	Complete
21	Oak Park	2.0	28920 Oak Spring Canyon Rd.	Developed
22	North Valencia Annexation 2	17.6	Eastcreek Planning Area 1	Undeveloped
23	Whites Canyon	6.0	Via Princessa	Undeveloped
24	Circle J. Ranch	5.3	Whites Canyon Rd.	Developed
	Total Park Acreage	389.15		

Source: Telephone interview with Tom Reilly, Park Development Administrator, City of Santa Clarita Department of Parks, Recreation and Community Services, December 5, 2002.

Table 4.12-2
Existing and Proposed County Parks and Recreation Facilities in the City of Santa Clarita Planning Area

	Facilities	Acreage	Location	Condition
1	Hasley Canyon County Park	5.38	28700 West Quincy St., Castaic	Developed
2	Del Valle Park (County)	5.00	28201 W. Sloan Cyn Rd., Castaic	Developed
3	William S. Hart Regional County Park	110.00	24151 San Fernando Rd., Newhall	Developed
4	Stevenson Ranch Community Park (County)	16.00	1 mile w/o I-5 and Pico Canyon Rd.	Developed
5	Castaic Sports Complex Community Regional Park (Cty)	50.00	31320 North Castaic Rd., Castaic	Developed
6	Val Verde Community Regional Park (County)	57.58	30300 W. Arlington St., Saugus	Developed
7	Placerita Canyon Park (State)	341.12	19152 Placerita Cyn Rd., Newhall	Developed
8	Plum Canyon Park (County)	8.00	1/4 mile east of Bouquet Canyon Rd., Saugus	Under Construction
9	Northbridge Park (County)	8.63	27400 N. Grandview Dr., Valencia	Developed
10	Ed Davis/Towsley Canyon Park (State)	145.00	24255 The Old Rd.	Developed
11	Santa Clarita Woodlands State Park	3,000.00+		Developed
12	Vasquez Rocks County Park	745.00	Aqua Dulce	Developed
13	Castaic Lake State and County Recreation Area [1]	8,700.00	32132 Ridge Route Rd., Castaic	Developed
14	Chesebrough Park (County)	5.48	Sunset Hills Dr./McBean Parkway	Developed
15	Copper Hill Park	4.40	Northbridge Planning Area	Proposed
16	North Lake Park	14.0	Castaic/Val Verde	Proposed
17	North Park	4.87	Saugus	Proposed
18	Pacific Crest	4.00	Castaic/Val Verde	Proposed
19	Pico Canyon Park	10.80	Pico Canyon	Under Construction
20	Richard Rioux Memorial County Park	15.46	Stevenson Ranch	Developed
21	River Village	21.30	Newhall/Valencia	Proposed
22	West Creek Park	15.63	Saugus	Proposed
23	Whites Canyon Park	8.50	Canyon Country	Proposed
	Total: [2]	13296.15		

Source: City of Santa Clarita General Plan and Los Angeles County Department of Parks and Recreation
[1] State-owned park maintained and operated by the County.
[2] This total does not include the Ed Davis/Towsley Canyon Park, which is already included in the acreage for the Santa Clarita Woodlands State Park.

The largest of these parks is the 8,700-acre Castaic Lake State and County Recreation Area. This multi-use park is located northwest of the project site in the unincorporated area of Castaic and includes 2,600 surface acres of water contained in an upper and lower reservoir system. Castaic Lake reservoir and surrounding land is owned by the state; however, the County has a lease on the land and operates the upper lake, Castaic Lake Reservoir, and the lower lake, Castaic Lagoon.[7] The County's proposed budget for FY 03-04 eliminates this park and shifts it back to the state. Facilities at the upper lake include major boat ramps and supporting facilities with fishing, boating, water and jet skiing, and parking for boats and trailers. Development around the 180-acre Castaic Lagoon includes major picnic areas for groups and families, swimming beaches, parking areas, non-motorized boat facilities, and general day-use recreation facilities, such as comfort stations.

(3) State Parks in the City's Planning Area

State parks are regional in nature and are depicted on **Figure 4.12-2**. The two state parks within the City's planning area are the Santa Clarita Woodlands State Park and the Placerita Canyon State Park. These are briefly described below.

(a) Santa Clarita Woodlands State Park

This 3,000 plus-acre state park is located west of I-5 and may be accessed via either the Lyons Avenue or the Calgrove/The Old Road interchanges. The creation of this park involved a land transaction that included the City of Santa Clarita, Chevron, and the Santa Monica Mountains Conservancy[8] as the primary participants. The transaction involved the donation of 851 acres of land historically owned by Chevron, with the Conservancy purchasing another 2,184 acres.

Santa Clarita Woodlands State Park includes the 145-acre Ed Davis/Towsley Canyon Park at 24255 The Old Road in Newhall, the 3-mile Pico Canyon Trail, the 2.4-mile Rice Canyon Trail, and the 3.8-mile East Canyon Trail. The facilities at Towsley Canyon Park include trails for hiking, mountain biking and equestrian uses; picnic areas; the Sonia Thompson Nature Center; the Towsley Canyon Lodge available for daily or overnight use; and restroom facilities with a drinking fountain.

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7 Telecommunication with Lillie Lowery, Los Angeles County Department of Parks and Recreation, January 7, 2003.

8 The Santa Monica Mountains Conservancy is a state agency created in 1980 under the auspices of the Resources Agency. It was initially established to preserve land and to provide opportunities for recreation in the Santa Monica Mountains and the Rim of the Valley Corridor. The Conservancy is primarily responsible for funding the acquisition of land with statewide and regional significance.

(b) Placerita Canyon Park

Placerita Canyon Park is located east of the Antelope Valley Freeway and is accessible from Placerita Canyon Road. It is a state park that is operated by the Los Angeles County Department of Parks and Recreation, and it contains a nature center, picnic areas, overnight and day camping facilities, a children's play area, hiking trails, and an equestrian campground.

(4) Federal Parks in the City's Planning Area

The City's planning area encompasses a portion of the Angeles National Forest and abuts the Los Padres National Forest. Each of these federal parks is briefly described below.

(a) Angeles National Forest

Portions of the City's planning area that are north and southeast of the City limits encompass a portion of the 650,000-acre Angeles National Forest, which offers a wide range of camping (with fees) and picnicking facilities. A segment of the Pacific Crest National Trail extends for 160 miles through the forest, providing views of the Antelope Valley; varied terrain, vegetation, and wilderness; and the San Gabriel Mountains. In addition, there are hundreds of miles of trails in the forest. The water reservoirs charge entrance fees, as well as boat launching, boat rental, and overnight camping fees. In addition to providing recreational opportunities, the forest provides a home for an array of wildlife.

(b) Los Padres National Forest

The 311,294-acre Ojai Ranger District of the nearly two million-acre Los Padres National Forest is located primarily in the northern section of Ventura County; however, a portion of the Los Padres National Forest crosses the Los Angeles/Ventura County line and abuts the City's northwestern planning area boundary.

Various recreation facilities are provided in the Los Padres National Forest, including hiking, equestrian and off-road vehicle trails, and camping areas (with fees) accessible by road and trail. There are 57 dispersed trail camps, 19 developed family campgrounds, and one developed group campground. There are many miles of recreation roads utilized by visitors as scenic drives and by off-highway vehicles. The forest has inventoried 373.7 miles of trails, including 17.7 miles of the scenic Gene-Marshall-Piedra Blanca National Recreation Trail, which begins at Reyes Creek Campground and ends at Lion Campground.[9]

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9 Ventura County General Plan, Public Facilities and Services Appendix, May 1988.

b. City of Santa Clarita Trail System

As illustrated in **Figure 4.12-3, City of Santa Clarita Backbone Trails**, the area adjacent to the project site is served by an existing and proposed trail system, including both City and regional trails.

(1) City of Santa Clarita Trails

The City of Santa Clarita has adopted a system of trails to provide pedestrian, bicycle and equestrian connections to residential communities within the City of Santa Clarita and to the regional trail system as well. City trails are listed below in **Table 4.12-3, Existing and Proposed City Trails**. The Backbone Trails within the City are illustrated in **Figure 4.12-3, City of Santa Clarita Backbone Trails**, and are briefly described below.

Table 4.12-3
Existing and Proposed City Trails

Trail Name	Length (miles)	Condition
Bouquet Canyon Trail	7.0	1.4 Miles Developed
Chuck Pontius Commuter Rail Trail	2.7	Developed
Placerita Canyon Trail	8.0	5.0 Miles Developed
Robinson Ranch Trail	1.8	Developed
Cliffie Stone Trail[1]	4.5	Proposed
Santa Clara River Trail	14.5	3.7 Miles Developed
South Fork Trail	3.4	Developed
Sand Canyon Rd. Trail	3.0	Proposed

Source: Telephone interview Tom Reilly, Park Development Administrator, City of Santa Clarita Department of Parks, Recreation, and Community Services, December 5, 2002.
[1] Formerly the San Francisquito Creek Trail.

(a) Bouquet Canyon Trail

The 7-mile Bouquet Trail is located between Bouquet Canyon Road and McBean Parkway along the northern side of Newhall Ranch Road. Upon completion, this trail will connect to the existing paseo along McBean Parkway and the bicycle trail along Newhall Ranch Road west of McBean Parkway.

(b) Chuck Pontius Commuter Rail Trail

This 2.7-mile trail runs east-west along the southern side of Soledad Canyon Road from Camp Plenty Road to Golden Oak Road, then along the northern side of Soledad Canyon Road to Commuter Way, then into the Santa Clarita Metrolink Station.

(c) Cliffie Stone Trail (formerly San Francisquito Creek Trail)

The 4.5-mile Cliffie Stone Trail is proposed to link with the Santa Clara River Trail at the confluence of San Francisquito Creek with the Santa Clara River. The trail is proposed to follow the creek northward and connect to other proposed County trails located further north.

(d) Santa Clara River Trail

The City of Santa Clarita has adopted the County's plan for trails along the Santa Clara River entitled the Santa Clara River Trail Project. This trail project is a 14.5 mile-long multi-use facility along the river that includes a Class I bicycle facility and also accommodates pedestrians and equestrians. Its easternmost terminus is currently south of the project site and north of the Santa Clara River and will, when completed, provide an integral link with existing and planned regional trails within the County of Los Angeles, including the San Francisquito Creek Trail and the Pacific Crest Trail in eastern Santa Clarita Valley. The trail is part of the Santa Clarita Valley Area Plan for integrated trails.[10]

(e) South Fork Trail

This 3.4-mile trail runs along the South Fork of the Santa Clara River from Newhall at Orchard Village Road north to the Santa Clara River Trail in Saugus. An extension of this trail from Orchard Village Road to Towsley Canyon Park is proposed.

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10 Los Angeles County Department of Regional Planning, Santa Clarita Valley Area Plan (Los Angeles, California: Comprehensively Updated December 6, 1990), p. 62.

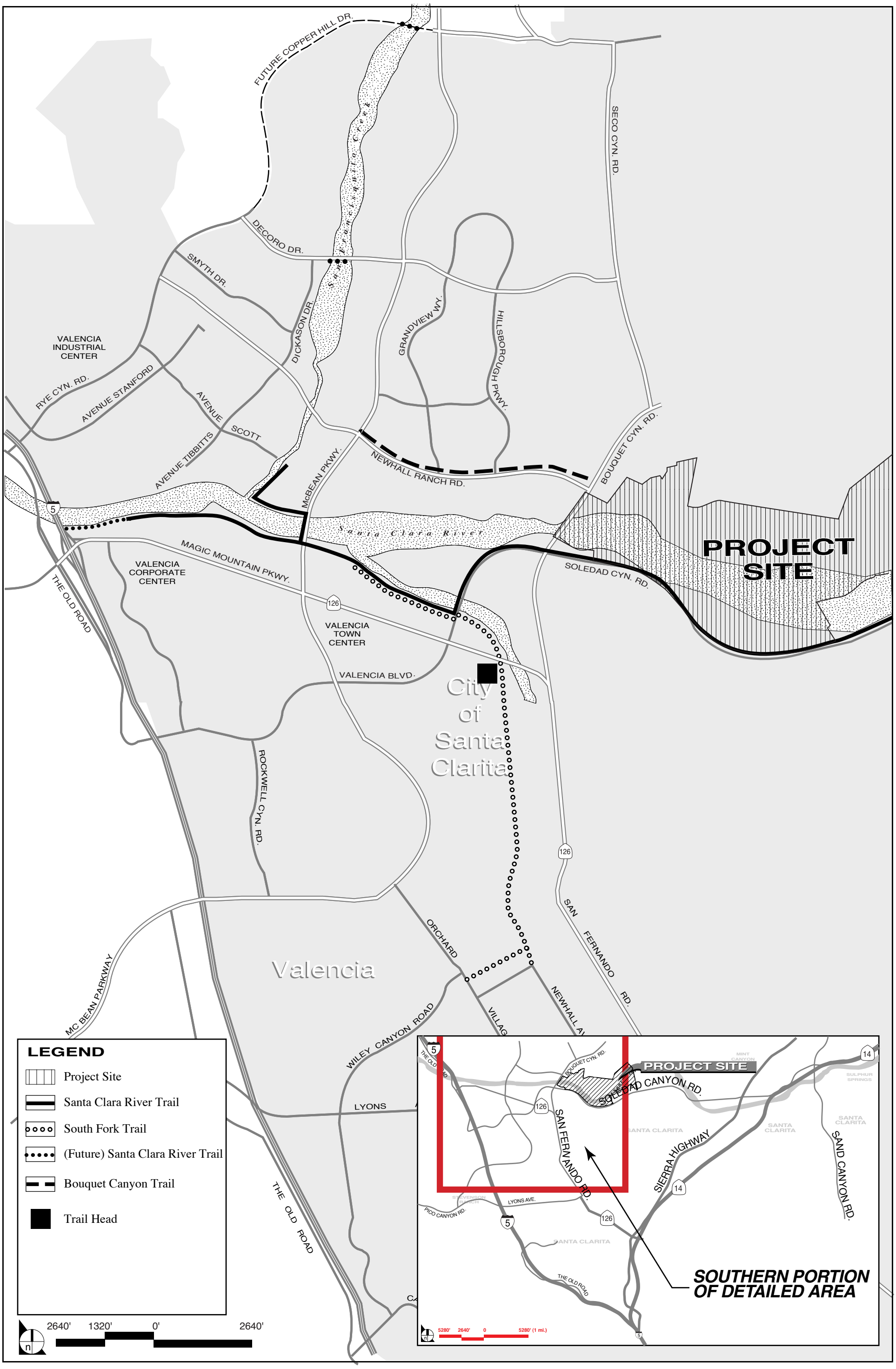

FIGURE **4.12-3**

City of Santa Clarita Trails

(2) Los Angeles County Trails in the City's Planning Area

The County of Los Angeles Department of Parks and Recreation plans and maintains an extensive system of regional riding and hiking trails within the County, many of which extend to and within the City of Santa Clarita planning area. County trails located in the City's planning area are listed in **Table 4.12-4, Existing and Proposed County Trails**, and are briefly described below.

Table 4.12-4
Existing and Proposed County Trails

Trail Name	Length (miles)	Condition
Los Pinetos Trail	7.0	Developed
Wilson Canyon Channel Trail	2.0	Developed
William S. Hart Park Trail	2.5	Developed
Pico Canyon Trail	9.0	Proposed
Hasley Canyon Trail	3.4	Partially Built
Castaic Creek Trail	5.0	Proposed
Mint Canyon Trail	3.7	Proposed
Gavin Canyon Trail	8.0	Proposed

Source: Telephone interview with James McCarthy, Trails Coordinator, Los Angeles County Department of Parks and Recreation, 9 January 2001.

(a) Los Pinetos Trail

Los Pinetos Trail is an equestrian trail with camping facilities available by reservation. The trail is intended to link the City of Santa Clarita trail system to the partially-built Rim of the Valley state trail (discussed below) via the City's partially developed Placerita Canyon Trail. The trail follows a flood control channel through 7 miles of natural area, including Placerita Canyon State Park.

(b) Wilson Canyon Channel Trail

Wilson Canyon Channel Trail provides 2 miles of moderately difficult hiking in the Angeles National Forest and provides views of the San Fernando Valley and Placerita Canyon. This trail is a link to the partially built Rim of the Valley Trail via the Los Pinetos Trail.

(c) William S. Hart Park Trail

This 2.5-mile nature trail winds through the William S. Hart Park past the William S. Hart Museum and designated points of interest, and provides views of the Santa Clarita Valley. Separate access is provided for equestrian use.

(d) Pico Canyon Trail

Pico Canyon Trail is proposed to be roughly 9 miles in length beginning at the intersection of Potrero Canyon and the Santa Clara River just east of the Los Angeles/Ventura County line. Moving in an easterly direction, the trail is generally proposed to follow Potrero Canyon, and then connect to Pico Canyon ending at the mouth of the canyon just west of I-5. At this juncture, the trail will connect to another County proposed trail (Gavan Canyon Trail) that will connect to the partially built Rim of the Valley Trail.

(e) Hasley Canyon Trail

Hasley Canyon Trail is proposed to follow Hasley Canyon for 3.4 miles in a westerly direction from Castaic Creek. A portion of this trail runs through, and is adjacent to, the Valencia Commerce Center, and is partially built.

(f) Castaic Creek Trail

The Castaic Creek Trail is proposed to link with the Santa Clara River Trail at the intersection of Castaic Creek and the Santa Clara River. The trail is proposed to follow Castaic Creek north for 5 miles to the Castaic Lake State and County Recreation Area, ultimately intersecting with the other proposed County trails located further north.

(g) Mint Canyon Trail

This 3.7-mile trail links the Mint Canyon Equestrian Trail to the Bouquet Canyon Equestrian Trail. The trail runs through Vasquez Canyon.

(h) Gavin Canyon Trail

This approximately 8 miles trail links Pico Canyon to Rim of the Valley Trail. The Rim of the Valley/Corridor Trail is discussed immediately below.

(3) Regional Trails in the City's Planning Area

(a) Rim of the Valley Corridor/Trail

The Santa Monica Mountains Conservancy Rim of the Valley Corridor includes land in the mountains that surround the San Fernando, Simi, Conejo, and La Crescenta Valleys (i.e., the San Rafael and Simi Hills, and the Verdugo, San Gabriel, and Santa Susana Mountains). It is actually an overlay on private property and the Corridor is a proposal envisioning a 200+ mile state trail. At the present time, only 10 miles have been acquired in the Santa Susana Mountains.[11] Located on both public and private land within the Rim of the Valley Corridor, it will connect to many of the regional trails that, in turn, connect to the local trails within the City of Santa Clarita.

(b) Pacific Crest National Trail

A segment of the Pacific Crest National Trail extends for 160 miles through the Angeles National Forest, providing views of the Antelope Valley, varied terrain, vegetation, wilderness, and the San Gabriel Mountains. Campgrounds, picnic areas, and staging areas are available along the trail. In all, the Pacific Crest National Trail traverses 2,500 miles from Canada to Mexico.[12] The trail was established under the National Trails System Act of 1968 and is part of the National System of Recreation and Scenic Trails. Only foot and equestrian travel is permitted on the trail; motorized vehicles and mountain bicycles are prohibited. Other trails that connect to the Pacific Crest National Trail include Fish Canyon Trail, Bear Canyon Trail and Gillette Mine Trail. All of these trails are located within the Angeles National Forest land and are north of Castaic Lake. The proposed County Castaic Creek Trail would connect to these trails.

4. PROPOSED PROJECT IMPROVEMENTS

a. Parks and Recreation

Implementation of the proposed project would result in the development of 1,183 dwelling units with a total residential population of 3,573 people. There are no existing parks or trails on the project site. To accommodate the local neighborhood and community park needs of the proposed Riverpark project, the

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11 Telephone interview with James McCarthy, Trails Coordinator, Los Angeles County Department of Parks and Recreation, 9 January 2001.

12 U.S. Department of Agriculture, Forest Service, Pacific Crest Trail, July 1988, p.1.

project incorporates a Trails and Park Program which is illustrated in **Figure 4.12-4, Recreation and Trails Plan**.

In summary, this trails and park program includes the following features:

- a 29-acre active/passive park including 4.2 acres of improved park area, which will be dedicated to the City;
- three private recreation lots totaling 1.3 acres;
- over 440 acres of dedicated open space including 330.8 acres of Santa Clara River Area; and
- Various other private recreational facilities and green space areas.
- Multi-family complexes will contain private recreational facilities.

(1) Active/Passive Park

A 29-acre active/passive park is located in the central portion of the project site, located in Area A2 between the two single-family subdivisions just west of the proposed Santa Clarita Parkway and south of Newhall Ranch Road (see **Figure 4.12-5**). The park would abut the Santa Clara River and includes a public trail system that would connect to the proposed trail that would run the length of the Santa Clara River within the project site boundaries. The park is intended for active recreational activities and will contain park facilities. Approximately 4-5 acres of this park would be developed with improvements similar to a neighborhood park up to the applicant's Quimby obligation (these improvements could include a turf area, play equipment, restroom structure, parking lot). The remaining acreage would be preserved and enhanced as a natural area with trail access to both the Santa Clara River Regional Trail and the Class 1 trail on Newhall Ranch Road.

(2) Private Recreation Lots

Three private recreation facilities are located within the project site. The first is located within Area A1 of the Vesting Tentative Tract Map (VTTM) and is 38,802 square feet in size. The second and third are located within Area B of the VTTM and are approximately 13,345 and 7,744 square feet in size.

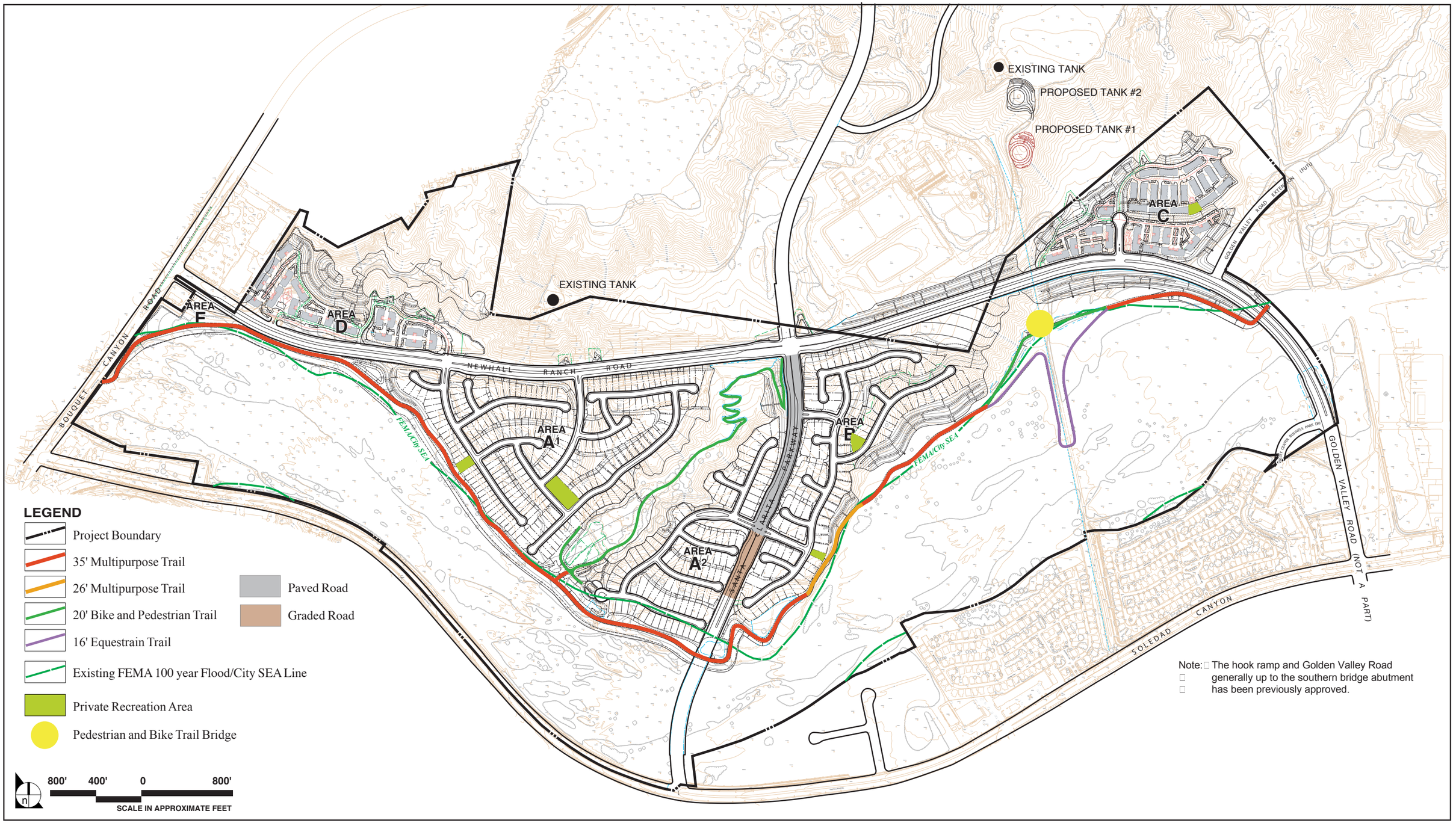


FIGURE **4.12-4**

Recreation and Trails Plan

112-06•02/04

EXISTING TANK

EXISTING TANK

PROPOSED TANK #2

PROPOSED TANK #1

AREA C

AREA E

AREA D

AREA A1

AREA A2

AREA B

EXISTING TANK

NEWHALL RANCH ROAD

BOUQUET CANYON ROAD

FEMA

Santa Clara River

Natural Park Area

SANTA CLARITA PARKWAY

VALLEY ROAD EXTENSION (FUTURE)

LEGEND

- Project Boundary
- Active/Passive Park

800' 400' 0 800'

SCALE IN APPROXIMATE FEET

NOT TO SCALE

FIGURE **4.12-5**

Active/Passive Park

112-06•01/04

(3) Santa Clara River Area

The Santa Clara River is the dominant land feature of the project area. The General Plan has designated an SEA Overlay for the entire Santa Clara River watershed, portions of which occur within the project area. The SEA Overlay is used to designate areas of prime biological importance to the City and the Santa Clarita Valley for protection and preservation and to ensure the continued viability of the biological resources contained within the SEA. The General Plan states that, "[t]his area was designated as an SEA primarily because of the threat of loss of suitable habitat for the unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni)*, a federally and state-listed Endangered species."[13] As defined in the City's General Plan, the SEA Overlay coincides with the 100-year FEMA floodplain. It is the intent of the project to meet the goals of the SEA overlay; all development is outside of the Significant Ecological Area (SEA) boundaries with the exception of trails, bank stabilization, and several lots within Area A2.

In addition to the river area, which is generally defined as that area between the river banks, the Santa Clara River Area includes an area referred to as the "upland preserve zone." This preservation area is beyond the creek bank and is an "upland" area with different, but related natural vegetation than found existing in the riverbed area. The natural vegetation will be restored and the upland preserve zone will serve as a foraging area for wildlife living in the riverbed area. In areas where the buffer is less than 100 feet wide, the existing vegetation will be enhanced to improve its value for foraging. As indicated on VTTM 53425, water quality filtration areas occur within the upland preserve zone to ensure the quality of water draining from the site to the Santa Clara River Area. Public access trails are also planned in the upland preserve zone. The trail within the Santa Clara River Area in relationship to the SEA line is illustrated on **Figure 4.12-6, Proposed Trails in Relation to the City of Santa Clarita/SEA Boundaries**. The river area and the upland preserve zone totals approximately 339 acres of the 695.4-acre project area. **Section 4.6, Biological Resources**, discusses this Santa Clara River Area in greater detail.

(4) Description of the Proposed Multi-Purpose Trail

The project trail system features the bicycle, equestrian and pedestrian trail system illustrated in **Figure 4.12-4, Recreation and Trails Plan**. This trail system is intended to provide comprehensive on-site access to open areas and vital connections between living areas, shopping, work, entertainment, schools, and civic and recreational facilities. It is also designed to provide connections to the off-site regional trail network, which would extend the regional trail network into the community and provide

13 City of Santa Clarita General Plan, June 26, 1991, p. OS-6.

additional recreational opportunities for both on-site and regional residents. **Figure 4.12-7, Typical Trail Sections**, illustrates typical trail sections, including width of trail, and river edge conditions.

The multi-purpose trail is proposed to be located within a 35-foot easement area and landscaping will be provided within this area (outside the active trail use). Included within the 35-foot easement is a 12-foot equestrian trail, 4-foot pedestrian trail and a 12-foot Class I bike lane with a minimum 7 feet of landscaping. Lodge pole fencing would be installed for safety and to define trail areas. The multi-purpose trail is proposed to extend from Bouquet Canyon Road to the proposed Newhall Ranch Road on the west side of the project site. This trail will traverse the southern portion of the project site and follow the edge of the open space area north of the Santa Clara River. This trail will accommodate pedestrian, equestrian and bicycle travel.

(5) Bicycle Trails

The community trails outlined above, incorporate Class I, (off-street bicycle trails with a fully separate travel-way designated exclusively for bicycle and pedestrian use). Bikeways are located throughout the project area and are shown in **Figure 4.12-4, Recreation and Trails Plan**. New Class I bike trails are proposed along Newhall Ranch Road from Bouquet Canyon Road to Soledad Canyon Road and along Santa Clarita Parkway from Newhall Ranch Road to Soledad Canyon Road. Class I trails at Golden Valley Road would connect from the east side to the west side of the road by an underpass. Street cross-sections depicting bicycle trail right-of-ways are shown in **Figure 4.12-8** and **Section 4.3, Traffic/Access**.

5. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines suggest the following criterion for evaluating parks and recreation impacts:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives;
- 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; and
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

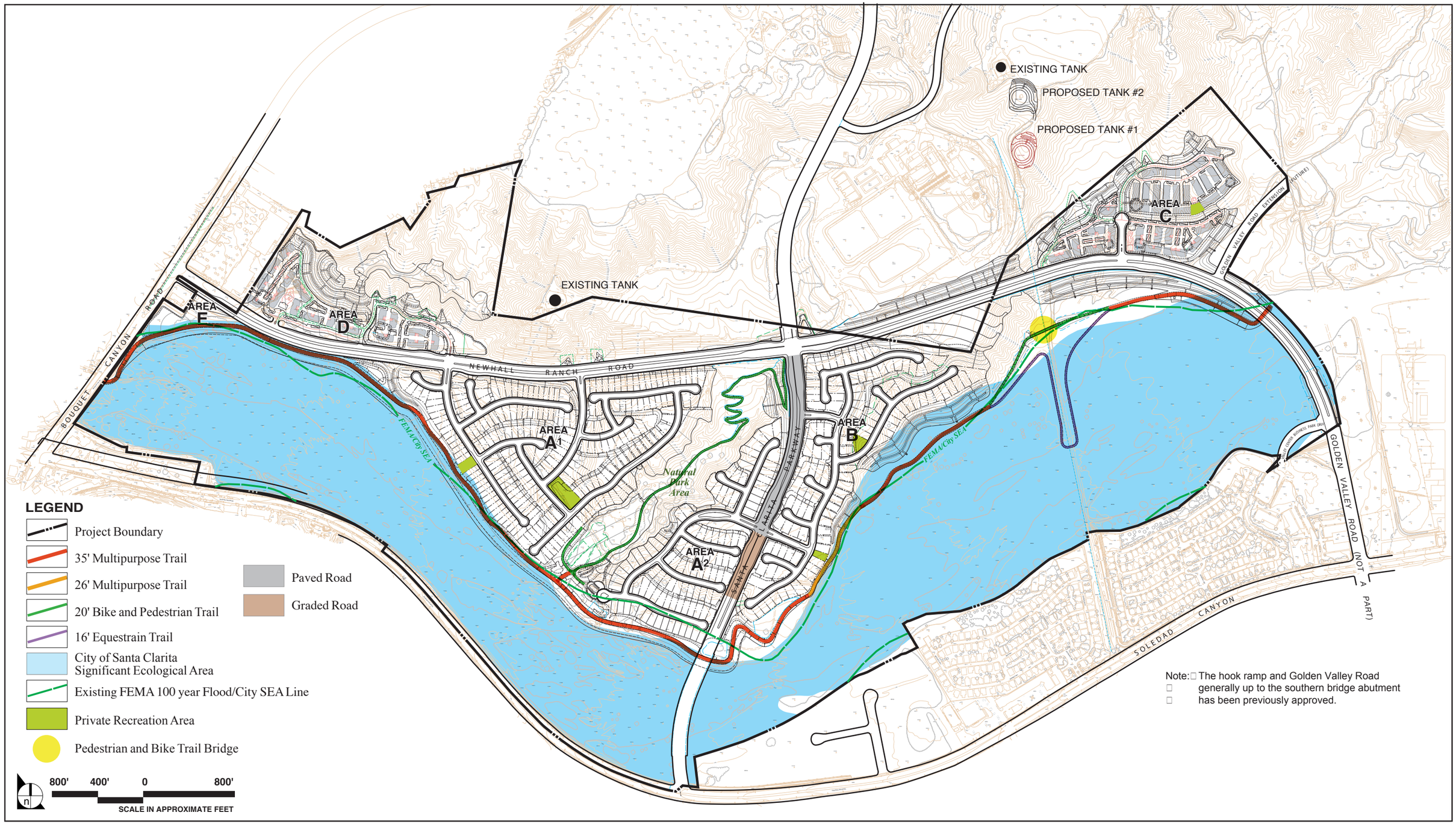


FIGURE **4.12-6**

Proposed Trails in Relation to The City of Santa Clarita SEA Boundaries

112-06•02/04

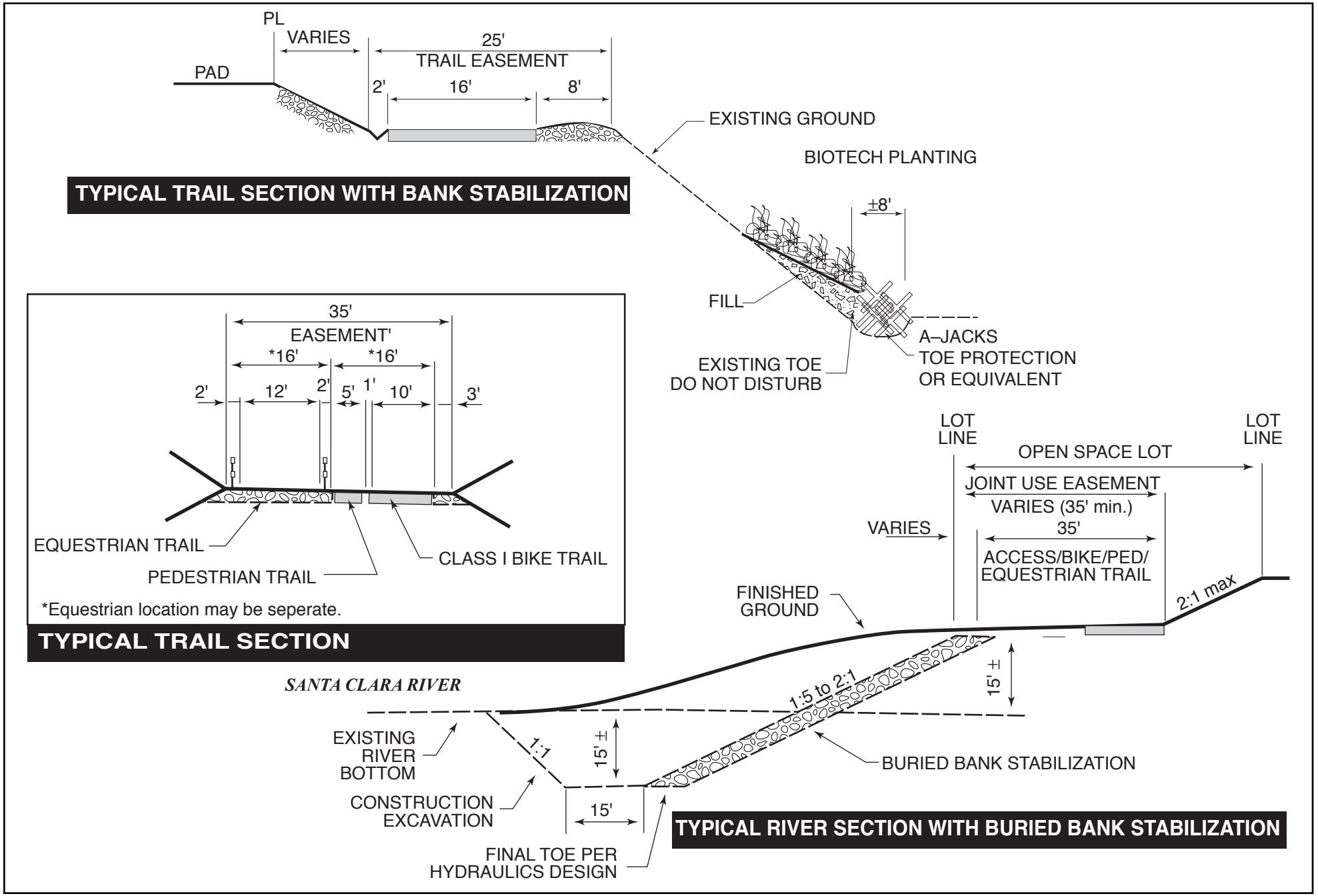
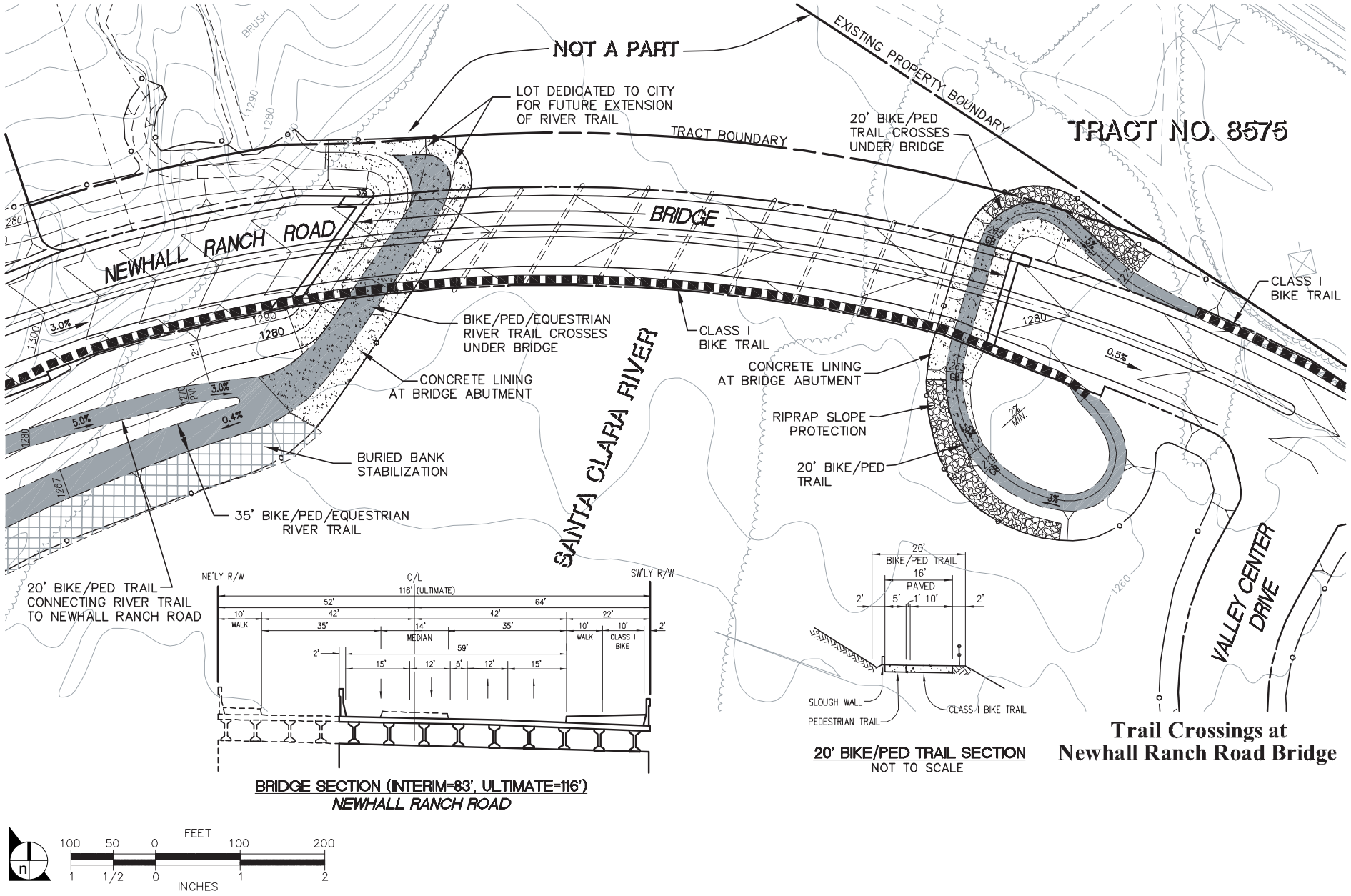


FIGURE **4.12-7**

Typical Trail Sections



BRIDGE SECTION (INTERIM=83', ULTIMATE=116')
NEWHALL RANCH ROAD

20' BIKE/PED TRAIL SECTION
NOT TO SCALE

Trail Crossings at Newhall Ranch Road Bridge

SOURCE: PSOMAS

FIGURE **4.12-8**

Bicycle Trail Rights-of-Way

Additionally, The State of California [California Government Code, Section 66477 (Quimby Act)], and the City of Santa Clarita Unified Development Code Chapter 16.15 have established a standard of 3 acres per 1,000 population as the proportionate amount of land necessary to satisfy the park requirement for new subdivisions. Fees in-lieu of the dedicated parkland, construction of amenities on dedicated parkland that total less than the standard, but are of equal dollar value to the park fee, or a combination of the three are all considered to satisfy the requirement.

b. Impacts to Park Facilities

(1) Neighborhood and Community Parks

Based on specific population estimates, the preliminary parkland dedication requirements for the proposed project have been calculated and are shown on **Table 4.12-5, Parkland Dedication Requirements for the Riverpark Project**. Applying the City of Santa Clarita household size multipliers for individual residential land use categories to the number of dwelling units proposed, results in an on-site population estimate of approximately 3,573 people. Applying the City Quimby Ordinance[14] requirement of 3 acres of neighborhood and community parkland per 1,000 persons of population, the parkland requirement for the Riverpark project is approximately 10.72 acres.

Table 4.12-5
Parkland Dedication Requirements for the Riverpark Project

Residential Land Use	Units	Assessment Factor	Population	Obligation In Acres[1]
Single-Family	439	3.02	1,326	3.98
Multi-Family	744	3.02	2,247	6.74
Totals	1,183		3,573	10.72

[1] *Acre per capita (equivalent to 3 acres per 1,000 population) per Quimby Act and City of Santa Clarita standards.*

The City Ordinance identifies several types of park and recreation facilities, which may satisfy projected needs and are eligible for Quimby credit. The Unified Development Code allows for up to 30 percent credit for private recreation areas. These facilities may include, but are not limited to: publicly or privately owned playgrounds, tennis, basketball or other similar game court areas, swimming pools, putting greens, and athletic fields.[15] Traditionally, Quimby credit is given for active parkland and

14 City of Santa Clarita Unified Development Code, Chapter 16.15.
15 City of Santa Clarita Unified Development Code, Chapter 16.15.

not open space. The park requirement for the project is proposed to be fulfilled through the dedication of the following categories of recreational area:

- Active park and
- private recreational facilities.

A large system of open space, parkland and trails is proposed as part of the project. All totaled, such features would occupy approximately 440 acres (or 64 percent of the project site). Each of these features meeting the UDC parkland requirements may be considered for partial parkland dedication credits. Fees, in-lieu of the dedicated parkland, may also be used to satisfy parkland requirements.

Credits toward meeting City Ordinance park requirements are determined by the City of Santa Clarita Department of Parks, Recreation and Community Service, and are based upon several criteria (e.g., access, improvements, topography, etc.) and the Ordinance requirements. Street area (either public or private) does not constitute parkland acreage toward the satisfaction of Quimby requirements because street area is not active parkland and, therefore, does not mitigate active parkland impacts.

Project park requirements would be met based on the City Ordinance and Quimby Act standards through a combination of the methods/project features described above. Therefore, the proposed project would not have a significant impact on parks, recreation, or trails. This is not to say project residents would not use off-site facilities, but that park facilities are being provided to serve projected needs. As indicated previously, the proposed project also includes the creation of a system of open space of substantial size, which is referred to as the Santa Clara River Area. Included in this area are the Santa Clara River and the areas adjacent to the river referred to as the "upland preserve zone". All totaled, these features occupy approximately 339 acres, or 49 percent of the project site. This feature of the project is considered to be an important local and regional recreational and scenic amenity of the project. In fact, because the project proposes active park facilities, which will serve more than local residents, it would help alleviate the existing Citywide shortage of parkland. Consequently, impacts to local parks would be considered beneficial.

(2) Regional Parks

While it is possible that project residents would use Los Angeles County Regional Facilities, such as Castaic Lake, no significant regional parkland impacts are expected. Since local park needs are exceeded by the proposed project, it is not expected that the project site residents would, in any appreciable manner, need to use regional parks that are located off site. This is not to say the project

site residents would not use off-site facilities, but that significant park and recreational facilities would be provided to adequately serve project needs. In fact, by providing a public neighborhood park, private recreation areas, and walking trails, the proposed project would help alleviate the existing Countywide shortage of parkland because facilities throughout the County serve all communities. Therefore, no significant regional impacts would occur.

(3) State and Federal Recreation/Forests

It is anticipated that new residents of the project would use the local, state, and federal recreation areas and forests. As such, increased usage would be considered a potentially adverse impact. However, the State and National Forest facilities charge user fees for water sports and overnight camping at the reservoirs and camping areas. Additionally, state and federal taxes, which would be paid by residents and businesses located within the proposed project site, would be available for maintenance of these facilities. Consequently, as with regional and local off-site facilities, no significant state or federal parkland impacts would occur.

c. Impact to Trails

As discussed above, the Trails Plan includes a trail system providing access to the regional trail network, open areas and connections between living areas, shopping, work, entertainment, schools, and civic and recreational facilities.

New residents of the proposed project are expected to use the City of Santa Clarita's and the County's existing and proposed trail systems in the Santa Clarita Valley area as they are constructed. Anticipated use of the surrounding trails would increase the density of users on such trails once they are constructed. Once the project is completed, the trails would connect to those local and regional trails that would be in place at that time. The proposed bicycle trails are consistent with the City of Santa Clarita General Plan, Proposed Master Plan of Bikeways. Because the proposed trail alignments would provide linkages to local and regional trails, the proposed project is considered to have a beneficial impact on the local and regional trail system.

6. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The City of Santa Clarita Ordinance (State of California's Quimby Act) mandates that for each 1,000 residents in a new development project, 3 acres of parkland shall be dedicated, or the equivalent value of park improvements shall be constructed, or in-lieu fees shall be paid to the jurisdictional agency (in

this case, the City of Santa Clarita). A combination of the three actions are proposed to satisfy these requirements. The project includes a Recreation and Trails Plan (**Figure 4.12-4**); according to the Quimby Act, the applicant and the City would be required to reach an agreement on the types of improvements that would be made to the dedicated parkland prior to map approval.

4.12-1 Development of the Riverpark project will provide the following parks and open areas:

- a 29-acre active/passive park including 4-5 acres of improved park area, which will be dedicated to the City;
- three private recreation lots totaling 1.3 acres; and
- 440-acres of dedicated open space, 330.8 acres of which include the Santa Clara River Area.

4.12-2 The applicant will meet City parkland requirements by providing either the dedication of land, payment of in-lieu fees, or construction of park amenities, or a combination of the three as approved by the Director of Parks, Recreation and Community Services, prior to issuance of building permits.

7. MITIGATION MEASURES PROPOSED BY THIS EIR

The provision of parks and open areas for credit pursuant to the City Standards and the Quimby Act will occur as individual subdivision maps are processed in accordance with standard City practice.

4.12-3 Developer shall construct all trails and shall be in accordance with the City of Santa Clarita Department of Parks, Recreation & Community Services trail system standards.

4.12-4 The City of Santa Clarita shall receive ownership and/or easements of existing maintenance roads/trails and open space prior to easements provided to the Los Angeles County Flood Control District or others.

8. CUMULATIVE IMPACTS

Development occurring within the City of Santa Clarita and Los Angeles County will continue to increase the demand placed on City, state, County, and federal agencies for parks and recreation facilities. As of November 2002, the City of Santa Clarita has 590 less acres of local parkland than is

ideal.[16] This figure is derived from using the 3 acres per 1,000 persons requirement as identified in the City of Santa Clarita General Plan and Parks and Recreation Master Plan. This figure represents the ultimate goal for park acreage desired by the City. In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth expected to occur, in addition to that of the project, were predicted.

The "Santa Clarita Valley (SCV) Cumulative Build-Out Scenario" entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the City of Santa Clarita General Plan, plus the proposed project, plus all known pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.12-6, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario**.

Upon buildout of this scenario (without the proposed project), and using household figures required by the City of Santa Clarita, there would be a total population of 438,867 persons, which generates a demand for 1,316 acres of parkland. This figure is derived assuming 3 acres per 1,000 persons per the state requirements of the Quimby Act. Because the proposed project more than provides the park acreage required by the introduction of additional persons into the City, the project results in no additional demand for acres of parkland. In fact, the project would benefit the cumulative demand for parkland by providing the 29-acre natural park of which only an approximate 11-acres is required to serve the needs of the population generated by the proposed project. Therefore, cumulative impacts under this scenario would not exacerbate the current shortage of local parks, and would not be considered a cumulatively significant impact.

16 Telecommunication with Tom Reilly, Park Development Administrator, City of Santa Clarita, November 12, 2002.

Table 4.12-6
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single-Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,899,030 sq. ft.		19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		278,953 students
High School	12,843 students		12,843 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	493.3 ac	29 ac	522.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator
[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*
[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

9. CUMULATIVE MITIGATION MEASURES

There is a cumulative impact if the proposed project does not meet the Parkland Ordinance of the City of Santa Clarita. The City of Santa Clarita Ordinance (State of California's Quimby Act) mandates that for each 1,000 residents in a new development project, 3 acres of parkland shall be dedicated, or the equivalent value of park improvements shall be constructed, or in-lieu fees shall be paid to the City of Santa Clarita. A combination of the three actions may also be used to satisfy these

requirements. The proposed project meets the Quimby requirement; therefore, the proposed project does not contribute to cumulative parks and recreation impacts.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impact

The proposed project would include a 29-acre park, private recreation areas, a trail system and a large amount of open space. In light of the identified significance threshold, the project is in compliance with City and Quimby Act parkland standards and would not result in unavoidable significant impacts to local parks and recreation facilities. As indicated previously, the proposed project also includes the creation of a system of open space of substantial size, which is referred to as the Santa Clara River Area. This area includes the portions of the Santa Clara River that traverse the project site. Also included are areas adjacent to the river referred to as the "upland preserve zone". All totaled, these features occupy approximately 339 acres, or 49 percent of the project site. This feature of the project is considered to be an important local and regional recreational and scenic amenity of the project.

Implementation of the proposed project would include a multi-purpose trail connecting to the local and regional trail system. No negative project-related trail impacts would occur; thus, no unavoidable significant impacts are expected. In fact, implementation of the project, with its proposed trail network, would beneficially impact the developing regional trail network.

b. Cumulative Impact

There is a cumulative impact if the proposed project does not meet the Parkland Ordinance of the City of Santa Clarita. The proposed project meets the Quimby requirement; therefore, the proposed project does not contribute to cumulative parks and recreation impacts. Implementation of cumulative projects would incrementally increase demand for local park facilities in an area where such facilities are already below locally adopted standards. However, compliance with the mitigation outlined above would ensure that the proposed project and future projects meet the City and Quimby Act standards for local parks. This action would mitigate both the project's and future projects' demand for local parks, and no significant cumulative impact is expected.

4.13 FIRE SERVICES

1. SUMMARY

Fire protection and emergency medical response services for the project site and the surrounding area are provided by the Los Angeles County Fire Department. Eight fire stations and three fire camps provide fire protection services for the Santa Clarita Valley area. Fire Station 111, located at 26829 Seco Canyon Road is the jurisdictional company for the project site.[1] *Additional fire protection services would be provided by the closest available district response units. Paramedic services are also provided to the area by the Los Angeles County Fire Department and a franchise private ambulance company.*

The proposed project site is located in an area that has been designated as a Very High Fire Hazard Severity Zone (formerly called Fire Zone 4) by the County of Los Angeles Fire Department, which denotes the County Forester's highest fire hazard potential.

Fire service to the proposed project would be funded through payment of developer fees. Developer fees would be used to help fund construction of new facilities and additional equipment. In addition, tax revenues would provide for the operation and staffing of the fire stations. The proposed project would be required to meet County codes and requirements, which have been adopted by the City, relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. As a result, the project would not diminish the staffing or the response times of existing fire stations in the City of Santa Clarita, nor would it create a special fire protection requirement on the site that would result in a decline in existing service levels in the City. Therefore, with the inclusion of the mitigation measures, the proposed project would not have a significant project-specific or cumulative impact on fire protection services in the City of Santa Clarita.

2. INTRODUCTION

The following analysis of fire services is based on information provided by the County of Los Angeles Fire Department. The Fire Department maintains ultimate review and approval authority over aspects of the proposed development that relate to fire protection, and may identify further recommendations and/or requirements.

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1 Written correspondence, David R. Leininger, Acting Chief, Forestry Division, County of Los Angeles Fire Department, December 4, 2002 (**Appendix 4.13**).

3. EXISTING CONDITIONS

a. Fire Protection Services

Fire protection service is provided to the City of Santa Clarita by the County of Los Angeles Fire Department. The County of Los Angeles Fire Department is the commonly used name for the Consolidated Fire Protection District of Los Angeles County (Fire District or Department). The Santa Clarita Valley is supported by eight fire stations and three fire camps. The jurisdictional station for the project site is Fire Station 111, located at 26829 Seco Canyon Road in Santa Clarita. Additional fire protection services would be provided by the closest available district response units. Should a significant incident occur, the project site would be served by the resources of the Fire Department, not just the stations closest to the site or the eight that have primary jurisdiction within the Santa Clarita Valley.

The location of these stations is illustrated on **Figure 4.13-1**. A description of the operational characteristics of the stations closest to the site and, therefore, most likely to respond is provided below.

- Los Angeles County Fire Station 111 is located at 26829 Seco Canyon Road, approximately 0.6 miles from the intersection of Bouquet Canyon and Newhall Ranch Roads.[2] The station maintains one fire engine and one paramedic squad, and is supported by five firefighters, two of whom are paramedics. The response time from the station to the intersection of Bouquet Canyon and Newhall Ranch Roads is 1.7 minutes.[3]

- Los Angeles County Fire Station 126 is located at 26320 Citrus Street in Santa Clarita[4] and is approximately 1.1 miles from the intersection of Bouquet Canyon and Newhall Ranch Roads.[5] The station maintains one three-man engine and one four-man truck/quint. In addition, the Deputy Fire Chief and the Battalion Chief are housed at Fire Station 126.[6]

The Fire Department recently leased land to build a temporary fire station, Temporary Fire Station 104, that would provide service to the project site in addition to Stations 111 and 126.[7] A permanent site for Station 104 has not been identified as of the time of this writing. The Fire Department will

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2 Ibid.

3 Ibid.

4 Written correspondence, Loretta Bagwell, Planning Division, Los Angeles County Fire Department, August 5, 2003 (**Appendix 4.13**).

5 Written correspondence, David R. Leininger, Acting Chief, Forestry Division, County of Los Angeles Fire Department, December 4, 2002 (**Appendix 4.13**).

6 Written correspondence, Loretta Bagwell, Planning Division, Los Angeles County Fire Department, August 5, 2003 (**Appendix 4.13**).

7 Written correspondence, Loretta Bagwell, Planning Division, Los Angeles County Fire Department, July 22, 2003 (**Appendix 4.13**).

HASLEY CANYON RD

VALENCIA INDUSTRIAL CENTER

VALENCIA COMMERCE CENTER

CHIQUITA CANYON LANDFILL

MAGIC MOUNTAIN THEME PARK

VALENCIA CORPORATE CENTER

5

126

Fire Station 76

STANFORD

COPPER HILL DR.

RYE CANYON RD.

THE OLD ROAD

MAGIC MOUNTAIN PKWY.

VALENCIA BLVD.

ROCKWELL CANYON RD.

McBEAN PKWY.

STEVENSON RANCH PKWY

PICO CANYON RD

Fire Station 124

LYONS AVE

Fire Station 73

15th ST.

SAN FERNANDO RD.

DECORO DR.

SECCO CANYON RD.

Fire Station 111

HASKELL CANYON RD.

PLUM CANYON RD.

BOUQUET CANYON RD.

NEWHALL RANCH RD.

Fire Station 126

Santa Clara River

SOLEDAD CANYON RD.

PROJECT SITE

Fire Station 107

Approximately 4.3 miles from Site

Fire Station 104
(future temporary facilities)

SIERRA HWY.

14

LEGEND

Existing Fire Station

Future Temporary Fire Station

No. 73 - 4875 N. San Fernando Road
No. 76 - 27223 Henry Mayo Drive
No. 104 - Golden Valley Road South of Redview Drive (future temporary)
No. 107 - 18239 W. Soledad Canyon Road
No. 111 - 26829 Seco Canyon Road
No. 123 - 226321 N. Sand Canyon Road
No. 124 - 25111 Pico Canyon Road
No. 126 - 26320 Citrus Street

n

NOT TO SACLE

SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **4.13-1**

Fire Station Locations

112-16•08/03

continue to look for a site for the permanent fire station within the same vicinity as the temporary station. A description of Temporary Fire Station 104 is provided below:[8]

- Los Angeles County Fire Station 104 will be temporarily located on Golden Valley Road south of Redview Drive, approximately 3.4 miles from the intersection of Bouquet Canyon and Newhall Ranch Roads. The station will maintain a minimum of one fire engine supported by three firefighters. Actual staffing will be determined when the fire station is under construction. The response time from the station to the intersection of Bouquet Canyon and Newhall Ranch Roads is 11 minutes.

The Fire Department also maintains three fire camps with three fire crews, which include County jail inmate teams of 12 to 15 fire laborers. These camps are located in San Francisquito Canyon and Soledad Canyon, and at the Peter Pitchess Honor Rancho. An additional County non-inmate crew of eight to 10 members provides wildland fire fighting protection for the Santa Clarita Valley area.

Additional manpower, equipment and facilities are presently needed in the project area.[9] The Fire Department has expressed an existing need for a fire station east of the project site, or possibly on the project site, to serve the community.[10] Upon a close review of the need for potential fire station sites, including a station site on the project site, the Fire Department has decided to wait for a fire station site more easterly of the project site on Soledad Canyon Road.[11].

The level of service provided to areas within the district is determined by the Fire Department. Nationally recognized response time targets for urban area are five minutes for a basic life support unit (engine company) and eight minutes for an advanced life support unit (paramedic squad). The Fire Department is currently meeting these standards.[12] The average response time in the City of Santa Clarita during 2003 was five minutes and 43 seconds.[13] It should be noted that the City encompasses rural and undeveloped areas as well as urban areas.

The Fire Department annually updates their Five-Year Capital Plan. This plan identifies anticipated facilities that would be constructed during the five-year planning horizon. Funding used for land acquisitions, facility improvements, and partial funding of new equipment is generated through the

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8 Ibid.

9 Written correspondence, David R. Leininger, Acting Chief, Forestry Division, County of Los Angeles Fire Department, December 4, 2002 (**Appendix 4.13**).

10 Ibid.

11 Written correspondence, Debbie Aguirre, Planning Division, Los Angeles County Fire Department, June 13, 2003 (**Appendix 4.13**).

12 Written Correspondence, David R. Leininger, Acting Chief, Forestry Division, Los Angeles County Fire Department, December 4, 2002 (**Appendix 4.13**).

13 Telephone communication with Danny Kolker, Planning Analyst, Planning Division, Los Angeles County Fire Department, February 5, 2004.

Fire Department's Developer Fee Program, and funding used for increases in staffing is generated from local property taxes. Effective June 1, 2003, the fee collected will be 0.37 per square foot of new development (includes all land uses) which is collected at the time building permits are issued. The applicant is required to pay fees under the County Fire Department Developer Fee Program for land and construction of fire stations, and the full cost of fire fighting equipment. This fee, or an in-lieu donation, constitutes mitigation in full of growth impacts.[14]

b. Wildland Fire Hazard Potential

The Fire Department designates lands in the county in regards to their potential for wildland fire hazards. These designations are made by the County Forester, and are based on criteria, including an area's accessibility, amount and type of vegetative cover, water availability, and topography. The two designations used by the Fire Department are Moderate Fire Hazard Zone and Very High Fire Hazard Severity Zone. Areas within the County not designated as either a Moderate Fire Hazard Zone or Very High Fire Hazard Severity Zone are not considered to be subject to wildland fire hazards. The differences between Moderate Fire Hazard Zone and Very High Fire Hazard Severity Zone designations are relatively minor, in that one or more of the four criteria (access, topography, vegetation, and water) may pose less of a constraint in Moderate Fire Hazard Zone than in the Very High Fire Hazard Severity Zone. Additionally, the Very High Fire Hazard Severity Zone has more restrictive building requirements than the Moderate Fire Hazard Zone, and is considered to be the most severe fire zone.

The Fire Department has designated the project site as a Very High Fire Hazard Severity Zone. The Fire Department indicated that this designation is taken from County fire maps. Characteristics of the project site which contributed to this designation include: (a) access, (b) lack of adequate water supplies, (c) topography, and (d) vegetative cover. There is varied topography, including slopes of greater than 15 percent, on the project site.

The Very High Fire Hazard Severity Zone typically has the following vegetation types: chaparral, coastal sage, riparian, and oak woodlands vegetation communities. Wildland fires are relatively common occurrences in these plant communities, which include but are not limited to ceanothus, chamise, sumac, sages, and wildland grasses, and are similar to the types found in Santa Clarita Valley and surrounding areas. These plant species have adapted to periodic wildland fire conditions, and maintain a healthy ecosystem in the regional vicinity. These plant communities pose the greatest

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14 Written Correspondence, David R. Leininger, Acting Chief, Forestry Division Los Angeles County Fire Department, December 4, 2002 (**Appendix 4.13**).

threat to expanding urban development due to their high combustibility and their dense biomass. However, in the areas where these plant communities border urban development, the frequency of fire events may be diminished as a result of fire prevention and fire suppression activities. Fire prevention activities include prescribed burns, vegetation thinning/removal, and creation of buffer zones; whereas fire suppression involves measures which control fires once they have started (i.e., fuel breaks, use of fire fighting equipment, etc.).

Typically, during the spring months vegetation begins to lose its moisture content, and by the summer and fall when Santa Ana wind conditions begin to occur, wildland fire conditions become extremely high. Historically, large fires tend to burn these areas every 20 to 25 years. The County Forester has indicated that wildland fire events have occurred in the regional area. When chaparral and coastal sage growth is younger, they are more succulent, with little or no dead or dying branches, provide less horizontal fuel continuity, have a higher average fuel moisture content, and as a result are usually more fire retardant. As these plant species reach 20 or more years, the dead to live fuel ratio increases creating more available fuel to carry fire with very high intensities and energy releases. Generally, fire prevention for urban development in wildland fire hazard areas focuses on restricting the types of building materials used, building design, and incorporating setbacks. Development within the Very High Fire Hazard Severity Zone is required to meet the building construction requirements specified in the City's Building and Safety Code.

c. Fire Codes and Guidelines

The availability of sufficient on-site water pressure is a basic requirement of the Fire Department. The Fire Department requires sufficient capacity for fire flow for public hydrants at residential locations of 1,250 gallons per minute (gpm) at 20 psi residual pressure for a two-hour duration for single-family residential and 5,000 gallons per minute (gpm) at 20 psi residual pressure for a five-hour duration for high-density residential.[15] The required fire flow for commercial public fire hydrants is 5,000 gpm at 20 psi residual pressure for a five-hour duration.[16] These rates are determined based upon square footage of proposed structures.

The Santa Clarita Water Company has stated their ability to provide adequate fire flows in addition to meeting domestic demands.[17]

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15 Written correspondence, David R. Leininger, Acting Chief, Forestry Division, County of Los Angeles Fire Department, November 12, 2002 (**Appendix 4.13**).

16 Ibid.

17 SB 610 Water Supply Assessment for the Riverpark Project, August 7, 2003, prepared by the Santa Clarita Water Division of the Castaic Lake Water Agency (**Appendix 4.8**).

Due to the relatively high fire hazard potential which exists in the Very High Fire Hazard Severity Zone, development within these areas is subject to various governmental codes, guidelines, and programs which are aimed at reducing the hazard potential to acceptable levels. The County of Los Angeles has prepared Fuel Modification Plan Guidelines, which set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel modification planning and help reduce the threat of fires in high hazard areas.[18] Per Section 1117.2.1 of the County Fire Code: "A fuel modification plan, a landscape plan and an irrigation plan…shall be submitted with any subdivision of land or prior to any new construction…where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code." A fuel modification plan identifies specific zones within a property which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought tolerant, fire resistant plants. The City has adopted the County Fire Code.

d. Current Site Conditions

Except for major site grading for water utilities between 1989 and 1994, the majority of the site has been generally undeveloped land. There are pipeline and utility corridors across the site. Currently, the site is occupied by a construction company office housed in a temporary trailer, a temporary storage building, a maintenance building, and a storage yard. The construction company buildings currently on-site occupy approximately 5,566 square feet. The buildings are located in a small valley in the central portion of the northern half of the site. This portion of the site was previously occupied by Los Angeles Fire Camp 4. The camp buildings were last occupied by the Saugus Unified School District until the buildings were demolished in 1995. Since 1985, the agricultural operations on the project site have been limited to dryland farming, primarily hay crops and, during various seasons, beekeepers work on the site.

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18 Fuel Modification Plan Guidelines for Projects Located in Fire Zone 4 of Very High Fire Hazard Severity Zones, County of Los Angeles Fire Department, Prevention Bureau, Forestry Division, Brush Clearance Section, Adopted January, 1998.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines reference that a project would adversely impact fire protection services when it would result in:

- substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Additionally, based upon the Los Angeles County Fire Code, the proposed project would create a significant threat to the safety of future residents and users of the project site if the project site:

1) is located in a high fire hazard area (such as Very High Fire Hazard Severity Zone);
2) is in a high fire hazard area, and is served by inadequate access due to length, width, surface material, turnarounds, or grade of access roads;
3) is in a high fire hazard area and has more than 75 dwelling units on a single means of access;
4) is located in an area having inadequate water and pressure to meet fire flow standards;
5) is located in close proximity to potential dangerous fire hazard conditions or uses such as refineries, storage of flammable materials, or explosives manufacturing.

b. Proposed Improvements

As proposed, the project would involve the development of 744 apartments and 439 single-family homes, for a total of 1,183 dwelling units, and 40,000 square feet of commercial retail uses. A 29-acre active/passive park is proposed along the Santa Clara River. Approximately 300 acres of river area will remain in a natural state with the exception of the proposed construction of the Newhall Ranch Road/Golden Valley Road Bridge, bank stabilization and toe protection.

c. Construction-Related Impacts

Currently, the project site is undeveloped and does not have fire hydrants or water mains serving the site. Unimproved dirt roads extend onto the project site; however, these roads would not meet fire equipment access standards. Due to the lack of fire equipment access and water lines providing fire

flows on the project site, construction activities would have a significant impact on fire protection without mitigation.

However, proposed mitigation requires that brush clearance be conducted prior to initiation of construction activities, adequate water be available to service construction activities, and that all construction-related requirements of the Fuel Modification Plan, landscape plan and irrigation plan, all as approved by the Fire Department, be fulfilled. As the proposed project builds out, construction would also be required to comply with all applicable Building and Fire Code requirements for such items as types of roofing materials, building construction, brush clearance, water mains, fire hydrant flows, hydrant spacing, access and design, and other hazard reduction programs for Very High Fire Hazard Severity Zone, as set forth by the County Forester and Fire Warden.

With mitigation, there would be no significant project construction impacts.

d. Operational Impacts

Over the three to four-year buildout of the project site, development would involve the construction of 1,183 dwelling units and 40,000 square feet of commercial retail uses. The Fire Department serves the project site from Station 111, located 0.6 miles from the intersection of Bouquet Canyon and Newhall Ranch Roads.

The operational phase of the proposed project would not present special fire protection problems; however, the intensification of land uses combined with the increase in human activity on the project site would result in an increase in fire hazards and other associated needs for fire protection services, including paramedic services. The Fire Department has stated that no fire station is required for development mitigation for this project.[19] Based on a preliminary review of the proposed project, the Fire Department has determined that additional manpower, equipment, and facilities would be needed to serve the proposed project in order to maintain adequate staffing and response times.[20] As noted above, additional manpower, equipment and facilities are needed in the project area now, and the Fire Department has expressed an existing need for a fire station in this area on Soledad Canyon Road easterly of the project site.[21] The proposed project would exacerbate the need. Without additional Fire Department staffing, equipment and facilities, this development would decrease the existing level

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19 Written correspondence, Wally Collins, Inspector, County of Los Angeles Fire Department, Land Development Unit, Fire prevention Division, September 3, 2003 (**Appendix 4.13**).

20 Written Correspondence, David R. Leininger, Acting Chief, Forestry Division Los Angeles County Fire Department, December 4, 2002 (**Appendix 4.13**).

21 Written correspondence, Debbie Aguirre, Planning Division, Los Angeles County Fire Department, June 13, 2003 (**Appendix 4.13**).

of service of the Fire Department in the City and would result in a significant impact to fire services if not mitigated.

In response to increasing demands for new facilities, equipment, and staffing created by new development, the County of Los Angeles has implemented a Developer Fee Program to fund the purchase of station sites, the construction of new stations, and the funding for new equipment. The Developer Fees, which are currently $0.37 per square foot of new development (all land uses), are adjusted annually by the County in order to maintain adequate levels of service and are collected at the time building permits are issued. It is expected that fees collected from the project applicant would adequately fund fire service to the proposed project. This fee, or an in-lieu donation, constitutes mitigation in full of growth impacts, if access and response times to the east end of the project site are found to be adequate.[22] In addition, tax revenues would provide for the operation and staffing of the fire stations. Finally, the project would be required to meet City/County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. As a result, operation of the project would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, and would not create a special fire protection problem on the site that would result in a decline in existing services levels in the Valley.

e. Wildland Fire Hazards

Development of the proposed project would result in the construction of residential uses in areas that have been designated as Very High Fire Hazard Severity Zone. The Fire Department indicated that this designation is taken from County Fire Maps. Characteristics of the project site which contributed to this designation include: (a) access, (b) lack of adequate water supplies, (c) topography, and (d) vegetative cover. An analysis of the site's fire hazard potential relative to these three factors is presented below.

Access: Access to the project site would be provided from several major access points. The proposed Santa Clarita Parkway would bisect the site and eventually provide access from the north. Newhall Ranch Road would continue to provide access from the west from Bouquet Canyon Road. Newhall Ranch Road would be extended so that it transverses the northerly portion of the site and exits the site in the southeast, where it would connect with Golden Valley Road near Soledad Canyon Road. County/City code requirements specify that no more than 75 dwelling units can be built on a single

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22 Written Correspondence, David R. Leininger, Acting Chief, Forestry Division Los Angeles County Fire Department, December 4, 2002 (**Appendix 4.13**).

means of access within the project area. However, given the particular circumstances of the project proposal, the Fire Department has approved one exception to that requirement, permitting 78 units off of a single means of access in Area A2.[23] The internal circulation system for the project would be consistent with City and County standards regarding access (i.e., roadway widths, length of single access streets, cul-de-sac dimensions, and street parking restrictions, etc.; see **Section 4.3, Traffic/Access**, for more information). The project would comply with all circulation and access requirements imposed upon the project by the Fire Department. Consequently, no significant vehicular access-related impacts are expected to occur as a result of project implementation.

Water Supply: The proposed water system for the project would provide water service for domestic and non-domestic uses (see **Section 4.8, Water Services**, for further information). This system would also provide water supplies sufficient to support fire suppression activity in the event of wildland or structural fires. The proposed water supply system would include water mains and fire hydrants, and the provision of fire flows to meet County standards. Given that a long-term source of water must exist for the project prior to the issuance of building permits, and that a water supply system is proposed which would meet County fire flow requirements, no significant water-related fire hazards would occur.

Topography: Topography across the Riverpark site varies and includes the Santa Clara River, terraces above the river, relatively flat graded and disked areas, and gently to steeply sloping hillsides. Elevation at the project site ranges from approximately 1200 feet to 1620 feet above mean sea level. Without mitigation, impacts due to topography could be significant. The project would be required to meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. Consequently, no significant impacts with regard to vegetative cover would occur.

Vegetative Cover: The project site is adjacent to limited areas with moderate to heavy vegetative cover. The plant communities that make up this cover are highly combustible and, without mitigation, would present a high fire hazard to development in these areas, which would be a significant impact because development in these areas would pose a special fire protection problem. As development of the project site occurs, fire hazards associated with the natural vegetative cover would be eliminated due to the replacement of this cover with urban landscape vegetation, which is irrigated and less combustible than the existing vegetation. The potential for wildland fire hazards would still exist at the wildland/urban interface due to: (1) vacant and/or limited development to the northeast, (2)

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23 Written correspondence, Wally Collins, Land Division Unit, County of Los Angeles Fire Department, September 3, 2003 (**Appendix 4.13**).

increased human activity, and (3) the potential for fires due to accidental and arson-related causes. Without mitigation, such impacts could be significant. The project would be required to meet City/County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. This includes preparation of a Fuel Modification Plan, landscape plan and irrigation plan. Consequently, no significant impacts with regard to vegetative cover would occur.

In conclusion, the jurisdictional station for the project site is Fire Station 111, located at 26829 Seco Canyon Road in Santa Clarita. Additional fire protection services would be provided by the closest available district response units. Fire service to the project would be funded through payment of Developer Fees. It is expected that fees collected from the project applicant would adequately fund fire service to the proposed project. This fee, or an in-lieu donation, constitutes mitigation in full of growth impacts, if access and response times to the east end of the project site are found to be adequate. In addition, tax revenues would provide for the operation and staffing of the fire stations. The project would be required to meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. Given compliance with all proposed mitigation measures and state, City and County requirements, the project would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing services levels in the Valley. Therefore, given the significance criteria presented in this EIR section, operation of the project with mitigation would not have a significant impact on fire protection services in the Santa Clarita Valley.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

4.13-1 All proposed development on the site must comply with applicable state, City and County code and ordinance requirements.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

To mitigate its potential significant impacts, the project must comply with the following measures:

4.13-2 Concurrent with the issuance of building permits, the applicant shall either participate in the Developer Fee Program or make an in-lieu donation to the satisfaction of the County of Los Angeles Fire Department.

4.13-3 The project shall prepare a Fuel Modification Plan, landscape plan and irrigation plan as required for projects located with a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the County Fire Department prior to final map clearance. The Fuel Modification Plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. The fuel modification plan shall not conflict with the revegetation plan as directed in **Section 4.6, Biological Resources**.

4.13-4 The project shall provide water mains, fire hydrants and fire flows as required by the County of Los Angeles Fire Department, for all land shown on the map which shall be recorded.

4.13-5 Brush clearance shall be conducted prior to initiation of construction activities in accordance with Fire Department requirements.

4.13-6 Additional access requirements may be needed during the building construction process.

4.13-7 Adequate water availability shall be provided to service construction activities.

4.13-8 Installation of 79 public and 24 private on-street fire hydrants is required. The required fire flow for 20 public fire hydrants located on Newhall Ranch Road, adjacent to Area C and Area D, is 5,000 gpm at 20 psi for five hours with three fire hydrants flowing. Fifty-nine public fire hydrants are required to be installed on all other streets, including Newhall Ranch Road, as indicated on the Tract Map. The required fire flow is 1,250 gpm at 20 psi for two hours with one fire hydrant flowing. Twenty-four on-site fire hydrants are required within Area C and Area D. The required fire flow is 2,500 gpm at 20 psi for two hours with two fire hydrants flowing simultaneously.

4.13-9 Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested and accepted or bonded prior to construction. All hydrants shall measure 6 inches by 4 inches x 2-1/2 inches brass or bronze, conforming to current AWWA standard C503 or approved equal. All on-site hydrants shall be installed a minimum of 25 feet from a structure or protected by a two-hour rated firewall. These hydrants shall be located as per the Vesting Tentative Tract Map on file with the Fire Department.

4.13-10 Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures.

4.13-11 Access shall comply with Section 902 of the Fire Code, which requires all weather access. All weather access may require paving.

4.13-12 All private gates shall comply with Regulation 5 of the Fire Code. Prior to approval of the Tentative Tract Map, the applicant shall receive approval of the gates from the Los Angeles County Fire Department.

4.13-13 All fire lanes must not be less than 26 feet paved width (clear to sky and unobstructed) and posted and red curbed "NO PARKING - FIRE LANE".

4.13-14 The trail system shall provide adequate access for emergency vehicles.

4.13-15 Where driveways extend further than 300 feet and are of single access design, turnarounds suitable for fire protection equipment use shall be provided and shown on the final map. Turnarounds shall be designed, constructed, and maintained to insure their integrity for Fire Department use. Where topography dictates, turnarounds shall be provided for driveways that extend over 150 feet in length.

4.13-16 Private driveways shall be indicated on the final map as "Private Driveway and Fire Lane" with the widths clearly depicted and shall be maintained in accordance with the Fire Code.

4.13-17 Provide Fire Department or City approved street signs and building access numbers prior to occupancy.

4.13-18 Additional access requirements include:

- A second means of access is required prior to the construction of the 501st dwelling unit. The number of dwelling units includes all single-family homes, and all units within the apartments and town-homes.

- Temporary turn-arounds are required for the end of Newhall Ranch Road and the end of Santa Clarita Parkway. The turn-arounds shall be either a cul-de-sac bulb with a 32-foot center line or a hammer-head design, which would be posted and red curbed "NO

PARKING - FIRE LANE". These temporary turn-arounds are required to stay in place until the bridges have been completed and are opened to an existing street.

- All streets with center medians shall have a minimum paved width of 20 feet on each side of the median, with street posted and red curbed "NO PARKING - FIRE LANE".

- Street widths for this project shall conform to the widths indicated on the cross-section on this Vesting Tentative Tract Map. All street widths shall be measured from the curb flow line to curb flow line.

- The traffic circle at the end of N Street is approved. The area surrounding the traffic circle shall be posted and red curbed "NO PARKING - FIRE LANE".

- Due to N Street extending greater than 700 feet in length, N Street shall have a minimum street width of 36 feet, curb-flow-line to curb-flow-line, not 34 feet as indicated on the map. Provide four revised copies of this page only of the Tract Map indicating this correction. This is required to be submitted to the Land Development Unity prior to any approvals of this Tract Map.

- For on-site access in Area C and Area D, provide a minimum unobstructed driveway width of 28 feet, clear-to-sky posted and red curbed "NO PARKING - FIRE LANE". Each turning radius shall be 42 feet from the center line.

7. CUMULATIVE IMPACTS

Increases in development in the project vicinity, including the project, could result in an increase in the average response time for fire protection services, particularly for non-emergency calls. There would be a cumulative impact on fire services if the proposed project and other projects failed to implement mitigation measures reducing impacts. However, such mitigation is required, and impacts resulting from new development would be reduced by compliance with state, City and County fire codes, standards and guidelines, and incorporation of project-specific mitigation measures to reduce fire protection impacts to a less than significant level, similar to the proposed project but dependent upon each site specific requirements. Moreover, increased cumulative development demands would be met by increases in staffing and equipment, which would be funded by developer fees and increased taxes paid by new development. Therefore, cumulative impacts on fire protection are considered to be less than significant.

8. CUMULATIVE MITIGATION MEASURES

As no cumulative impacts have been identified with the development of the project, no mitigation measures are required.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

With implementation of the above identified project mitigation measures, impacts associated with fire services would be reduced to below a level of significance. No unavoidable significant project impacts are anticipated.

b. Cumulative Impacts

There would be a cumulative impact on fire services if the proposed project and other projects failed to implement mitigation measures to reduce impacts. However, increased cumulative development demands would be met by increases in staffing and equipment, which would be funded by developer fees and increased taxes paid by new development; therefore, no unavoidable significant cumulative impacts related to fire services would occur as a result of the proposed project and cumulative development.

4.14 SHERIFF SERVICES

1. SUMMARY

Primary police protection service for the project site and the surrounding unincorporated Santa Clarita Valley area is provided by the County of Los Angeles Sheriff's Department Santa Clarita Valley Substation. The County Sheriff also provides protection services to the City of Santa Clarita under a contract between the two agencies. Additionally, the Department of California Highway Patrol provides traffic regulation enforcement; emergency incident management; and service and assistance on Interstate 5 (I-5), State Route 126 (SR-126), State Route 14 (SR-14), and other major roadways in the unincorporated portions of the Santa Clarita Valley area. The level of Sheriff's Department protection service in the City of Santa Clarita is considered adequate. The California Highway Patrol (CHP) protection service in the City of Santa Clarita is considered adequate.

Implementation of the project would increase the demand for police protection and traffic-related services on the project site and the local vicinity in terms of personnel and equipment needed to adequately serve the project site at buildout. The project would require the services of four additional sworn officers. The project would generate revenue for the City of Santa Clarita through property taxes, sales taxes, users taxes, fees, and assessments. Although the project would increase demands for Sheriff's services, these service demands can be met through the allocation of funding by the City to the Sheriff's Department generated by the project as it builds out, which occurs through the normal contractual procedures followed by the two parties; therefore, no significant impacts to the Sheriff's Department would be created by the project.

New resident and daytime populations at the project site would be subject to the same potential hazards as existing City residents. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all Valley residents and employees. Therefore, no significant impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

The project would also increase demands for CHP services in the project area. Through increased revenues generated by the project as it builds out (via motor vehicle registration fees paid by new on-site residents and businesses), funding for additional staffing and equipment would be available to the CHP and could be allocated by CHP Headquarters in Sacramento to the Santa Clarita Valley station to meet future demands. Therefore, no significant project-related impacts on the CHP are anticipated.

The cumulative impact of the project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project, was also assessed. The Sheriff station that serves the City of Santa Clarita operates at an adequate level. The addition of funding and officers as a result of cumulative development will result in continued adequate service. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all Valley residents and employees, and that no significant cumulative impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster. The CHP currently provides adequate service in the Santa Clarita Valley. Funding for additional CHP staffing and equipment would be available to the CHP through increased revenues generated by cumulative development projects as they build out and could be allocated by CHP Headquarters in Sacramento to the Santa Clarita Valley station to meet future demands. Therefore, no significant cumulative impacts on the CHP are anticipated.

2. INTRODUCTION

The following analysis of police services is based on information provided by the Sheriff's Department and CHP. The Sheriff's Department maintains ultimate review and approval authority over aspects of the proposed development that relate to police protection, and may identify further recommendations and/or requirements.

3. EXISTING CONDITIONS

a. Los Angeles County Sheriff's Department

The Santa Clarita Valley Station of the County of Los Angeles Sheriff's Department is responsible for providing general law enforcement to the City of Santa Clarita under the provisions of a contract between the two agencies. As **Figure 4.14-1, Sheriff Station Location**, illustrates, this station is located near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway in Valencia, which is approximately 3 to 4 miles from the project site.[1]

The Santa Clarita Valley Sheriff Station is responsible for providing general law enforcement to the project area. The Sheriff station maintains a staff of 178 sworn officers, and serves an area of 656 square miles and a population of approximately 200,000 (including the City itself). Equipment and services provided to the City through the station include 24-hour designated County cars, helicopters, search and rescue, mounted posse, and emergency operation centers.

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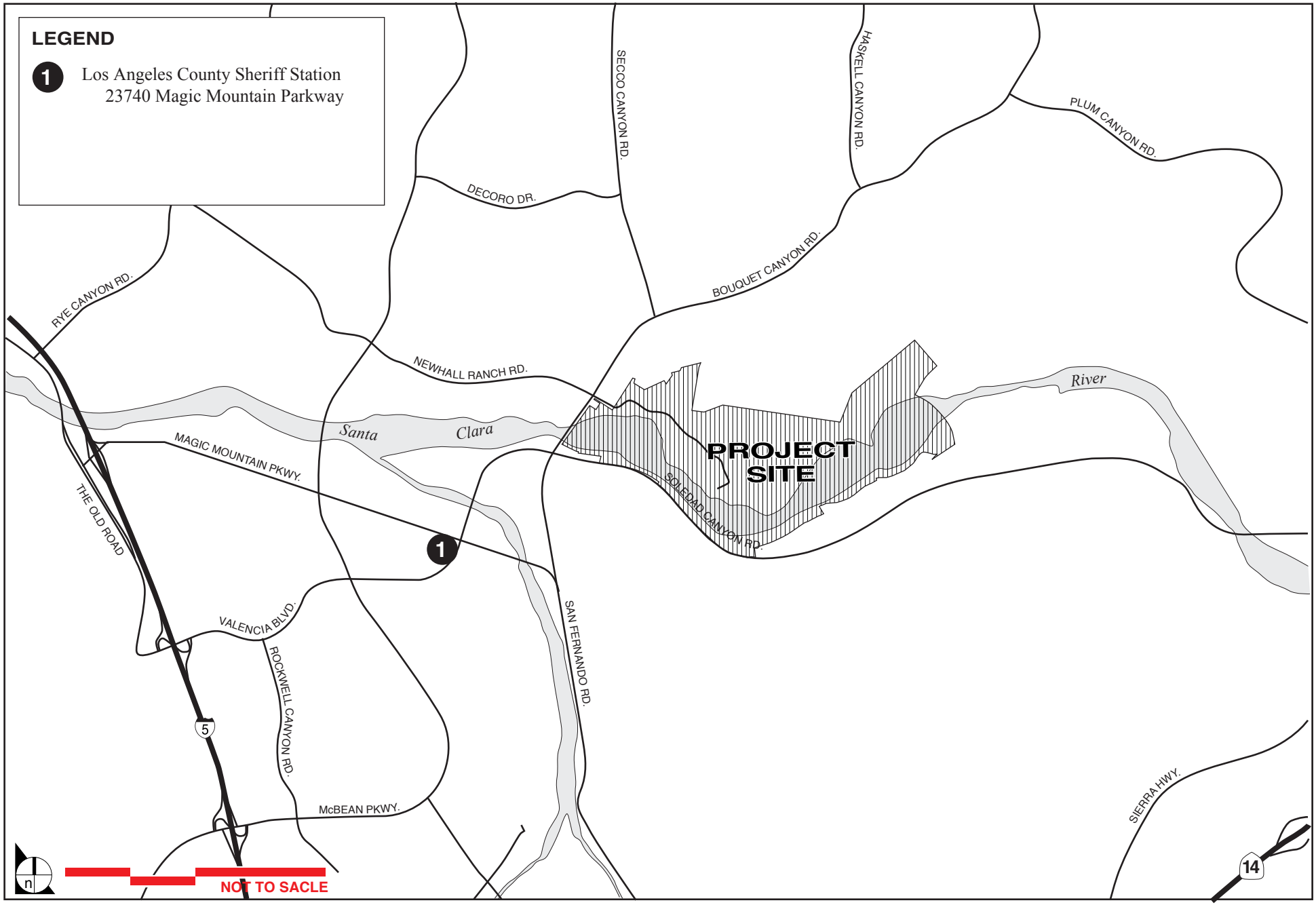
1 Correspondence from Captain Patti A. Minutello, County of Los Angeles Sheriff's Department, Santa Clarita Valley Station, November 21, 2002 (**Appendix 4.14**).



SOURCE: Impact Sciences, Inc., November, 2002.

FIGURE **4.14-1**

Sheriff Station Location

The performance standards for the police services program as outlined in the City's 2002-2003 budget include:

- Develop and implement a marketing plan to enhance the perception of the quality services provided by the City of Santa Clarita Valley's Sheriff's Department to the residents of the City;
- Work closely with community groups, individuals and other governmental organizations to define, develop and apply Community-based policy solutions to crime and quality-of-life problems in the Santa Clarita Valley; and
- Develop a civilian bicycle patrol team as part of our commitment to Community Based Policing.

The Sheriff's Department has an ideal population ratio of 1 deputy per 1,000 residents.[2] With current staffing of 161 sworn deputies currently assigned, the existing ratio is 1 deputy per 1,223 residents.[3]

The Sheriff's Department has established an optimal response time for services of 10 minutes or less for emergency response incidents (a crime that is presently occurring and is a life or death situation), 20 minutes or less for priority (immediate) incidents (a crime or incident that is currently occurring but which is not a life or death situation) and 60 minutes or less for routine (non-emergency) responses (a crime that has already occurred and is not a life or death situation).[4] These response times represent the range of time required to handle a service call, which is measured from the time a call is received until the time a patrol car arrives at the incident scene. Response time is variable particularly because the nearest responding patrol car may be located anywhere within the station's patrol area, and not necessarily responding from the station itself. The Sheriff's Department currently has a response time to the project site for emergency calls of approximately 5 to 8 minutes, immediate (now called priority) response time of approximately 8 to 10 minutes, and routine (non-emergency) calls take approximately 40 to 50 minutes.[5] These response times are approximations only, and would be dependent on both the deployment of area radio cars and traffic conditions.[6] Therefore, response times to the project site are within the optimal response times as defined by the Sheriff's Department. It is important to note that due to the current largely undeveloped state of the project site, emergency and non-emergency calls to the project site are rare and are primarily related to motorcycle accident responses.[7] Currently, the only buildings on site are construction company buildings totaling approximately 5,566 square feet. The

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2 Ibid.

3 Ibid.

4 Telephone interview with Terri Beatty, Regional Allocation Police Services (RAPS) Coordinator, County of Los Angeles Sheriff's Department, Santa Clarita Valley Station, August 5, 2003.

5 Correspondence from Captain Patti A. Minutello, County of Los Angeles Sheriff's Department, Santa Clarita Valley Station, November 21, 2002 (**Appendix 4.14**).

6 Ibid.

7 Telecommunication, Deputy Patrick Rissler, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, November 7, 2002.

buildings are located in a small valley in the central portion of the northern half of the site. Since 1985, the agricultural operations on the project site have been limited to dry land farming, primarily hay crops and, during various seasons, beekeepers work on the site.

The Sheriff's Department also conducts Search and Rescue operations through its Santa Clarita Valley station. Search and Rescue operations conducted by the Sheriff's Department are generally conducted in mountainous terrain (i.e., downed plane or lost hikers). The Santa Clarita Station Search and Rescue team uses the station's helicopter and has access to the Antelope Valley station's helicopter. Mutual aid exists with other Search and Rescue teams located both within and outside of Los Angeles County, and is organized through the State's Office of Emergency Services. Search and Rescue operations are funded through the Reserve Forces Bureau and private sources. Urban search and rescue operations, (i.e., rescues from building collapse), are performed by the County Fire Department.

A vesting contract between the City of Santa Clarita and the County of Los Angeles provides Sheriff services for law enforcement services within City boundaries. The agreement between the two parties is renewable for successive periods of five years each. The current contract between the City of Santa Clarita and the County of Los Angeles will expire on June 30, 2004. Funding for the Sheriff's Department in the City is provided by the City under the terms of the vesting contract. The rates of service provided in the contract are readjusted by the County-Auditor-Controller annually on July 1 to reflect amendments to County salaries and employee benefits. The City of Santa Clarita allocated 10 percent ($11,651,389.00) of its 2002-2003 annual operating budget to police services. Consequently, because of contractual agreements between the City and County of Los Angeles, optimal response times to the project site are within acceptable time frames as defined by the Sheriff's Department.

b. State Emergency Response/Evacuations Plans

After the 1993 Oakland fire, the State of California passed legislation authorizing the State's Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program which sets forth measures by which a jurisdiction handles emergency disasters. By December 1996, each jurisdiction was required to show the Office of Emergency Services that it is in compliance with SEMS through a number of measures, including having an up-to-date emergency management plan, which would include an emergency evacuation plan. Non-compliance with SEMS can result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

The California Office of Emergency Services coordinates an emergency organizational network of local Emergency Operations Centers (EOCs) in the state's cities, regional EOCs within each county, and the

California Office of Emergency Services. The regional office of the California Office of Emergency Services is located in Los Alamitos, and the Los Angeles County's EOC is located in downtown Los Angeles. The County Office of Emergency Management has prepared the County's Multi-Hazard Functional Plan, which details the coordination of County agencies during and after a catastrophic event and establishes the framework for the mutual aid agreements with the CHP, and federal, state, and other local governments in the region. It also serves as the emergency management plan (including emergency evacuation plan) for the entire County. The Los Angeles County Board of Supervisors adopted a revised plan on February 17, 1998.

Funding for the Office of Emergency Services is primarily from the State General Fund, while other funding may come from the Federal Government's Federal Emergency Management Act and other sources. Funding is used two ways. The first is for public assistance in the event of a disaster. The second is for hazard mitigation to avert a potential disaster.[8]

c. City Emergency Response/Evacuation Plans

The City of Santa Clarita is in compliance with SEMS and is responsible for emergency operations within City boundaries.[9] The Santa Clarita City Manager is the Director of Emergency Services for the City.[10] The primary emergency operations center for the City of Santa Clarita is City Hall, located at 23920 Valencia Boulevard. A secondary emergency operations center (should City Hall be unavailable) is the City's Corporate Yard facility, located at 25663 Avenue Stanford in the Valencia Industrial Center.

The City of Santa Clarita serves as the EOC for the Santa Clarita Valley area. The Santa Clarita EOC works in cooperation and coordination with local and regional offices of the California Office of Emergency Services and the Los Angeles County Fire and Sheriff's Departments to coordinate community action in the event of a disaster, such as fire suppression, search and rescue, evacuation, post-disaster safety inspections, and clean-up efforts in its service area, which includes the City of Santa Clarita. The City's EOC can be entirely self-sustaining during disaster operations.[11]

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8 Telephone interview with Donna Nuzzi, Emergency Services Coordinator, City of Santa Clarita, November 20, 2002.
9 Ibid.
10 Ibid.
11 Ibid.

d. California Highway Patrol

The CHP provides traffic regulation enforcement for unincorporated Santa Clarita Valley and surrounding areas from its station located at 28648 The Old Road, near the interchange of I-5 and SR-126. The CHP patrols a service area of approximately 700 square miles, which includes I-5, SR-126, SR-14, and all unincorporated areas and roadways. This service area extends westerly to the Ventura County line, east to Agua Dulce, north to SR-138 (and along SR-138 to Avenue 22 East), and south to SR-118.

The primary responsibility of the CHP is to patrol State Highways and County roadways in the previously identified service area, enforce traffic regulations, respond to traffic accidents, and to provide service and assistance for disabled vehicles. In the Santa Clarita Valley area, the CHP maintains a Mutual Aid Agreement with the Los Angeles County Sheriff's Department.

The Newhall CHP area is staffed by 73 uniform and 9 non-uniform personnel.[12] The Los Angeles and Orange County areas are served on a limited basis by a helicopter and a fixed wing aircraft based at Fullerton Airport. There are currently no plans to centrally base a helicopter to service the Los Angeles County Basin. Plans to centrally base two helicopters to service the Los Angeles County Basin in mid 2003 were cancelled due to budget constraints.[13] From April 2001 through March 2002, the CHP responded to approximately 88,479 calls/contacts in its service area, including calls which involved enforcement contacts (tickets and arrests), accidents, and motorist services (disabled vehicles).[14]

The primary funding source for CHP facilities and staffing is state motor vehicle registration fees. The allocation of these fees to each service area is determined by CHP Headquarters in Sacramento. The CHP does not receive or base its deployment on the revenues that may be generated within its service area. The long range planning for the CHP and future staffing needs are based on the needs of the entire state and budget constraints.[15] The CHP has indicated that its facilities and staffing are adequate to meet current demands in this service area.[16]

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12 Written communication from Captain B. M. Kilmer, Commander, California Highway Patrol, Santa Clarita Valley Station, November 15, 2002 (**Appendix 4.14**).

13 Telephone interview with Lieutenant Todd Hoose, California Highway Patrol, Santa Clarita Valley Station, March 24, 2003.

14 Telephone interview with Lieutenant Todd Hoose, California Highway Patrol, Santa Clarita Valley Station, November 22, 2002.

15 Written communication from Captain B. M. Kilmer, Commander, California Highway Patrol, Santa Clarita Valley Station, November 15, 2002 (**Appendix 4.14**).

16 Telephone interview with Lieutenant Mark Odle, California Highway Patrol, Santa Clarita Valley Station, January 6, 2004.

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4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines reference that a project would adversely impact police protection services when it would result in:

- substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

In addition to the above, the Sheriff Department's threshold of 1 deputy per 1,000 residents has been used for impact analysis.

b. Construction-Related Impacts

During the construction phase, Sheriff's service requirements on the project site will be increased over existing demands as a result of both increased persons and the presence of buildings and equipment on the project site. The daytime population would increase due to the presence of construction workers on the project site. This increase in the daytime population would vary due to the type of construction activities being conducted (i.e., site grading, construction of structures, or infrastructure improvements). There is a potential for increased calls for service to the project site as a result of the increased number of persons at the project site. Due to the presence of building materials, construction equipment, and related temporary office buildings, the potential for vandalism and theft is greater; thereby, increasing Sheriff's calls for service demands for property protection. During the construction phase of the project, response times for emergency and non-emergency calls are not expected to vary from those currently experienced by residential uses located to the northwest, southeast and to the east of the project site.

During the construction phase, private security patrols would be utilized to protect the project site; thereby reducing potential demands on the existing Sheriff's Department resources. Given the provision of private security personnel, the project is not expected to affect the existing level of service being provided by the Sheriff's Department. With incorporation of this mitigation measure, no significant impacts are anticipated during the construction phase.

Construction-related traffic on the project site are not expected to result in impacts on the CHP, which regulates traffic in the unincorporated areas of the Santa Clarita Valley. Slow-moving construction-related traffic on adjacent roadways could reduce optimal traffic flows and could delay emergency vehicles traveling through the area; however, they would not result in a significant impact on traffic flows because construction-related traffic would only occur during short periods of time during the day.

With mitigation, no significant impacts are anticipated during the construction phase.

c. Operational Impacts

Over the four-year buildout of the project, development of the site would involve the construction of 1,183 dwelling units, 40,000 square feet of commercial retail uses, and 29 acres of parkland along the Santa Clara River. Approximately 300 acres of river area would remain in a natural state. The Sheriff's Department serves the City of Santa Clarita from its centrally-located headquarters located near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway, approximately 3 to 4 miles from the project site.[17]

(1) Los Angeles County Sheriff's Department

The County of Los Angeles Sheriff's Department would have the responsibility to provide general law enforcement for the project site under the existing contract between the City and the County (the Sheriff's Department would provide traffic control and enforcement). It is anticipated that demands for Sheriff's services in the project area would increase above current levels upon buildout of the project.

The Sheriff's Department utilized the January 1998 California Department of Finance (DOF) residential dwelling unit factor of 3.011 persons per dwelling unit and determined that the proposed project will generated a population increase of 3,562 persons.[18] Based upon this, the Sheriff's Department indicated that the proposed project would require 3 additional deputies.[19]

This EIR used a more recent California Department of Finance (DOF) residential dwelling unit factor of 3.023. Using this factor, the proposed project would result in a project population of 3,576 (3.023 x 1,183 = 3,576) new residents to the project site. Considering the Sheriff's Department's ideal population ratio of 1 officer per 1,000 population for the project, the number of deputies required by the project has

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17 Correspondence from Captain Patti A. Minutello, County of Los Angeles Sheriff's Department, Santa Clarita Valley Station, November 21, 2002 (**Appendix 4.14**).

18 Ibid.

19 Ibid.

conservatively been rounded up. Based upon this conservative estimation, at buildout, the project would need 4 sworn patrol officers. Additionally, the increase in required field personnel would necessitate a concomitant increase in support resources, such as detectives, complaint desk officers, vehicles, and portable radios.[20]

Without additional Sheriff's Department staffing and facilities, this project population increase would decrease the existing level of service of the Sheriff's Department in the City and would result in a significant impact to Sheriff services if not mitigated. Adding 4 sworn patrol officers to the Sheriff's Department staff as the project builds out would mitigate potentially significant impacts because more patrol officers would be patrolling the site and the area. It is expected that the number of Sheriff service calls from and the types of incidents at the project site as it builds out would be similar in frequency and character to those experienced throughout the Santa Clarita Valley area.

Potential significant impacts to Sheriff services could arise as a result of project design, landscape materials and building orientation. Schematic designs of residential units are discussed in **Section 4.16, Visual Resources**. However, details of the project plans have yet to be finalized. However, with the incorporation of safety design techniques into the project design, potentially significant security impacts to persons and property would be reduced to a less than significant level.

As the project is developed, tax revenues from property and sales taxes would be generated and deposited in the City of Santa Clarita General Fund. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff's Substation in response to related demands. As the current City revenue base provides for adequate Sheriff's service in the City of Santa Clarita, it is anticipated that this same level of service would be provided for the project through existing funding sources as long as the City of Santa Clarita and the County of Los Angeles maintain service agreements. Although the project would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the project using existing sources; therefore, no significant impacts are anticipated.

(2) City Emergency Response/Evacuation Plans

Upon buildout, the resident and daytime populations of the project site would increase above current levels. These populations would be subject to potential emergencies (e.g., earthquake, fire, etc.). Existing City Emergency Evacuation Plans do not include guidelines for evacuation of the project site in

20 Ibid.

the event of a natural disaster because it is not currently developed. However, because the City has demonstrated compliance with the State's Standard Emergency Management System with its adopted emergency management plan, it is reasonable to expect that the project site would be included in the evacuation plans prior to its development.

The City will continue to operate the Santa Clarita Valley Emergency Operation Center out of City Hall or the City's Corporate Yard facility. The City's Emergency Operations Center has demonstrated compliance with the State's Standard Emergency Management System with its adopted emergency management plan and will be required to regularly demonstrate compliance through a variety of means, including a regular update of the City's Emergency Evacuation Plans.

The proposed circulation plan for the project includes several major access points. The proposed Santa Clarita Parkway would bisect the site and provide access from the north. Newhall Ranch Road will continue to provide access from the west off of Bouquet Canyon Road. Newhall Ranch Road would be extended to transverse the northerly portion of the site and exit the site in the southeast, where it will merge onto the proposed Newhall Ranch Road/Golden Valley Road Bridge across the Santa Clara River and meet the extension of Golden Valley Road. These roadways would provide alternative evacuation routes for the site. Given these alternative evacuation routes, it is not anticipated that the design of the project would preclude implementation of an evacuation plan, which would provide for the safe movement of future residents. Consequently, no significant impacts are expected to occur with regard to emergency evacuation of the project site or its surroundings.

(3) California Highway Patrol

Upon buildout, demands for CHP services on highways in the unincorporated areas surrounding the project site would increase due to vehicular traffic generated by the project. Through increased revenues generated by the project (via motor vehicle registration fees paid by new on-site residents and businesses), funding for additional staffing and equipment may be available to the CHP and could be allocated by the State CHP office to the Santa Clarita Valley Station to meet future demands. The CHP has indicated that even if additional staffing and equipment are not available, the CHP will continue to provide service to the best of its availability.[21] Based on the CHP's anticipation to maintain this same level of service, no significant project-related impacts on CHP services are anticipated.

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21 Written communication from Captain B. M. Kilmer, Commander, California Highway Patrol, Santa Clarita Valley Station, November 15, 2002 (**Appendix 4.14**).

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project would result in potential impacts associated with police services. The following mitigation measure is incorporated into the project:

4.14-1 During construction, private security patrols shall be utilized to protect the project site.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

The project would result in potential impacts associated with police services. To mitigate these impacts, the following mitigation measures are required:

4.14-2 As final building plans are submitted to the City for approval in the future, Sheriff's Department design requirements which reduce demands for service and ensure adequate public safety (such as those pertaining to site access, site security lighting), shall be incorporated into building designs.

4.14-3 Project design shall landscape the project site with low-growing groundcover and shade trees, rather than a predominance of shrubs which could conceal potential criminal activity around buildings and parking areas.

4.14-4 Project design shall provide lighting, to the satisfaction of the Sheriff's Department, around and throughout the development to enhance crime prevention and enforcement efforts.

4.14-5 Project design shall provide clearly visible (during the day and night) address signs and/or building numbers for easy identification during emergencies.

4.14-6 Project design shall provide visibility of doors and windows from the street and between buildings.

4.14-7 Project site design shall include adequate parking spaces in the parking lots to accommodate shoppers, employees and residents, per the Unified Development Code.

7. CUMULATIVE IMPACTS

a. Los Angeles County Sheriff's Department

In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project was predicted.

The cumulative development scenario (referred to as the "Santa Clarita Valley (SCV) Cumulative Build-Out Scenario") entails buildout of all lands under the current land use designations indicated in the City of Santa Clarita General Plan and the Los Angeles County Santa Clarita Valley Area Plan, plus the project, plus all known active pending General Plan Amendment requests for additional urban development in the City of Santa Clarita and unincorporated areas of Santa Clarita Valley. In this report, the Planning Area is often referred to as the "Valley". A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.14-1, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario**.

Excluding the project, total residential population within the Valley under this Build-Out Scenario would be 435,291 persons. With the project, this total resident population would be 438,867 persons. Using the desired officer-to-population ratio of 1 officer per 1,000 population, Valley buildout (exclusive of the project) would require a total of 439 sworn officers, or approximately 261 more sworn officers than currently work in the Valley. Implementation of the project would increase this total by an additional 4 sworn patrol officers to 443. Individual developments may not need to meet the desired officer-to-population ratio, depending upon project location and design, and review by the Office of the Sheriff. The Sheriff's Department will determine actual level of service need for each development as the Valley builds out. Therefore, if no officers were hired to accommodate the needs of the Valley as it builds out, a significant cumulative impact would occur.

The Sheriff station that serves the City of Santa Clarita operates at an adequate level. The addition of funding and officers as a result of cumulative development will result in continued adequate service. The same level of service will be maintained, as each project will be funded by the City of Santa Clarita through its General Fund, which is supported by taxes and fees.

Table 4.14-1
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Buildout w/o Project	Project	Cumulative Buildout w/ Riverpark[1]
Single Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		278,953 students
High School	12,843 students		12,843 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	465.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator
[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development and active pending General Plan Amendment requests.*
[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

b. City Emergency Response/Evacuation Plans

New resident and daytime populations at the project site and in the Santa Clarita Valley would increase under the Santa Clarita Valley Cumulative Build-Out Scenario. New resident and daytime populations would be subject to the same potential hazards as existing City residents. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all Valley residents and employees, and that no significant cumulative impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

c. California Highway Patrol

Demands for CHP services on the area's highways and unincorporated Santa Clarita Valley would increase under the Santa Clarita Valley Cumulative Build-Out Scenario due to related increases in vehicular traffic generated by such development. It is anticipated that increases in CHP patrol officers would be required in the area to enforce traffic regulations in new developments and to respond to traffic accidents and disabled vehicles. Cumulative development would increase traffic on existing roadways and increase the numbers and lengths of roadways patrolled by the CHP, and would, therefore, increase demands for CHP services in the area. The CHP has indicated that they will continue to provide service to the best of their ability, regardless of whether or not staffing levels are increased.[22]

Through increased revenues generated by cumulative development (via motor vehicle registration fees paid by new residents and businesses), funding for additional staffing and equipment could be allocated by the State CHP office to the Santa Clarita Valley Station to meet future demands. As the revenue base and method of funding allocation that are in place as of this writing provide for adequate CHP service in the area, it is anticipated that the current level of service would be provided in the future through these same funding sources and allocation methods.[23] In light of this information, no significant cumulative impacts on CHP services are anticipated.

8. CUMULATIVE MITIGATION MEASURES

No cumulative mitigation measures are required or recommended.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Implementation of the project would increase the demand for police protection and traffic-related services on the project site and the local vicinity in terms of personnel and equipment needed to adequately serve the project site at buildout. The project would require the services of 4 additional sworn Sheriff's deputies. The project would generate revenue for the City of Santa Clarita through property taxes, sales taxes, users taxes, fees, and assessments. Although the project would increase

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22 Telephone interview with Lieutenant Mark Odle, California Highway Patrol, Santa Clarita Valley Station, January 6, 2004.

23 Ibid.

demands for Sheriff's services, these service demands can be met through the allocation of funding by the City to the Sheriff's Department generated by the project as it builds out, which occurs through the normal contractual procedures followed by the two parties; therefore, no significant impacts to the Sheriff's Department would be created by the project.

New resident and daytime populations at the project site would be subject to the same potential hazards as existing City residents. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all Valley residents and employees. Therefore, no significant impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

The project would also increase demands for CHP services in the project area. Through increased revenues generated by the project as it builds out (via motor vehicle registration fees paid by new on-site residents and businesses), funding for additional staffing and equipment would be available to the CHP and could be allocated by CHP Headquarters in Sacramento to the Santa Clarita Valley station to meet future demands. Therefore, no significant project-related impacts on the CHP are anticipated.

b. Cumulative Impacts

The Sheriff station that serves the City of Santa Clarita operates at an adequate level. The addition of funding and officers as a result of cumulative development will result in continued adequate service. The CHP station that serves the City of Santa Clarita provides acceptable levels of service. Increased cumulative development demands would be met by increases in law enforcement staffing and equipment, which would be funded by increased taxes paid by new development; therefore, no unavoidable significant cumulative impacts related to Sheriff and CHP services would occur as a result of cumulative development. It is expected that the City's Emergency Evacuation Plans will be amended periodically to provide for the safe evacuation of all Valley residents and employees, and that no significant cumulative impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

4.15 HUMAN MADE HAZARDS

1. SUMMARY

The proposed Riverpark project is not expected to include any uniquely hazardous land uses. Both residential and commercial proposed uses are expected to use and store chemicals and/or substances that are typically found in similar settings. There are several abandoned oil wells within the project site that were used for crude oil production. Based on the extremely limited productivity of these wells, they were ultimately abandoned. As crude oil is not considered to be a hazardous material, residential and non-residential development in areas previously occupied by the oil production facilities would not result in environmental safety hazards to future residents, employees, and/or visitors. However, it should be noted that permanent development near abandoned oil production wells would be subject to the requirements of the California Department of Conservation, Division of Oil and Gas.

Former uses within the project site included the use of two underground storage tanks. Based on records search and on-site field investigations, these underground storage tanks were removed in accordance with applicable regulations.

Electrical transmission lines are located to the east of the project site. Currently, there is no scientific consensus if electromagnetic fields (EMFs) related to transmission/distribution lines pose a health threat. Consequently, neither the State of California nor the City of Santa Clarita has adopted a threshold of significance for EMFs. Additionally, no federal or state government agencies, including the California Public Utilities Commission, the California Department of Health Services, and the Environmental Protection Agency, have established land setbacks based on EMFs.

Within the project boundaries, no Proposition 65 pesticides (insecticides, rodenticides, herbicides, and fungicides) would be used in the common and public areas, or in areas that are currently farmed and which would be phased out as development occurs. Humans would not be subject to either acute overexposure or chronic exposure to pesticides if they are used and handled according to state and federal regulations.

Finally, a Phase I Environmental Site Assessment was prepared for the proposed project to determine if there are any environmental conditions at the site that would include the presence of any hazardous substances or petroleum products under conditions that indicate an existing release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the

ground, groundwater or surface water. The Phase I Environmental Site Assessment concluded that there are no recognized environmental conditions that would impact the project site. In addition, this section looks at other hazard issue areas not addressed in the Phase I Site Assessment.

Consequently, with mitigation the proposed project will not create a significant impact to human made hazards.

2. INTRODUCTION

The purpose of this discussion is to disclose the potential for environmental safety issues that could occur on the project site and to identify feasible mitigation measures that would reduce any identified significant impacts to a level less than significant. This section incorporates information from a Phase I Environmental Site Assessment prepared for the Riverpark project by Applied Environmental Technologies, Inc. (AET) in November 2002. The Phase I report included field surveys, as well as records, photo and database reviews. With regards to geotechnical and fire safety issues, please refer to **Section 4.1, Geotechnical Hazards**, and **Section 4.13, Fire Services**, for an assessment of potential geotechnical and fire related hazards, respectively.

Potential impacts may result if development occurs in the following locations:

- Adjacent to historic oil production operations;
- In an area with a leaking underground storage tank (UST);
- In close proximity to electrical transmission lines;
- On lands used for agricultural operations; and
- In proximity to off-site areas that could impact the site.

3. EXISTING CONDITIONS

a. Physical Project Site Conditions

The project site is an irregular shaped parcel that includes 695.4 acres and is located east of Bouquet Canyon Road and north of Soledad Canyon Road. The Santa Clara River runs though the project site adjacent to the southern boundary of the project site. The northern half of the site includes a south-facing hillside, with generally steep topography on the east and west and a sloping terrace divided by a small valley in the central portion. The project site is bounded to the north by single-family residential, open space, and Castaic Lake Water Agency (CLWA) property used for administrative

offices and a treatment facility. To the southeast of the project site (across the Santa Clara River) is a mobile home park, a business park, retail commercial uses and a Metrolink Station. East of the project site is a business park and undeveloped property. Open space and retail commercial uses are located to the west of the site along Bouquet Canyon Road.

From a geologic and hydrologic perspective, the project site is located in the Santa Clara River Hydrologic Unit. The southern portion of the site is underlain by Recent to Quaternary age river and alluvium deposits consisting of silts, sands and gravels. The alluvium overlies sedimentary rocks of the Pliocene age Saugus formation at depth. The Saugus formation crops out in hills in the northern portion of the site. According to the Valencia Water Company, there are two groundwater wells (Well Nos. T2 and T4), located within the project site along the north bank of the Santa Clara River. The depth to static water level in Well T4, measured in October 2002, was 50.2 feet. The regional groundwater gradient is expected to be toward the west along the Santa Clara River valley.

(1) Phase I Environmental Site Assessment

On October 11 and 23, 2002, AET visited the project site to observe and document existing project site conditions. Of particular importance was the portion of the project site that contained the former USTs. The USTs were located in a small valley in the central portion of the project site. This area is now occupied by Staats Construction Company. Currently, there is a construction company office, mobile storage buildings, a maintenance building and a storage yard. The office is located in a trailer in the central portion of the valley. A metal shed used as a maintenance shop, and a red wooden building are the only permanent structures currently on the parcel. The red wooden building is used for storage of items such as a camp trailer, dirt bikes and classic motorcycles. An air compressor is located at the rear of the building. No staining was observed around the compressor.

The metal shed is used for equipment maintenance. The shed contained a bead-blaster, a parts washer, and approximately 20 cases of quart cans of new motor oil and various parts stored on shelves. A waste storage area was observed on the south side of the shed. The storage area had a concrete secondary containment, a metal roof and contained 12 55-gallon drums for storage of used oil, used antifreeze and used oil filters. The wastes are recycled on an as-need basis by licensed waste haulers. According to the mechanic, maintenance on the large equipment is generally performed in the field at various job sites. Construction materials, such as clay and steel pipes and valves, were also observed on the ground or on the concrete pads at various locations in the northern portion of the valley. Three empty 55-gallon trash drums were stored upside down in one of the areas. Two portable sheds, 3 truck-trailer containers and a vacant mobile home were observed along the east side of the valley. The observed sheds contain

construction supplies, such as pipe-flange gaskets, large bolts, fireplugs, PVC and black plastic pipes. No liquids were observed in the sheds.

Staats Construction provided waste hauler records. Based on review of these records, Safety-Kleen recycled 50 gallons of used antifreeze and 200 gallons of used motor oil in September 2002, while Benny's Oil Filter Service recycled 2 drums of used oil filters and 2 drums of floor sweep absorbent in November 2001. Based on the waste hauler records, all waste has been disposed of properly.

At the time of the site visit, no underground storage tanks, pits, ponds, stressed vegetation, significant debris or significantly stained soil were observed. Except for the portion of the site occupied by Staats Construction, no buildings were observed within the project site.

(2) Record Search of Adjacent Properties

A government database report, prepared by Environmental Data Resources (EDR) of available federal, state and county agency databases, was reviewed to identify the presence of any government regulated properties, either on site or adjacent to the project site, that could potentially result in hazardous on-site conditions. Given the area of the project site, the search radii of investigation for the federal and state agency lists was extended up to 1.5 miles in accordance with the ASTM Standards for Environmental Site Assessments. A complete copy of the EDR report is provided as an appendix to the Phase I Site Assessment found in **Appendix 4.15** of this EIR.

Based on the EDR governmental database review, there is a low probability that the listed off-site properties in the search vicinity have impacted or are currently impacting the project site. The pertinent findings of the government database review are summarized below.

- The project site is not identified in the EDR report.
- The project site is not located within 1.0 mile of a Federal Superfund property.
- There are numerous properties within 0.25 mile of the southern project site boundary identified in the EDR report. Most of the properties are located on Golden Triangle Road, southeast of the project site and parallel to Soledad Canyon Road, with several properties located on Soledad Canyon Road. Most of the properties are listed on the HAZNET or Los Angeles County HMS Lists as waste generators, which does not indicate that a release has occurred. One property is listed on the leaking underground storage tank list (LUST and Ca-SLIC List); however, the case was closed by the regulatory agency in 1995.
- There are numerous properties within 0.25 mile of the western and northwestern project site boundary identified in the EDR report. These properties are located generally down gradient or flank gradient and have a low probability to impact the project site.

- There are two properties listed in the EDR report located south of Soledad Canyon Road that are identified on a number of lists which include American Cyanamid and Bermite Division of Whittaker. The American Cyanamid property has been occupied by Simply Discount Furniture since 1995. The Bermite property is located in the hills south of Soledad Canyon Road. Based on their regulatory status, distance from the project site and their general flank gradient locations, there is low probability that the properties have impacted the project site.

A summary of properties that could not be mapped by EDR, but were identified as potentially within the search vicinity, is also included in the EDR reports. Of the listed unmapped properties, a number are located south of Soledad Canyon Road. It should be noted that most are listed as generators of hazardous wastes. These uses have a low probability of affecting the project site as these uses and their resulting activities are permitted and monitored by regulatory agencies that impose specific operating procedures.

(3) Previous Oil Production Operations

With regards to oil production, such activities are typically associated with certain hazardous substances. Substances that are commonly found on oil fields include total petroleum hydrocarbons and aromatic volatile organic compounds. Total petroleum hydrocarbons (TPH) are associated with crude oil production, storage, processing and transport. These are the primary substances potentially present in on-site soils. The most frequently occurring volatile organic compounds (VOCs) found in soils at oil fields are xylenes and ethylbenzene, followed by toluene and benzene (benzene, toluene, ethylbenzene, and xylenes together are referred to as "BTEX"), all of which are commonly found in crude oil. The most frequently occurring semi-volatile organic compounds (SVOCs) are phenanthrene and 2-methylnaphthalene and naphthalene, also typical of crude oil. Other SVOCs which could be found in small quantities include acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, benzyl alcohol, chrysene, fluoranthene, ideno(1,2,3-c,d)pyrene and pyrene. Organic vapor may also be detected in an oil field. It is possible that petroleum hydrocarbon-contaminated soils associated with oil fields and abandoned wells are capable of generating methane gas through anaerobic biodegradation. Other potentially toxic organic vapors may also be generated, such as benzene.

To determine the presence of known active or abandoned oil and gas wells within the project site and surrounding vicinity, the Munger Map Book of California-Alaska Oil and Gas Fields, 1990 Edition, was reviewed. Based on the review, an oil field with one well, the abandoned Bouquet Canyon Field and three dry holes were located near the northern project boundary in the western portion of the site. Another well location, outside the project boundary, was also identified near an off-site water tank. The location of these areas is provided in **Figure 4.15-1**.

According to the California Division of Oil and Gas Publication No. TR-12, the Edward Lustgarten "Lucky Lusty" No. 1 Well was completed in 1958 in the Mint Canyon formation at a depth of approximately 2,340 feet below ground surface (bgs). The well, which initially produced 29 barrels of oil per day and a total of only 8,528 barrels of oil, was ultimately abandoned. Two dry holes were drilled near the Lucky Lusty No. 1 well on the site and included the Union Oil Company Bonelli No. 1 and the Lucky Lusty Well No. 3. Neither of these two wells produced oil. A third oil well (Texaco Inc. NL&F No. H-1) was drilled in 1963 to a depth of 1,700 feet bgs at a location on the north side of the Santa Clara River in the south-central portion of the site. No significant oil production from the Lucky Lusty Well No. 1 or the three dry holes occurred within the project site. Based on the project site oil production history, there is low probability that the project site has been historically affected by oil and gas production.

(4) On-Site Underground Storage Tanks

Underground storage tanks (UST) have the potential to store substances that can negatively affect a project site. Additionally, there is a potential for these underground tanks to develop leaks—otherwise known as leaking underground storage tanks, or LUSTs—which would result in an unmonitored release of hazardous materials, should they be contained in the UST. In order to determine the presence of on-site USTs, historic data was reviewed, which included records searches and aerial photo review, in conjunction with on-site field surveys. The results of each methodology are described in greater detail below.

(a) Records Search

Based on a report prepared by State Environmental Management, Inc. (SEM) of Ontario, California, two USTs—one 2,000-gallon capacity gasoline tank and one 2,000-gallon capacity diesel tank—were located on site. The location of these two USTs was in the same area as the former Los Angeles County Fire Camp 4, which was the only developed portion of the project site. The camp buildings were ultimately abandoned by the Los Angeles County Fire Camp 4 and last occupied by the Saugus Unified School District until they were demolished in 1995. At least six permanent buildings and two USTs were removed. Additionally, disposal records for bins containing roofing material, floor tile, and other debris containing lead and asbestos were reviewed, as well as an Inspection Report for the Saugus School District Buildings 1 through 6 and a Post Job Submittal for asbestos and lead-based paint abatement. Based on the reviewed documents, asbestos and lead-based paint were identified and abated prior to demolition of the on-site permanent buildings.

FIGURE **4.15-1**

Oil Well Locations

112-16•02/04

The records contained tank removal documents for both tanks. According to the reports, groundwater was encountered in the tank pit at approximately 10 feet below ground surface (bgs). Soil samples collected from the sidewalls of the pit did not result in the presence of petroleum hydrocarbons. Following the removal of the USTs, three 25-foot deep groundwater-monitoring wells were drilled and sampled. The sampled groundwater did not contain detectable petroleum hydrocarbons.

In addition to the SEM report, the County of Los Angeles Department of Public Works (DPW) maintains records regarding industrial waste, UST permits and LUST cases. Relevant project site files from the DPW were reviewed for information concerning the former on-site USTs. Consistent with information provided by SEM, the former on-site USTs were removed by the Saugus School District. The file contained the Tank Closure Report prepared by SEM, and three quarterly groundwater-monitoring reports. As stated in the reports, no petroleum hydrocarbons were detected in the groundwater during the first and second quarterly events. No results were recorded for the third quarter, as groundwater elevation declined below the bottom of the wells. SEM abandoned the three wells by pressure grouting in accordance with DPW and state requirements. The file also contained a letter from SEM, as well as a record of a payment for agency time to review the file and provide a closure letter for the site. It should be noted that no letter was present in the file. Through additional follow-up, it was determined by the DPW that, due a change in personnel, a closure letter was inadvertently not issued.

(5) Electrical Transmission Facilities

The project site is adjacent to Southern California Edison transmission lines. High voltage electrical transmission lines create electromagnetic fields (EMFs) and because of on-going debate over the potential health effects of EMFs, they are discussed in this section.

Electromagnetic fields are created as electrical charges (current), pass through conductors and are formed in association with alternating current (AC) electrical power, which serves most of our electrical needs. AC electrical power does not flow steadily in one direction, but alternates back and forth 60 times each second; therefore, it is referred to as 60-hertz (Hz) electrical power. Two kinds of fields associated with 60 Hz power are electrical fields that result from the strength of the charge, and magnetic fields that result from the motion of the charge. Taken together, these are referred to as electromagnetic fields. The strength of an electromagnetic field is affected by the distance from the source, the voltage of the object creating it, and the electrical/physical environment in which the conductor is placed.

In analyzing the impacts of EMFs, it is useful to look at the various EMF levels associated with typical household appliances as a benchmark example. The most common unit of measurement of the strength of magnetic fields is the gauss (G). Since the gauss is a large unit of measurement, the milligauss (mG), or 1/1,000 of a gauss, is used to report the strength of magnetic fields associated with most objects. For comparison purposes, the typical American home has a background magnetic field level (away from any appliances) ranging from 0.5 mG to 4 mG. **Table 4.15-1, Magnetic Field Levels for Common Household Appliances,** contains a listing of the magnetic field levels associated with various household appliances at varying distances.

Table 4.15-1
Magnetic Field Levels for Common Household Appliances

	Distance From Source			
Appliance	**6 inches**	**1 foot**	**2 feet**	**4 feet**
Blender				
Lowest 30 mG[1]	5 mG	-	-	-
Median 70 mG	10 mG	2 mG	-	-
Highest	100 mG	20 mG	3 mG	-
Can Opener				
Lowest 500 mG	40 mG	3 mG	-	-
Median 600 mG	150 mG	20 mG	2 mG	-
Highest	1,500 mG	300 mG	30 mG	4 mG
Refrigerators				
Lowest	-	-	-	-
Median 2 mG	2 mG	1 mG	-	-
Highest	40 mG	20 mG	10 mG	10 mG
Color TV				
Lowest	-	-	-	-
Median	7 mG	2 mG	-	-
Highest		20 mG	8 mG	4 mG
Vacuum Cleaners				
Lowest 100 mG	20 mG	4 mG	-	-
Median 300 mG	60 mG	10 mG	1 mG	-
Highest	700 mG	200 mG	50 mG	10 mG

1 mG = milligauss
Note: The dash (-) indicates that the magnetic field measurement at this distance from the operating appliance could not be distinguished from background measurements taken before the appliance had been turned on.
Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, EMF In Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992.

The magnetic fields associated with the large power lines are also a function of the height and distance of the transmission line from the receptor as well as the power loads, expressed as amperage or amps, on those lines and the amount of time that electricity is actually being transmitted over those lines. Typical magnetic field levels for electrical power lines are shown in **Table 4.15-2**. According to the United Stated Environmental Protection Agency (U.S. EPA), the magnetic field of a typical 230 kV

transmission line would probably be less than 120 mG at a distance of 20 feet, 15 mG at a distance of 100 feet, and less than 2 mG at a distance of 300 feet. From these examples, it is clear that, as the distance from the source of the magnetic or electric field increases, the level of exposure is reduced substantially.

Table 4.15-2
Typical Magnetic Field Levels for Electrical Power Lines

Types of Transmission Lines	Maximum Right-of-Way	Distance From Transmission Lines			
		50 inches	100 feet	200 feet	300 feet
115 Kilovolts (kV)					
Average Usage	30	7 mG	2 mG	0.4 mG	0.2 mG
Peak Usage	63	14 mG	4 mG	1.8 mG	0.8 mG
230 Kilovolts (kV)					
Average Usage	58	20 mG	7 mG	1.8 mG	0.8 mG
Peak Usage	118	40 mG	15 mG	3.6 mG	1.6 mG
500 Kilovolts (kV)					
Average Usage	87	29 mG	13 mG	3.2 mG	1.4 mG
Peak Usage	183	62 mG	27 mG	6.7 mG	3.0 mG

Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, EMF In Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992.

Exposure to 60 Hz EMFs produces weak electrical currents inside the body by a process called induction. According to a Library of Congress Congressional Research Service Issue Brief, "…a growing amount of research indicates that these currents may alter the binding of molecules to receptors on the surface of the cell membrane [which] may disrupt membrane signaling events, and trigger abnormal biochemical reaction." Just what this finding means in terms of the effects of EMFs on our overall health has been the focus of a number of research efforts. Although many studies have been done on this topic to date, their findings are inconclusive. For example, the Journal of the American Medical Association states:

> *"Some, but not all, epidemiological studies of health among populations exposed to ambient low-power frequency EMF show associations between exposure to EMF and health effects. However, because of the poor and inconsistent exposure assessment in these studies, the absence of an appropriate dose-response relationship, and absence of supporting laboratory evidence, any conclusion of human health risks at this time is premature."*

In addition, the British National Radiological Protection Board concludes:

> *"The epidemiological findings that have been reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children, or adults to the extremely low frequency electromagnetic fields that might be associated with residence near major sources of electricity supply, the use of electrical appliances, or work in the electrical, electronic, and telecommunications industry."*

Because it is not possible to establish a clear relationship between EMF exposure and human health effects, there are no generally accepted criteria for determining acceptable or hazardous levels of electromagnetic fields.

The California Public Utilities Commission (CPUC), in its on-going investigations of EMFs, has also noted that recent studies have failed to establish that an EMF health hazard actually exists, or that there is a clear cause-and-effect relationship between utility property or operations and public health or that some degree of exposure limitation, such as the 2 mG level considered by the CPUC at one time, is appropriate to protect public health. Thus, rather than establish new regulations, such as setbacks or exposure levels based on specific EMF levels, the CPUC has elected to continue research efforts regarding potential health hazards and examine ways to minimize EMF exposures along existing or future transmission line rights-of-way.

(a) Regulatory Controls

There are no federal regulations for restricting human exposure to power line EMFs; however, seven states have established limits on electric field strengths at the edge of power line rights-of-way, and two have established limits on magnetic field strength. In addition, some state utility commissions have issued their own EMF guidelines. There are no similar requirements in California; however, the California State Board of Education requires that schools be sited more than 100 feet from the edge of the right-of-way of 100-110 kV lines; 150 feet from 220-230 kV lines; and 250 feet from 345 kV lines. Neither the City of Santa Clarita nor the County of Los Angeles have standards for EMF exposure, or guidelines for new development in proximity to sources of EMFs, and does not anticipate adopting standards or guidelines in the near future.

(b) On-Site Magnetic Field Levels

No portion of the high-voltage Southern California Edison (SCE) easement or transmission lines transverse the project site, Additionally, no habitable structures are proposed within any setback areas for the off-site transmission lines. Therefore, it is unlikely that the SCE power lines raise any significant health problems to the project site.

(6) Agricultural Activities

During farming activities, pesticides are commonly used for pest control. Further discussion regarding on-site farming use can be found in **Section 4.19, Agricultural Resources**. A pesticide is any substance used

to kill crop pests, such as insects, rodents, weeds, and fungi. They are inherently toxic and, used improperly, can have adverse effects on human health and the environment. This section describes the regulatory environment in which pesticides are controlled and applied, effects of pesticides and a historic data regarding on-site agricultural activity.

(a) Regulatory Environment

Pesticides are regulated by the Federal Government under the 1947 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA establishes registration and labeling requirements for pesticides, herbicides and other economic poisons. Registration requires documentation that the pesticide will not damage human health or the environment, if used as intended. FIFRA prohibits the sale of any economic poison that has not been registered by the U.S. EPA. The California Department of Food and Agriculture (CDFA) is the principal agency responsible for the regulation of pesticide sales and use in the state. Specifically, it registers and classifies pesticides, licenses professional agricultural pest control operations and advisors, monitors pesticide residues in food samples, and promulgates pesticide use and worker safety regulations. Section 11501 of the California Food and Agricultural Code requires pesticide applications to be confined to their target and to avoid contamination of non-target properties; violations can result in either civil penalties or a revocation of a pesticide use permit.

The California Department of Health Services (DHS) has an advisory role with respect to pesticide use and exposure. It conducts studies and investigates cases of pesticide exposure, conducts toxicological evaluations and risk assessments, and provides educational programs for physicians on diagnosing and treating pesticide poisonings. On a local level, if the U.S. EPA determines that a pesticide has the potential to cause human injury or environmental damage, its use is restricted and a permit from the local agricultural commissioner is required for its purchase and use. Furthermore, restricted pesticides are only available for retail sale to, and use by, Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

Pesticides may be applied either by broadcast spraying (spraying a fine mist over the target—usually from an aircraft or a land vehicle) or by topical application (placing the pesticide directly on or in the vicinity of the target). Broadcast spraying can result in the dispersion of pesticides into adjacent non-target areas (especially during windy conditions); therefore, some pesticides that are applied in this manner are strictly regulated.

(b) Effects of Pesticides

Pesticides exert adverse effects on living organisms, including non-target organisms, such as non-pest plants and animals in or near a treated area. The four variables that determine the degree to which a non-target organism is affected include the chemical and physical properties of pesticides, their mode of application, their route of entry, and rate of absorption into the blood stream. The pesticides used on the project site are listed in **Table 4.15-3**.

Table 4.15-3
Pesticides Used on the Project Site[1]

Insecticides	Rodenticides	Herbicides	Fungicides
Pounce	PCQ Squirrel Bait	Dacthal	Ridomil
Diazinon	Gopher Getter	Caparol	
Asana Insecticide		Roundup	
Lannate Insecticide		Simazine	
		Krovar/Diuron	
		Karmex/Diuron	

Source: The Newhall Land and Farming Company (December 1994).
[1] None of the pesticides listed in this table are regulated by Proposition 65.

The chemical and physical properties of a pesticide determine the potential toxic effects it can have on humans. Every pesticide is divided into one of two classes by the U.S. EPA based on its toxicity, its intended use, and its environmental impact. A pesticide listed for general use is considered to present little or no danger to either the applicator or the environment, if it is used as directed.

(c) Aerial Photo Review

To determine the extent of historic on-site agricultural production, a review of historic photos was conducted. From these photos and time periods, durations and location of on-site agricultural activities can be determined. The earliest photo depicting on-site agricultural activity was from 1928. The aerial photographs (Fairchild, 1" = 500') show the project site primarily as undeveloped land. The generally flat area north of the Santa Clara River in the western portion of the project site appears to be cultivated. The area southeast of the project site along the north side of Soledad Canyon Road is also cultivated.

A 1947 aerial photograph (Tubis, 1" = 666') shows an area south of a road extending from Bouquet Canyon Road to the Los Angeles County Fire Camp 4 and north of the Santa Clara River planted with row crops. Three areas of the terrace east of the small valley, where the fire camp was located, were plowed, apparently for hay cultivation. Row crops are also present on the flat land north of the project site.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines identify criteria for determining whether a project's impacts are considered to have a significant effect on the environment if it will:

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

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving explosion or the release of hazardous materials into the environment (including, but not limited to oil, pesticides, chemicals, fuels, or radiation)?

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

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

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

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) 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?

i) Exposure of people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines)?

The proposed project is residential and general commercial uses which would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within a 1/4 mile of

a school. Therefore, Criterion c) is not addressed below. Criteria e) and f) are not addressed below as the proposed project is not located within 2 miles or the vicinity of an airstrip. Impacts to adopted emergency response plans g) is addressed in **Section 4.14, Sheriff**.

There is no known EMF exposure threshold level for biological effects, and the City of Santa Clarita has no threshold of significance for EMFs.

b. Project Specific Impacts

(1) Oil Production Operations

Crude oil is not listed as a hazardous material in the California Health and Safety Code (Division 20, Chapter 6.5, Article 13, Management of Used Oil). In general, crude oils that have been removed from the ground and placed in pits or sumps have to be certified as non-hazardous according to the California Health and Safety Code. Spilled crude oil which enters either surface or ground water would be subject to clean-up regulations specified by the Regional Water Quality Control Board. There are no established regulatory clean-up levels for dissolved Total Petroleum Hydrocarbons (TPH) in ground water; rather, clean-up levels are usually determined by appropriate regulatory agencies on a case-by-case basis.

If development is to occur on the project site in the areas where oil production has occurred, each area must be remediated per state law. The methods of remediation could include any of the following: stabilization; on-site incineration; off-site landfilling; bioremediation; and use in cold-batch asphalt. It should be noted that, as documented in the Phase I Site Assessment prepared by AET, former oil well and drill sites within the project site have been abandoned. Furthermore, based on testing and review of records, the oil well and drill sites have been abandoned in accordance with applicable regulations. However, the California Division of Oil, Gas and Geothermal Resources (DOGGR) regulates the development over abandoned oil wells. Oil wells are discussed and mitigation provided in **Section 4.1, Geotechnical Hazards**.

(2) Underground Storage Tanks

Results of the Phase I Site Assessment prepared for the proposed project concluded that two USTs were located within the project site. Upon review of records associated with these two USTs, both were removed in accordance with applicable standards. Additionally, through on-site field surveys, no residual staining or deleterious matter associated with the former UST sites were observed. Finally,

through records search and on-site investigations, no USTs are currently located within the project site. Therefore, development of the proposed project would not result in a significant impact resulting from exposure to former or current USTs.

(3) Transmission Line Exposure

As indicated previously, typical maximum EMF levels at the edge of a 200-foot right-of-way for 230 kV transmission lines would be approximately 1.8-3.6 mG. This level is less than the background levels of 0.5 mG to 4.0 mG, which are typically found in the average home. Because there is no established threshold of significance for exposure to EMFs, there would be no significant impact associated with development of the proposed project adjacent to SCE transmission easements. As discussed earlier, no portion of the project site includes the SCE transmission lines or easements. There is no established scientific basis to suggest that the project, as designed, will result in any significant adverse biological effects from EMF exposure. The proposed project would not expose people, animal, or plant life populations to known health hazards from SCE transmission lines. No significant impacts from EMFs would occur.

(4) Agricultural Operations

Pesticide use within the project site would be discontinued as a result of the proposed project. Results from a health risk assessment[1] of nearby properties indicate that the total estimated cancer risks to future residents, employees, and visitors from agricultural usage similar to that occurring on site is below the 'one in a million' lifetime cancer risk level considered by the DHS to be acceptable. Therefore, no significant impacts are anticipated.

A Human Health Risk Assessment was prepared in 1990 on the nearby Valencia Town Center site (a 62-acre former agricultural property) to determine the extent of low-level pesticide residues in the soil-such as DDT. "The results of the human health risk assessment indicate that the total estimated cancer risks to on-site indoor workers, on-site gardeners and groundskeepers, on-site shoppers and visitors, off-site workers and off-site residents from agricultural usage are below the 'one in a million' (10^{-6}) lifetime cancer risk level considered by [the Los Angeles Department of Health Services] (DHS) to be 'de minimus' and acceptable."[2] It can be assumed that given the location of the project site to the Town Center project, that the same company owned both sites, and that similar agricultural practices

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1 Analysis of Potential Impact from Agriculture, Proposed North Valencia Annexation, Vineyard Engineering, October 2, 1996.

2 Letter report from Vineyard Engineering, October 2, 1996.

were performed on each site, there would be similar type impacts on both sites. Given the low-level risks associated with these issues, this is not considered a significant impact.

(5) Adjacent Properties

As discussed earlier, the Phase I Site Assessment prepared for the proposed project reviewed a database of government-regulated properties having known and/or recognized environmental conditions that have potential environmental concerns in the vicinity of the project. Based on the EDR governmental database review, there is a low probability that listed off-site properties in the search vicinity have impacted or are currently impacting the project site. Given that government regulated properties are, by nature, regulated by specific regulatory agencies, the operation and maintenance of such properties provides a level of assurance that activities or substances will continue to be handled in a manner that would not impact the project site. As a result of the low probability of these properties impacting the project site, development of the proposed project would not result in a significant impact.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project has not incorporated any mitigation measures into its design.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

The proposed project will not create any impacts to human made hazards, consequently no mitigation measures are required.

7. CUMULATIVE IMPACTS

As human made hazards are site-specific issues, no impacts would occur with regards to cumulative impacts.

8. CUMULATIVE MITIGATION MEASURES

There would be no cumulative impacts with regard to human made hazards and consequently no cumulative mitigation measures are required.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

As long as the sites of the abandoned oil wells have been remediated to the satisfaction of the state and City, and as long as the proposed project complies with Division of Oil and Gas development requirements for the capping of closed wells, no unavoidable significant safety impacts associated with development on these sites are expected.

No unavoidable significant cumulative impacts associated with human made hazards have been identified.

4.16 VISUAL RESOURCES

1. SUMMARY

There are four view corridors from which the project site is visible: the Bouquet Canyon Road/Newhall Ranch Road corridor; the Soledad Canyon Road corridor; the single-family residential corridor located northwest of the project site; and the mobile home park/commercial/business park corridor located southeast of the project site. Six viewsheds were identified within these view corridors where large mobile populations and smaller resident populations in close proximity have prominent views of portions of the development area. A view analysis was conducted for each of these viewsheds to determine the significance of the proposed project's effects on the visual resources in the project area.

The project site is currently undeveloped, and consists primarily of vacant land. The visual resources in the project area include ridgelines that the City has classified as either primary or secondary, other ridgelines, and the Santa Clara River. As proposed, the project would provide for 439 single-family and 744 multi-family residential units and commercial uses, as well as supporting utility easements (electric, water, wastewater, etc.), public street rights-of-way, and roughly 440 acres of open space area, which includes the Santa Clara River as well as parks. The Santa Clara River is the primary element of the proposed project that is identified as open space.

Views of the existing open space areas from each of the view corridors would be altered due to development of proposed residential and commercial uses. The images of the project's residential and commercial development, bank stabilization, roadways, and other human activity along the Santa Clara River would, overall, be a significant change from the existing characteristics of the project site. Proposed development would also introduce sources of outdoor illumination, which do not presently exist. Outdoor lighting, such as streetlights and traffic signals are essential safety features in development projects that involve new streets and intersections, and cannot be eliminated if the proposed project is implemented as planned. As proposed, the project would result in grading of ridgelines classified by the City as secondary ridgelines (see discussion in ***Section 4.7, Land Use****), bank stabilization and conversion of the site from vacant land to a man-made urban environment. The proposed project would be most visible from Bouquet Canyon Road, Soledad Canyon Road, the extension of Newhall Ranch Road, the proposed and future extension of Santa Clarita Parkway and the existing residential, commercial, and business parkland uses to the west, south and southeast of the project site. Incorporation of recommended mitigation measures would reduce project-level and cumulative visual*

impacts caused by converting the project site from an undeveloped to a developed urban area, but not to a level less than significant.

2. METHODOLOGY

This section of the EIR evaluates the potential project-related changes in the visual character of the project site and surrounding areas through a combination of methods that: (1) identify corridors in which the project site can be viewed; (2) identify "viewsheds" within the view corridors where the development area is most visible; (3) identify, within those viewsheds, "prominent visual features"; and (4) provide examples of existing residential, commercial and open space/recreational land uses which would be typical of those proposed as part of the project in order to demonstrate potential changes in the visual character of the project site.

For the purpose of this analysis, "viewsheds" are defined as the most visible portions of the development area seen by a relatively large mobile viewing audience (primarily in automobiles) or a permanent audience in close proximity to the project site. "Prominent visual features" are defined as features that are unique to the Santa Clarita Valley or the City of Santa Clarita and/or those that stand out in relation to their surroundings. "Development area" is defined as the portion of the project site that will be subject to grading and construction activity due to project implementation and buildout.

There are four prominent areas for viewing the project site from which the existing public most frequently views the project site and its visually prominent features. These areas include four visual corridors: (1) the Bouquet Canyon Road/Newhall Ranch Road corridor; (2) the Soledad Canyon Road corridor; (3) the single-family residential corridor located northwest of the project site; and (4) the mobile home park/commercial/business park uses located south and southeast of the project site. If portions of the project site which are proposed for development cannot be seen by any type of viewer (i.e., a large mobile viewing audience, and/or recreational population) or if their views of the development area are from so far away as to make their views obscure, those views are not considered visually prominent and were not assessed as part of this analysis. It is not the intent of this analysis to suggest that the project site is visible from only four viewing locations. Rather, an attempt was made to identify a range of viewsheds, which are a representative sample of the most prominent views available in the project site.

Within the four viewsheds, six view orientations were selected which would display the maximum amount of development visible within that range of view. Photographs of these viewsheds were taken and are presented in this section of the EIR to document the existing visual characteristics of the area.

These viewshed photographs were reproduced again for the impact analysis section and overlaid with a simulation of the project's future developed conditions.

To provide a standard frame of reference for the reader, the visual character within each of the viewsheds is described in terms of foreground, middle ground, and background elements. Each represents a portion of the total view, based on distance from the viewing location. Foreground scenes represent the closest views available, middle ground scenes represent the next distinguishable range of view, and the background scenes represent the most distant visible landscape elements that typically form backdrops for the middle and foreground scenes. The delineation between one viewing range and the next is largely based on prominent transitions in landscape character and the reduction in visibility of the landscape features as distance increases; however, the judgments of such transitions are admittedly subjective.

To aid in understanding the perspective from which each of the viewsheds is described, see **Figure 1.0-3**, **Surrounding Land Uses**, which illustrates commonplace names that occur in the project area. The place names are used throughout this analysis in order to orient the reader. Also, in order to characterize the context in which views of the site are set, for each of the six view orientations, both the type of viewing audience and the length of time the particular view is available is described.

Computer-modeling techniques were employed to simulate post-development conditions on the project site, in a height and massing context, to illustrate the possible placements of development within the four viewsheds. To simulate the post development scenario of the site, a four step-process was involved: (1) viewsheds were chosen on the basis of field surveys; (2) photographs were then taken of the chosen viewsheds; (3) typical building heights, massing, setbacks for project buildings, in accordance with the project application, and open space areas were plotted on the Vesting Tentative Tract Map to project the development that would occur within each view orientation, and (4) using the computer, development areas which would be visible within that view orientation have been simulated. Upon buildout of the proposed project it is anticipated that the full range of building colors and roofing materials would be represented on the project site. The ultimate types of building materials and colors would be determined at the time individual elements of the proposed project are submitted for building permits.

Since the analysis is at a general level, there is a limitation to the techniques described above. As the proposed land use plan only shows areas of land use and does not plot individual buildings, the computer artist can only portray building height (as sought in the project application) and approximate sizes for proposed land uses, and can only assume how the buildings would be arranged on the site.

3. EXISTING CONDITIONS

a. Aesthetics

The project vicinity is typified by various urban land uses, which include residential, commercial, business park, public utilities, and open space areas. This is an area which is presently in transition from a semi-rural area to an urban environment, and development of the project site could be considered to be urban infill. As depicted in **Figure 4.16-1(A)**, the project site is predominantly vacant, but has been disturbed by human activity. The site includes several buildings used for a construction business. A modular building houses the office of the construction company. A metal shed (maintenance shop) and a red wooden building are the only permanent structures currently on the parcel. The project site also includes an easement for the Los Angeles Aqueduct, and an abandoned water tank. Other utility structures such as Southern California Edison electrical transmission lines traverse portions of the project site. Major easements that traverse the site include the Kern River Company easement and the City of Los Angeles Aqueduct easements (see **Figure 2.0-7, Major On-Site Encumbrances**).

The project site is bound to the north by single-family residential, undeveloped property, and Castaic Lake Water Agency (CLWA) property used for administrative offices and a treatment facility. To the southeast of the project site (south of the Santa Clara River) are a mobile home park, a business park, retail commercial uses and a Metrolink Station and the Saugus Speedway facility (on the south side of Soledad Canyon Road).

East of the project site is a business park, a public utility and undeveloped property. Commercial uses are located to the west of the site along the east and west sides of Bouquet Canyon Road.

New development associated with the project would be situated on approximately 695.4 acres of land. The northern portion of the project site is characterized by southwest to southeast trending spur ridges that descend from plateaus elevated up to about 350 feet above the Santa Clara River. The proposed project has some hillside areas with slopes in excess of 10 percent. Two ridgelines classified by the City as secondary ridgelines cross a portion of the site and one ridgeline classified by the City as a secondary ridgeline occurs just north of the project site, but no primary ridgelines exist on the site. Elevations on the site range from approximately 1,155 feet above mean sea level (msl) along the river to 1,490 feet above msl along the northeastern corner of the site. Slopes range from gentle to moderately steep with the steepest slopes in the side canyons and swale areas. Details of the site topography are illustrated on **Figure 4.1-1, Geologic/Geotechnical Map**.

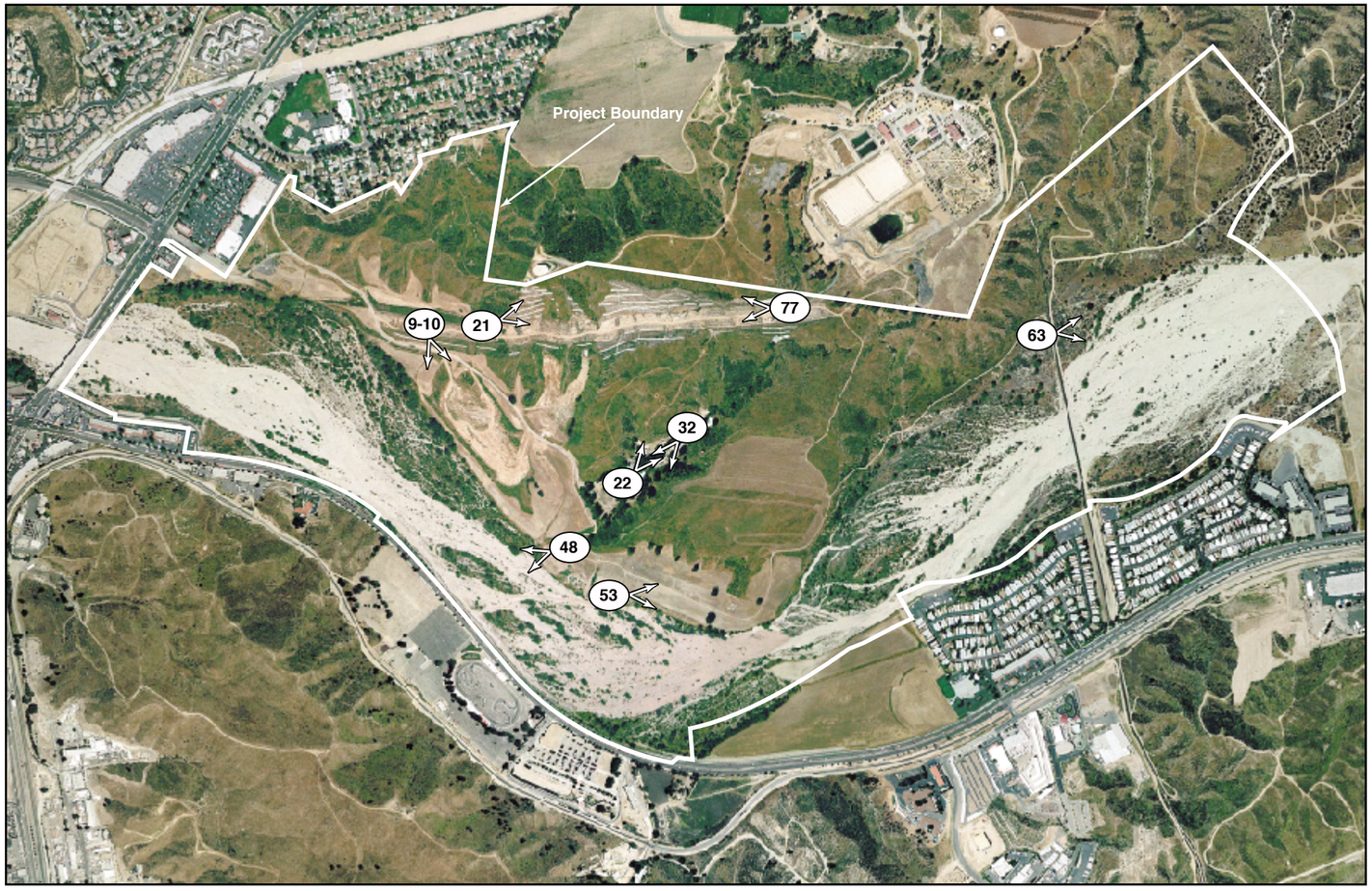

Photo 9

Photo 10

Photo 21

Photo 22

Photo 32

Photo 48

Photo 53

Photo 63

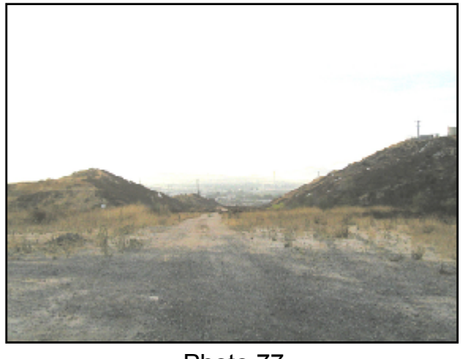

Photo 77

NOT TO SCALE

SOURCE:

FIGURE **4.16-1A**

Disturbed Areas of the Site

112-16•01/04

The Santa Clara River traverses the southern portion of the project site. No bank stabilization has been installed along the northern bank of this portion of the Santa Clara River; however, bank stabilization is proposed as part of this project. The General Plan has designated an SEA Overlay for portions of the project site that come in close proximity or overlap with the Santa Clara River. There are a total of 87 oak trees on the project site. The applicant is requesting approval of an oak tree permit to allow the removal of 15 oak trees, 12 of which will be transplanted on site. Of the 87 trees, ten are Heritage oaks, three of which are being relocated. Two Heritage oak trees are dead and will be removed concurrent with development activities. The remaining five Heritage oaks will remain at their present location. The location of existing oak trees and those that are proposed for removal are discussed in more detail in **Section 4.6, Biological Resources**.

No portion of the project site or roadways is designated as an adopted "Scenic Highway" by the State of California, or the City of Santa Clarita.

b. Site Visibility

Although the project site is visible from many locations, the most significant views occur in close proximity to the site. Six viewing locations were selected to assess the visual characteristics of the project site and surrounding area. Each location meets the following selection criteria:

- Close proximity to the project site, and/or
- The presence of a large mobile viewing audience, and
- Prominent visual characteristics of the site are visible.

The six viewing locations are identified in **Figure 4.16-1(B)**, **Viewing Locations**, and the range of view for each location is also illustrated. As shown, the primary viewing audience includes (1) Tract No. 8575 (business employees and visitors) at the eastern boundary of the project site, looking northwest into the project site; (2) residents of the Greenbrier Mobile Home Park located along Soledad Canyon Road looking northeast into the project site; (3) motorists traveling east and westbound on Soledad Canyon Road; (4) motorists traveling east and westbound on Soledad Canyon Road; (5) motorist looking northeast from Newhall Ranch Road and (6) viewshed from the Emblem tract looking south into the project. As previously stated, the project site is clearly visible from each of these locations such that viewers from these locations are able to identify on-site disturbances and notice most changes that would occur on the site. Views from each of these locations are illustrated in **Figures 4.16-2** through **4.16-7** and are generally described below.

(1) Viewing Location 1

Type of Viewing Audience: Tract No. 8575 (business park employees and visitors) at the eastern boundary of the project site, looking northwest into the project site.

Length of Time Visible: Indefinite.

Viewing Location 1, illustrated on **Figure 4.16-2, Viewing Location No. 1, Existing Condition**, is located in Tract No. 8575, near the eastern boundary of the project site. The viewing audience from this location primarily consists of employees and visitors at this industrial area. Foreground views consist of human-made disturbances (trash), vacant land, the riverbed of the Santa Clara River and intermittent riparian vegetation associated with the Santa Clara River.

In the middle ground view, riparian vegetation growing along the northern bank of the Santa Clara River is visible. In addition, DWP transmission lines, a ridgeline, and trees are visible.

In the background view, the DWP Aqueduct, trees and ridgelines two of which are classified by the City as secondary ridgelines are visible.

Prominent Visual Features: Prominent visual features within this viewshed include the riparian vegetation along the Santa Clara River, transmission lines (all off the project site), the California Aqueduct, and distant ridgelines two of which are classified by the City as secondary ridgelines.

(2) Viewing Location 2

Type of Viewing Audience: Residents of the Greenbrier Mobile Home park located along Soledad Canyon Road looking northeast into the project site.

This view is from the mobile home park located on the north side of Soledad Canyon Road, looking northeast into the project site. As illustrated in **Figure 4.16-3, Viewing Location No. 2, Existing Condition**, in the foreground, the southern bank of the Santa Clara River, associated riparian vegetation and a dirt road are visible.

In the middle ground view, the riverbed of the Santa Clara River and associated riparian vegetation is visible. A series of small hills are also visible.

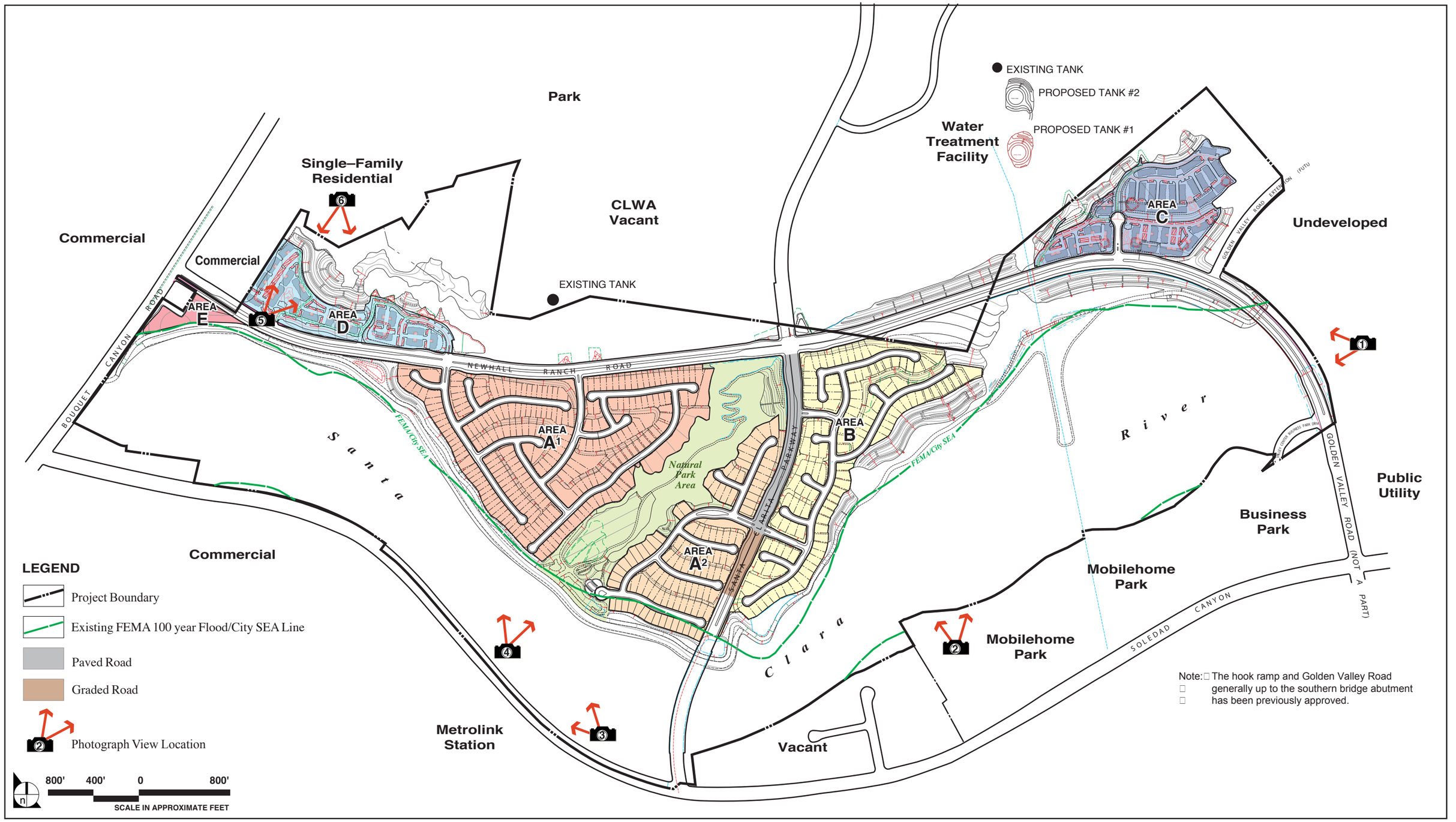

FIGURE **4.16-1B**

Viewing Locations

112-16-02/04

Existing Condition

View 01

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-2**

Viewing Location No. 1–Looking Northwest into the Project Site

Existing Condition

View 02

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-3**

Viewing Location No. 2–Looking Northeast into the Project Site

A series of increasingly higher hills, and ridgelines with trees two of which have been classified by the City as secondary ridgelines, provide the background for this entire view. The LADWP Aqueduct can also be seen from this view.

Length of Time Visible: Indefinite.

Prominent Visual Features: Prominent visual features within this viewshed include the Santa Clara River and ridgelines with trees that the City has classified as secondary ridgelines.

(3) Viewing Location 3

Type of Viewing Audience: Motorists traveling east and westbound on Soledad Canyon Road.

Length of Time Visible: Approximately 30 seconds to 1 minute.

Viewing Location 3 is illustrated on **Figure 4.16-4, Viewing Location No. 3, Existing Condition**, and is typical of views from vehicles traveling east and westbound along Soledad Canyon Road. Views from this location look north and northwest across the project site. The foreground view is of a storm water drainage pipe from under Soledad Canyon Road and the Santa Clara riverbed.

Middle ground views include the riparian vegetation associated with the Santa Clara River. A series of smaller hills backing up to larger ridgelines in the background none of which is classified as a primary or secondary ridgeline are visible from this location.

Background views are limited to views of portions of the surrounding areas, specifically the commercial and residential areas located west of Bouquet Canyon Road as well as a portion of a ridgeline classified by the City as secondary and the CLWA/Santa Clarita Water Division water tank.

Prominent Visual Features: Prominent visual features within this viewshed include distant views of ridgelines and the Santa Clara River.

(4) Viewing Location 4

Type of Viewing Audience: Motorists traveling east and westbound along Soledad Canyon Road.

Length of Time Visible: Approximately 25 seconds.

As shown on **Figure 4.16-5, Viewing Location No. 4, Existing Condition**, this viewing location is from a part of Soledad Canyon Road that is slightly elevated above this portion of the project site. This view is looking north across the Santa Clara River and into the proposed development areas of the project site.

The riverbed of the Santa Clara River dominates the visual character of the foreground view. In the middle ground, riparian vegetation along the northern bank of the Santa Clara River and oak trees are intermittently visible.

The background in this view is formed by a ridgeline classified by the City as a secondary ridgeline to the northwest and the existing CLWA/Santa Clarita Water Division water tank. In the far distance, an off-site primary ridgeline, the CLWA property and an additional water tank are visible. These landforms create a prominent backdrop for the closer landscape elements.

Prominent Visual Features: Prominent visual features within this viewshed include the Santa Clara River and the ridgeline classified by the City as a secondary ridgeline, as well as the primary ridgeline off site.

(5) Viewing Location 5

Type of Viewing Audience: Motorists traveling north and southbound on Bouquet Canyon Road and the junction of Soledad Canyon Road and the terminus of Newhall Ranch Road.

Length of Time Visible: Approximately 15 seconds.

As shown on **Figure 4.16-6, Viewing Location No. 5, Existing Condition**, this viewing location is looking east from a point just off of Bouquet Canyon Road at the terminus of Newhall Ranch Road. As illustrated, in the foreground, is disturbed vacant land with a mailbox, chain link fence, a paved roadway, and a fence.

In the middle ground view, intermittent vegetation, oak trees and a paved road are visible. The chain link fence continues along the paved road.

The background viewshed includes an unclassified ridgeline, telephone poles, and the Santa Clarita Water Division/CWLA water tank.

Existing Condition

View 03

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-4**

Viewing Location No. 3–From Soledad Canyon Road Looking Northeast

Existing Condition

View 04

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-5**

Viewing Location No. 4–From Soledad Canyon Road Looking Northeast into the Project Site

Existing Condition

View 05

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-6**

Viewing Location No.5 – Junction of Soledad Canyon and the Terminus of Newhall Ranch Road

Prominent Visual Features: Prominent visual features within this viewshed include the water tank and ridgelines (off the project site).

(6) Viewing Location 6

Type of Viewing Audience: Residents of the Emblem Community (Tract No. 28882) looking south into the project site.

Viewing Location 6, illustrated on **Figure 4.16-7, Viewing Location No. 6, Existing Condition**, is located along the cul-de-sac in the Emblem Community neighborhood located directly northwest of Planning Area D. The viewing audience from this location consists primarily of residents of this street. The viewing perspective at this location is oriented in a southerly direction. Foreground and middle ground views include the single-family residences, paved street, streetlights and automobiles parked along the street.

Background views consist of an unclassified ridgeline, which forms the northern boundary of Planning Area D for the project site.

Prominent Visual Features: Prominent visual features within this viewshed include single-family residential homes and unclassified ridgelines.

c. Light and Glare

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be divided into both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, lighted signs, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination, streetlights, and building lighting. During nighttime hours, this ambient light environment can be accentuated during periods of low cloudiness or fog, which can increase the amount of light and reflective glare.

Currently, the project site has no source of daytime or nighttime light or glare. However, in the vicinity of the project site, a variety of urban and rural land uses occur, which are typified by single- and multi-family residences, commercial structures, office buildings, streetlights along Bouquet Canyon Road and Soledad Canyon Road, and the Saugus Speedway facility on the south side of Soledad Canyon Road. These land uses and their associated human activities (inclusive of vehicular traffic)

characterize the existing light and glare environment present during daytime and nighttime hours in the vicinity of the project site. The existing light environment found in the project area is considered typical of urban areas.

d. Regulatory Setting

Discussion regarding visual impacts and consistency with the General Plan is discussed in detail in **Section 4.7, Land Use**.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines identifies criteria for determining whether a project's impacts are considered to have a significant aesthetic effect on the environment if it will:

a) have a substantial adverse effect on a scenic vista?

b) substantially damage scenic resources, including, but not limited to, primary/secondary ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?

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

d) create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

As proposed, the project would change the existing undeveloped project site to residential, commercial, and recreational uses. The project's potential impacts will be discussed in terms of the project's effect on visual resources, and the generation of ambient and stationary light and glare.

b. Project Specific Impacts

The primary visual impact of the proposed project would be the replacement of undeveloped land with residential, commercial, and recreational uses. Changes in the visual environment of the project site would be most apparent to motorists on Bouquet Canyon Road, the proposed extension of Newhall Ranch Road, and Soledad Canyon Road, to residents in the Emblem Community northwest of the site, and to residents, business employees and patrons southeast of the site. Visual impacts associated with this project would occur during site grading, building construction, and project operation. The assessment of visual impacts provided below is based on the project's changes to the environmental conditions in the project site as viewed from each of the six viewing locations previously identified (**Figure 4.16-1**).

Existing Condition

View 06

Proposed Development

SOURCE: Focus 360, May 2003.

FIGURE **4.16-7**

Viewing Location No.6–Looking South into the Project Site from the Emblem Tract

112-16•05/03

(1) Grading and Construction

Before construction, the project site would be graded to remove vegetation for implementation of bank stabilization along the Santa Clara River and to create building pads and associate infrastructure. A more detailed analysis of the grading is discussed in **Section 4.6, Biological Resources**, and **4.1, Geotechnical Hazards**, of this EIR.

(a) Have a substantial adverse effect on a scenic vista? and

(b) Substantially damage scenic resources, including, but not limited to, primary/secondary ridgelines, trees, rock outcroppings, and historic buildings within a state scenic highway?

A combination of buried bank stabilization (including toe protection) and exposed gunite/bank stabilization (at bridge crossings) would be installed along the Santa Clara River, as shown in **Figures 1.0-12, Bank Stabilization**, and **Figure 1.0-13, Examples of Bank Stabilization Techniques**. The majority of the natural vegetation within the Santa Clara River will remain; however, portions will be removed and then replaced in areas proposed for buried bank stabilization. Portions of the project east of the future extension of Santa Clarita Parkway have been set back from the River, thereby eliminating the need for the implementation of bank stabilization. About 3,000 linear feet of bank stabilization would be necessary for the proposed east-west extension of Newhall Ranch Road (also addressed under separate environmental review), and approximately 6,000 linear feet would be necessary for the remainder of the proposed project.

Buried bank stabilization terminates in the area of the future extension of Santa Clarita Parkway. Toe protection (Ajax or exposed soil cement) is being proposed at the base of the bluff below Planning Area B. The area between the eastern terminus of the toe or erosion protection and the abutment area for the Newhall Ranch Road/Golden Valley Road Bridge will not include any form of flood protection. Most of the proposed bank stabilization would be buried and generally made of soil cement except at bridges where stabilization would not be buried. Please see **Figure 1.0-12** and **Figure 1.0-13**, for an illustration of bank stabilization techniques.

The exposed gunite/bank stabilization proposed at the north and south Newhall Ranch Road/Golden Valley Road Bridge abutments would be similar in appearance to the existing bank stabilization located along the Santa Clara River west of the project site. This method of bank stabilization would result in the permanent removal of the natural riparian vegetation that lines the River banks, and would stand out in contrast to the character and colors of the existing unimproved banks in the local

vicinity and the buried bank stabilization. This area would be visible only from the proposed Newhall Ranch Road/Golden Valley Road Bridge and from existing and proposed bike paths and trails located along the Santa Clara River. This type of bank stabilization would alter the more natural visual character of the river; however, this form of bank stabilization is the standard form of flood protection for bridge abutments at river crossings throughout the Valley and would, therefore, constitute a less than significant visual impact.

No primary ridgelines would be affected by the proposed project. The proposed grading plan would involve modifications to portions of two ridgelines, classified by the City as secondary ridgelines, that extend into the project site. One of those ridgelines traverses Planning Area B and has been disturbed by the construction of the CLWA water treatment facility and the other extends for a brief stretch into Planning Area C, both in a north-south direction. The third ridgeline to the northeast of Planning Area D, also classified by the City as a secondary ridgeline but which is off site, would not be impacted by the project. The ridgeline extending into Area B that has been classified as secondary ridgeline by the City that will be impacted by the proposed project has been substantially degraded by Castaic Lake Water Agency project, and will be further degraded by the planned extension of Newhall Ranch Road to Soledad Canyon Road. As discussed above, this extension will be built in accordance with implementation of the Circulation Element of the City of Santa Clarita General Plan, and irrespective of whether or not the project is approved and built.

One of the secondary ridgelines traverses Planning Area B in a north-south direction, while the second secondary ridgeline crosses into the project site in Area C. The ridgeline in Planning Areas B and C are affected. Proposed grading in Area C is for only a small portion, a portion of which is clearly not as prominent as the rest of the ridgeline. Grading and development impacts approximately 460 feet of the ridgeline.

The two ridgelines that have been classified by the City as secondary ridgelines that would be graded during project development are visually observable from public viewing locations 1, 2 and 4, as indicated on **Figure 4.16-11**. The alteration of these two ridgelines is considered a less than significant impact of the proposed project for the following reasons.

The ridgeline that extends into Planning Area B is already severely degraded by previous development, and no longer meets the City's criteria for classification as secondary ridgelines. The Castaic Lake Water Agency has previously impacted this ridgeline by building a water treatment facility and administrative offices. In addition, the anticipated extension of Newhall Ranch Road

will further degrade this ridgeline, as it will bisect this ridgeline within Planning Area B. (See **Figure 4.16-11**.)

The project would utilize a number of methods for reducing grading impacts, and, ultimately, creating a development that would, to the greatest extent possible, blend in with the natural contours of the site. The project would conserve natural topographic features and appearances by means of landform grading so as to blend any manufactures slopes or required drainage benches into the natural topography. The project would utilize grading designs that would also avoid disruption to adjacent property.

The project would also incorporate site design and grading techniques that would minimally disrupt existing view corridors and scenic vistas. By placing the residential and commercial development in previously disturbed areas, mostly in areas with less than 25 percent grade, the project would avoid disruption of view corridors and scenic vistas. Changes in views from various vantage points adjacent to the project site are shown on **Figures 4.16-2** through **4.16-7**.

In addition, the project would utilize building setbacks, building heights and compatible structures and building forms throughout the site in order to blend buildings and structures with the terrain and surrounding development as much as possible. Building setbacks, building heights, compatible structures and building forms would be substantially consistent with the City's Code requirements and are designed to blend with the surrounding terrain. Please see **Figures 4.16-8** through **4.16-10**.

Typical elevations for the proposed water tank are shown on **Figure 4.6-11, Typical Water Tank Elevation**.

Additionally, landscaping with natural vegetation would be used to protect slopes from slippage and soil erosion and to minimize the visual effects of grading and construction on hillside areas. The choice of landscaping plants will, to the extent possible, be made based on the goal of reducing the maintenance cost to public and private owners. The project would also incorporate curvilinear street design and improvements that would serve to minimize grading alterations and simulate the natural contours and character of the hillside.

The project's proposed uses would be proper in relation to adjacent uses and the development of the community as is evidenced by nearby existing residential and commercial developments. The project's uses and development would not be materially detrimental to the visual character of the neighborhood or community because the contour grading would limit visual impacts to hillside areas by helping them blend with the existing topography. The proposed project would not create a difference in the

appearance of adjoining ridgeline areas so as to cause depreciation of ridgeline appearance in the vicinity because of existing degradation activities to the ridgelines that are not visually prominent.

Implementation of the project also would not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate future encroachments into the ridgeline areas designated by the City as primary or secondary ridgelines. The project would not violate the visual integrity of the ridgelines within its boundaries as is shown in the visual simulations. Overall, the proposed project would not violate the visual integrity of these ridgelines as the ridgelines currently existing on the project site are indistinguishable from other hills on the site and the project does not encroach or restrict views of the more prominent ridgelines located off site.

(2) Construction

During the construction phase of the proposed project, visual impacts would change from existing undeveloped conditions. During this phase, the framework of the structures would be raised and finished, parking areas and streets would be paved. As the structures are constructed and finished, the scale of the project and changes in the visual character of the project site would become more evident. It is anticipated that the commercial structures would be a maximum of approximately 35 feet in height, the single-family structures a maximum of 35 feet in height, and the multi-family residential units would be a maximum of three stories and 50 feet in height. Per Title 17 of the City's Unified Development Code, the maximum height allowed for the proposed single-family and multi-family dwellings is two stories or 35 feet for residences located within the RM PD zoned area. The Unified Development Code provides a project applicant with the ability to exceed two-stories or 35 feet tall with the approval of a Conditional Use Permit. This request has been filed in conjunction with the project to allow for three-story, 50-foot tall buildings in Areas C and D. Therefore, for the purposes of this analysis, the simulations have assumed a 50-foot height limit, which assumes building heights of three stories.

Changes to the visual character of the project site would likely occur in a single development phase. Initially, each area would be cleared and graded, with building pads and structures framed. Residential structures would most likely use wood framing, while the commercial buildings would involve steel and wood framing. The transition from graded lots, to framed structures, to finished buildings with landscaped areas would occur over each area.

Right Side Elevation

Rear Elevation

Left Side Elevation

Front Elevation

FIGURE **4.16-8**

Typical Building Elevations–Planning Area C-Upper Pad

Right Side Elevation

Rear Elevation

Left Side Elevation

Front Elevation

FIGURE **4.16-9**

Typical Building Elevations–Planning Area C-LowerPad

Right Side Elevation

Rear Elevation

Left Side Elevation

Front Elevation

FIGURE **4.16-10**

Typical Building Elevations–Planning Area D

North Park Water Tank from
McBean Parkway Pedestrian Bridge

Water Tank from Newhall Ranch Road
and Bridgeview Lane

Water Tank from Newhall Ranch Road
West of Grandview Drive

Water Tank from Newhall Ranch Road
and Grandview Drive

Water Tank from Newhall Ranch Road
West of Grandview Drive

SOURCE: PSOMAS – February 2004

FIGURE **4.16-11**

Typical Water Tank Elevations

112-16•02/04

Additionally, as the proposed project is developed, circulation improvements (i.e., roadways, landscaped medians, parkways, signalization, and streetlights) would be constructed in the development phase. These improvements would also change the visual character of the streetscape in the project vicinity.

Although the visual character of the project site would be altered from its current condition during construction, this impact is not considered significant for the following reasons: (1) the temporary nature of the construction-related activities, (2) the project site is located immediately adjacent to urbanized areas and is of similar scale and intensity, (3) 67 percent of the project site would be preserved as open space, (4) ridgelines classified by the City as primary ridgelines would not be degraded or impacted by proposed project development and proposed project development on ridgelines classified by the City as secondary ridgelines would be minimal, in the case of the ridgeline that is located in Planning Area C, and (5) the ridgeline that extends into Planning Area B is already severely degraded by previous development, and no longer meet the City's criteria for classification as secondary ridgelines.

(c) Substantially degrade the existing visual character or quality of the site and its surroundings? and

(d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

During this phase, the residential dwelling units and commercial buildings would be completed and landscaping would be established. With the completion of this phase of the project, the long-term visual characteristics of the project site would be established, including the final size and bulk of the structures, landscaping, and the project's compatibility with the surrounding land uses.

(3) Viewing Locations

Changes in the visual character of the project site would be most apparent from Bouquet Canyon Road and Soledad Canyon Road (see discussion of **(e) Viewing Location 5**, below). Views from Bouquet Canyon Road and the proposed Newhall Ranch Road extension of the ridgeline that the City has classified as a secondary ridgeline that traverses Planning Area B would be lessened, but not obstructed by construction in Planning Area D. In addition, views would be modified from the residential Emblem Community located north of the project site, which would result in a lowering in the height of the ridgeline located between the Emblem Community and Planning Area D. However, the buffer created

by this ridgeline will remain and views of the proposed Newhall Ranch Road and development within Planning Area D will remain unseen by residents in the Emblem Community. The simulations from Viewing Locations 1, 2, 3 and 4, demonstrate that views of the riparian corridors associated with the Santa Clara River, would not be obstructed.

An analysis of the anticipated changes in the project areas visual characteristics from the six viewing locations is provided below.

(a) Viewing Location 1 – Tract No. 8575 (industrial area employees and visitors) looking northwest into the project site

As illustrated on **Figure 4.16-2, Viewing Location 1**, only minor changes would occur in the portion of the project site visible from this location. This portion of the site would be developed with proposed multi-family residential units all located east of the DWP Aqueduct. Looking toward the north and west, viewers would see in the distance residential structures located along the north side of the Santa Clara River in Planning Area B and the along the proposed Newhall Ranch Road extension in Planning Area C. Renderings of these proposed residential uses are illustrated in **Figure 4.16-2, Viewing Location 1 Proposed Development**. As is shown, these residential uses would not obstruct midground features (riparian vegetation along the northern bank of the Santa Clara River) and background features (ridgelines). The Newhall Ranch Road/Golden Valley Road Bridge would be visible and prominent in the midground view.

The proposed project would not substantially alter the project site and views from Tract No. 8575. Although Golden Valley Road Bridge would be seen and some residential uses would be visible, these changes are secondary when compared to the fact that viewsheds from this perspective focus upon the Santa Clara River, which will not be developed with structures. In addition, the proposed land uses and character of development would be consistent with the City's designated land uses for the project site and would be typical of other residential development in the local vicinity, and no significant aesthetic effects from this source are anticipated. For all of these reasons, proposed development of the portion of the project site visible from this viewing location would not have a significant impact on visual resources.

(b) Viewing Location 2 – Residents of the mobile home park located along Soledad Canyon Road looking northeast into the project site

Figure 4.16-3, Viewing Location 2, demonstrates that only minor changes would occur in the portion of the project site visible from this location. This portion of the project site would be developed with the proposed single- and multi-family residential units (detached and attached units) and recreation areas. The project's multi-purpose trails along the river edge would provide the public an opportunity to view the river corridor, a view that is not presently available to the public. Toward the northeast, viewers would see in the midground distance landscaping and the tops of single-family residential structures located along the north side of the Santa Clara River in Planning Area B. The multi-family units that are visible in the background are located in Planning Area C north of the proposed extension of Newhall Ranch Road. As is shown in **Figure 4.16-3, Viewing Location 2, Proposed Development**, the residential uses and associated grading would remove the series of small hills from the midground views. Residential uses would not impact the foreground views of the Santa Clara River or the background views of off-site ridgelines and trees. The Newhall Ranch Road/Golden Valley Road Bridge would be visible and prominent in the midground/background views.

Although the proposed project would alter the project site and views from the mobile home park, these changes would not result in a significant impact from this view location as some residential units and the Golden Valley Bridge would be visible, the primary viewshed perspective is the Santa Clara River and the project does not propose any development of the river. In addition, the project's proposed land uses and character of development would be consistent with the City's designated land uses for the project site and would be typical of other residential development in the local vicinity, and therefore no significant aesthetic effects are anticipated from this source. For all of these reasons, proposed development of the portion of the project site that would be visible from this viewing location would not have a significant impact on the viewers' visual resources.

(c) Viewing Location 3 – Motorists traveling east and westbound on Soledad Canyon Road

Figure 4.16-4, **Viewing Location 3**, demonstrates that only minor changes would occur in the portion of the project site visible from this location. This portion of the project site would be developed with proposed single-family residential units in Planning Area A1. Looking toward the northwest, viewers would see landscaping and residential structures located along the north side of the Santa Clara River in that planning area. As is shown in **Figure 4.16-4, Viewing Location 3, Proposed Development**, the residential uses and associated grading would obstruct the series of small hills in the midground features. Foreground views of the riparian vegetation along the banks of the Santa Clara River and

background features (secondary) ridgelines, water tank and views into the general area) would not be obstructed. It should be noted that the buried bank stabilization has been constructed in this simulation but is not visible because of revegetation of the banks.

Although the proposed project would alter the project site and views from Soledad Canyon Road, these changes are not considered to create significant visual impacts on viewers at this viewing location because the primary view from this location is the Santa Clara River which (except for bank stabilization) will not be altered. In addition, the project's proposed land uses and the overall character of development would be consistent with the City's designated land uses for the project site and would be typical of other residential development in the local vicinity and therefore no significant aesthetic effects are anticipated from this source. For all of these reasons, proposed development of this portion of the project site would not have a significant impact on viewers' visual resources at this location.

(d) Viewing Location 4 – Motorists traveling east and westbound along Soledad Canyon Road

Figure 4.16-5, Viewing Location 4, shows that only minor changes would be evident in the portion of the project site visible from this location. This portion of the project site would be developed with single-family residential uses in Planning Area A1 and with open space/recreational land uses. Looking toward the northeast, viewers would see landscaping and single-family residential located along the northern side of the Santa Clara River. In addition, the proposed 29-acre park site would be visible from this location. As is shown in **Figure 4.16-5, Viewing Location 4, Proposed Development**, the residential uses would remove midground features, which include the small hills in front of the more prominent secondary ridgelines, because associated grading for development of the structures would lower the elevation and result in a flatter topography. Development of the park would result in the removal of several non-protected trees at the mouth of this canyon area; however, a majority of this canyon would remain in a natural state and would not result in a substantial alteration of presently existing views. Some riparian vegetation along the banks of the Santa Clara River would be removed for construction of the buried bank stabilization; however, this results in a temporary impact, as affected areas would be revegetated with riparian habitat. Background features a City classified secondary ridgeline, water tank and distant trees) would not be impacted.

Although the proposed project would alter the project site and views from Soledad Canyon Road, these changes would not create a significant visual impact on viewers from this location because the primary view from this location is the Santa Clara River, which (except for bank stabilization) will not be altered. It should be noted that the buried bank stabilization has been constructed in this simulation

but is not visible because of revegetation of the banks. In addition, the project's proposed land uses and character of development would be consistent with the City's designated land uses for the project site and would be typical of other residential development in the local vicinity, and no significant aesthetic effects are anticipated. Proposed development of this portion of the project site would not have a significant impact on visual resources.

(e) Viewing Location 5 – Motorists traveling north and southbound on Bouquet Canyon Road and the junction of Soledad Canyon Road and the terminus of Newhall Ranch Road

Figure 4.16-6, Viewing Location 5, demonstrates the changes that would occur as the existing undeveloped site would be developed with multi-family residential uses in Planning Area D and the proposed Newhall Ranch Road extension. Looking towards the east, the viewer would see the proposed six-lane Newhall Ranch Road extension and associated raised median, landscaping and bike lane. Along the north side of the proposed Newhall Ranch Road extension, the viewer would see the proposed multi-family residential area and associated landscaping. New residential buildings and the extension of Newhall Ranch Road would obscure views looking northeast.

The viewer would see a continuation of multi-family residential buildings north of Newhall Ranch Road. As shown in **Figure 4.16-6, Viewing Location 5, Proposed Development**, the landscaped buffer would soften the exterior elevations of the buildings. Project development would not significantly obstruct the views to the northeast of the ridgeline and the water tank presently visible. To the south of Newhall Ranch Road, proposed commercial buildings would be visible.

The proposed project would substantially alter the project site and views from Bouquet Canyon Road and Newhall Road, by degrading the existing visual character or quality of the site and its surroundings. The view of the unclassified ridgeline would materially change and the view from the current terminus of Newhall Ranch Road would be entirely different. However, the project's proposed land uses and character of development would be consistent with the City's designated land uses for this area. Proposed development at this location would be typical of residential type uses in the area, and no significant aesthetic impacts are anticipated from that source. Proposed development of this portion of the project site would not have a significant impact on visual resources as the ridgeline and the buffer to the Emblem tract still remain.

(f) Viewing Location 6 – Residents in the Emblem Community Looking South into the Project Site

Figure 4.16-7, Viewing Location 6, Proposed Development, demonstrates that part of the existing ridgeline south of the cul-de-sac would be lowered. As is shown in **Figure 4.16-7, Viewing Location 6, Proposed Development**, looking towards the south, viewers would not see directly into the project site and would not see project buildings. Therefore, even though this portion of the existing ridgeline would be lowered, it would still serve as an intervening ridgeline and buffer between this community and the project.

Although the proposed project would substantially alter the project site and views from the Emblem Community, this change would not create a significant impact. In addition the project's proposed land uses and character of development are consistent with the City's designated land uses for this planning area. For all of these reasons, proposed development of this portion of the project site would not have a significant impact on visual resources from this viewing location.

Light and Glare

The project would operate during both the daytime and nighttime hours and would create a light and glare source not currently present on the project site. Light most visible to off-site viewers would include streetlights within the project adjacent to Newhall Ranch Road and Santa Clarita Parkway, as well as other project streets. In addition, the park and private recreational facilities would contain safety lighting. Also, parking lot lighting and light associated with the new residential units, and commercial structures would be visible. These lights (particularly commercial lighting) would be visible during nighttime hours and would represent the greatest source of new light to residents located north of the project site. As a result, lighting in the project area would increase. This impact is not considered significant, however, as it would be minimal and similar in intensity to surrounding development; in addition, light fixtures would be directed downward onto the area intended to be lit and would not result in substantial levels of light and glare.

Street lighting currently exists along Bouquet Canyon Road and Soledad Canyon Road and would not be modified as part of the proposed project.

Lighting from the Saugus Speedway may impact residents on the project site. However, due to the intervening buffers presented by Soledad Canyon Road, the Santa Clara River with associated open space on the project site, and the difference in elevation between the project site and the Saugus

Speedway facility as well as implementation of recommended mitigation measures presented below, impacts would be reduced to less than significant.

(4) Conclusion

All of the views analyzed would not be significantly impacted by the project, as development is anticipated for the site (see **Section 4.7, Land Use**). Even so, the proposed project would alter the project site's visual character from an undeveloped to a developed environment. Views of some natural features would be reduced or replaced by views of residential and commercial development on the site. Although the project's land uses would be consistent with the type and character of the surrounding land uses, the change in visual character of the project site would represent a material change and could consequently result in a significant and unavoidable impact.

The loss of riparian vegetation and the associated change in visual character of the Santa Clara River due to the placement of bank stabilization along the banks of the Santa Clara River would be a less than significant impact.

The alteration of the secondary ridgelines would also result in a less than significant impact due to the already impacted nature of the ridgelines in Planning Areas B and C, and due to the physical attributes of the project discussed above. Views from Bouquet Canyon Road and the proposed Newhall Ranch Road extension of the ridgeline that the City has classified as a secondary ridgeline that traverses Planning Area B would be lessened, but not obstructed by construction in Planning Area D. In addition, views from the residential Emblem Community located north of the project site will result in a lowering in the height of the ridgeline located between the Emblem Community and Planning Area D. However, the buffer created by this ridgeline will remain and views of the proposed Newhall Ranch Road and development within Planning Area D will remain unseen by residents in the Emblem Community. The visual character of the project site, as illustrated from Viewing Locations 1, 2, 3 and 4, demonstrate that views of the riparian corridors associated with the Santa Clara River, would not be obstructed.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE EIR

The project has not incorporated any mitigation measures into its design.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

Mitigation measures, which would reduce potential visual and light and glare impacts, are listed below.

4.16-1 Taller growing trees and/or shrubs shall be planted along Newhall Ranch Road, the River Trail and Santa Clarita Parkway borders of the project site in order to screen the project and minimize the potential for light and glare impacts. Shade trees shall be planted at the commercial site to provide visual relief and help to reduce ambient temperatures.

4.16-2 All parking lot pole lights and streetlights shall be fully hooded and back shielded to reduce the light "spillage" and glare.

4.16-3 The project applicant shall consult with the City Department of Transportation and Engineering Services and Southern California Edison to develop a street lighting program that will allow for reduced streetlight to reduce lighting spillover into the Santa Clara River.

4.16-4 All trail and community park lighting shall provide optimum safety while at the same time reducing light "spillage" and glare.

4.16-5 The colors of exposed bank stabilization structures shall be earth tones, which blend with the surrounding natural environment. Wall surfaces shall be variously textured to diffuse lighting and minimize reflectivity.

7. CUMULATIVE IMPACTS

The proposed project represents infill development in an established urban area. The project site is bounded to the north by single-family residential, open space, and Castaic Lake Water Agency (CLWA) property used for administrative offices and a treatment facility. To the southeast of the project site (across the Santa Clara River) are a mobile home park, a business park, retail commercial uses and a Metrolink Station. East of the project site is a business park and undeveloped property. Open space and retail commercial uses are located to the west of the site along Bouquet Canyon Road.

Cumulative impacts would include the conversion of vacant land to urban or suburban uses. Additionally, there would be a cumulative visual impact relative to the loss of vacant undeveloped land as viewed from the public roadways. The amount of visible natural vegetation would also

decrease overall. Nighttime illumination and daytime glare would increase in the project site and the surrounding area as a result of cumulative project development.

Development of the proposed project is currently planned to build out over a period of five years. As noted above, this development would occur within a generally urban and urbanizing area. The project's visible development areas, in combination with other development expected to occur within the project area before or during project buildout, would largely be compatible with the aesthetic character that currently exists, a visual character that is becoming more urbanized over time.

In summary, the project and other proposed or on-going projects occur within infill development area within the Santa Clarita Valley. Development will result in changes to the appearance of the landscape as viewed from public roads. Proposed cumulative development will also contribute to cumulative night lighting and daytime glare and reflective impacts. Thus, cumulative impacts are considered significant.

8. CUMULATIVE MITIGATION MEASURES

Other than the mitigation for lighting, there is no mitigation that could be imposed on the project to mitigate cumulative impacts. However, as discussed within the text of this section, the proposed project is an infill development. As such, the project is in character with other development in the project vicinity and mitigation measures proposed above would further ensure compatibility with the surrounding environment.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Specific

As a result of project implementation, the visual character of the site would be transformed largely from vacant mostly undeveloped property to a more urban environment. With the implementation of the recommended mitigation measures, visual impacts associated with project implementation would be mitigated to a degree, and would be consistent with historically acceptable forms of urban development. However, the demonstrable change in character of the project site resulting from the replacement of mostly undeveloped property and open space/agricultural uses with urban uses would still result in a significant and unavoidable impact.

The loss of riparian vegetation and the associated change in visual character of the Santa Clara River due to the placement of bank stabilization along the banks of the Santa Clara River would not be significant as the disturbance to visual character of the vegetation would be limited.

In addition, alteration of the secondary ridgelines within Planning Areas B and C is considered less than significant, as the ridgelines are minimally impacted or indistinguishable from other existing hills on the site not designated as having primary or secondary ridgelines. Views from Bouquet Canyon Road and the proposed Newhall Ranch Road extension of the ridgeline that the City has classified as a secondary ridgeline that traverses Planning Area B would be lessened, but not obstructed by construction in Planning Area D. In addition, views from the residential Emblem Community located north of the project site will result in a lowering in the height of the ridgeline located between the Emblem Community and Planning Area D. However, the buffer created by this ridgeline will remain and views of the proposed Newhall Ranch Road and development within Planning Area D will remain unseen by residents in the Emblem Community. The visual character of the project site, as illustrated from Viewing Locations 1, 2, 3 and 4, demonstrate that views of the riparian corridors associated with the Santa Clara River, would not be obstructed.

b. Cumulative Impacts

The proposed project, in combination with other development in and around the City, would contribute to the alteration of the aesthetic character of the Santa Clarita Valley from rural to more suburban. The project and other development in the City and unincorporated Los Angeles County would transform the character of the area by adding urban uses in currently undeveloped hillside areas. The aesthetic impacts of individual development projects can often be mitigated through careful site design, avoidance of significant visual features, and appropriate building and landscape standards. Nevertheless, the overall change in visual character associated with buildout is considered an unavoidably significant cumulative aesthetic impact.

4.17 POPULATION/HOUSING/EMPLOYMENT

1. SUMMARY

As of January 2003, a total of 162,875 people resided in the City of Santa Clarita within 52,842 occupied housing units. By year 2010 (the closest year to project buildout), the City's population is expected to increase to 181,082 persons with a total of 64,675 households. In that same year, population within the Santa Clarita Valley is projected to be 273,092 compared to 213,178 persons in 2000.[1] *According to the 2000 Census, there were approximately 48,576 jobs in the City of Santa Clarita. SCAG employment projections show that employment within the City will grow to 58,345 in year 2010 and to 61,973 in 2020.*

Using the January 2003 Department of Finance figure for average household size within the City, the 1,183 residential units proposed for the project would house approximately 3,615 persons. Relative to the year 2010 City and Santa Clarita Valley population projections, population generated by the project is considered negligible (2.0 and 1.3 percent of the 2010 projections, respectively). The project would also create 94 jobs at the commercial retail use.

Although the existing City's General Plan designations for the site are proposed to be changed, the proposed General Plan Amendment would reduce on-site density or intensity of residential use compared to that allowed under the existing General Plan, and it would generate less population than allowed on the site. Project population, housing, and employment would also be within growth projections for the City and the Santa Clarita Valley. Therefore, the proposed project would not exceed City or regional population, housing, and employment projections and would not result in a significant impact relative to population and housing.

Cumulative buildout of the Santa Clarita Valley would result in a population of 443,658, 145,176 housing units, and 146,483 jobs. These numbers are greater than those projected in the Santa Clarita Valley Area Plan; however, the Area Plan only projects growth for year 2010, while buildout of the Valley is expected to occur far into the future. Cumulative population, housing, and employment impacts would be less than significant under the significance criteria utilized in this impact analysis. Environmental impacts of this growth in other areas of concern addressed in this EIR are discussed throughout ***Section 4.0****.*

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1 City of Santa Clarita. "City of Santa Clarita Profile." [Online] 20 August 2003, <www.santa-clarita.com/cityhall/demog.htm#demog>.

2. INTRODUCTION

Information on population, housing stock and employment for the City of Santa Clarita and the Santa Clarita Valley was derived from the California Department of Finance, from the City of Santa Clarita, the City's web site (http://www.santa-clarita.com/cityhall/demog.htm#demog), and from the web site of the Southern California Association of Governments (http://www.scag.ca.gov/forecast/rtpgf.htm). Existing planning documents, such as the City of Santa Clarita General Plan (June 1991), Los Angeles County Santa Clarita Valley Area Plan (December 1990), and Los Angeles County Housing Element (2001) are also referenced. As two of the City and County planning documents are more than ten years old, demographic projections from these documents are not used in this impact analysis. Rather, up-to-date forecasts from the City of Santa Clarita are used.

3. EXISTING CONDITIONS

a. Population

Most of the population within the Santa Clarita Valley resides in the City of Santa Clarita, which had a January 2003 population estimate of 162,875. In year 2000, a total of 213,178 persons lived in the Valley as a whole. **Table 4.17-1** provides population projections supplied by the City and the Valley from 2000 to 2020.

Table 4.17-1
Population Forecasts – 2000 to 2020

Region/City	Population			Percent Change 2000-2020
	2000	2010[2]	2020[2]	
Santa Clarita Valley	213,178[1]	273,092[1]	363,222	70.4%
City of Santa Clarita	151,088[1]	181,092	210,220	39.1%
City Percent of Valley	70.1	66.3	57.9	--

[1] *City of Santa Clarita Profile from www.santa-clarita.com/cityhall/demog.htm#demog (20 August 2003).*
[2] *Personal communication with Lisa Hardy, Senior Planner, City of Santa Clarita, August 2003.*

As shown, the population within the Valley is projected to grow by 70.4 percent by 2020, while population in the City is projected to grow by 39.1 percent. The City's proportionate share of population within the Valley is also shown to decrease from 70.1 percent to 57.9 percent over the twenty-year timeframe represented in the table.

The project site is currently unoccupied, with the exception of a temporary construction storage yard, and it does not contribute to the City's population.

b. Housing

According to the 2000 Census, there were approximately 48,842 households in the City of Santa Clarita.[2] As of January 2003, there were 54,565 housing units within the City, 52,842 of which were occupied, resulting in a 3.16 percent vacancy rate. There was also an average of 3.056 persons per household. Based on forecasts provided by the City, the number of households in the City is expected to grow to 64,675 in 2010, and then to 75,078 in 2020, while the number of households in the Santa Clarita Valley is expected to grow to 92,175 and 121,578 in those respective years. City housing, therefore, would represent 70.2 and 61.8 percent of the projected housing for the Santa Clarita Valley for those years, respectively.

California State Planning and Zoning law requires that every City and County must prepare and adopt a long-term comprehensive General Plan for the development of their respective jurisdiction. While there are seven mandatory elements to every General Plan in the state, the housing element is deemed to have "preeminent importance."[3] In fact, this is the only element that is subject to approval by the state. This approval process occurs as part of the Regional Housing Needs Assessment (RHNA) which is conducted by the State Department of Housing and Community Development pursuant to Government Code Section 65584 in conjunction with the appropriate regional agency (in this case, the Southern California Association of Governments). The RHNA process examines existing and projected population, housing, and economic characteristics to determine the need for housing in a given region, including both market rate and affordable housing.[4] The regional housing needs allocation process ensures that local governments share the responsibility for accommodating the housing needs of all economic levels.

SCAG adopted its Regional Housing Development Program on November 2, 2000, which included housing needs by income for the City of Santa Clarita by year 2005.[5] The forecast for the City is presented below in **Table 4.17-2, Citywide Housing Needs – Year 2000 to 2005**.

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2 Southern California Association of Governments, Information Services, (29 October 2002).

3 *Committee for Responsible Planning v. City of Indian Wells* (1989) 209 Cal.App.3d 1005,1013.

4 The U.S. Department of Housing and Urban Development definition of affordability is for a household to pay no more than 30 percent of its annual income on housing. Families who pay more than 30 percent of their income for housing are considered cost burdened.

5 Southern California Association of Governments. "Regional Housing Needs Assessment." [Online] 3 December 2002. <http://api.ucla.edu/rhna/RegionalHousingNeedsAssessment/RHNABackground/PDF8aRHDP.pdf.>

Table 4.17-2
Citywide Housing Needs – Year 2000 to 2005

Income Level[1]	% of Needed Units	Needed Housing Units
Very Low Income	18	1,256
Low Income	13	941
Moderate Income and Above	69	4,960
Totals	**100**	**7,157**

Source: Southern California Association of Governments. "Regional Housing Needs Assessment." [Online] 20 August 2003. <http://api.ucla.edu/rhna/RegionalHousingNeedsAssessment/FinalNumbers/Default.cfm?Step=2&ID=88.>

[1] *Very Low Income: The income limits for a four-person family does not exceed 50 percent of the median family income of the County). Low Income: Four-person family with income between 50 and 80 percent of the County median family income. Moderate Income: Four-person family with income between 80 and 120 percent of the County median family income. Above Moderate Income: Four-person family with income 120 percent or more of the County median family income.*

As shown, the City of Santa Clarita has a need for 1,256 very low income and 941 low-income housing units by year 2005.

No housing units currently exist on the project site.

c. Employment

According to the 2000 Census, there were approximately 48,576 employees in the City of Santa Clarita[6] resulting in a jobs/housing ratio of 0.99:1 (48,576/48,842 = 0.99). More than one-third of these employees were in the service sector, followed by 18 percent in retail and wholesale trade, and 13 percent in manufacturing. An estimated 19,000 people are employed within the Valencia Industrial Center, and an estimated 20,000 people are expected to be employed within the Valencia Commerce Center at buildout.[7] The Commerce Center is located outside the City limits. Year 2000 employment in the City represented 26.0 percent of the total employment in the North Los Angeles County Region (186,500 employees).

City employment projections show that employment within the City will grow to 58,345 in year 2010 and to 61,973 in 2020. Compared to year 2000, these projections represent employment increases of 20.1 and 27.6 percent for these years, respectively. Within Santa Clarita Valley, year 2010 employment is projected to be 76,345 and year 2020 employment is projected to be 95,473, with the City's 2010 and 2020 employment representing 76.4 and 64.9 percent of these totals, respectively.

6 Southern California Association of Governments, Information Services, (29 October 2002).

7 City of Santa Clarita. "City of Santa Clarita Profile." [Online] 20 August 2003, <www.santa-clarita.com/cityhall/demog.htm#demog>.

Within the City, SCAG data show that the jobs/housing ratio for years 2010 and 2020 would be 0.90:1 (58,345/64,675 = 0.90) and 0.83:1 (61,973/75,479 = 0.83), respectively. This demonstrates that the City will become more housing rich over the next twenty years.

The project site is currently vacant, except for a small portion that is being used by a contractor as a temporary storage yard. This use does not directly generate employment.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

According to the City of Santa Clarita Environmental Guidelines, a project would have a significant effect on the environment if it will:

- 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (especially affordable housing); or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The project is evaluated relative to these criteria below.

b. Population

Assuming an average household size of 3.056 persons,[8] the 1,183 dwelling units within the proposed project would generate a resident population of 3,615 persons (1,183 units x 3.056 persons/unit = 3,615 persons).[9] This increase in population is considered minimal (2.0 percent of the City's projected 2010 population of 181,082) and does not represent a substantial portion of the projected population for the City and would not induce substantial growth or concentration of population. The project would supply a portion of the housing needs. The project would also not cumulatively exceed Santa Clarita Valley population projections. The project would have a less than significant population impact under the significance criteria.

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8 California State Department of Finance. "Official State Estimates." [Online] 20 August 2003. <http://www.dof.ca.gov/HTML/DEMOGRAP/E-1text.htm.>.

9 A total of 3,096 dwelling units are permitted on the site under existing zoning designations; these units would have generated a resident population of 9,461 (3,096 x 3.056 = 9,461).

c. Housing

The project would add 744 multi-family and 439 single-family residences to the City's housing inventory. This increase represents 1.83 percent of projected housing units within the City for year 2010 (64,675 units), is consistent with the City's General Plan land use designations for the site, and does not represent substantial growth or concentration of population. Furthermore, the site is currently undeveloped and the project will not displace existing housing. The project would have a less than significant housing impact under the significance criteria.

d. Employment

The site is currently vacant, except for a small portion that is being used by a contractor as a temporary storage yard. Because this storage yard does not directly generate employment and can be relocated to another location at the time of project construction, if necessary, there would be no net loss of employment as a result of the project. The project proposes 40,000 square feet of commercial retail uses. Using the SCAG employment generation factor of 2.36 employees per 1,000 square feet,[10] this use would generate 94 employees. The project would not result in a net decrease in jobs and so would not result in a significant employment impact under the significance criterion for employment impacts identified above.

The jobs/housing ratio for the City of Santa Clarita in 2000 was 0.99:1, while the projected jobs/housing ratio for the City in year 2010 (the year closest to project buildout) would be 0.90:1 (58,345/64,675 = 0.90), indicating that the City will become more housing rich. The original purpose of achieving jobs/housing balance within the region as outlined in SCAG's Regional Comprehensive Plan and Guide (1994) was to result in a balanced development and a reduction in vehicle miles traveled within a region and, thereby, a reduction in roadway congestion, fuel consumption, and air emissions. SCAG's population/housing goal for the North County Region is 1.30:1.

Approximately 45 percent of the City of Santa Clarita's population is included in the total labor force.[11] Assuming that 45 percent of the project's population would be employed, 1,627 employed people would reside on the site (3,615 x 0.45 = 1,627). These people are expected to be employed within the City area and possibly at the proposed on-site commercial use, within the North Los Angeles County region, or elsewhere. Given the proximity of the site to existing freeways (i.e., the I-5 and SR-14), the Metrolink, and existing bus service to the project area by the Santa Clarita Transit, employed

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10 The Natelson Company, Inc., Employment Density Study Summary Report Prepared for Southern California Association of Governments (October 31, 2001).

11 City of Santa Clarita. "City of Santa Clarita Profile." [Online] 20 August 2003, <www.santa-clarita.com/cityhall/demog.htm#demog>.

residents within the Riverpark project are not geographically limited to the Santa Clarita Valley for employment. Specifically, the I-5 connects Southern California to Northern California, and SR-14 connects the Santa Clarita Valley to the Antelope Valley and US-395. Metrolink currently serves Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, Santa Clarita Transit serves the Santa Clarita Valley, and the Los Angeles County Metropolitan Transit Authority connects North Los Angeles County with the rest of urbanized Los Angeles County. The Metropolitan Transportation Authority (MTA) oversees transit planning in the Los Angeles County area, and has a long-range plan for future rail transit. An eventual Metrolink extension along the SR-126 corridor to Ventura County is part of the long-range transit plans prepared by Ventura County, City of Santa Clarita, and SCAG. It is likely that some project residents would use mass transit as a means to commute to work. The project would facilitate use of nearby public transit services by placing housing within close proximity to public transit facilities, and by providing transit facilities, such as bus turnouts, bus stops, and appurtenant structures along all prominent roadways.

Using data from May 2003 (most recent data available), average weekday ridership on the Antelope Valley Line of the Metrolink, which serves the Santa Clarita Valley, was 5,609 people,[12] with approximately 17.5 percent boarding at the Santa Clarita station.[13] According to Metrolink management, the overall regional system has removed 22,259 cars per day from regional roadways, which represents 2.9 percent of the freeway traffic on freeways that run parallel to the Metrolink lines.[14] The use of these mass transit facilities has helped to reduce roadway congestion, fuel consumption, and air emissions within the region, which was the original purpose of the jobs/housing balance concept. The Riverpark project, in and of itself, is housing rich and does provide a contribution to the SCAG jobs/housing goal of 1.30:1 for the North County Region with the inclusion of the 4 acre commercial site.

e. Conclusion

The proposed Riverpark project would not meet any of the following thresholds of significance:

- Induce substantial growth or concentration of population,
- Cumulatively exceed official regional or local population projections, and/or
- Displace existing housing, especially affordable housing.

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12 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>. The Antelope Valley Line has nine stations that run from Lancaster to Glendale.

13 City of Santa Clarita. "City of Santa Clarita Press Releases: Metrolink Ridership Soars in Santa Clarita." [Online] 21 November 2002. <http://www.santa-clarita.com/cityhall/press/o73101h.htm>.

14 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>.

Because the project would not meet these significance criteria, it would not result in a significant impact relative to population, housing, and employment.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

No population/housing/employment mitigation measures have been incorporated into the project design.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

The proposed project would not create any impacts to population/housing/employment; consequently no mitigation measures are required.

7. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project were predicted. For this section of the EIR, one cumulative development scenario is compared with existing conditions to meet CEQA requirements: the Santa Clarita Valley (SCV) Cumulative Build-Out Scenario (refer to **Section 3.0, Cumulative Impact Analysis Methodology**, for additional information on this Scenario).

The SCV Cumulative Build-Out Scenario entails buildout of all lands under the current land use designations indicated in the City of Santa Clarita General Plan and the Los Angeles County Santa Clarita Valley Area Plan, plus the proposed project, plus all known active pending General Plan Amendment requests for additional urban development in the City of Santa Clarita and the unincorporated area of Santa Clarita Valley. A list of the future development activity (with and without the project) expected in the Valley under the SCV Cumulative Build-Out Scenario is presented below in **Table 4.17-3, Cumulative Development Activity - Santa Clarita Valley Cumulative Build-Out Scenario**.

Table 4.17-3
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		278,953 students
High School	12,843 students		12,843 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,238.0 ac		1,238.0 ac
Developed Parkland	464.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; ac = acres; sg = special generator
[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*
[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

According to the 2000 Census, the Santa Clarita Valley had a population of 151,052 persons, approximately 48,883 dwelling units and 51,594 jobs. Based on the Santa Clarita Valley Cumulative Build-Out Scenario land use data provided above and using an average person per household figure of 3.056 persons for the residential uses and employment generation factors for non-residential uses, there will be a population total of 443,658 persons, 145,176 dwelling units, and 146,485 jobs in the Valley, including existing uses and the Riverpark project, at Santa Clarita Valley buildout.

Using published employment generation factors for Los Angeles County, **Table 4.17-4, Employment Generation Profile – Santa Clarita Valley Cumulative Build-Out Scenario**, provides a breakdown of total cumulative build-out employment by category. The employment generation does not include the Special Generators identified in **Table 4.17-3**, independent contractors, or employment directly generated by residential uses, such as on-site property managers and maintenance personnel, etc., for multi-family residential uses. This employment would represent only a very small percentage of the overall employment base of the Valley.

Table 4.17-4
Employment Generation Profile
Santa Clarita Valley Cumulative Build-Out Scenario

Land Use	Cumulative Buildout With Project	Employment Generation Factor	Number of Employees
Commercial Retail	19,899,030 sq. ft.	2.36 per tsq. ft.[2/3]	46,962
Hotel	2,071 rooms	0.90 per room[8]	1,864
Sit-Down Restaurant	283,790 sq. ft.	2.36 per tsq. ft.[2/3]	670
Fast Food Restaurant	23,600 sq. ft.	2.36 per tsq. ft.[2/3]	56
Movie Theater	3,300 seats	0.01 per seat[5]	33
Health Club	54,000 sq. ft.	2.36 per tsq. ft.[2/3]	127
Car Dealership	411,000 sq. ft.	2.36 per tsq. ft.[2]	970
Elem./Middle School	279,340 students	0.11 per student[4/5]	30,727
High School	12,958 students	0.11 per student[4/5]	1,425
College	29,948 students	0.11 per student[4/5]	3,429
Hospital	247,460 sq. ft.	3.00 per tsq. ft.[8]	742
Library	171,790 sq. ft.	1.00 per tsq. ft.[8]	172
Church	501,190 sq. ft.	0.50 per tsq. ft.[8]	251
Day Care	785,000 sq. ft.[1]	0.20 per student[2]	2,855
Industrial Park	41,743,950 sq. ft.	0.56 per tsq. ft.[2]	23377
Business Park	8,424,330 sq. ft.	0.56 per tsq. ft.[2]	4,718
Manufact./Warehouse	3,932,470 sq. ft.	0.94 per tsq. ft.[2/6]	3,697
Utilities	1,150,240 sq. ft.	0.69 per tsq. ft.[2]	794
Commercial Office	6,380,520 sq. ft.	3.13 per tsq. ft.[2]	19,971
Medical Office	133,730 sq. ft.	3.13 per tsq. ft.[2]	419
Golf Course	1,238.0 ac	1.44 per acre[2]	1,783
Developed Parkland	493.3 ac	3.18 per acre[3/8]	1,578
Undeveloped Parkland	1,000.0 ac	0.0 per acre	0
Special Generator	413.0 sg	n/a	--
		Total	**146,485**

du = dwelling unit; sq. ft. = square feet; ac = acres; sg = special generator; tsq. ft. = thousand square feet, n/a = not available

1 *Assumes 55 square feet per student, or 14,273 students.*

2 *The Natelson Company, Inc., Employment Density Study Summary Report Prepared for Southern California Association of Governments (October 31, 2001).*

3 *Assumes uses are within a modern retail center and employment generation factors for such centers are used.*

4 *Santa Clara Unified School District. "Fast Facts About SCUSD." [Online] November 19, 2002. <http://www.scu.k12.ca.us/main.html>.*

5 *Daryl Zerfass, Austin-Foust and Associates, Inc. <daryl@austinfoust.com>. "RE: SCVCTM Question No. 2." November 19, 2002. Rosemarie Mamaghani, Impact Sciences, Inc. <rosem@impactsciences.com>.*

6 *This is an average of manufacturing employment generation (1.21 per tsq. ft.) and warehouse employment generation (0.66 per tsq. ft.)*

7 *This is an average of local park employment generation (5.71 per acre) and regional park employment generation (0.65 per acre)*

8 *Telephone interview with Glenn Blossom consultant to Southern California Association of Governments. Los Angeles, California. June 27, 1990.*

As shown in **Table 4.17-5, Comparison of Santa Clarita Valley Growth Projections**, cumulative buildout for the Santa Clarita Valley will be greater than the projections in the adopted Los Angeles County Santa Clarita Valley Area Plan.[15] This is not an issue of major concern as the Area Plan projections are for year 2010 and the Santa Clarita Valley is not expected to be built out by that time. The build-out year for the Valley is unknown.

Table 4.17-5
Comparison of Adopted Santa Clarita Valley Growth Projections

	Total Cumulative Buildout	Adopted County Area Plan (2010)[1]	Difference (Area Plan minus Cumulative)
Population	443,658	270,000	(173,658)
Housing	145,176	93,400	(51,776)
Employment	146,483	111,000	(35,483)

[1] *Los Angeles County Department of Regional Planning, Santa Clarita Valley Area Plan Comprehensive Update: December 6, 1990, (Los Angeles, California: Adopted by Los Angeles County Board of Supervisors 16 February 1984), p. 7.*

a. Cumulative Population, Housing and Employment Summary

From a physical perspective, buildout of the Santa Clarita Valley, including the proposed project, would result in additional population, housing and employment opportunities in undeveloped portions of the Santa Clarita Valley. Using the same significance threshold criteria used for the project, it is determined that:

- It is not possible to evaluate cumulative population, housing, and employment impact significance relative to official regional or local population projections because year of Valley-wide buildout would occur well beyond existing adopted SCVAP projections (2010) and SCAG projections (2025).
- The Santa Clarita Valley Build-Out Scenario will create jobs and there will be no net loss of jobs. Cumulative development would not result in a significant impact relative to the net loss of jobs.
- It is possible that, in the course of Valley-wide buildout, existing housing, including affordable housing may be displaced. This may occur to make way for new development that may be more compatible with local land use designations, to replace aging housing, or for other reasons. Overall, however, the housing stock in the Valley is expected to grow considerably and, given the requirements of the Regional Housing Needs Assessment for the City and the North Los Angeles County Region for housing affordable to very low and low income families, it can be reasonably assumed that any loss of affordable housing that may occur would be replaced. Cumulative

15 Los Angeles County Department of Regional Planning, Santa Clarita Valley Area Plan Comprehensive Update: December 6, 1990, (Los Angeles, California: Adopted by Los Angeles County Board of Supervisors 16 February 1984), p. 7.

development would not result in a significant impact relative to loss of existing affordable housing stock.

The jobs/housing ratio at Valley buildout is projected to be 1.01:1 (146,483/145,176 = 1.01), indicating an approach towards a jobs/housing balance, but one that is still short of the RCPG goal of 1.30:1. As mass transit to the SCV increases and improves, and as vehicular gas mileage and emissions improve, roadway congestion, fuel consumption, and air emissions in the North County Region (and the air basin) would decrease, which is the original purpose of the jobs/housing concept.

8. CUMULATIVE MITIGATION MEASURES

No significant cumulative population, housing, or employment impacts are identified for the Santa Clarita Valley Build-Out Scenario; therefore no mitigation measures are required. **Section 4.0** of this EIR evaluates numerous potential environmental impacts associated with buildout of the Santa Clarita Valley and presents mitigation measures intended to avoid or minimize identified significant cumulative impacts associated with this growth.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Specific Impacts

Buildout of the Riverpark site would result in development that is consistent with the City's General Plan land use designations for the site, but at substantially lesser intensity. Project resident population and housing is also within the growth projections for the City of Santa Clarita and the Santa Clarita Valley. Furthermore, the project would not result in a net loss of jobs. Therefore, the proposed project would not result in an unavoidable project-specific significant impact relative to population, housing, and employment.

b. Cumulative Impacts

The population, housing and employment increases attributed to the SCV Build-Out Scenario exceed the SCVAP projections for the Valley for the year 2010. This is not an issue of major concern as the Area Plan projections are for year 2010 and the Santa Clarita Valley is not expected to be built out by that time. The build-out year for the Valley is unknown. Cumulative development would result in less than significant impacts relative to loss of jobs and existing affordable housing. No unavoidable significant cumulative population, housing, or employment impacts are anticipated.

4.18 CULTURAL RESOURCES

1. SUMMARY

Phase I and II archaeological surveys of cultural resources in the proposed project area were undertaken. These surveys have resulted in the discovery and recording of three prehistoric and one historic archaeological sites. Phase II archaeological studies were conducted at two of the prehistoric archaeological sites. One site was found to be a small, low-density campsite, which includes a low-density subsurface deposit. The site appears to be a non-unique archeological resource, representing a terminal Early Millingstone/Early Intermediate Period settlement dating from c. 4000 to 2000 years before present (B.P.). It further appears to have been seasonally occupied by a small group of people, whose subsistence practices emphasized plant foods, probably hard seeds.

The second site contains a subsurface archeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. This site is culturally significant and the applicant has designed the project so as to preserve it in situ in perpetuity within the open space areas.

Inadvertent direct and/or indirect disturbance during construction of the proposed project to any sensitive cultural resource found on the site would be considered a significant impact. Mitigation measures are proposed that reduce the magnitude of potential impacts to cultural resources to less than significant levels.

2. INTRODUCTION

The following analysis is summarized from Phase I and Phase II cultural resource surveys and reports prepared by W&S Consultants. The Phase I and Phase II reports were completed in August 2001 and April 2002, respectively. These reports are found in **Appendix 4.18** of this EIR.

The Phase I archaeological survey was intended to provide: a background study and an archival records search to determine if any known archaeological sites were present in the study area and/or whether the area had been previously and systematically studied by archaeologists; an on-foot, intensive survey of the study area to identify previously unrecorded cultural resources; and a preliminary assessment of such resources, should any be found within the subject property. One unique prehistoric archaeological site was found. Subsequent testing determined that this site was actually two

archaeological sites. Phase II archaeological test excavations were conducted to determine the size and significance of these two prehistoric archaeological sites and thereby to provide baseline data from which an assessment of potential adverse impacts to these resources could be made.

3. EXISTING CONDITIONS

The Phase I study area consists of 750 acres lying immediately east of Bouquet Junction, in northern Los Angeles County, California.[1] The Riverpark project site is located on 695.4 acres within the Phase I study area in Soledad Canyon. It includes the flood channel and river course of the Santa Clara River from its confluence with Bouquet Canyon, eastwards (upstream) along Soledad Canyon for roughly 4.4 kilometers (kms), and from Soledad Canyon Road northwards, or across the flood and stream channel to include the northern canyon sides of Soledad Canyon. In the central portion of the study area this includes a series of broad river terraces.

Although historic and recent land-use changes have altered the environment considerably from what existed during prehistoric times, at least four major plant associations probably characterized the region containing these two sites during the aboriginal period. These are chaparral, coastal sage scrub, southern oak woodlands, and riparian associations.

The project area currently consists primarily of undeveloped open-space, although there are pipeline and utility corridors across the site. Currently, the site is occupied by a construction company office housed in a temporary trailer, a temporary storage building, a maintenance building, and a storage yard. The construction company buildings currently on site occupy approximately 5,566 square feet. The buildings are located in a small valley in the central portion of the northern half of the site. This portion of the site was previously occupied by Los Angeles Fire Camp 4. The camp buildings were last occupied by the Saugus Unified School District until the buildings were demolished in 1995. Except for major site grading for water utilities between 1989 and 1994, the majority of the site has been generally undeveloped land.

Moreover, the majority of the 750 acres consists of the stream course and floodplain of the Santa Clara River; due to the potential for seasonal flooding, these zones have experienced little or no former use. Vegetation in the proposed project area, accordingly, consists of a riparian association on the river bottom and sage-scrub in upland areas, terraces, and canyon sides. The flat river terraces on the northern side of the study area in some cases have been graded and/or cultivated, and are currently

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1 An area larger than the Riverpark project site, which consists of 695.4 acres, was studied at the request of the project applicant.

covered with oat hay, wild mustard and other non-indigenous species. Both archaeological survey site areas have been periodically disked, if not plowed, and used as agricultural fields. Since 1985, the agricultural operations on the project site have been limited to dry land farming, primarily barley and hay crops and, during various seasons, beekeepers work on the site.

a. Ethnographic Background

The Upper Santa Clara Valley region, including the Santa Clarita/Newhall area, appears to have been inhabited during the anthropological past by an ethnolinguistic group known as the Tataviam. This native American Indian culture is thought to have inhabited the upper Santa Clara River drainage from about Piru eastwards to just beyond the Vasquez Rocks/Aqua Dulce area; southward as far as Newhall; and northward to the middle reaches of Piru Creek. Their northern boundary most likely ran along the northern foothills of the Liebre Mountains (i.e., the edge of the Antelope Valley), and then crossed to the southern slopes of the Sawmill Mountains and the Sierra Pelona, extending as far east as Soledad Pass. The southern boundary ran approximately along the crest of the of the western arm of the San Gabriel Mountains, north of San Fernando, and westward beyond Fremont and San Fernando Pass to the Santa Susana Mountains.

Known Tataviam villages during the historic period include: pi?irukung and ?akavaya, both near modern Piru; tsavayu(?u)ng, Rancho San Francisco; etseng, kuvung, and huyung, on Piru Creek above Piru; tochonanga, near Newhall at the head of the Santa Clara River; and kwarung, Elizabeth Lake. At kamlus, near modern Rancho Camluos, a mixed Chumash-Tataviam population lived. Tsavayu(?u)ng, Rancho San Francisco, and tochonanga, Newhall are recorded historical localities closest to the project area.

Culturally, the Tataviam were in most respects similar to their Fernandeño and Chumash neighbors, to the south and west respectively. In this sense, they were hunter-gatherers, with subsistence emphasizing yucca, acorns, juniper berries, sage seeds and islay. Game was also hunted, including small animals, such as rabbits/hares and rodents, probably representing more significant contributions of meat protein than larger game, such as deer.

Very little is known of the Tataviam social and political organization. Based on analogies with surrounding groups, it can be suggested that they were organized in a series of tribelets, similar to the naciones, and found to be characteristic of much of California aboriginal socio-political organization. The tribelet represented an autonomous land-holding unit, minimally controlled by a head-chief. They usually included one large, "capital" village, sometimes occupied year-round, and a series of smaller,

seasonally employed hamlets. Whether the Tataviam may have had exogamous clans and moieties, like the Cahuilla and Serrano to the east, is unknown. However, it is estimated that the Tataviam population was less than 1,000 at the time of Euro-American contact, and that only two or three of the largest villages existed throughout their territory.

Although the Tataviam were one of the earliest groups contacted by Spanish missionaries, with a number of their villages briefly described by members of the Portolá expedition of 1769, a general lack of information on this group exists. By 1810, all Tataviam had been baptized at Mission San Fernando and were quickly absorbed by other groups through intermarriage. The last speaker of Tataviam died in 1916.

b. Archaeological Background

In regards to archaeology, more information is available on the Upper Santa Clara River area, although here, too, less is known than for many of the surrounding regions of Southern California. In general terms, the prehistory of this inland area appears to parallel that of the Santa Barbara Channel/Southern California coastal zone (cf. McIntyre 1990) with William Wallace's (1955) cultural historical framework appropriate as a chronological system of reference.

Correspondingly, the earliest evidence for human occupation of this region corresponds to Wallace's Early Millingstone Period (or, alternatively, the Early Horizon), dated from about 7000 to 4000 B.P. This represents a period during which subsistence and adaptation are said to have emphasized the collecting and processing of hard seeds, with inland artifact assemblage, correspondingly, dominated by manos and metates. Evidence for an Early Millingstone occupation of this specific region is very limited, and has been found only at two sites. Both of these are located near Vasquez Rocks, with temporal attribution based on the presence of a small number of Olivella barrel beads. Such beads have subsequently proven to be unreliable temporal indicators, throwing doubt on human inhabitation of this region prior to 4000 B.P. Further, recent excavations at one of these putative early locales, the Escondido Canyon Site, failed to uncover evidence for occupation prior to about 2700 B.P. (Love 1990).

The second temporal unit in Wallace's chronology is the Intermediate Period (or Middle Horizon), dated from 3500 to 1500 B.P. It is marked by a shift to the mortar and pestle, with an increased emphasis on hunting and hunting tools in artifact assemblages. Population appears to have increased during this period, with more temporary camps founded. Evidence for Intermediate Period occupation of the Upper Santa Clarita Valley region is substantial, in that it has been found at a number of sites and has been based on radiocarbon, obsidian hydration and typological dating (McIntyre 1990).

Furthermore, the Intermediate Period appears to represent a time during which a substantial exploitation of mid-altitude environments first began, for example, portions of the Hathaway Ranch (located northwest of the study area) beginning at this time.

There is continuity in the inland regions between the Intermediate Period and subsequent times, labeled the Late Prehistoric Period, lasting from 1500 B.P. to historic contact, about 200 B.P. Site complexes first occupied in the Intermediate Period continued to be inhabited, although they increased in size, with more specialized and diversified sites added to the kinds of sites present. In fact, the principal distinction between Intermediate and Late Prehistoric sites in the inland regions is a change in certain diagnostic artifact types (notably, projectile points, with a shift from spear points to bow and arrow points). These artifact types, in fact, may not signify consequential changes in culture, adaptation or subsistence, although the trends begun in the Intermediate Period accelerate over time during the Late Prehistoric Period. Sometime during this period the Tataviam can be hypothesized to have occupied this region, although it is possible that they may have appeared somewhat earlier.

During the Historic Period, the aboriginal population appears to have dropped considerably. This decline can be attributed to the effects of missionization and its attendant relocation of the aboriginal population at centralized locales, along with the depredation of introduced Old World diseases. The Upper Santa Clara River region appears to be one of those inland zones, like the Antelope Valley to the northeast, that quickly and completely lost its aboriginal population.

c. Historical Background

Apparently the first Euro-American identification of the Santa Clarita region occurred in the chronicles of the Portolá expedition of 1769. This expedition passed through the San Fernando Valley to Newhall, then to the Castaic Junction area, and then down the Santa Clara River to Ventura, on its way to Monterey (Cleland 1940). Although the region was traversed by a number of Spanish explorers in subsequent years, it initially remained isolated due to rugged topography, even though it had been suggested as a locale for a mission. Thus, with the establishment of Missions San Buenaventura in 1782, and San Fernando in 1797, late 18th-century historical events largely occurred in areas to the west and south of the upper Santa Clarita Valley proper.

As the missions increased in size and their herds grew, it became necessary for many of them to establish mission ranchos, or estancias, to allow their cattle to graze some distance from the mission vineyards and fields. With this geographical expansion of mission influence and activities, the upper Santa Clarita Valley region became important, if not pivotal, in a number of events central to the

development of Southern California. Rancho San Francisco, comprising the upper reaches of the Santa Clarita Valley down to Piru, served as the estancia for Mission San Fernando, and was established a few years after the founding of the mission itself.

The Rancho San Francisco and the upper reaches of the Santa Clarita Valley figured in three important episodes in Southern California, two of which are landmarks in the economic history of the state. The first was the discovery of gold in Placerita Canyon in 1842 by Francisco Lopez, Manuel Cota and Domingo Bermudez. The upper Santa Clarita Valley was also the first location of true oil drilling (Smith 1977). Petroleum exploration began about 1865, when oil seeps were discovered in Pico Canyon. This lead to discoveries of oil on Rancho San Francisco and, ultimately, throughout the valley. Lack of a local market and cost of shipping prevented major development of this natural resource until 1876, when the Southern Pacific Railroad crossed the region (Franks and Lambert 1985). This initiated an oil boom in the area, with the development of the Newhall oil field, and the establishment of the Pioneer Oil Refinery (Ultimately, the predecessor to Chevron Oil) in 1876 (Rolle 1991).

The third local event of historical importance in Southern California was the collapse of the St. Francis Dam and the resulting flood of the Santa Clara River Valley on March 12 and 13, 1928. With the failure of the dam near midnight on the March 12th, water raged down San Francisquito Canyon, through the project site, to Castaic Junction, which it effectively leveled, and then on to Fillmore, Santa Paula and ultimately to the Pacific. The flood caused at least 336 deaths, and destroyed 990 homes and many acres of orchards. It is likely that prehistoric archaeological deposits would have been washed away or covered with alluvium.

d. Phase I

(1) Records Search Results

An archival records search was conducted at the California State University, Fullerton, Archaeological Information Center (AIC), by AIC staff members to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the 750 acre study area; (ii) if all or portions of the project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive.

The records search at the AIC indicated that portions of the study area had been previously surveyed by archaeologists. Specifically, five surveys had investigated portions of the study area, principally

the western end of the study area, excluding the upper river terraces along the northern side of the canyon and the eastern one-third of the property. These surveys had resulted in the discovery and recording of three prehistoric archaeological sites. A summary of the nature and current conditions of each of these prehistoric sites is provided below.

CA-LAN-351: This is a large site first recorded in 1968. It is located in the approximate center of the study area, on a series of three river terraces ranging from about 1210 to 1280 feet above mean sea level on the north side of Soledad Canyon Road. The site was revisited and site update forms were completed in 1986, and subsequently in 1991. The estimate for site size on this latest update was 309 meters N-S by 185 meters E-W, with a projected 60 cm of depth for the archaeological deposit present at the site. According to the 1991 update, the site was believed to contain a midden deposit along its southeastern side. An inventory of artifacts noted on the groundsurface at that time comprised a wide range of tools and debitage, including groundstone, core tools, bifaces, and burnt bone. From the size of the site, its diversity of artifacts, the presence of a midden deposit, burnt bone and fire-cracked rocks, CA-LAN-351 can be inferred to represent a village or habitation site. Furthermore, the presence of mortar/bowl fragments suggests that it at least in part post-dates the Early Horizon; that is, that it is approximately 3500 years or less in age.

CA-LAN-1824: This site was recorded in 1986 and a Phase II test was conducted on it in 1990. It was revisited and a site update was completed for it in 1991. According to the documents resulting from these studies and visits, when first discovered CA-LAN-1824 was described as a lithic scatter, located on the south side of the Santa Clara River, within the active flood channel area. It contained one rhyolite core, one quartzite cobble tool and one metavolcanic flake. When tested in 1990 these artifacts could not be re-located, perhaps due to seasonal inundations of the flood channel. A single mano and piece of shellfish were found on and collected from the site, but sub-surface testing failed to reveal the presence of any buried archaeological deposit. When re-visited in 1991, no additional cultural materials could be found on the site area.

It is apparent that any cultural materials once present on this site are no longer on the site, most likely removed as a result of seasonal inundation of flood waters. The area of CA-LAN-1824, therefore, can no longer be considered an archaeological site. Based upon California Environmental Quality Act (CEQA) Guidelines, the previous archaeological work at this locality has served to completely and adequately mitigate any adverse impacts to cultural resources at this site.

CA-LAN-1829: This site was discovered and recorded in 1986, and it was re-visited and evaluated in 1991. The site was originally described as an "extremely sparse lithic scatter", consisting of one

rhyolite and one quartz flake located along a power line road in the flood channel immediately north of the Santa Clara River. During the 1991 re-visitation and evaluation of the site, it was noted that since the site consisted only of two waste flakes, it originally should have been recorded as two isolates, following the State of California Office of Historic Preservation (OHP) Guidelines; that is, that it did not rightly meet the primary criterion used to define an archaeological site. Moreover neither the two original flakes nor any additional archaeological remains could be found in the area of the site during the 1991 re-visit.

Inasmuch as CA-LAN-1829 apparently represents isolated artifacts rather than a site per se, and following OHP and CEQA Guidelines, the recording of the two waste flakes originally constituting the extant cultural resources present at this locality has served to completely and adequately mitigate any adverse impacts that it might experience due to development or use of the area. In summary, because the artifacts have been recorded, this, in itself, will mitigate any significant impacts.

The archival records search also considered the possibility that historical archaeological resources might be present within the study area. Historical records in the form of the Santa Susana (1903 and 1941) and San Fernando (1900 and 1940) USGS 15' topographical quadrangles were examined to determine whether historical resources might be present on the property. No evidence of historical development in the study area, per se, was found on these maps, although roads and the Southern Pacific Railroad were present in the region by the turn of the century, and Saugus, the original locale for Newhall, had been developed. However, one historical site has been recorded within the study area. This is CA-LAN-2105H, the Los Angeles Aqueduct.

Although this active water line strictly lies within the study area, it is important to note that it sits within a utility easement; therefore, it lies outside of any proposed development or use.

(2) Field Survey Results

A field survey of the 750 acres study area was conducted by David S. Whitley, Ph.D., Joseph M. Simon, and Tamara K. Whitley, M.A., of the W & S Consultants staff, in July, 2001. The groundsurface was examined with transects spaced at approximate 10 - 15 meter intervals; these were walked across the study area to identify artifacts or other archaeological indicators that might be present on the groundsurface. Particular attention was paid to localized micro-geomorphological contexts favorable for the preservation or burial of archaeological remains, such as aggradational environments at the toeslopes of grades and hills, and stable surfaces such as captured fans. Cut-banks and animal burrows were examined to determine whether buried cultural deposits might be present on the property.

The Phase I archaeological survey of the study area resulted in the discovery of two isolated artifacts, called isolates, within the study area. These two newly discovered isolates both represent examples of lithic debitage. The Phase I survey also allowed for a re-examination of the CA-LAN-351 site and the areas originally containing sites CA-LAN-1824 and -1829. The significance of the two isolates, reexamination of site CA-LAN-351, and the areas originally containing sites CA-LAN-1824 and -1829 are discussed below.

(a) Newly Discovered Cultural Resources

Isolate #1: A small piece of chert debitage found on a low knoll immediately north and overlooking the Santa Clara River on the eastern side of the study area. The specimen appears to be a piece of angular shatter. Chert does not occur locally within the study area; therefore, it must be inferred that this specimen was transported by human hands onto this locality. An intensive search in the immediate area of its discovery failed to uncover any additional evidence of cultural remains. This isolated piece of lithic debitage is considered a non-unique archaeological resource and has been recorded as part of the current Phase I study. According to CEQA, this has served to completely and adequately mitigate all potential adverse impacts to this cultural resource. Therefore, under CEQA Guidelines, no additional archaeological work is required or needs to be performed at this locale.

Isolate #2: This specimen was found on a low terrace on the north side of the river, east of the Los Angeles Aqueduct easement. It consists of a single chert primary flake. This is a large cortical flake, with evidence of fire-spalling, which may have resulted from a brush fire, or from heat-treatment in manufacture. No additional cultural resources could be found at the location of this waste flake, although the area was examined intensively. This isolated specimen of lithic debitage is considered a non-unique archaeological resource and has been recorded as part of the current Phase I study. According to CEQA, this has served to completely and adequately mitigate all potential adverse impacts to this cultural resource. Therefore, under CEQA Guidelines, no additional archaeological work is required or needs to be performed at this locale.

(b) Previously Recorded Cultural Resources

As noted previously, three prehistoric and one historical archaeological sites had been recorded within the study area. Each of these was visited and evaluated during the Phase I survey. The status and recommendation for each of these four sites is discussed below.

CA-LAN-351: Examination of this site revealed field conditions much in agreement with those described in the previous visit and evaluation. The site is apparently a large habitation, with archaeological remains spread over three river terraces, which are immediately adjacent to a bend in the course of the Santa Clara River.

Artifacts on CA-LAN-351 were similar in diversity and number to those reported by the 1991 field crew. In addition to debitage, they included groundstone (manos, metate and pestle fragments), cobble chopping tools, flaked stone tools (biface knife and biface edges), fire-cracked rock and burnt bone. Although the primary surface expression of the midden is currently on the eastern side of the middle terrace, it is very likely that downslope colluviation is mantling midden extending further to the west. Those portions of the site located on the lower and middle terraces appear to maintain high integrity and, therefore, are in good condition.

As noted in previous evaluations of the site, the upper terrace was graded sometime prior to the 1986 update, and was used for a model airplane runway. A berm of the graded material currently rims the upper terrace on its eastern and southern sides. Judging from the fact that portions of the terrace immediately inside the berm have developed stands of sage and buckwheat, this grading probably occurred a few decades or more ago. A brow-ditch, presumably for erosion control, also runs along the rim of this terrace. It is apparent that this ditch cuts into an intact, non-cultural deposit of (probably Early or Middle Pleistocene Age) alluvial cobbles. Although this rim of the upper terrace has been identified as an area of high artifact density, it is apparent that it has suffered from considerable disturbance. Further, although at one time this rim area may have been a zone of high artifact density, the exposed Pleistocene cobble lens indicates that there was no sub-surface archaeological deposit in this immediate area, and only three surface artifacts were noted along this rim area. Intact pockets of midden were observed on the upper terrace, northwest of the berm and brow-ditch. Thus, although portions of the upper terrace were found to be more heavily disturbed than previously noted, it is also clear that there are more extant archaeological remains in this area than originally believed.

As noted previously, the presence of midden and the artifact assemblage observed on the groundsurface of the site indicate that CA-LAN-351 represents a village or habitation site. The presence of mortars/bowls and pestles suggest that it has a maximum age of about 3500 years, although it may be considerably younger. There is, however, no ethnohistorical evidence that there was a historical village in the area of the site, thus indicating that it is prehistoric and not potentially historical in age.

This prehistoric site has the potential to contain scientific information useful for the reconstruction of prehistoric lifeways in the Santa Clara Valley region, and/or artifacts or features that may be of religious importance to Native Americans. Development of the area containing CA-LAN-351, therefore, has the potential to result in significant adverse impacts to cultural resources. A Phase II test excavation and determination of site significance was recommended to be conducted prior to any development of the area of the site, to provide baseline data from which an accurate estimate of the nature, size and significance of CA-LAN-351 can be established, and from which final management recommendations can be made.

CA-LAN-1824: This site was a small surface scatter that consisted solely of a mano and a single piece of shellfish when tested in 1990. Based on that Phase II test, no additional archaeological work was recommended as necessary at this site. As noted in 1991, however, the sparsity of artifacts at this locale indicate that it did not meet the OHP definitional criterion for an archaeological site, but instead comprised solely isolated finds, the recording of which serves to adequately and completely mitigate any adverse impacts resulting from development or use of the area.

During the current Phase I survey the area of site, CA-LAN-1824 was re-visited and intensively examined. No evidence of additional extant artifacts were found at this locale, thus confirming the results of an earlier, 1991 re-examination. CA-LAN-1824 represents an isolated artifact rather than an archaeological site, per se, and there are currently no extant cultural remains at this locale. Following CEQA Guidelines, all potential impacts to this cultural resource have been mitigated by the recording of this artifact. No additional archaeological work is required at the former locale of CA-LAN-1824.

CA-LAN-1829: Circumstances at CA-LAN-1829 were very similar to those at CA-LAN-1824: originally recorded as a lithic scatter of two flakes, no cultural materials could be re-located in 1991 and, at that time, it was noted that the site should have been recorded originally as two isolated artifacts, rather than as a site, per se. No extant evidence of cultural materials were found at this locale, thus confirming the results of the 1991 re-examination.

As with the previous site, CA-LAN-1829 correctly represents an isolated artifact occurrence rather than an archaeological site, per se, with no extant remains now present at this locale. All potential adverse impacts to this cultural resource, therefore, have been completely and adequately mitigated. No additional archaeological work is required needs to be performed at this locale.

CA-LAN-2105H: This site, the Los Angeles Aqueduct, is currently in use, and lies in an easement across the study area. The proposed development will bridge over the aqueduct with Newhall Ranch Road

and the Santa Clara River Trail. Therefore, there is no potential for adverse impacts to this historical cultural resource. No additional archaeological work is required needs to be performed at this locale.

Conclusions and Recommendations of the Phase I Archaeological Survey

The following cultural resources are or at one time were present within this study area: CA-LAN-351, a prehistoric habitation site that is currently in good to fair condition; CA-LAN-1824 and -1829, both of which were recorded in 1986 but are no longer present on the property, and both of which represent isolated artifacts; Isolates #1 and #2, which were recorded during the current field study and which represent isolated finds of single chert flakes; and CA-LAN-2105H, the Los Angeles Aqueduct, which is still in use. A Phase II report was recommended for CA-LAN-351.

CA-LAN-351: This large prehistoric site that has the potential to contain scientific information useful for the reconstruction of prehistoric lifeways in the Santa Clara Valley region, and/or artifacts or features that may be of religious importance to Native Americans. Development of the area containing CA-LAN-351, therefore, has the potential to result in adverse impacts to cultural resources. A Phase II test excavation and determination of site significance was recommended to be conducted prior to any development of the area of the site, to provide baseline data from which an accurate estimate of the nature, size and significance of CA-LAN-351 can be established, and from which final management recommendations can be made.

e. Phase II

(1) Introduction

A Phase II analysis was conducted for CA-LAN-351 in March 2002. David S. Whitley, Ph.D., and Joseph M. Simon served as principal investigators for the project; while the laboratory analyses were conducted by Tamara K. Whitley, M.A. Richard Angulo, representing the California Indian Foundation, served as Native American monitor for the project. Procedures followed in the collection of data useful for establishing the nature and significance of the site included mapping, surface collecting of artifacts lying on the groundsurface, and test excavation of pits and/or auger holes to establish the presence or absence of a subsurface archaeological deposit, as well as to characterize such a deposit if found to be present.

During Phase II fieldwork, it became apparent that CA-LAN-351, originally considered part of a single cultural resource, was more correctly defined as two sites, each warranting its own designation.

CA-LAN-351 was divided into two sites, CA-LAN-351 and CA-LAN-3043.[2] The designation of CA-LAN-351 was retained for the primary area of original discovery, which is the archaeological deposit on the lower terraces and the second site area, CA-LAN-3043, is located on the third terrace above the stream bed. This determination is discussed in more detail below.

(2) Field Study Methods and Results

CA-LAN-351 was revisited and examined by W&S Consultants as part of the Phase I report for the Riverpark project in 2001.[3] Although generally concurring with the previous studies, the possibility of a separate sub-surface archaeological deposit on the upper of the three terraces was noted. Moreover, the soils context of the upper terrace appeared different from that seen in the lower two. Combined with the fact that the two areas were separated by a distance of roughly 100 feet on a steep slope with an elevational change of over 25 feet, these circumstances suggested that the large area originally recorded as a single site perhaps should more correctly be considered two distinct archaeological sites. However, it was recognized that a decision on this point would best be made during archaeological testing, when the distribution of artifacts and deposits could be confirmed or clarified.

Phase II fieldwork at this location quickly confirmed these suppositions: two archaeological deposits are present and these are geographically distinct and appear to differ (for reasons discussed subsequently) in cultural-historical terms. The designation of CA-LAN-351 was retained for the primary area of original discovery, which is the archaeological deposit on the lower terraces. This covers the first and second terraces above the stream bottom, which range from 1210 to almost 1260 feet in elevation. The second site area, CA-LAN-3043, is located on the third terrace above the streambed. Elevation for this site ranges from about 1280 to 1285 feet.

Phase II archaeological test excavations were conducted at sites CA-LAN-351 and CA-LAN-3043. Both sites are located within the Riverpark project area in northern Los Angeles County. This archaeological study was intended to determine the size and significance of these two prehistoric archaeological sites and thereby to provide baseline data from which an assessment of potential adverse impacts to these resources could be made. These data have been employed to develop final management recommendations for the treatment of these cultural resources.

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2 Personal communication with Joseph Simon, W&S Consultants, March 24, 2003. CA-LAN-3043 was temporarily designated NLF/W&S-1.

3 Approximately 750 acres, inclusive of the 695.4-acre Riverpark project area, were previously surveyed by W&S Consultants at the request of the project applicant.

(a) CA-LAN-351

Circumstances with respect to the management issues and, therefore, the nature of the fieldwork at CA-LAN-351 were somewhat different than those at CA-LAN-3043. Prior to fieldwork, the applicant made the decision to preserve CA-LAN-351, in perpetuity, in open-space. The primary goal of work at this site, therefore, was exclusively to define its maximum boundaries, meanwhile minimizing any impacts to the site that otherwise might result from archaeological testing, as required by CEQA. Moreover, because of the setting of the site, boundary definition primarily concerned the southwestern quarter of the site: the northern and northwestern edges of the site are clearly defined by steep slopes leading to the third terrace above the river; the eastern and southern boundaries are defined by the stream bed itself. Definition of the southwestern site boundary was particularly important because of the likelihood that a bridge will one day be constructed across the Santa Clara River to the west of the CA-LAN-351 site.

Fieldwork at CA-LAN-351 involved two procedures. The first was an intensive visual examination of the surface artifact distribution on the site. This was completed using crew members walking transects across the site spaced at 2-meter intervals, placing pin flags at the locations of surface artifacts and archaeological specimens. This provided a maximum extent for the surface component, which is invariably larger than any subsurface deposit (due to natural and cultural spreading of artifacts, for example by disking or plowing, or downslope movement). Moreover, because the surface scatter associated with a subsurface deposit is typically twice as large as the buried deposit, this also meant that site boundary definition would result in a substantial buffer around the midden deposit.

Once the maximum size of the surface component was established, a series of three auger holes were hand-excavated along the identified southwestern site limit, with soils from these auger holes screened through 1/8th inch mesh. This confirmed that no subsurface archaeological deposit was present along this southwestern edge which might extend beyond the defined site limit.

For the reasons discussed previously, fieldwork at CA-LAN-351 did not involve any artifact collection or excavation but instead was directed towards accurate site boundary definition. This was based on three lines of evidence.

- Geomorphological constraints, including the river bottom and steep slopes, conclusively define the limits of the site deposit on the north, south and east, as well as along the northwest quarter; that is, natural conditions which limit the size of the two stream terraces establish all but the boundary along the southwestern edge of the site.

- Surface artifact distributions were used to identify the maximum extent of the surface artifact scatter. Surface artifact concentrations were highest along the eastern edge of the deposit, which is formed by a bend in the Santa Clara River. Because the site area overall slopes upwards towards the north, reflecting the fact that it extends across two stream terraces, the eastern site limit represents a cut-bank that is increasingly high towards the north. At the site's northeastern limit this is essentially a cliff-brow. Surface artifact distribution was continuous across the two lower stream terraces but, on average, did not exceed more than one artifact per meter square, and thinned laterally towards the south and southwest. The maximum southwestern extent of surficial remains—waste flakes—was essentially immediately beyond and west of the lowest stream terrace, in the sandy stream bottom and flood zone.

- Auger testing occurred along the southwestern site boundary, as defined by the surface artifact distribution, to ensure that the subsurface deposit did not extend to this limit. This supposition was proven correct by the auger results, which lacked any evidence of subsurface archaeological remains at the limits of the surface finds.

The CA-LAN-351 site area was defined as a maximum of 215 m NE-SW by 92 m SE-NW. The site area is generally ovoid, and is, therefore, less than 19,780 meters square in size.

Because of the planned preservation of this site, there was no justification for subsurface testing given CEQA's requirement for minimizing adverse effects during environmental evaluations; that is because archaeological testing is itself inherently destructive. Although the size of the subsurface deposit was not estimated, it is clear that it is substantially smaller than the size of the surface component provided above. No artifacts or archaeological specimens were collected from CA-LAN-351.

(b) CA-LAN-3043

The third terrace above the river consists of a large open area that appears relatively flat, but in fact, contains a minor, internally draining central depression. The site area had been disked and graded in some areas. Furthermore, the southern site edge, along the brow of the terrace, appears to have been graded and lowered, suggesting that the internally draining central depression was once larger than it currently appears; alternatively, this edge may have been reduced by wind but, regardless of cause, the result is a slight lag deposit of coarser clasts and cobbles—a condition with archaeological implications, discussed below. A dirt road also skirts the southern terrace edge, further contributing to disturbance in this area.

Fieldwork at site CA-LAN-3043 involved surface collecting, mapping and subsurface excavation. In order to determine the maximum areal extent of the site, the initial field procedure was to locate, map and collect all surface remains present on the groundsurface. In order to identify all such remains, the general area of the site was walked by crewmembers spaced in approximate 2-meter intervals. Identified artifacts and archaeological indicators were then marked with flagging tape. Surface

remains found within an area of approximately 3 meters square in size (i.e., within a circle with a 1-meter radius) were treated as discrete artifact associations and collected as clusters. Transit, stadia and surveyor's chain were subsequently used to map all remains or clusters of remains, which were numbered and collected by these provenience points. Slightly complex and unusual geomorphological conditions at the site were important influences on both the surface collecting and excavation results.

Excavation

Fifteen 1 x 1 meter test pits (units) were hand excavated on the site. Excavation units were designated numerically. Each unit was dug with pick, shovel and trowel in arbitrary 10-centimeter spits or levels. Spoils from each of these levels were screened through 1/8-inch mesh. All artifacts and archaeological indicators were collected and bagged by unit level. In the initial excavated units, digging was continued for approximately 50 cm beyond the apparent termination of the cultural deposit and/or an auger was excavated in the bottom of the pit, in order to obtain a clear indication of the soils stratigraphy present. Subsequent to stratigraphic definition and profiling, excavation was continued through two culturally sterile levels (i.e., 20 centimeters), or until parent material was encountered. The earth materials are encountered in layers called "Horizons". Excavation unit results can be summarized using these soil descriptions for reference. Descriptions of the soil horizons are as follows:

- A Horizon: This ranges from about 30 to 50 cm depth. The contact between A and the lower B Horizon is gradual. The A Horizon is artifact bearing in portions of the tested area.
- B Horizon: Its thickness ranges from 20 to 90 cm. Portions of the B Horizon are artifact bearing.
- C Horizon: The C Horizon is culturally sterile.

The excavation results suggest the following. First, soils have accumulated in the central portion of the defined site area, which is essentially a slight depression. Second, a low-density subsurface archaeological deposit is contained within portions of the A and B Horizons of some of the units. Third, the vertical distribution of the recovered artifacts (which, like most sites, are heavily predominated by lithic debitage or waste flakes) suggests that use of the site as represented by A Horizon materials reflects a continuation of the same areal use seen in the B Horizon; that is, the same units tend to have significant numbers of artifacts in both the A and B Horizons. This prehistoric use centered around Unit #4 and, thus, the center of the depression. Fourth, overall site area can be estimated at 210 meters E-W by 135 meters N-S. The site area is irregular in shape, partly because the eastern and southern boundaries are formed by the terrace edges, but overall site size can be estimated at about 28,350 meters square.

Surface Collecting

The distribution of surface artifacts (formal tools) was found to correspond to a disturbed band along the southern edge of the site and the terrace that contains it. A total of 26 specimens were recovered during this procedure, almost all of which are groundstone artifacts. Because of the context of recovered artifacts—on the surface in a disturbed area—the interpretation of them is ambiguous. They may represent a "true" surface scatter that is younger than the subsurface deposit; alternatively, they may represent a lag deposit derived from the underlying, deflated cultural deposit. In either case, their restricted distribution may reflect a kind of specialized activity zone within the larger site area: as is discussed subsequently, groundstone artifacts recovered from the subsurface deposit also tend to concentrate in this same area, suggesting that the terrace rim—where prevailing winds would optimize seed winnowing—served as the locus for plant processing.

Laboratory Procedures

Although the general patterns of artifact distributions provide important information relative to the size and nature of site CA-LAN-3043, proper determination of the significance and scientific importance of this resource can only be obtained with a more intensive analysis of the recovered artifact assemblage. Following the completion of the Phase II fieldwork at CA-LAN-3043, the recovered artifact assemblage was taken to the W & S Consultants' laboratory for washing, processing and analysis. After each specimen was washed and labeled, metrical and typological analyses were performed.

Taxonomic and Analytical Considerations

In considering the artifacts recovered from the Phase II investigations at site CA-LAN-3043, a morphological stone tool typology first published in 1979 and now widely used in the region was employed. This morphological typology is based on four major categories of stone artifacts. These are: (1) groundstone implements; (2) core/cobble tools; (3) flaked stone tools; and (4) tool manufacturing waste, or debitage.

Groundstone implements are tools that have been pecked and/or ground into shape. Groundstone artifacts are usually (but not invariably) made of coarsely grained lithic materials. Core/cobble tools are generally large, bulky implements made by the re-use and/or modification of a river cobbles and lithic cores. All of these tools were apparently employed for heavy pounding, scraping and/or battering tasks. Flaked or chipped stone tools are secondary reductions from cores and cobbles. That is,

they represent tools manufactured from flakes struck-off the primary sources of lithic materials. The final category of stone artifacts is what can be considered lithic waste or debitage. It includes spent cores, waste flakes, and angular shatter.

In addition to the lithic tool typology, other classes of artifacts may be present at Southern California sites. Dietary remains, in the form of shellfish and faunal bones, are sometimes present, as are ornaments, usually in the form of shell beads.

In addition, all modern or contemporary 'artifacts' recovered during excavations are recovered, processed and cataloged. Such items are important not for any intrinsic reasons, but instead because they provide a clear sign of soil disturbance, typically within the last 100 years.

Artifact Assemblage

A total of 238 prehistoric specimens were recovered from the site. Twenty-six of these were collected from the site surface. Of the remainder, 125 originated in the A Horizon deposit while 87 were excavated from the B Horizon. All but two of the prehistoric specimens were lithic tools or debitage. The two exceptions are pieces of animal bone.

The artifact assemblage is discussed in terms of major artifact classes.

Groundstone artifacts: A total of 28 pieces of groundstone was recovered from CA-LAN-3043. Nineteen of these are manos or mano fragments: eight are metate or metate fragments; one appears to be the base of a basket-hopper mortar. The manos consist of three general types: unshaped unifaces, and shaped and unshaped bifaces.

Core/cobble complex tools: Seven core/cobble complex tools were found at NLF/W&S-1. Four of these are worked artifacts, per se; the remainder are cores and, thus, strictly are a kind of debitage.

Flaked stone tools: Two flaked stone tools were recovered from CA-LAN-3043. Bifacially-flaked tool mid-sections (and terminal ends) may derive from knives, in the general sense of the term, projectile points, or drills, while projectile points may be either arrow points or spear/atlatl dart points. One specimen appears to represent a spear or atlatl point, not a knife fragment, and it is clearly neither a drill of arrow fragment. As such, it is then greater than 1500 years old (the point at which the bow and arrows were introduced), although how much older than this datum is unknown.

Lithic debitage: With respect to the total of 236 lithic artifacts recovered from the site (i.e., excluding the two pieces of animal bone), the 199 waste flakes and shatter constituted 84 percent of the lithic assemblage. When the debitage is classified, studied, and interpreted, it is suggested that the inhabitants of the site were more closely allied with groups to the east and perhaps north than to the west.

Faunal remains: Two small pieces of animal bone were recovered from the site. Both examples are small mammal in size, burnt and calcined, supporting their origin as cultural rather than natural in the deposit. The limited amount of faunal remains suggests that plant foods rather than hunted game were by far the emphasis in subsistence at CA-LAN-3043. This conclusion is also supported by the presence of groundstone and core/cobble complex tools, which often reflect plant processing activities.

Age and Function of CA-LAN-3043

Three kinds of information provide evidence concerning the age of CA-LAN-3043. The first of these is the artifact assemblage itself. Three of the recovered artifacts are temporally diagnostic, at least in very general terms. The presence of obsidian is the first of the three diagnostic artifacts. Almost all obsidian from this portion of Southern California dates before about AD 1200, at which point the desert to inland obsidian trade essentially terminated. The presence of obsidian on the site, therefore, suggests that it is Intermediate Period or older in age. This is confirmed by the third kind of evidence, obsidian hydration dating, which indicates that the site was at least partly used between about AD 356 and 698.

The second diagnostic artifact is the possible basket-hopper mortar base, which was found on the site surface. Artifacts of this type occur in Intermediate Period and later contexts, and thus are less than about 3500 years old. Combined with the obsidian, this brackets the site between 3500 and 800 B.P.

The third temporal diagnostic is the projectile point, which is clearly a spear or atlatl dart fragment rather than the remnants of an arrow point. This indicates that the specimen is greater than about 1500 B.P., although how much greater in age is unknown. This indicates of a minimal age bracket for CA-LAN-3043 between 3500 and 1500 B.P., which is the Intermediate Period. Note that this is a minimum estimate for the site age; it could contain artifacts that are both younger and older than this 2000 years stretch.

In addition to these positive lines of evidence within the artifact assemblage, there is also negative evidence in support of this age estimate. This concerns the absence of later dating artifacts, especially arrow points and shell beads.

The second type of information useful for dating the site is the soils context of the subsurface component. As described above, the artifacts extended into an undisturbed B Horizon or paleosol. Soils such as this are formed in wetter climates than we are experiencing today and they are most common in contexts that are 3000 or more years in age, thus dating from the middle Holocene (or earlier).

Based on these different lines of evidence, the age of site CA-LAN-3043 can be inferred minimally to pertain to the Middle Holocene. Assuming that the identification of the hopper mortar is correct, it extends into the last 3500 years and thus is all or at least partly Intermediate Period in age. Whether it extends back into Early Millingstone times is unknown although the nature of the soils suggests that this is possible. The site is hypothesized to be terminal Early Millingstone/Early Intermediate Period in age.

Functionally, site CA-LAN-3043 is best interpreted as a small campsite. This is indicated by the diversity of artifact types, which includes hunting tools (projectile point) and evidence of lithic reduction (cores, debitage and hammerstones), in addition to plant processing artifacts (groundstone, scraper plane). Plant foods, however, were clearly the subsistence emphasis. Judging from the preponderance of manos and metates (as opposed to mortars and pestles), hard seeds as opposed to acorns appear to have been the focus of the prehistoric diet at the site.

Given its size and the relatively low subsurface density of artifacts, site CA-LAN-3043 appears to have been occupied by a small group of individuals (perhaps a single extended family), sporadically for a long period. Logically, the site would have been used seasonally as a dispersal phase camp. This last conclusion is supported by the negative archaeological evidence at the site, which includes the absence of features like housepits, hearths and burials, as well as more formal types of tools, including shell beads and ornaments. CA-LAN-3043, then, is likely one seasonal component of the early prehistoric settlement system for the upper Santa Clara River drainage.

Conclusions and Recommendations of the Phase II Archaeological Survey

CA-LAN-351 was found to cover two low terraces along the north side of the Santa Clara River. Because CA-LAN-351 was already designated for in-situ preservation, Phase II fieldwork at it was

limited to boundary definition. The site area is 215 m NE-SW by 92 m SE-NW, and totals about 19,780 square meters in size.

CA-LAN-351 contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. Development at this locale has the potential to result in adverse impacts to cultural resources. Any such adverse impacts to this site can be mitigated by avoidance and preservation.

CA-LAN-3043 was found to be a small, low-density campsite localized on the third terrace above the river. The site area was determined to be 210 meters E-W by 135 meters N-S, or about 28,350 square meters, and the site includes a low-density subsurface deposit that averages about 50 cm in depth. Based on the recovered artifact assemblage, the site appears to represent a terminal Early Millingstone/Early Intermediate Period settlement dating from circa 4000 to 2000 B.P. It further appears to have been seasonally occupied by a small group of people, whose subsistence practices emphasized plant foods, probably hard seeds. As such, CA-LAN-3043 subsurface deposits and artifacts hold the potential for contributing to our understanding of the prehistory of this portion of California, Construction or development on this site, therefore, has the potential to result in adverse impacts to significant cultural resources. Any such adverse impacts can be mitigated by avoidance and preservation. Should this be infeasible it is recommended that a Phase III data recovery (salvage excavation) be conducted on the site.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

CEQA Guidelines Appendix G identifies criteria for determining whether a project's impacts on cultural resources are to be significant, including, as applicable here, whether the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5; and
- Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5.

The City of Santa Clarita Environmental Guidelines further add the following two criterions in addition to the above:

- Directly or indirectly destroy or impact a unique paleontological resource or site or unique geologic feature?
- Disturb any human remains, including those interred outside of formal cemeteries?

Environmental impacts associated with cultural resources are specifically addressed in the CEQA Guidelines, Section 15064.5. Section 15064.5 identifies significance threshold criteria for determining impacts to archaeological and historical resources.

Section 15064.5 states that:

> *"(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.*
>
> *(c) CEQA applies to effects on archeological sites.*
>
> *(1) When a project will impact an archeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a)….*
>
> *(3) If an archeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2)….*
>
> *(4) If an archeological resource is nether a unique archeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment)…."*

Public Resources Code Section 21083.2 (g) provides:

> *"(g) As used in this section 'unique archeological resource' means an archeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*
>
> *(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
>
> *(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
>
> *(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person."*

Continuing, Section 21083.2(h) defines a "nonunique archeological resource" as follows:

> *"(h) As used in this section, 'nonunique archeological resource" means an archeological artifact, object, or site which does not meet the criteria in subdivision (g). A nonunique archeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects."*

At certain stages of development, the project could potentially impact the two cultural sites discussed above. As proposed, site preparation for the project include a cut and fill operation totaling 5.5 million cubic yards, combined with approximately 3.6 million cubic yards or remedial grading, for both project development and construction of master-planned roadways (Newhall Ranch Road and Santa Clarita Parkway) within the project boundaries. Earthwork is proposed to be balanced on site. Buried bank stabilization is proposed along the Santa Clara River to allow for the construction of Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge and residential and commercial uses on site. Generally, bank stabilization would extend from the existing terminus of Newhall Ranch Road (near Bouquet Canyon Road) to immediately east of the future Santa Clarita Parkway Bridge. Toe or erosion protection would be constructed for approximately 1,000 linear feet adjacent to the bluff containing Area B. Additional bank stabilization and concrete gunite would be constructed in the area of the Newhall Ranch Road/Golden Valley Road Bridge. The proposed project incorporates a 29-acre active/passive park area, which will have direct access to the City's Santa Clara River Trail. Except for a minor intrusion by Newhall Ranch Road, the entire 300 acres of river area within the project boundaries will remain in a natural state with some encroachment in the SEA. Also proposed is the construction of roadways and building foundations, and trenching for utilities and storm drains. Project impacts will be discussed in terms of direct and indirect potentially significant impacts.

b. Construction/Operational-Related Impacts

(1) CA-LAN-351

As described above, CA-LAN-351 contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. Consequently, this site is considered to meet the criteria for an historical resource, and development at this locale has the potential to result in significant impacts. Prior to Phase II fieldwork, the applicant made the decision as part of the project design to preserve CA-LAN-351, in situ and perpetuity, within the 470 acres of proposed open space. Consequently, all potential significant impacts to this site would be mitigated by avoidance and preservation. The project is proposing to extend portions of the Santa Clara River Trail over CA-LAN-351. As required by CEQA

Guidelines Section 15126.4(b)(3)(B), only chemically stable fill soil would be placed in these areas before creating the trail.

(2) CA-LAN-3043

As described above, archaeological site CA-LAN-3043 contains an intact subsurface deposit and artifacts which holds the potential for contributing to our understanding of the prehistory of this portion of California. Construction or development on this site, therefore, has the potential to result in adverse impacts to significant cultural resources. Adverse impacts to this site can be mitigated through salvaging of materials found at the site in a Phase III data recovery program. Preservation of this site is infeasible as it would necessitate realignment of Santa Clarita Parkway would could present engineering and design safety issue. Additionally, if the roadway were to be realigned, additional remedial grading would occur as well as a substantial loss of housing units which would be in conflict with project objectives of providing a substantial number of new housing units to accommodate regional growth in a location that is adjacent to existing and planned infrastructure.

(3) Summary

In summary, CA-LAN-351 contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. Development at this locale has the potential to result in adverse impacts. This site is culturally significant and as part of the project design, this site would be preserved in situ in perpetuity within the 470 acres of proposed open space.

CA-LAN-3043 was found to be a small low-density campsite, which includes a low-density subsurface deposit. The site appears to represent a terminal early Millingstone/Early Intermediate Period settlement dating from circa 4000 to 2000 years before present. It further appears to have been seasonally occupied by a small group of people, whose subsistence practices emphasized plant foods, probably hard seeds. Adverse impacts to this site can be mitigated through salvaging of materials found at the site in a Phase III data recovery program.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The following mitigation measure is already incorporated into the project:

4.18-1 CA-LAN-351 contains a subsurface archaeological deposit and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. This site shall be preserved in its current state in perpetuity as is demonstrated on VTTM 53425.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

4.18-2 Archaeological site CA-LAN-3043 contains an intact subsurface deposit and artifacts that hold the potential for contributing to our understanding of the prehistory of this portion of California. A Phase III data recovery (salvage excavation) program shall be conducted for CA-LAN-3043 prior to grading activities.

4.18-3 Although no other significant cultural resources were observed or recorded during the surface field survey, all grading activities and surface modifications must be confined to only those areas of absolute necessity to reduce any form of impact on unrecorded (buried) cultural resources that may exist within the confines of the project area. In the event that resources are found during construction, activity shall stop and a qualified archaeologist shall be contacted to evaluate the resources. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Construction on other parts of the project will be subject to Public Resources Code §21083.2(i).

7. CUMULATIVE IMPACTS

As discussed above, the proposed project site contains cultural resource. Where these resources exist, implementation of the proposed project would represent an incremental adverse cumulative impact to cultural resources. However, provided that proper mitigation, as defined by CEQA, is implemented by the proposed project, the project is not anticipated to contribute to significant cumulative impacts. Therefore, the project will have a less than significant impact on cultural resources, and its effects would not be cumulatively considerable.

8. CUMULATIVE MITIGATION MEASURES

Other than complying with the same mitigation that is required of the project, no further mitigation is recommended for cumulative projects.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Provided that proposed mitigation measures are properly implemented, no unavoidable significant impacts are expected to result from implementation of the proposed project.

b. Cumulative Impacts

Provided that mitigation measures are properly implemented for the project, no unavoidable significant cumulative impacts are expected to result.

4.19 AGRICULTURAL RESOURCES

1. SUMMARY

Land owned by The Newhall Land and Farming Company (NL&F) has historically comprised the majority of cultivated farmland in the Santa Clarita Valley. The amount of irrigated crop acreage owned by NL&F in the Santa Clarita Valley has been decreasing over the past thirty years and, therefore, so has the total revenue generated from farming activities. For example, irrigated crop acreage has decreased from 3,224 acres in 1965 to 1,008 acres in 1995, which represents a 69 percent reduction over that time period. These figures reflect the larger and continuing trend in Los Angeles County to convert cultivated farmland to urban land uses to accommodate an ever-growing population.

The proposed project would convert 73 acres of prime agricultural land to urban uses. The conversion of prime agricultural land is irreversible, and is considered an unavoidable significant impact. However, in light of the continuing trend by the County to convert cultivated lands to urban uses to accommodate growth, and the fact that the site is surrounded by development, the project site is impaired (i.e., relatively difficult and less economical to farm). Although the site is generally of lower value than larger and better-situated parcels found to the west and the loss of agricultural productivity on prime agricultural land under such circumstances is considered a significant and unavoidable project and cumulative impact.

2. INTRODUCTION

a. Farmland Classifications

There are two systems used by the United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) to determine a soil's agricultural productivity: the Soil Capability Classification and the Storie Index Rating System. The "prime" soil classifications of both systems indicate the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production.

(1) Soil Capability Classification

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when the soils are used, and the way in which soils respond to treatment. Capability classes range

from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the ratings of the capability classification system increase, the yields and profits are more difficult to obtain. A general description of soil classification, as defined by the NRCS, is provided in **Table 4.19-1, Soil Capability Classification**.

Table 4.19-1
Soil Capability Classification

Class	Definition
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations, impractical to remove, and therefore limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitation that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: USDA Soil Conservation Service, Soil Survey of Antelope Valley Area, January 1970.

(2) Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production to Grade 6 soils (less than 10), which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in **Table 4.19-2, Storie Index Rating System**.

b. Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). The intent of the USDA-SCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of the nationwide agricultural land

use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Table 4.19-2
Storie Index Rating System

Grade	Index Rating	Definition
1 – Excellent	80 through 100	Soils are well suited to intensive use for growing irrigated crops that are climatically suited to the region.
2 – Good	60 through 79	Soils are good agricultural soils, although they may not be so desirable as Grade 1 because of moderately coarse, coarse, or gravelly surface soil texture; somewhat less permeable subsoil; lower plant available water holding capacity, fair fertility; less well drained conditions, or slight to moderate flood hazards, all acting separately or in combination.
3 – Fair	40 through 59	Soils are only fairly well suited to general agricultural use and are limited in their use because of moderate slopes; moderate soil depths; less permeable subsoil; fine, moderately fine or gravelly surface soil textures; poor drainage; moderate flood hazards; or fair to poor fertility levels, all acting alone or in combination.
4 – Poor	20 through 39	Soils are poorly suited. They are severely limited in their agricultural potential because of shallow soil depths; less permeable subsoil; steeper slope; or more clayey or gravelly surface soil textures than Grade 3 soils, as well as poor drainage; greater flood hazards; hummocky microrelief; salinity; or fair to poor fertility levels, all acting alone or in combination.
5 – Very Poor	10 through 19	Soils are very poorly suited for agriculture, are seldom cultivated and are more commonly used for range, pasture, or woodland.
6 – Nonagricultural	Less than 10	Soils are not suited for agriculture at all due to very severe to extreme physical limitations, or because of urbanization.

Source: USDA Soil Conservation Service, Soil Survey of Antelope Valley Area, January 1970.

Since 1980, the State of California has assisted the USDA-SCS with completing its mapping in the state. The FMMP was created within the State Department of Conservation (DOC) to carry on the mapping activity on a continuing basis, and with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilize the SCS and Storie Index Rating systems, but also consider physical conditions such as a dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content, and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria (as described above) and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into the surrounding classification. The

Important Farmland maps identify five agriculture-related categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. Each is summarized below, based on A Guide to the Farmland Mapping and Monitoring Program (1998), prepared by the Department of Conservation.

(1) Prime Farmland

Prime Farmland is land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to 2 years) prior to the mapping date of 2002 (or since 1998).

(2) Farmland of Statewide Importance

Farmland of Statewide Importance is land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date (or since 1998).

(3) Unique Farmland

Unique Farmland is land of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date (or since 1998).

(4) Farmland of Local Importance

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each County's Board of Supervisors and a local advisory committee. Farmland of Local Importance in Los Angeles County includes lands which do not qualify as Prime, Statewide, or Unique designation, but are currently irrigated crops or pasture or non-irrigated crops; lands that would meet the Prime or Statewide designation and have been improved for irrigation, but are now idle, and lands that currently support confined livestock, poultry operations and aquaculture.[1]

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1 California Department of Conservation, A Guide to the Farmland Mapping and Monitoring Program, 1994.

(5) Grazing Land

Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

(6) Urban and Built-Up Land

Urban and Built-Up Land is occupied with structures with a building density of at least one unit to one-half acre. Uses may include and are not limited to residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.

(7) Other Land

Other land is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush, timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

c. Contribution of Agriculture to the Los Angeles County Economy

Los Angeles County ranked 28th in agricultural production out of 58 counties in the state, with gross revenues from the sales of agricultural commodities of $258,260,000.00 in 2001.[2] The leading crops included nursery plants, root vegetables, peaches, dry onions, and alfalfa hay.

Agricultural land conversion has a long history in Los Angeles County; the extent of this conversion is reflected in **Table 4.19-3**. One of the basic underlying premises of agricultural conversion is that the proximity of agricultural land to urban uses increases the value of the agricultural land either directly through formal purchase offers, or indirectly through recent sales in the vicinity, and through the extension of utilities and other urban infrastructure into productive agricultural areas.

As shown in the chart, acreage in production for fruit and nut trees, vegetable crops, cut flowers, nursery products and field crops decreased over the period extending from 1965 to 2001. Acreage in production for rangeland, although increasing in the 70s, 80s and 90s is equivalent today to what it was in 1965. Of

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2 California Agricultural Statistics Review, County Rank, Total Value of Production and Leading Commodities, 2001.

the total acreage under crop production in Los Angeles in 2001, approximately 43.7 percent was cultivated for alfalfa, grain, barley, and miscellaneous field crops, which contributed to only 3.89 percent of the County's total crop revenues of $258,260,000.00 for that year. Conversely, 8.01 percent of the land was used to cultivate nursery products, which made up 66.3 percent of the total 2001 crop revenues.

Table 4.19-3
Los Angeles County Agricultural Production 1965 through 2001

	Acreage					
Crop	**1965**	**1970**	**1980**	**1993**	**2001**	**1965-01 % Change**
Fruit and Nut Trees	14,039	7,829	3,032	1,939	2,354	-83.2%
Vegetable Crops	12,380	6,592	6,446	2,245	10,083	-18.6%
Nursery Products	1,925	1,972	2,280	2,248	1,847	-4.06%
Cut Flowers	565	656	490	289	86	-84.8%
Field Crops	79,103	57,890	42,298	9,905	8,688	-89.0%
Total Crop Production	**108,012**	**74,939**	**54,546**	**16,626**	**23,058**	**-78.7%**
Rangeland	200,000	210,000	242,250	230,229	200,000	0%

Source: Los Angeles County Agricultural Commissioner, Los Angeles County Crop and Live Stock Report, (El Monte, California: 1965 through 1996; Los Angeles County Crop and Live Stock Report, 2001; Impact Sciences, 2003).

d. Plans, Policies and Agreements for Agricultural Land

Agricultural activities in the State of California can be protected through a variety of legislative means, including the California Land Conservation Act and local Right-To-Farm Ordinances and Greenbelt Agreements. The California Land Conservation Act (CLA), also known as the Williamson Act, was adopted in 1965 in order to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the CLA established an agricultural preserve contract procedure by which any county or city within the state taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties will remain under agricultural production for a ten-year period. The contract is renewed automatically unless the owner files a Notice of Non-Renewal. In this manner, each agricultural preserve contract (at any given date) is always operable at least nine years into the future. Currently, approximately 70 percent of the state's prime agricultural land is protected under the CLA.[3] Prime Farmland under the Williamson Act includes land that qualifies as Class I and II in the SCS classification or land that

3 California Department of Conservation: Facts Approximately the Williamson Act. No date.

qualifies for rating 80 to 100 in the Storie Index Rating. No lands within the City of Santa Clarita or Los Angeles County have ever been under Williamson Act Contract.[4]

Right-To-Farm Ordinances have been adopted by several California counties to protect farmers in established farming areas from legal action that new residents in nearby urban settings may take against nuisances associated with normal, day-to-day farming activities, such as odor, noise, and dust. Los Angeles County has no Right-To-Farm Ordinance.

3. EXISTING CONDITIONS

a. Los Angeles County

Land owned by the Newhall Land and Farming Company has historically comprised the majority of cultivated farmland in the Santa Clarita Valley. The amount of irrigated crop acreage owned by the applicant in the Santa Clarita Valley, and therefore the total revenue generated, has been decreasing over the past 30 years. Irrigated crops were cultivated on 1,008 acres in 1995. This represents a 40 percent decrease from the 1,693 irrigated crop acres in 1985, a 60 percent decrease from the 2,491 irrigated crop acres in 1975, and a 69 percent decrease from the 3,224 irrigated crop acres in 1965. These figures reflect a larger and continuing trend in Los Angeles County to convert cultivated farmland to urban land uses to accommodate an ever-growing population. This trend is expected to continue and it is demonstrated by the fact that much, if not all, of the remaining agricultural land east of Interstate 5 has been zoned for urban land uses by the City of Santa Clarita and Los Angeles County.

b. Project Site

(1) Agricultural Production

Since 1985, the agricultural operations on the project site have been limited to dryland farming, primarily barley and hay crops, and during various seasons beekeepers work on the site. Zoning designations for the project site include 21.3 acres of Industrial Commercial (IC), 201 acres of Commercial Office (Planned Development) (CO (PD)), 160.1 acres of Community Commercial (Planned Development) (CC (PD)), and 38.3 acres of Mobile Home Park (MHP) zoning designations. The remaining 272.1 acres is within the Residential Medium (RM) zone. Agricultural uses would typically not be allowed in these districts.[5]

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4 Interview with Emily Kishi, California Department of Conservation, Sacramento, California, 6 January 1995.
5 City of Santa Clarita Zoning Code, Section 17.13.020. Revisions through January 1999.

Copies of aerial photographs for the years 1928, 1947, 1952, 1968, 1976, 1989 and 1994 and Historical Topographic Maps for the years 1900-1903, and 1940-1941 were reviewed by Applied Environmental Technologies (AET) for historical land use identification purposes as part of the Phase I Environmental Site Assessment conducted for the project site.

The 1928 aerial photographs show the generally flat area north of the Santa Clara River in the western portion of the site to be cultivated, possibly with hay. The area southeast of the site along the north side of Soledad Canyon Road also appeared to be cultivated. The 1947 aerial photographs show the area south of the dirt road (present on the north side of the Santa Clara River extending from Bouquet Canyon Road) and north of the Santa Clara River to be planted with row crops and three areas of the terrace east of the small valley were plowed, apparently for hay. Row crops were also present on the flat land north of the site. Except for major site grading for water utilities (two groundwater production wells and the Castaic Lake Water Agency underground pipeline) between 1989 and 1994, the majority of the site has been generally undeveloped land.

c. Federal Soil and State Farmland Classifications

Whether a piece of land is farmed or not, the U.S. Department of Agriculture (USDA) classifies soils on that land for both agricultural and engineering purposes, while the State of California Department of Conservation classifies them according to their agricultural value, focusing only on those lands that are farmed. Both of these classification systems, and their applicability to the project site, are discussed below.

(1) USDA Soil Survey Classifications

According to the USDA Soil Conservation Service, there are a total of eleven different soil types on the site. **Table 4.19-4**, located below, lists these soils and identifies the agricultural activities for which each soil is most suited (if any) and whether or not the soil meets Soil Conservation Service criteria for Prime Farmland, and **Figure 4.19-1, Soil Types on the Project Site**, shows the location of soils on the project site. These determinations are made regardless of whether or not the soils are farmed.

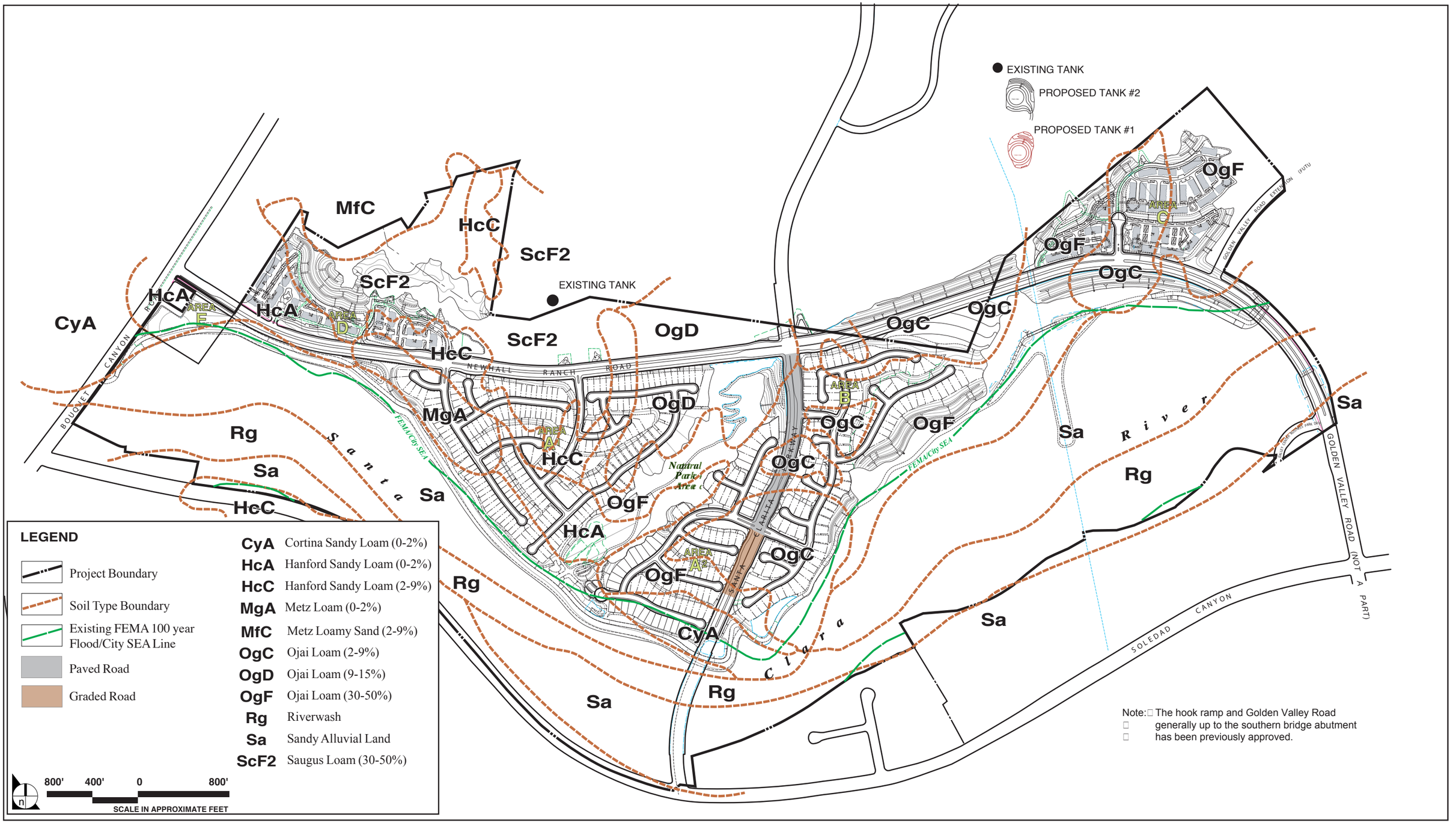

FIGURE **4.19-1**

Soil Types on the Project Site

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Table 4.19-4
On-Site USDA Soil Suitability

Soil Type[1]	Most Suitable Agricultural Activity for Soil Type	Meet Prime Farmland Criteria?
Cortina Sandy Loam (CyA) (0 to 2%)	Alfalfa, small grains, pasture, small sections for green onions	no
Hanford Sandy Loam (HcA) (0 to 2%)	Dryland grains, pasture, irrigated crops, range[2]	yes
Hanford Sandy Loam (HcC) (2 to 9%)	Dryland grains, pasture, irrigated crops, range	yes
Metz Loam (MgA) (0 to 2%)	Alfalfa, row crops	yes
Ojai Loam (OgC) (2 to 9%)	Irrigated alfalfa, row crops, range	yes
Ojai Loam (OgD) (9 to 15%)	Range, dryland small grains, wildlife habitat	no
Ojai Loam (OgE) (15 to 30%)	Range, wildlife habitat, watershed	no
Ojai Loam (OgF) (30 to 50%)	Range, wildlife habitat, watershed	no
Riverwash (Rg)	No farming capabilities	no
Sandy Alluvial Land (Sa)	Grazing, wildlife habitat, watershed purposes	no
Saugus Loam (ScF2) (30 to 50%)	Range, wildlife habitat, watershed	no

Source: Compiled February 2003 by Impact Sciences, Inc. from the Soil Survey [for the] Antelope Valley.
[1] *Column one indicates the soil type and the associated abbreviation according to the Antelope Valley Area Soil Survey. Column two indicates the activity most suitable for the particular soil type, and the third column indicates whether or not the soil type is suitable as Prime Farmland.*
[2] *Range is defined as open land used for grazing.*

The USDA also places soil in capability classes that reflect the soils' suitability for farming. **Figure 4.19-2, Site Suitability for Farming**, identifies the areas of the project site that are suitable for farming based on the site's capability classes. In addition, **Table 4.19-5** lists for each of the soils on the site their range site indices, Storie Indices[6] and soil grades.

Table 4.19-5
Storie Index Rating for Soils on the Project Site

Soil Type	Profile	Texture	Slope	Other	Index Rating	Soil Grade	Limitation Factor
Cortina Sandy Loam (CyA) (0 to 2%)	90	95	100	100	86	1	
Hanford Sandy Loam (HcA) (0 to 2%)	100	95	100	100	95	1	
Hanford Sandy Loam (HcC) (2 to 9%)	100	95	90	95	81	1	Erosion
Metz Loam (MgA) (0 to 2%)	100	100	100	100	100	1	
Ojai Loam (OgC) (2 to 9%)	70	100	90	90	57	3	Erosion
Ojai Loam (OgD) (9 to 15%)	70	100	85	85	51	3	Erosion
Ojai Loam (OgE) (15 to 30%)	70	100	75	80	42	3	Erosion
Ojai Loam (OgF) (30 to 50%)	70	100	40	70	20	4	Erosion
Riverwash (Rg)	--	--	--	--	< 5	6	
Sandy Alluvial Land (Sa)	--	--	--	--	< 10	6	
Saugus Loam (ScF2) (30 to 50%)	75	100	40	70	21	4	Erosion

Source: Compiled February 2003 by Impact Sciences, Inc. from the Soil Survey [for the] Antelope Valley.

6 The Storie Index numerically expresses the relative degree of suitability of a soil for general intensive agriculture. Four general factors are considered in the index rating, including the characteristics of the soil profile and soil depth, the texture of the soil surface, the dominant slope of the soil body, and other factors more readily subject to management or modification (i.e., drainage, flooding, salinity, sodicity, general nutrient level of the soil, and surface microrelief).

(2) State of California Department of Conservation Classifications

Using Soil Conservation Service soil classifications, the California Department of Conservation (DOC) and the California Association of Resource Conservation Districts translate soil survey data into an Important Farmland Series of maps for the state's agricultural counties. The purpose of the DOC's Farmland Mapping and Monitoring Program (FMMP), which updates its maps biennially, is to provide land use conversion information for decision makers to use in their planning for the present and future of California's agricultural land resources. These classifications focus only on those lands that have been recently farmed. Land not recently farmed is not shown on the Important Farmland Series of maps.

The conversion of Important Farmlands for Los Angeles County from 1998 to 2000 is shown in **Table 4.19-6**. In Los Angeles County, there has been an increase in acreage for Prime Farmland and Unique Farmland and a decrease in acreage for Farmland of Local Importance and Farmland of Statewide Importance.

Farmlands delineated by the DOC on the project site comprise approximately 73 acres of the site (**Figure 4.19-3, Farmlands of Importance**).[7] Of this total, 73 acres are considered Prime Farmland.

Table 4.19-6
Conversion of Important Farmlands – Los Angeles County (1998 to 2000)

Category	Acreage		
	1998	2000	% Change
Prime Farmland	24,632	28,798	+14.5%
Farmland of Statewide Importance	991	994	-0.31%
Unique Farmland	932	978	+4.71%
Farmland of Local Importance	30,736	29,850	-2.89%
Total Agricultural Land[1]	57,291	60,620	+5.51%

Source: Department of Conservation, Farmland Conversion Report 1998 to 2000, (Sacramento, California, June 2001), Table A-10.

[1] *The acreage for agricultural land is from DOC estimates, and do not necessarily reflect the acreage published in the Los Angeles County crop reports. This is due to the fact that lands mapped by the state may not have actually been in agricultural use.*

7 Department of Conservation, Farmland Mapping & Monitoring Program, communication with Patrick Hennessey, February 28, 2003.

FIGURE **4.19-2**

Site Suitability for Farming

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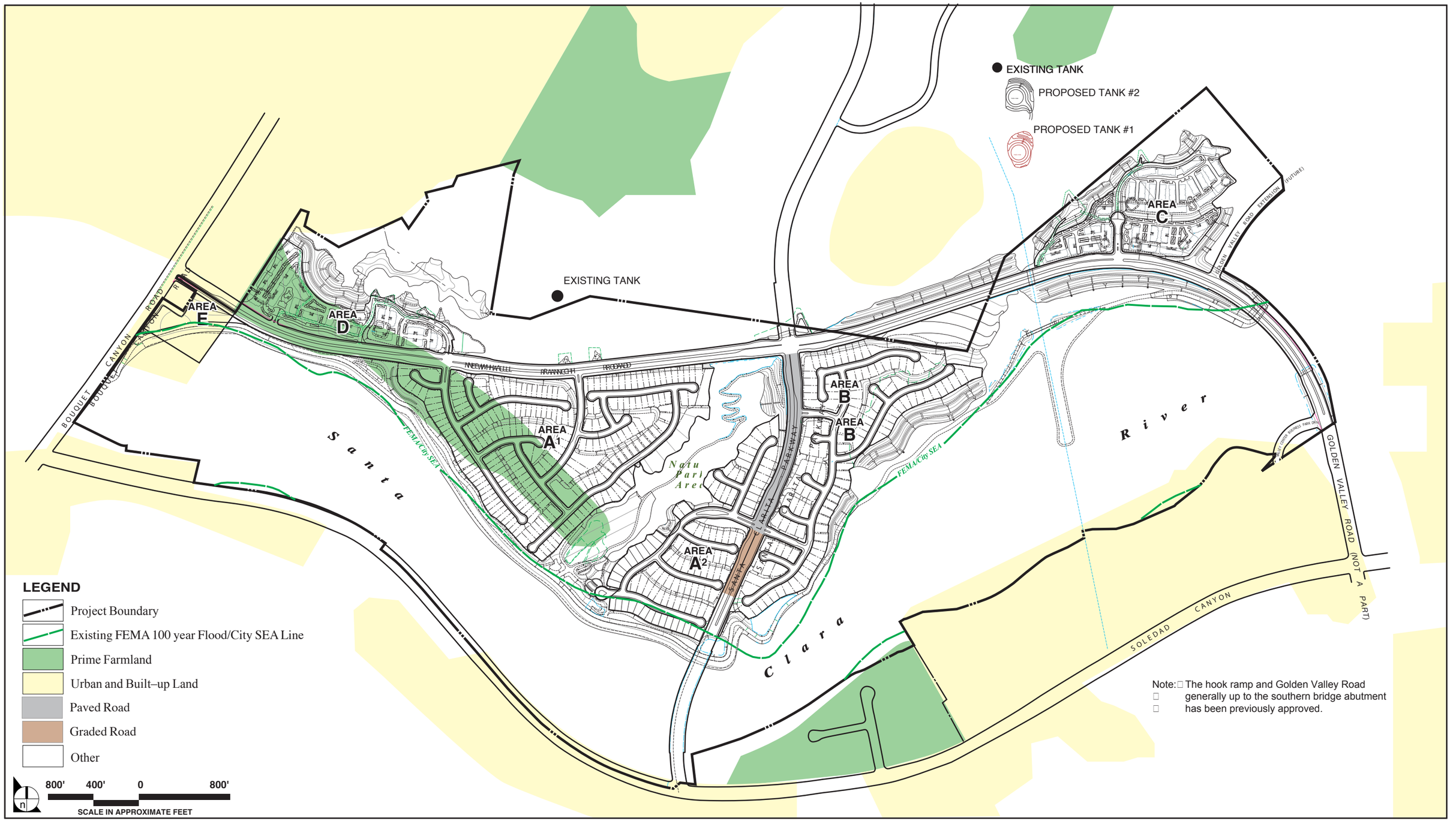

FIGURE **4.19-3**

Farmlands of Importance on the Project Site

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It is noted that for the past thirteen years, agricultural production on the property was not for cultivation of irrigated crops, but rather for the production of dry crops in the winter. As a result, the identified farmlands on the project site, as categorized by DOC, do not qualify as prime agricultural lands, since the definition of Prime Farmland requires that the land must have been used for the production of irrigated crops for a period of time since 1998. However, the DOC currently considers the 73 acres as Prime Farmland even though the land has not been used for the production of irrigated crops.

4. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines provide the following direction and identified criteria for whether a proposed project will have a significant impact on agricultural resources if:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

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

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

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

a. Conversion of Prime Agricultural Land to Non-Agricultural Uses

The aforementioned significance thresholds states that a significant impact would occur if a project converts prime agricultural land to non-agricultural use; with prime agricultural land defined as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. The proposed project would convert approximately 73 acres of prime agricultural land to urban land uses and would constitute a significant agricultural impact.

Development of the project site would result in the permanent loss of agricultural productivity on this acreage as farming activity ceases and the land is eventually developed. As previously indicated, the USDA and DOC have identified prime agricultural lands on the project site, as well as certain soil

types that may favor some agricultural activities. However, the agricultural productivity of this land is constrained by the following factor:

- The project site is bordered by existing or planned/approved urban development uses, the Santa Clara River, and is bisected by the proposed Newhall Ranch Road, so agricultural activity on the site would be increasingly isolated, fragmented and may conflict with the surrounding uses.

Such conditions make the land relatively more difficult and less economical to farm. Although that the agricultural productivity of the farmland is impaired by the constraints discussed above, the impact of the project upon the agricultural productivity of the land is considered to be significant.

b. Conflict with Existing Zoning or a Williamson Act contract?

The Santa Clarita Unified Development Code, Section 17.13.020 indicates that agricultural uses conflict with the Residential Medium, Community Commercial, Community Commercial (Planned Development) and Commercial Office (Planned Development). Agricultural uses are consistent with the Industrial Commercial and Mobile Home Park zone. Therefore agricultural uses presently conflict with some of the existing zoning designations on the site. The project would rezone the site to Residential Medium Planned Development and Community Commercial Planned Development. Both of these zoning designations would not support agricultural uses. The site is not a part of a Williamson Act contract. Because the project proposes zoning designations that would not allow for agricultural uses, it would conflict with existing zoning and would consequently result in a significant impact.

c. Involve Other Changes in the Existing Environment Which, Due to Their Location or Nature, Could Result in Conversion of Farmland to non-Agricultural Use

As discussed above, the project site is bordered by existing or planned development, the Santa Clara River, and would be bisected by the proposed Newhall Ranch Road. Therefore agricultural activity on the site would be increasingly fragmented and isolated. However, the proposed project would not involve other changes in the existing environment, which would result in the conversion of farmland to non-agricultural use and is therefore not a significant impact.

5. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project has not incorporated any mitigation measures into its design.

6. MITIGATION MEASURES PROPOSED BY THIS EIR

There are no mitigation measures that are available to mitigate the loss of agricultural use. A conservation easement is not feasible because land would need to be acquired for conversion to agricultural use. These lands would either be land that is presently undeveloped and not in agricultural use but that would be suitable for cultivation (e.g., Important or Prime Farmland) or land that is already developed. Undeveloped land in vicinity of the project site is either scheduled for development or it contains habitat that may be potentially used by special-status wildlife species (southern California rufous-crowned sparrow, loggerhead shrike, northern harrier and Bell's sage sparrow). Converting this land to agricultural use to mitigate a land use impact could create impacts by introducing agricultural operations into habitat, which would, in turn, result in impacts. Consequently, this measure is not environmentally beneficial. Additionally, converting land developed with residential, commercial or industrial uses to Prime or Important Farmland is infeasible unless the City would want to condemn such uses, which is not feasible. Lastly, the CEQA Guidelines Section 15126.4(a)(1) requires: "An EIR shall describe feasible measures which could minimize significant adverse impacts…." In this case, impacts would be created with implementation of an agricultural conservation easement. For the reasons mentioned above, a conservation easement is not feasible for the proposed project.

7. CUMULATIVE IMPACTS

Conversion of agricultural land to urban uses has a long history in the Santa Clarita Valley. The amount of irrigated crop acreage farmed by NL&F has decreased from 3,224 acres in 1965 to 1,008 acres in 1995, which represents a 69 percent reduction over that time period.

While it is not within the scope of this document to quantify the amount of prime agricultural land which is under pressure to be converted to urban uses in Los Angeles County and the remainder of Southern California, it is highly likely (and probably certain) that such cumulative development pressure exists and will continue with or without implementation of the proposed project. Given that implementation of the project would eliminate 73 acres of Prime Farmland, the project's contribution to the cumulative impact of development on prime agricultural land in the region is significant. The conversion of agricultural lands to urban uses is a policy issue that lies in the hands of the local jurisdiction. The loss of agricultural production, in Los Angeles County is also considered a significant impact.

8. CUMULATIVE MITIGATION MEASURES

Because the conversion of agricultural lands to urban uses is a policy issue that lies in the hands of the local jurisdiction, this environmental impact report has no recommendations for mitigation for cumulative development impacts on local agricultural activity.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

(1) Conversion of Prime Agricultural Land

The conversion of prime agricultural land, an irreplaceable resource, is a significant impact. No feasible mitigation exists for the conversion of approximately 73 acres of prime agricultural land due to implementation of the proposed project. Therefore, its conversion would be considered an unavoidable significant project impact.

(2) Loss of Agricultural Productivity

Implementation of the proposed project would result in the permanent loss of agricultural productivity on potentially 73 acres of prime agricultural land. However, as indicated previously, agricultural productivity on this farmland is already impaired, due to its urban location. Such conditions make this land relatively more difficult and less economical to farm than larger parcels of land in the Valley and westerly in Ventura County. Even though the existing impaired conditions under which this land is farmed, the agricultural impact of the project with respect to the loss of agricultural productivity is considered significant.

b. Cumulative Impact

The cumulative conversion of prime agricultural land to urban uses constitutes a loss of an irreplaceable resource and is considered to be a significant cumulative impact. No feasible mitigation exists for this conversion and it would be an unavoidable significant impact.

4.20 FLOODPLAIN MODIFICATIONS

1. SUMMARY

The proposed project would modify the floodplain by placing bank stabilization and erosion protection along selected portions of the river, developing the floodplain areas behind the bank stabilization, and installing a bridge across the river. These actions would alter flows in the river; however, the effects would only be observed during infrequent flood events that reach the buried banks (e.g., 50-year and 100-year flood events). The proposed project would cause an increase in flows and changes in water velocities and water depth; and changes in the flooded areas. However, these hydraulic effects would be localized and minor in magnitude and extent, would be limited to the project footprint, and would be insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream. Under the project, the river would still retain sufficient width to allow natural fluvial processes to continue. Hence, the mosaic of habitats in the river that support various Sensitive species would be maintained, and the populations of the species within and adjacent to the river corridor would not be significantly affected.

2. INTRODUCTION

The following analysis is an assessment of hydraulic impacts on biological resources in the Santa Clara river corridor due to floodplain modifications associated with the Riverpark project, with an emphasis on sensitive aquatic species. Floodplain modifications associated with the proposed project include the Newhall Ranch Road/Golden Valley Road Bridge crossing over the river, bank stabilization and erosion protection along portions of the banks in the project area, and removal of 34 acres of mostly agricultural and non-native grassland/range land from the floodplain by raising these areas or placing elevated bank protection. This assessment is intended to supplement the broader biological analysis of the project's impacts presented in EIR **Section 4.6, Biological Resources**. This section of the EIR presents additional information regarding impacts to sensitive aquatic species provided by ENTRIX, Inc., which is, in part, based on the results of field surveys conducted by Impact Sciences, Inc. and others presented in **Biological Resources** section of the EIR. The **Biological Resources** section of the EIR addresses impacts to plants and animals generally, including impacts to riparian plant species found along the Santa Clara River and its related drainages.

The results of such surveys and analysis of impacts presented in that section of the EIR is not repeated in this section. The reader is encouraged to review **Section 4.6, Biological Resources**, in addition to this section for a complete assessment of the biological impacts of the proposed project.

The objective of this analysis is to determine whether the predicted changes caused by the project would cause significant impacts to the nature, amount, and location of the aquatic/riparian habitats and sensitive aquatic species in the Santa Clara River corridor, the project site, or downstream. The hydrological analysis performed by PSOMAS (Flood Technical Report for Riverpark, February 2004, Tables 6, 9, and 11) indicates that hydraulic changes resulting from project construction and operation would be small, and would occur adjacent to the project site. Therefore, because impacts caused by the project do not extend downstream of the project site, the focus of this analysis is on impacts to habitat and sensitive species in the river corridor on the project site. Additionally, this analysis is focused on habitats of sensitive species rather than on individuals or populations, which are highly variable over time and space along the river corridor.

Three distinct habitat types are found in the river corridor including: (1) aquatic habitats, consisting of flowing or ponded water; (2) wetland habitats, consisting of emergent herbs rooted in ponded water or saturated soils along the margins of the flowing water; and (3) riparian habitat, consisting of woody vegetation along the margins of the active channel and on the floodplain. Such habitat types occur in greater abundance downstream of the project site where sources of year-round water are present. The portion of the river corridor upstream of the Saugus Water Reclamation Plant, including the portion of the river corridor within the project site, normally lacks surface water flow. Only during larger storms is surface water flow present in this area. Wildlife species associated with these habitats include: (1) the Endangered unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni*) (known to be present adjacent to or near the project site), least Bell's vireo (not known to be present on site), southwestern arroyo toad (not known to be present on site), southwestern willow flycatcher (not known to be present on site), and California red-legged frog (not known to be present on site); and (2) other Sensitive, but not Endangered, species such as the arroyo chub, Santa Ana sucker, two-striped garter snake, southwestern spadefoot toad, and southwestern pond turtle (with the exception of the sucker and chub, none are known to occur on the site). The focus of the ENTRIX report is on three Sensitive species: unarmored three-spine stickleback, arroyo toad and the California red-legged frog. Conclusions reached by ENTRIX regarding these species would also apply to other sensitive aquatic species where habitat needs are similar to the species indicated above.

The impact assessment is based on the relationship between hydraulic conditions and aquatic/riparian habitats in the Santa Clara River on the project site, and the determination of whether the predicted changes in hydraulic conditions would significantly affect those habitats.

The floodway engineering analysis used to prepare this section of the EIR was provided by PSOMAS Associates (PSOMAS) and the biological analysis was prepared based, in part, on the biological studies and information described in **Section 4.6, Biological Resources**, and **Appendix 4.6**, and on an independent analysis prepared by ENTRIX, Inc. (ENTRIX). Information prepared by PSOMAS is

presented in the report entitled, Flood Technical Report for Riverpark, dated February 2004 (**Appendix 4.2**) and information from ENTRIX is presented in the report entitled, Sensitive Aquatic Species Assessment, Upper Santa Clara River, Riverpark Project, Santa Clarita, California, dated February 2004 (See **Appendix 4.20**).

All documents referred to, referenced or cited in this section are incorporated by reference, and may be reviewed at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California.

a. Study Scope and Methods

(1) Study Scope

The study area includes the river corridor within the boundaries of the project site (See **Figure 4.20-1**, **Project Study Area**). The scope of the assessment is on the potential effects of the Riverpark project on aquatic, wetland, and riparian habitats and sensitive aquatic species. The assessment was based on a review of technical and regulatory documentation provided by the project applicant, other technical documentation, research, data bases related to the subject matter, and a field reconnaissance survey of the project site.

(2) Methods

This analysis is based on the referenced information presented in **Section 4.6, Biological Resources**, on ENTRIX's independent research, investigations, observations, findings and conclusions, and on more recent information developed by ENTRIX, Impact Sciences, Inc. and other consultants. (See **Section 4.6**, **Biological Resources**, **Appendix 4.6**, and **Appendix 4.20**.) ENTRIX performed an analysis of the proposed project's impact on sensitive aquatic species found or potentially found in the river corridor adjacent to the site. Specifically, ENTRIX's findings and conclusions are based on their review of technical and regulatory documentation provided by the project applicant, other technical documentation, research, data bases related to the subject matter, and a field reconnaissance survey of the project site, as well as on the extensive experience of the ENTRIX personnel. ENTRIX did not conduct new focused surveys for special status species or analyses other than that described herein. The methods are described in greater detail below.

(a) Review of Existing Project Reports and Documentation

PSOMAS characterized the hydrology and hydraulics of the river in a technical report (PSOMAS 2004; **Appendix 4.2**). As explained in that report, hydraulic calculations and sediment transport potential assessments within the Santa Clara River were prepared using U.S. Army Corps of Engineers

HEC-RAS and HEC-GEO-RAS programs. These programs were used to determine floodplain limits, flow velocities and by extension scour/deposition potential for a range of flow frequencies within the river (2-year through 100-year flows). Existing Santa Clara River discharge rates for the return periods 2-, 5-, 10-, 20-, 50- and 100-year were obtained from a United States Army Corps of Engineers (ACOE) study entitled, Santa Clara River Adopted Discharge Frequency Values (ACOE, the Ventura County Flood Control Department and the Los Angeles County Department of Public Works, May 3, 1994). Santa Clara River flows in the proposed conditions were derived from the PSOMAS Flood Technical Report for Riverpark (PSOMAS, February 2004). The proposed condition discharges were increased based on the values calculated and accounted for cumulative development located upstream; for the cumulative development analysis, it is assumed that full development of the upstream watershed would occur in order to account for runoff changes that would occur in the area in addition to the proposed project. The Manning's roughness 'n' values used for the HEC-RAS analysis were estimated based on actual field data, aerial photos and topographic planimetrics in the study area.

The following technical reports and supporting documentation were reviewed by ENTRIX in assessing the potential effects of the Riverpark project on sensitive aquatic species inhabiting the Santa Clara River:

- Final EIS/EIR: 404 Permit and 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries, Los Angeles County. Valencia Company, August 1998.
- Natural River Management Plan: Permitted Projects and Activities. Santa Clara River and tributaries. Valencia Company, November 1998.
- Results of Focused Surveys for Arroyo Toad and Special-Status Aquatic Reptiles and Amphibians within the Natural River Management Plan Area, Valencia, California. Impact Sciences, September 2001.
- Aquatic Surveys Along the Santa Clara River Part I: Castaic Junction Project Area, Los Angeles County, California. Aquatic Consulting Services, Inc., April 2002.
- Biological Opinion for the Natural River Management Plan, Santa Clarita, Los Angeles County, California (1-8-02-F-4R) (File No. 940050400-BAH). U.S. Fish and Wildlife Service, November 2002.
- Impact Sciences' Focused Amphibian surveys – Riverpark site (2002 and 2003).
- Impact Sciences' Focused UTS surveys – Riverpark site (2002 and 2003).
- Results of Focused Unarmored Three-Spine Stickleback and Other Special-Status Fish Species, Newhall Ranch, Valencia California. Impact Sciences, Inc., January 2003.
- Amended 404 Permit (No. 940050400-BAH) for Natural River Management Plan. U.S. Army Corps of Engineers, June 2003.
- Revised Initial Study: Riverpark Project. City of Santa Clarita, 2003.

SOURCE: PSOMAS – February 2004

FIGURE **4.20-1**

Project Study Area

112-16•02/04

- Technical Flood Report for Riverpark. PSOMAS, February 2004.
- Riverpark Field Study References and Appendices from **Section 4.6, Biological Resources**, Draft Environmental Impact Report. Impact Sciences, Inc., March 2004.

In addition, applicable information referenced in the **Biological Resources** section of this EIR was also referenced in order to prepare the information presented below.

(b) Review of Records and Literature

In order to prepare the information presented below, information on the special-status wildlife of the proposed Riverpark project area was obtained by ENTRIX through a search of the California Natural Diversity Data Base (CNDDB; CDFG, 2003); the U.S. Fish and Wildlife Service (USFWS), Ventura Office, Endangered Species Division's species list (USFWS 2003), and other biological studies completed in the project vicinity. Preliminary identification of potential habitat for sensitive aquatic species within the project site was determined by reviewing aerial photography provided by Newhall Land. A subsequent site visit identified other potential aquatic habitat.

To evaluate the effects of the bank stabilization and bridge components of the project on potential populations of UTS, arroyo toads, California red-legged frogs and other sensitive aquatic species, ENTRIX biologists queried the California Natural Diversity Data Base (CDFG, 2003) and the collection data bases of the Museum of Vertebrate Zoology, University of California, Berkeley (UC Berkeley, 2003) and the California Academy of Sciences (CAS, 2003) to determine the historical distribution of these species in the project area. Various literature sources (especially Jennings and Hayes, 1994) were also used.[1] The ENTRIX biologists then examined maps, an aerial photograph dated 22 January 2003 and provided by Newhall Land, and ground photographs taken by ENTRIX biologists during the site visit on 2 December 2003 to locate potential aquatic habitat within and near the banks of the Santa Clara River within the site. Potential aquatic habitat suitability for any of the three species was determined by comparison with previously published assessments (e.g., Holland, 1991, Jennings and Hayes, 1994, USFWS 1999, 2002), as well as by the ENTRIX biologists' extensive experience with the three species in various parts of California, including without limitation the Santa Clara River region (See **Appendix 4.20**).

ENTRIX biologists also consulted the USFWS Biological Opinion for the Natural River Management Plan (NRMP), Santa Clarita, Los Angeles County, California (1-8-02-F-4R), dated 15 November 2002, the Environmental Assessment 404(b)(1) Evaluation Public Interest Review for Permit Application

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1 Unless otherwise noted, neither the CNDDB nor the museum database records are verified independently. Experts usually identify museum specimens during accession, but taxonomic changes and misidentifications are always possible. Further, unless otherwise noted, the absence of CNDDB or museum species records from any site does not indicate that the species is absent from that site.

Number 940050400-BAH, Valencia Company Natural River Management Plan, dated 18 June 2003, the PSOMAS Flood Technical Report for Riverpark (February 2004), and various natural history accounts for these species (e.g., Jennings and Hayes, 1994; Holland, 1991, Sweet, 1993; Swift et al., 1993; Stebbins, 1951).

(c) Field Reconnaissance Survey

In addition to the focused sensitive aquatic species surveys conducted by others and summarized in the **Biological Resources** section of this EIR, ENTRIX biologists, Dr. Camm Swift and Kathy Frye, conducted a reconnaissance-level field survey, focused on the following Sensitive aquatic vertebrate species and their associated habitat within the Santa Clara River floodplain: (1) unarmored three-spine stickleback; (2) southwestern arroyo toad; and (3) California red-legged frog. The purpose of the field survey was to analyze the potential effects of the Riverpark project on these species and their habitat.

The survey was conducted on December 2, 2003 in and along the Santa Clara River, within the boundaries of the Riverpark project site. The project site was examined for potential aquatic habitat, such as flowing or standing water, emergent vegetation, and associated sensitive aquatic species. The Santa Clara River channel, consistent with historical data, was entirely dry in the project reach and free of standing or flowing water. There were several areas outside of the main channel adjacent to storm drain improvements where standing water was present. These areas of the project site were photographed. Water within these areas was sampled with random passes of a seine net in order to search for species present at the time of the December 2003 surveys. **Figure 4.20-2, Standing Water Locations** depicts the project site and the areas where water was present. Species observed were recorded, along with water temperature, depth and width of wetted area. Field survey data is included in **Appendix 4.20**.

In particular, potential habitat for unarmored three-spine stickleback, arroyo toad, and California red-legged frog, was noted, along with other features relevant to the life history of each, such as the presence of prey or predators. Habitat needed for unarmored three-spine stickleback includes the presence of flowing water. Habitat factors needed for arroyo toads includes the presence of clear, standing water (required for egg deposition), sandy banks, and the presence of willows, cottonwood, and sycamore trees. Habitat factors needed for California red-legged frogs include relatively deep and vegetated sunlit pools.

Site 1 – Sampling Site Located Upstream of Project at Outlet of Storm Channel on South Bank

Site 2 – Sampling of DWP Aqueduct Pipeline Crossing on South Bank

Site 3 – View Upstream (East) Along Southern Bank (note dense cattails and willows)

SOURCE: ENTRIX, Inc. – February 2004

FIGURE **4.20-2**

Standing Water Locations

3. EXISTING CONDITIONS

a. Existing Hydrology and Hydraulic Conditions Along the River

(1) Flows

The reach of the Santa Clara River at the project site has intermittent low surface flows created by larger storm events. Downstream of the project site, flows originate from tertiary treated effluent discharges from two downstream water reclamation plants operated by the County Sanitation Districts of Los Angeles County and storm water runoff. Completely natural flows in the river only occur in the winter due to storm runoff.

The width of the active river channel (i.e., area of river bottom inundated during 2-year event) in the project site varies from 116 to 1,206 feet (PSOMAS, February 2004; **Appendix 4.2**). The maximum width of the river channel and floodplain inundated during the 100-year event is 2,108 feet (PSOMAS, February 2004; **Appendix 4.2**). An aerial photograph of the river channel at and below the project site is provided in **Figure 4.20-1, Project Study Area**.

Surface water is typically not present on the site during summer months. The low flow channel through the project site consists of braided channels and broad shallow flows when flows are present.

The peak discharge rates, or flows (i.e., volume of water for a given time frame), for floods of different return periods (2-year, 5-year, 10-year, 20-year, 50-year,[2] 100-year) at the downstream end of the project site under existing conditions are shown in **Table 4.20-1** (PSOMAS, 2004). A 2-year event has a probability of occurring once every two years, while a 50-year flood event has a probability of occurring once every 50 years. The 2-year flood event would have modest flows, while the latter event would have much higher flows.

The data in **Table 4.20-1** indicate that there are significant flows during the 50 to 100 year events (over 20,000 cubic feet per second, or cfs). Flows do not increase substantially as the river traverses the project site because flows from side drainages on the site are very minor compared to the flows in the river.

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2 Note this is not the 50-year Capital Flood (Q-Cap), which is based on a theoretical four-day storm event occurring right after the watershed has been burned with the resulting flow rate being increased again by a bulking factor. For purposes of comparison, the predicted flow during the 100-year FEMA flood event at the Bouquet Canyon Bridge is 31,300 cfs, while the County Q-cap at this same location is 52,100 cfs.

Table 4.20-1
Existing Discharges, Santa Clara River at the Project Site

Location	Discharge for Different Return Events (cfs)					
	2-yr	5-yr	10-yr	20-yr	50-yr	100-yr
Downstream end of the project site at Bouquet Bridge	1,300	4,100	7,400	12,100	21,400	31,300

Source: PSOMAS 2004.

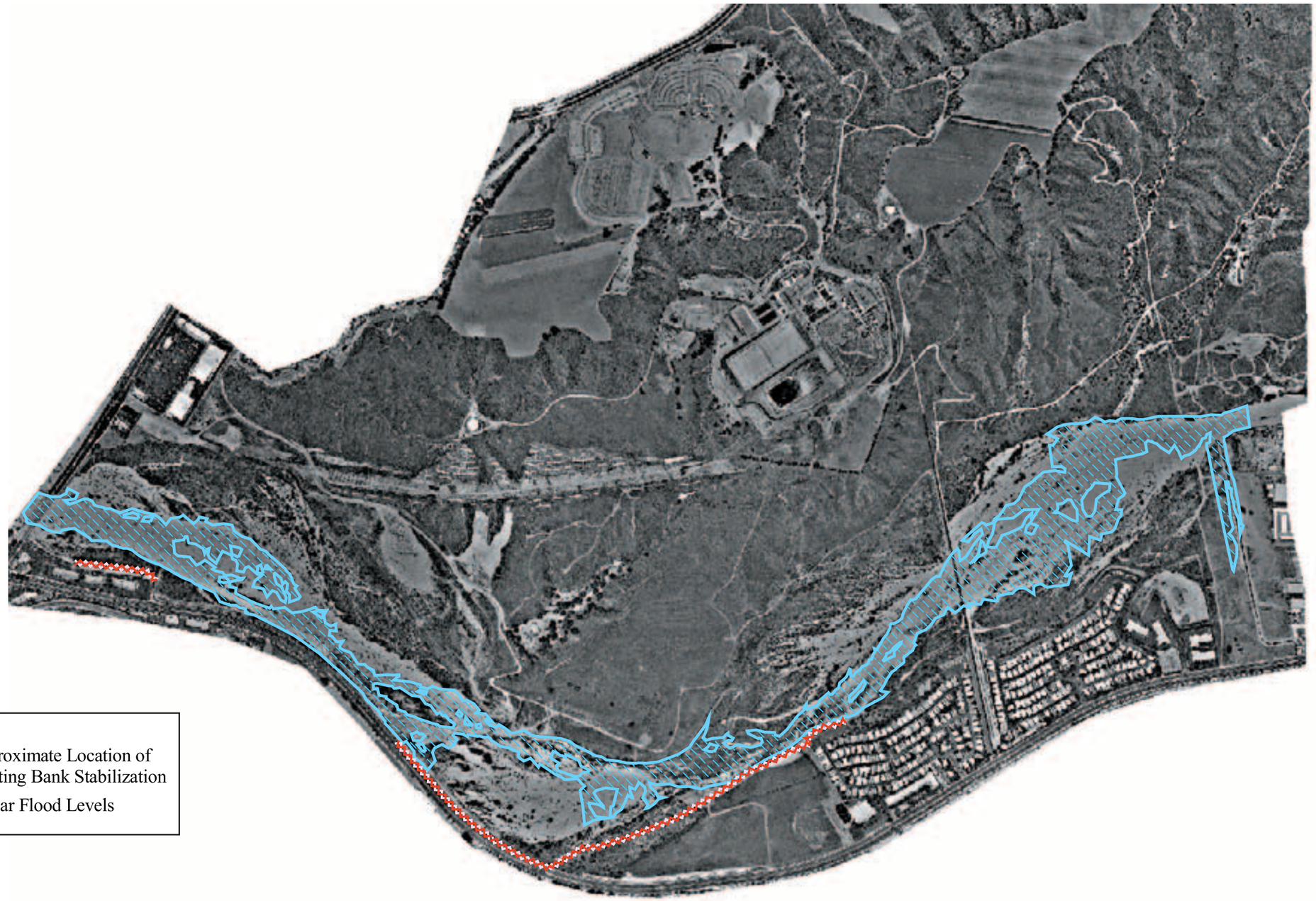
(2) Floodplain Area

The boundaries of the floodplain (the ground surface covered by water) at the project site from the upstream boundary of the site to the Bouquet Canyon Road Bridge for different return events are shown on **Figures 4.20-3a–g, Santa Clara River Existing Conditions**. The cumulative floodplain area increases as the discharge and associated water level increase moving east to west. A summary of the existing floodplain area for different return events is provided in **Table 4.20-2**.

Table 4.20-2
Floodplain Area for Different Discharges – Existing Conditions*

Flood Event (in years)	Acreage of Floodplain that is Inundated During a Flood Event in the Study Area[1]
2	109.4
5	187.6
10	266.0
20	300.5
50	325.0
100	337.4
Capital Flood	355.5

Source: PSOMAS (February 2004), Table 5
[1] *The study area begins at the Bouquet Canyon Bridge and ends 3,040 feet upstream of the Los Angeles Aqueduct pipeline crossing, slightly beyond the project site boundary.*

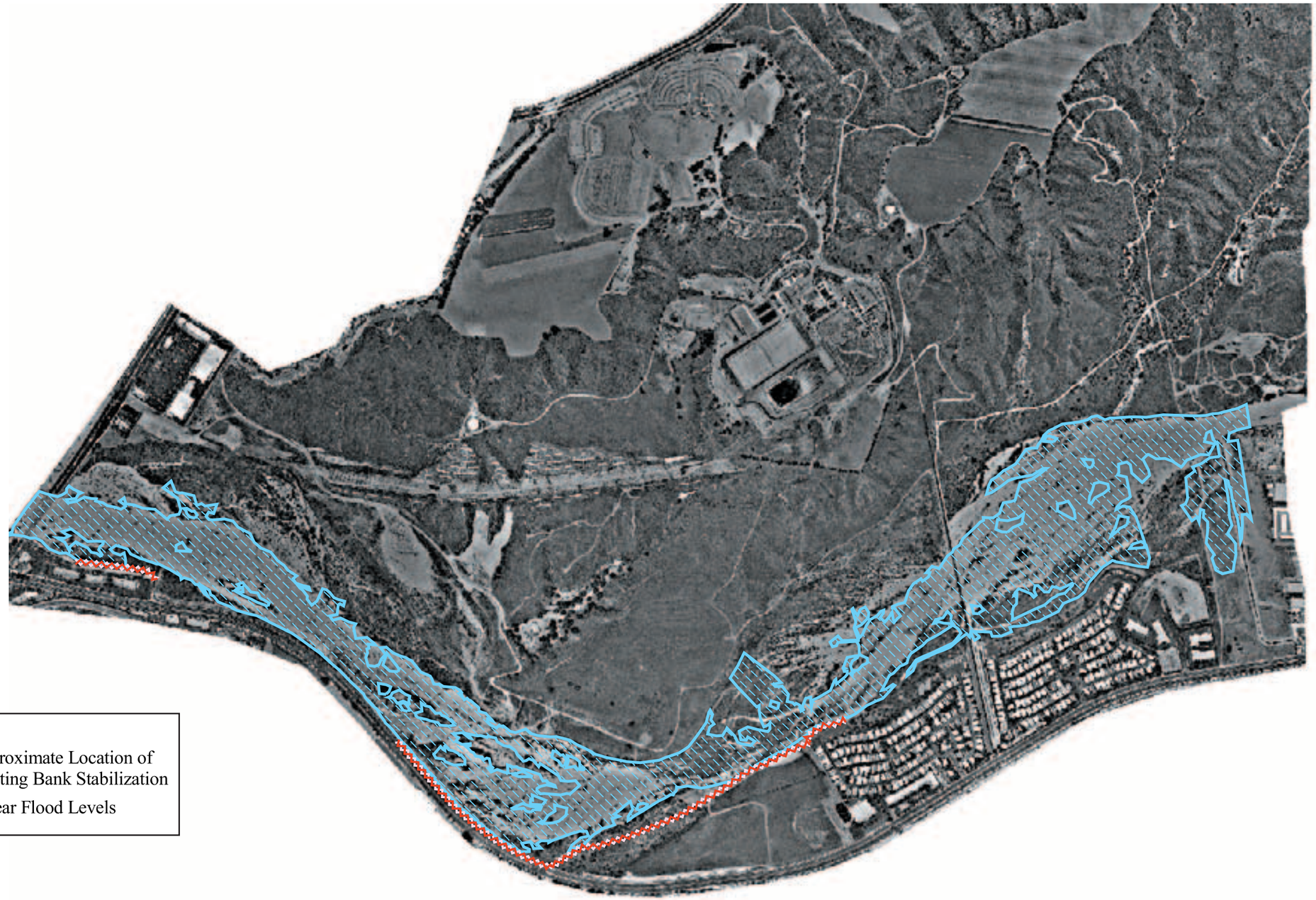


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3a**

Santa Clara River Existing Conditions – 2 Year Flood Event

112-16•01/04

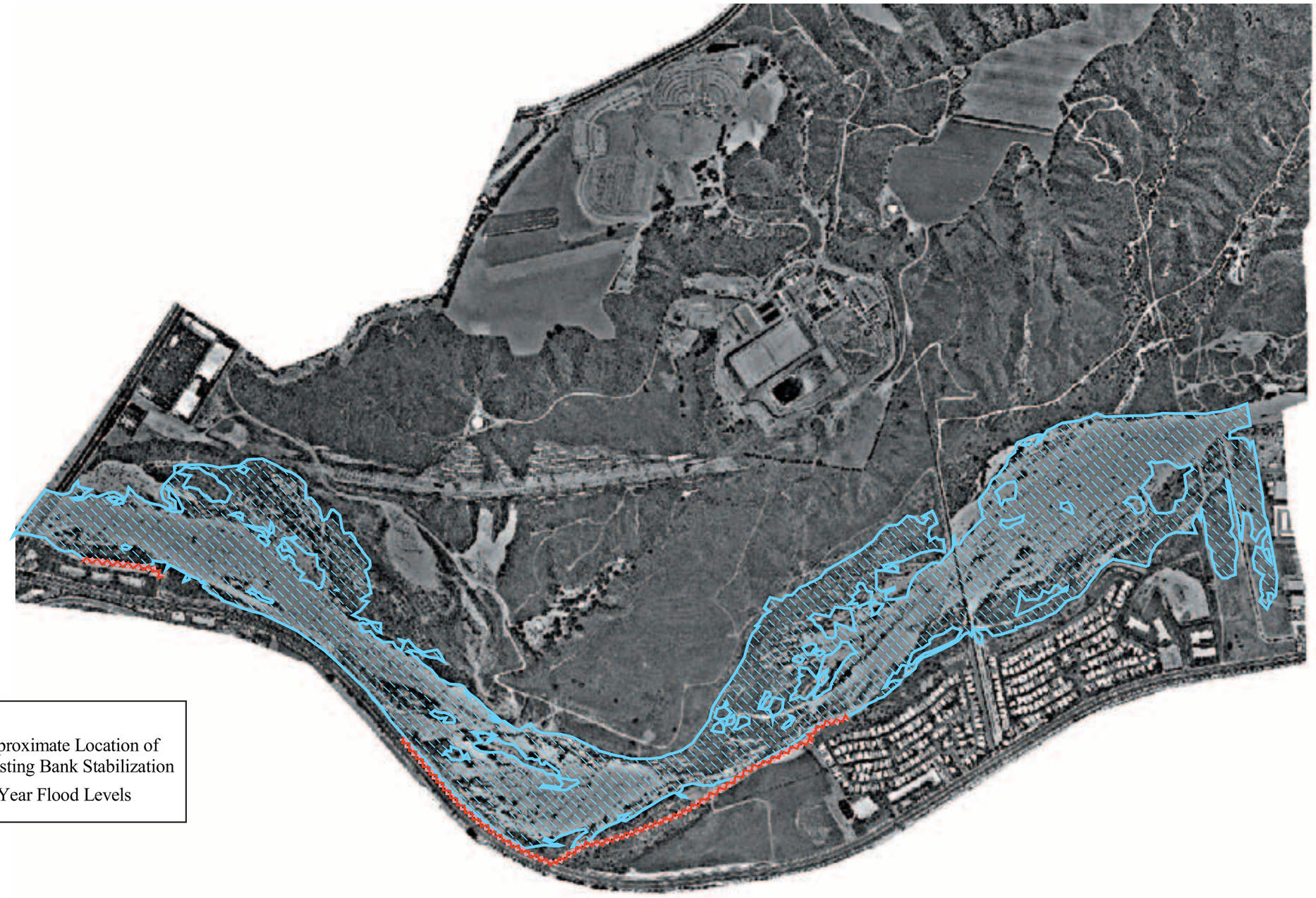


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3b**

Santa Clara River Existing Conditions – 5 Year Flood Event

112-16•01/04

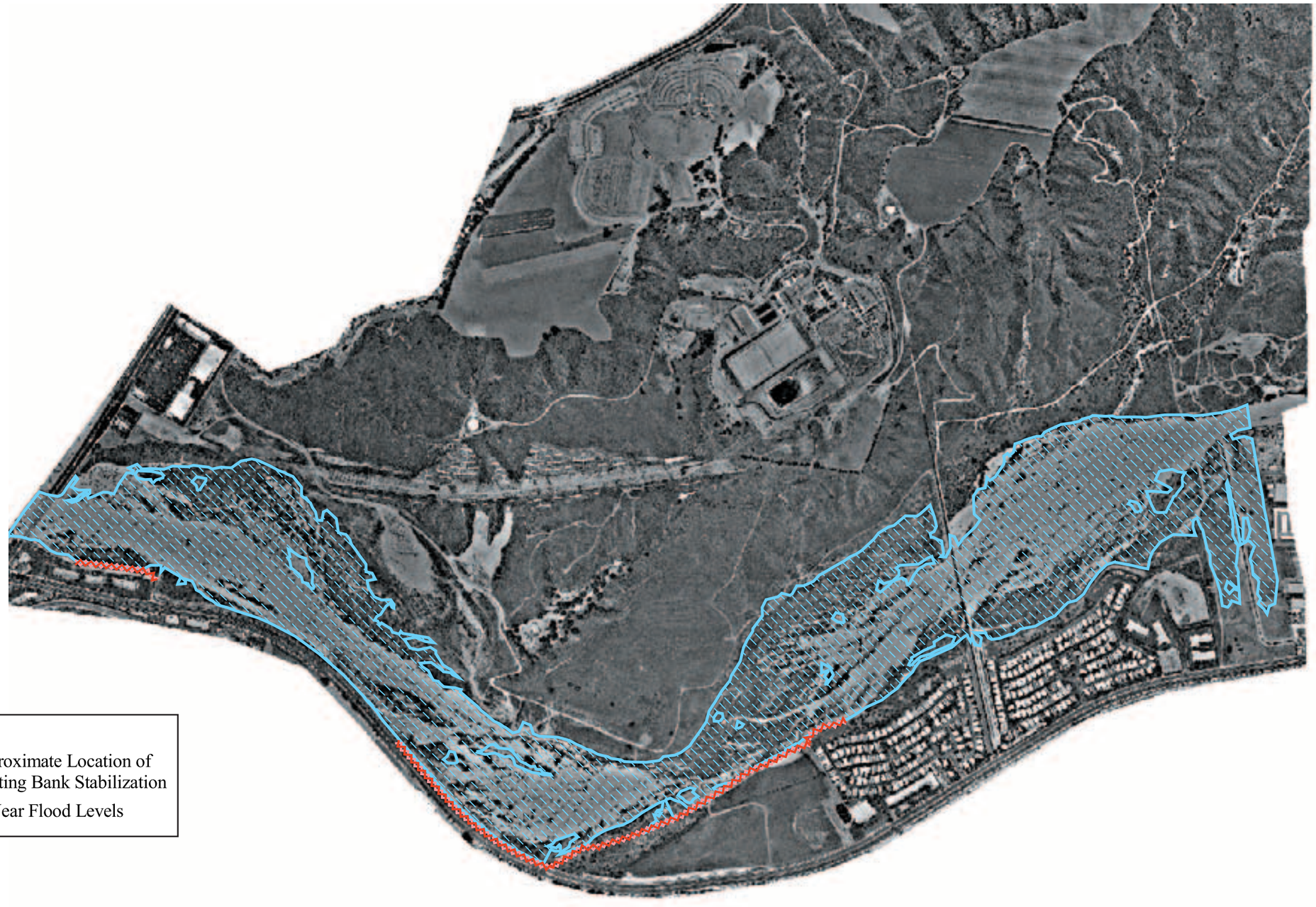


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3c**

Santa Clara River Existing Conditions – 10 Year Flood Event

112-16•01/04

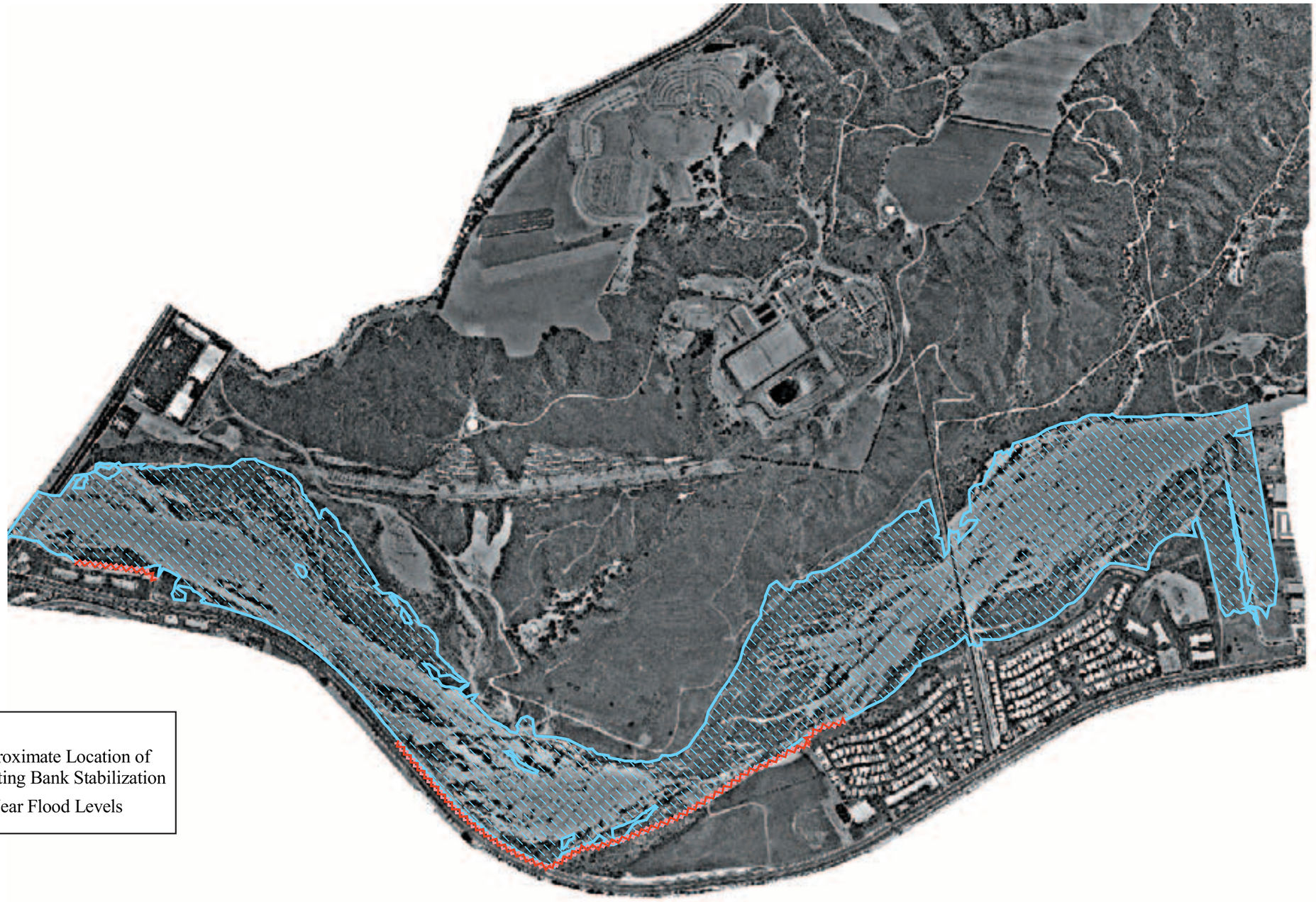


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3d**

Santa Clara River Existing Conditions – 20 Year Flood Event

112-16•01/04

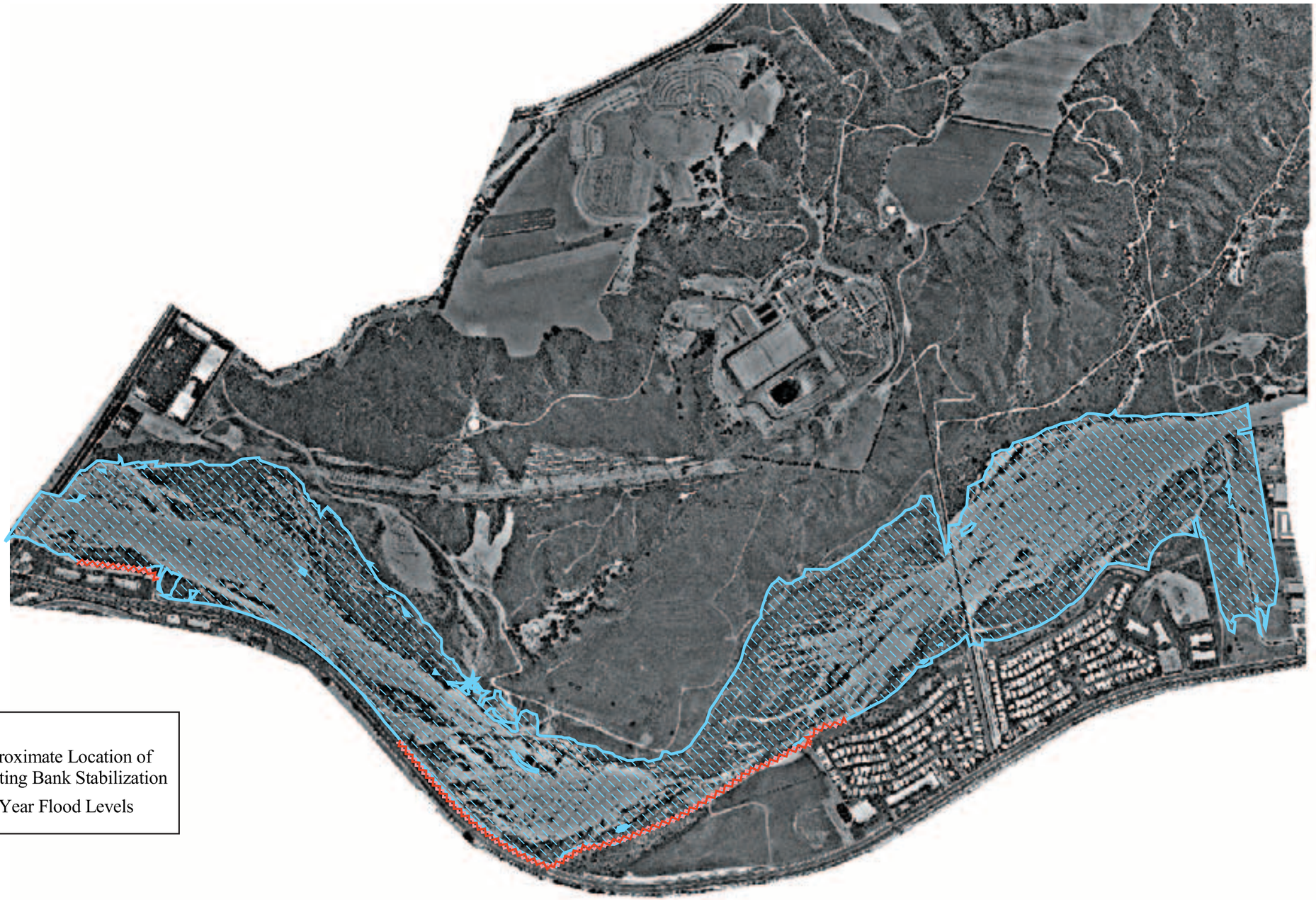


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3e**

Santa Clara River Existing Conditions – 50 Year Flood Event

112-16•01/04

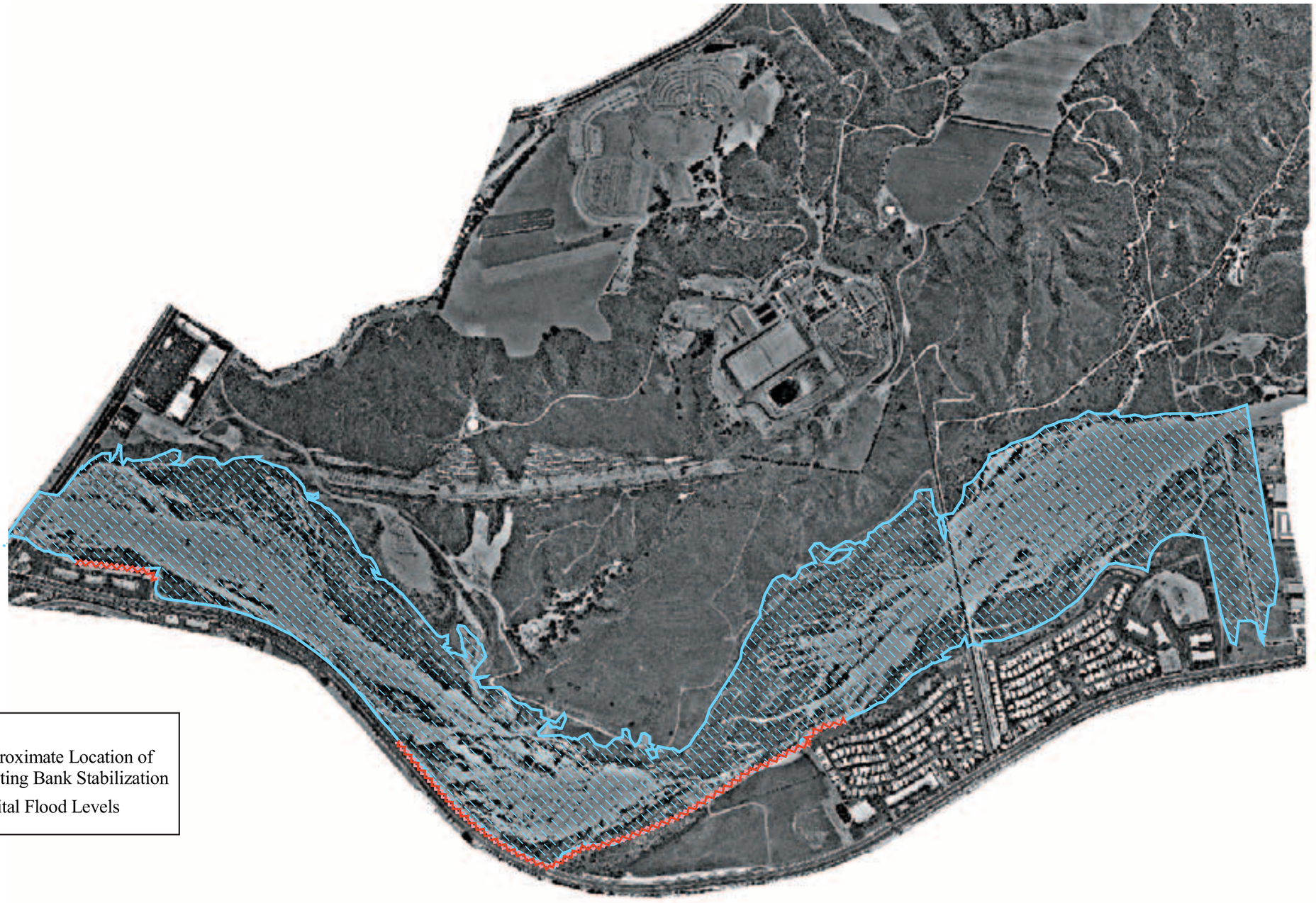


SOURCE: PSOMAS – January 2004

FIGURE **4.20-3f**

Santa Clara River Existing Conditions – 100 Year Flood Event

112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-3g**

Santa Clara River Existing Conditions – Capital Flood Event

112-16•01/04

(3) Water Velocity and Depth

Water velocity and depth along the river also increase with higher discharges (i.e., flows). An example of this relationship is provided in **Table 4.20-3** for the Bouquet Canyon Road Bridge. These data indicate that velocities, measured in feet per second (fps), more than double from the 2-year to the 100-year event, while water depth increases approximately 3-fold. In contrast, discharge increases 28-fold from the 2-year to the 100-year event. Velocity and water depth increases do not correspond to the discharge increases as the wide river channel allows flood flows to spread out with increasing discharge volumes. An illustration of existing river water velocity under different storm events is provided in **Figures 4.20-4a–f, Santa Clara River Existing Velocities**.

Table 4.20-3
Example of Increasing Depth and Velocity with Discharge –
Existing Conditions at Bouquet Canyon Road Bridge

Return Event (years)	Discharge (cfs)	Average Water Depth (ft)	Average Water Velocity (fps)
2	1,300	1.9	6.0
5	4,100	2.3	7.7
10	7,400	3.2	9.3
20	12,100	3.9	11.2
50	21,400	4.8	14.1
100	31,300	5.6	16.3

Source: PSOMAS, February 2004.

(4) Channel and Floodplain Conditions

The difference in elevation between the channel bottom and the 100-year floodplain along the margins of the river varies at the project site. This difference ranges from 3.2 to 9.4 feet and is dependent upon the width of the river channel. For example, in wider portions of the river channel where flows spread out with low velocities, there is only a small elevation difference between the channel bottom and the adjacent floodplain boundary. In contrast, the channel is often deeper where it is narrower, creating a large elevation difference between the channel bottom and the floodplain boundary.

The existing river channel contains a variety of vegetation types. The active river channel is mostly barren due to annual scouring. However, vegetation types on the adjacent terraces vary based on elevation relative to the active channel bottom and the frequency of flooding. The following series of

vegetation types occur along a vertical gradient from the channel bottom to the highest river terrace on the floodplain: emergent herbaceous, woody shrubs, and then trees.

The substrate of the river channel (i.e., top layer of the river bottom) is primarily sand, which is actively eroded and deposited in flood events. Previous studies by the Los Angeles County Flood Control District have demonstrated that sediment deposition and scouring along the upper Santa Clara River are generally in equilibrium, and that there are no major trends of channel degradation or aggradation.[3]

b. Existing Aquatic, Wetland, and Riparian Habitats Along the River

The Santa Clara River corridor supports three general categories of habitat: (1) aquatic habitats, consisting of flowing or ponded water; (2) wetland habitats, consisting of emergent herbs rooted in ponded water or saturated soils along the margins of the flowing water; and (3) riparian habitat, consisting of woody vegetation along the margins of the active channel and on the floodplain. As previously indicated, such habitat types occur in greater abundance downstream of the project site where sources of year-round water are present. The portion of the river corridor upstream of the Saugus Water Reclamation Plant, including the portion of the river corridor adjacent to the project site (approximately the Bouquet Canyon Road Bridge over the Santa Clara River), normally lacks surface water flow. Only during larger storms is surface water flow present upstream of the Saugus Water Reclamation Plant. The key characteristics of the dominant aquatic, wetland, and riparian habitats in the river corridor at the project site are summarized in **Table 4.20-4**.

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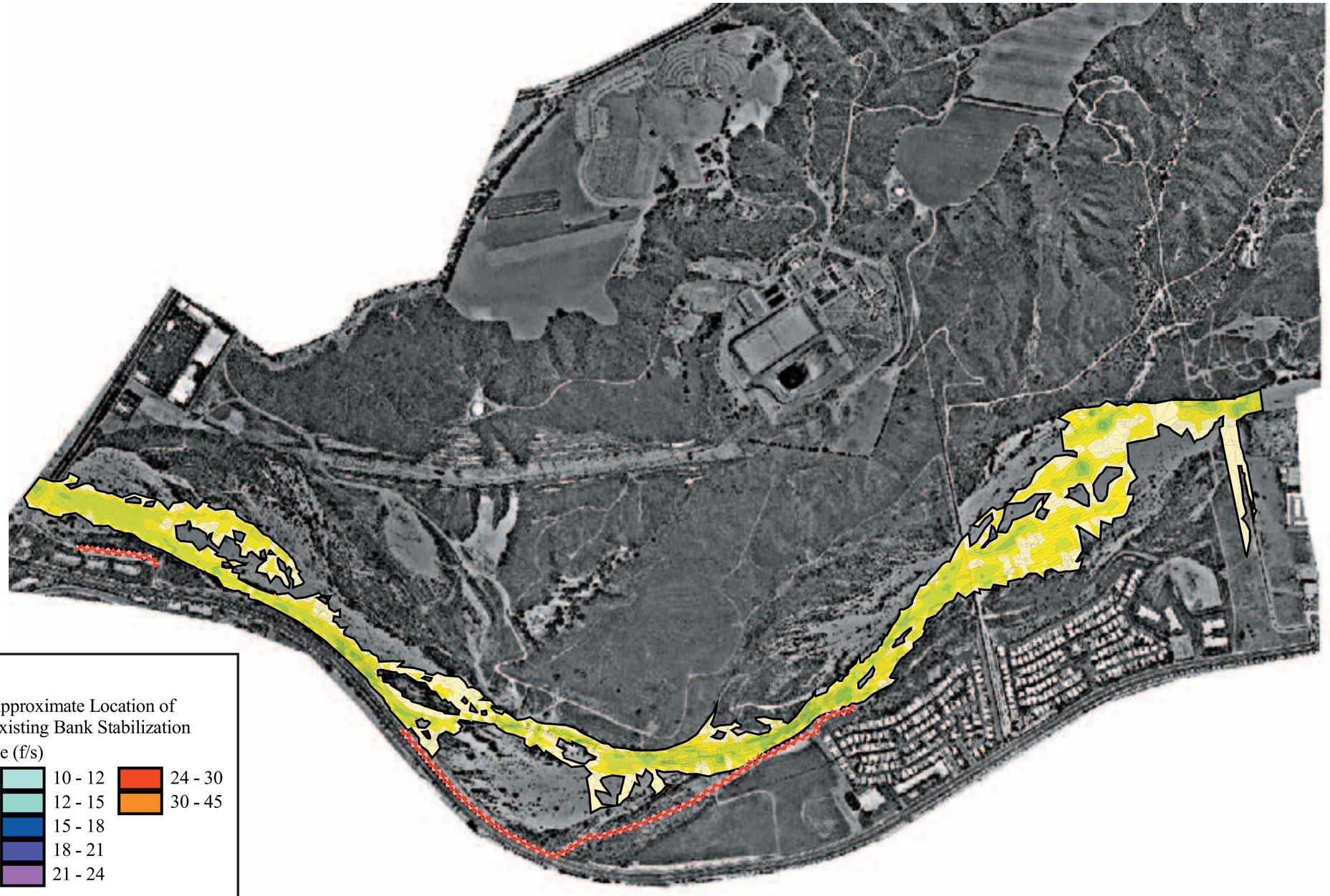
3 Simons, Li & Associates. 1990. Fluvial Study of Santa Clara River and the Tributaries Summary Report. Prepared for Los Angeles County Department of Public Works.

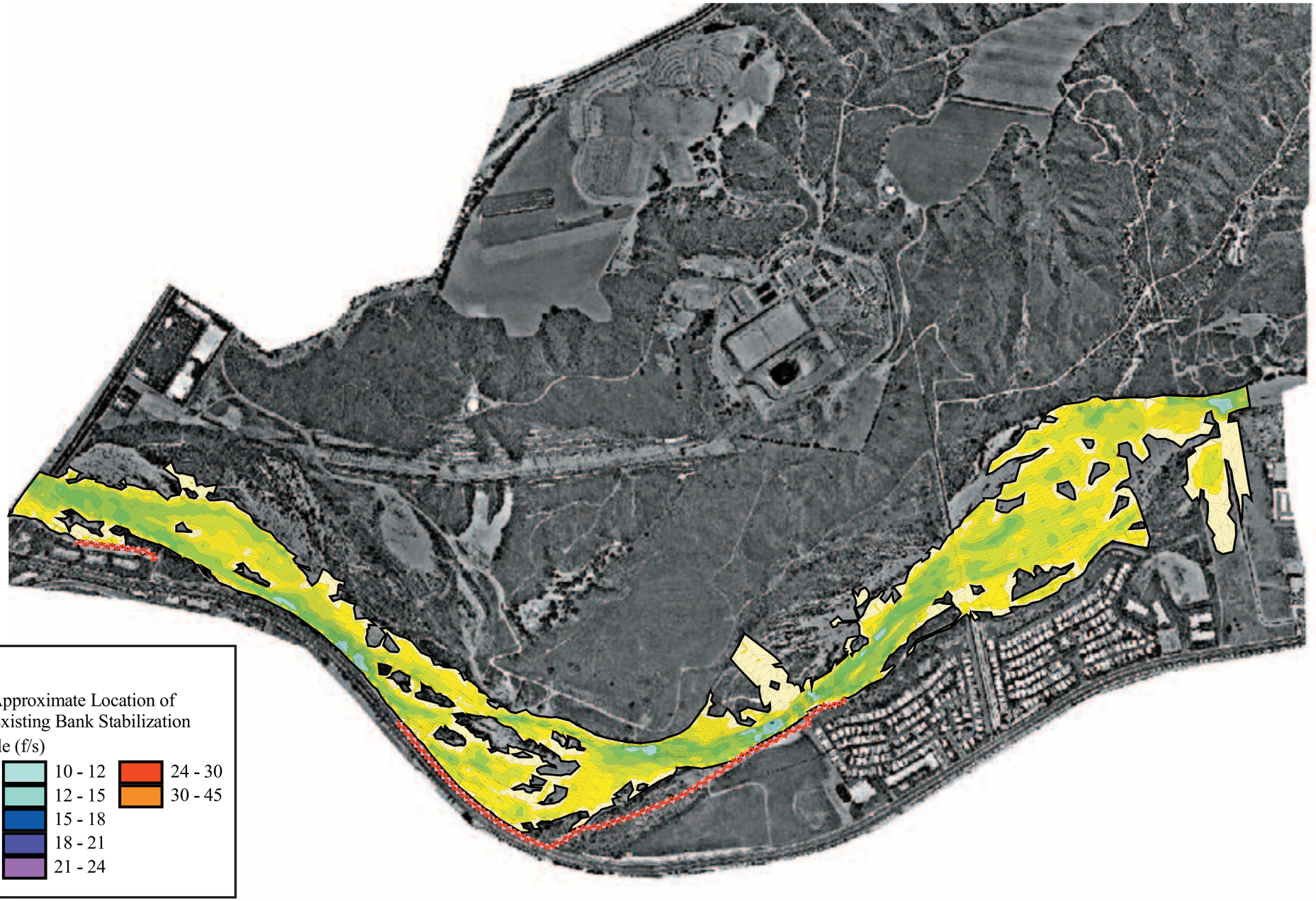


SOURCE: PSOMAS – January 2004

FIGURE **4.20-4a**

Santa Clara River Existing Velocities – 2 Year Flood Event

112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-4b**

Santa Clara River Existing Velocities – 5 Year Flood Event

Legend

Approximate Location of Existing Bank Stabilization

Velocity Profile (f/s)

0 - 2	10 - 12	24 - 30
2 - 4	12 - 15	30 - 45
4 - 6	15 - 18	
6 - 8	18 - 21	
8 - 10	21 - 24	

500 250 0 500 1000

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – January 2004

FIGURE **4.20-4c**

Santa Clara River Existing Velocities – 10 Year Flood Event

Legend

Approximate Location of Existing Bank Stabilization

Velocity Profile (f/s)

0 - 2	10 - 12	24 - 30
2 - 4	12 - 15	30 - 45
4 - 6	15 - 18	
6 - 8	18 - 21	
8 - 10	21 - 24	

500 250 0 500 1000

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – January 2004

FIGURE **4.20-4d**

Santa Clara River Existing Velocities – 20 Year Flood Event

Legend

Approximate Location of Existing Bank Stabilization

Velocity Profile (f/s)

0 - 2	10 - 12	24 - 30
2 - 4	12 - 15	30 - 45
4 - 6	15 - 18	
6 - 8	18 - 21	
8 - 10	21 - 24	

500 250 0 500 1000

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – January 2004

FIGURE **4.20-4e**

Santa Clara River Existing Velocities – 50 Year Flood Event

Legend

Approximate Location of Existing Bank Stabilization

Velocity Profile (f/s)

0 - 2	10 - 12	24 - 30
2 - 4	12 - 15	30 - 45
4 - 6	15 - 18	
6 - 8	18 - 21	
8 - 10	21 - 24	

500 250 0 500 1000

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – January 2004

FIGURE **4.20-4f**

Santa Clara River Existing Velocities –100 Year Flood Event

112-16•01/04

Table 4.20-4
Summary of Dominant Wetland and Riparian Habitat Types in the River at the Project Site

Habitat	Dominant Species	Structure	Location in the Floodplain	Height Above Channel Bottom (ft)
Holly-leaf cherry scrub	Holly-leaf cherry	Mature cherry shrub, with sometimes dense scrub understory.	On relatively flat terrain on the low terraces of side drainages.	10
Southern Riparian Scrub	Mule fat, arroyo willow, narrow-leaf willow, red willow, Fremont cottonwood, scale-broom, non-native tamarisk and giant reed	Highly variable, based on presence of water sources.	On relatively flat terraces immediately adjacent to riverbed.	1.5
Riversidian Sage Scrub	California sagebrush, California buckwheat, and annual grasses such as foxtail chess	Low, soft-woody shrubs up to one meter in height. Plant growth occurs in late winter and spring after the rains, with most species flowering in spring and summer. Typical stands are relatively open.	Upper terraces, near or at upland boundary, xeric sites such as steep slopes, severely drained soils, or relatively clayey soils that are slow to release moisture.	10+
Riverwash	Mule fat, tamarisk, scale-broom, giant reed, California broom, woolly star, California buckwheat, buckwheat, Mediterranean schismus, cryptantha	Highly variable because of the dynamic nature of vegetation growth within the river channel. The plant composition within the river channel can change from year to year.	River channel.	0-2
Non-Native Grassland	Brome species and wild oats. Red-stemmed filaree, small-seed sandmat, shortpod mustard, wishbone bush, California fuschia and California thistle	Annual introduced grasses up to approximately 0.5 meter in height, typically occur on fine-textured, usually clay soils, that are moist to wet in the winter, but dry in the summer and fall.	Upper terraces at upland boundary.	7-10

Figure 4.20-5, River Habitats, illustrates the location of different types of vegetation found in and adjacent to the river. The density, biomass, and location of the vegetation in relation to the channel bottom are directly dependent upon the frequency of disturbance by flood flows. A summary of the frequency of disturbance is provided in **Table 4.20-5**. Southern riparian scrub (SRS) occupies the active channel and is disturbed annually by flows. This habitat also includes all aquatic features such as infrequent pools and flowing water, as well as most of the emergent wetlands in the river corridor because of the occasional presence of water. In contrast, Riversidian sage scrub is located above the

active river channel and is only flooded during infrequent events, which allows large shrubs to become established between disturbance events.

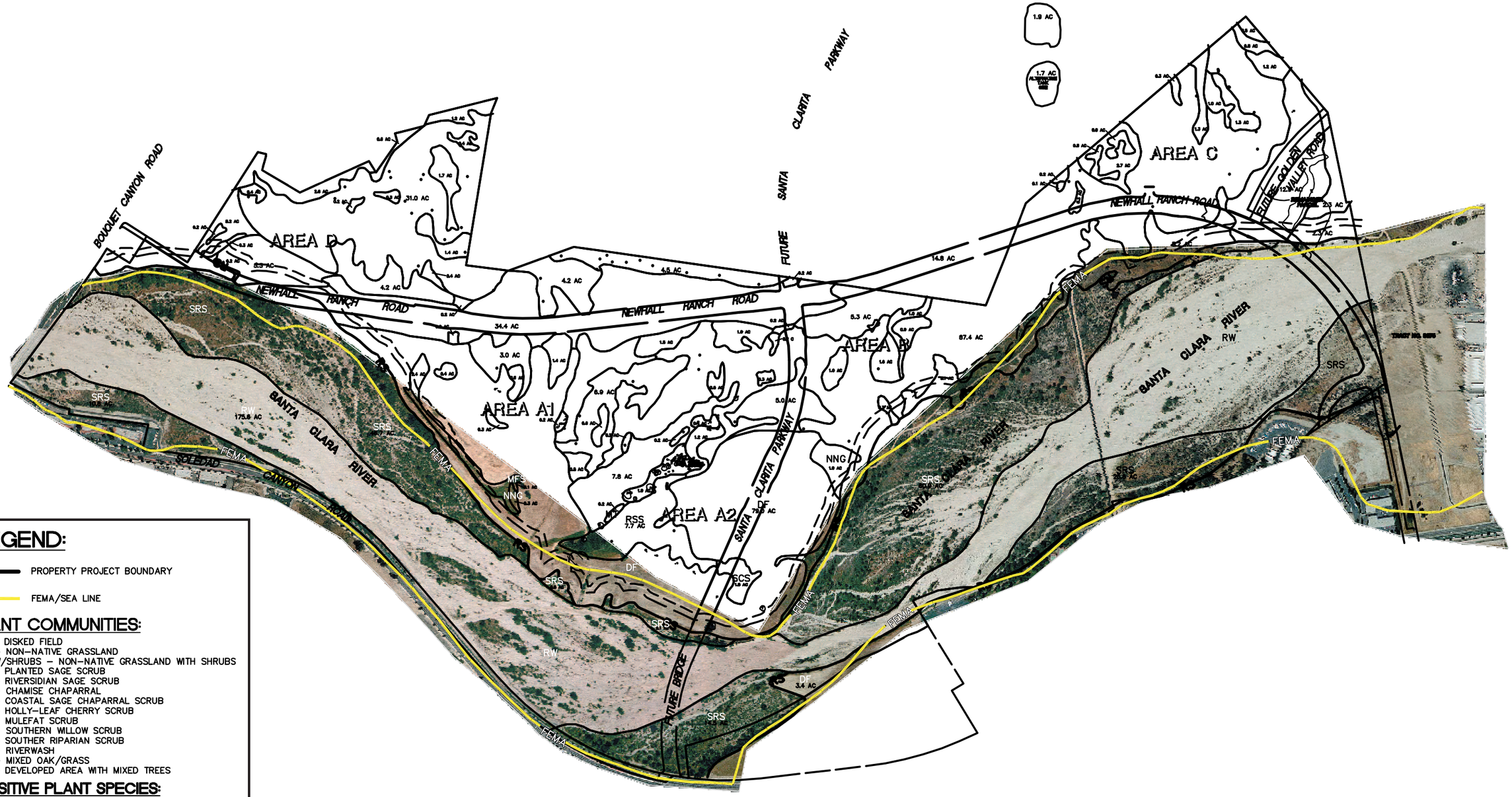
Table 4.20-5
Summary of Flood Disturbance Frequencies for
Dominant Wetland and Riparian Habitat Types in the River

Habitat	Frequency of Inundation and Disturbance by Flood Flows (years)
Holly-leaf cherry scrub	20-50
Southern Riparian Scrub	2-20
Riversidian Sage Scrub	50-100
Riverwash	Annually
Non-Native Grassland	50-100

Source: Impact Sciences, Inc.

The occurrence of riparian and wetland vegetation types in the river at Riverpark is provided on **Figure 4.20-5**. This figure shows the general pattern of southern riparian scrub in the center of the river corridor, with drier habitats on the adjacent floodplain. In addition, there are several upland habitat types in the corridor, including Riversidian sage scrub and non-native grassland.

The Santa Clara River provides year-round and seasonal aquatic habitats that are described in **Table 4.20-6**. All aquatic habitats are subject to periodic disturbances from winter flood flows. These flows inundate areas that are dry most of the year. They also carry and deposit sediments, seeds, and organic debris (e.g., stems, downed trees). New sandbars are formed and old ones are destroyed. Stands of vegetation are eroded by high flows, and new areas are created where vegetation becomes established by seeds or buried stems. Flows can change the alignment of the low flow channel, the number and location of pools, and the depth of pools when flows are present. In years with low winter flows, there may be very little change in the aquatic habitats of the river. In such years, wetland vegetation along the margins of the low flow channel would increase. In high flow years, this vegetation would be removed, but would become re-established during the spring and summer due to natural colonization processes. As can be seen, the aquatic habitats of the river are in a constant state of creation, development, disturbance, and destruction. The diversity of habitat conditions in the river at any one time supports a variety of aquatic invertebrates, aquatic plants, and fish when flows are present.



LEGEND:

PROPERTY PROJECT BOUNDARY

FEMA/SEA LINE

PLANT COMMUNITIES:

DF – DISKED FIELD
NNG – NON–NATIVE GRASSLAND
NNG W/SHRUBS – NON–NATIVE GRASSLAND WITH SHRUBS
PS – PLANTED SAGE SCRUB
RSS – RIVERSIDIAN SAGE SCRUB
CHC – CHAMISE CHAPARRAL
SCS – COASTAL SAGE CHAPARRAL SCRUB
HLCS– HOLLY–LEAF CHERRY SCRUB
MFS – MULEFAT SCRUB
SWS – SOUTHERN WILLOW SCRUB
SRS – SOUTHER RIPARIAN SCRUB
RW – RIVERWASH
OW – MIXED OAK/GRASS
MT – DEVELOPED AREA WITH MIXED TREES

SENSITIVE PLANT SPECIES:

CC – CALOCHORTUS CLAVATUS VAR. GRACILIS
CPL – CALOCHORTUS PLUMMERAE
OP – DELPHINIUM PARRYI

400 0 800

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – May 2003

FIGURE **4.20-5**

River Habitat

Table 4.20-6
Summary of Aquatic Habitats in the Santa Clara River at the Project Site

Habitat Type	Description	Source of Water	Frequency of Disturbance
Low-flow channel	Highly variable depth, dimensions, and locations. Emergent wetlands form along edges each spring and summer. Mostly sandy substrate with unstable banks. Mostly exposed runs and scattered riffles. Shallow depth (<1 ft).	Winter runoff.	Annual disturbance from flood-related flows.
Infrequent On-channel pools	Small scattered pools (less than 20 ft long) that form in the main channel in response to debris dams or sandbars. Emergent wetlands and young woody willows along margins. Shallow depths (<1 ft).	Winter runoff.	Annual disturbance from flood-related flows.
Winter secondary channels and overflow areas	Highly variable areas where winter flood flows occur when the low-flow channel is full. Ranging from discrete channels to sheet flow areas.	Winter flood related flows. Ephemeral aquatic features. May only persist for several days to weeks after a flood.	Inundation and scouring every 1-2 years.
Minor tributary drainages	Highly variable drainages that convey water to the river channel during storm events. Usually small drainages with faster moving water during winter storms.	Winter flows, and occasional seepage flow from side canyons. Ephemeral flows.	Disturbance each year from flood flows in the drainages.

Source: Impact Sciences, Inc.

The year-round effluent-dominated flows in the river downstream of the site have enhanced the aquatic habitats and species in the downstream reaches. Adjacent to the project site, however, there is little, if any, open water in the river during the summer and fall. Downstream of the site under natural conditions, there would also be very little, if any, open water in the river during the summer and fall. The presence of a year-round source of water downstream of the site provides more habitat for sensitive aquatic species and fish in the downstream reaches; therefore, these downstream reaches support greater populations of sensitive aquatic species than would otherwise be supported under natural conditions.

(1) Sensitive Species and their Habitats

When there are or have recently been flows in the river, sensitive aquatic species known to occur at the project site include unarmored three-spine stickleback, arroyo chub (*Gila orcutti)*, Santa Ana sucker (*Catostomus santannae).* The stickleback occurs in quiet water areas along the low flow channel, on- and off-channel ponds. They prefer herbaceous and backwater areas with cool and clear water conditions. Sticklebacks are weak swimmers and many are washed away in winter floods. The arroyo

chub and Santa Ana sucker occur in all aquatic habitats of the river. Chubs prefer slow moving water with muddy bottoms, while suckers occur in narrow channels with a range of flow conditions.

The least Bell's vireo (*Vireo bellii pusillus*) nests in willow woodlands west of the site on lower to middle stream terraces, and forages throughout the riparian corridor for insects. Nesting pairs have been sighted regularly downstream of the project site, and during 1999 bird surveys (Guthrie, 1998a, b; 1999a, b). The southwestern willow flycatcher (*Empidonax traillii extimus*) has been sighted downstream of the project site. These flycatcher sightings have been of migrant individuals, not breeding birds (Guthrie, 1998a, b; 1999a, b). The site provides little, if any, suitable habitat for the vireo and flycatcher.

Other sensitive aquatic species that are not known to occur at the project site, but could potentially colonize the river habitats in the greater region where more favorable conditions exist include the southwestern arroyo toad (*Bufo microscaphus californicus*) and California red-legged frog (*Rana aurora draytonii*). These species have been identified as potentially occurring on the project site. As indicated in the **Biological Resources** section of this EIR, the Biological Opinion written by the USFWS for the Natural River Management Plan (NRMP) concludes that it is unlikely for the arroyo toad to occur east of the Bouquet Canyon Bridge. Focused surveys conducted on the site failed to detect the presence of the arroyo toad on the project site. Technical reports documenting the methods and results of focused surveys are included within **Appendix 4.6**. The Service also proposed portions of Castaic Creek and San Francisquito Creek as critical habitat for the red-legged frog. However, no portions of the Santa Clara River were designated and the frog's critical habitat does not extend onto the project site.

The abundance and variety of riparian and wetland habitats that support the foregoing Sensitive species are due largely to the natural dynamic riverine processes that occur unimpeded in the Santa Clara River corridor. The continual creation and destruction of habitats due to flooding and drought periods provides a mosaic of different types and ages of habitats. This mosaic is a key element in sustaining the habitat of the Sensitive species.

The wide floodplain of the river at the project site facilitates the deposition of debris and meandering of the channel. Additional descriptions of the stickleback, arroyo toad, red-legged frog, and their habitats are presented below.

(a) Areas of Standing Water

The following summarizes the characteristics of the three sites within or adjacent to the project site identified in the ENTRIX's report as containing standing water:

- Site No. 1 – located directly east of the project site on the southern bank of the Santa Clara River (See **Figure 4.20-2, Standing Water Locations**). This site appears to be the result of nuisance flows from the adjacent industrial complex. The water is conveyed to the river by an improved concrete channel with ponding occurring near the river edge, outside of the main channel. This site (Picture 1) lacked aquatic organisms, which indicates that the ponding in this area may not be permanent or occurred only recently. African Clawed Frogs were present at this location.

- Site No. 2 – located adjacent to the Los Angeles Department of Water and Power aqueduct on the southern bank of the Santa Clara River (See **Figure 4.20-2, Standing Water Locations**). This site (Picture 2) appears to be the result of nuisance flows from the adjacent mobile home park and properties south of Soledad Canyon Road. The water is conveyed to this site by an improved concrete channel and ponding again occurs at the edge of the river outside of the main channel. An incised natural channel from the pond extends westerly 300 feet downstream. This incised channel is located approximately 10 to 40 yards north of a berm bordering the mobile home park. This site lacked any vertebrate life.

- Site No. 3 – located adjacent to Soledad Canyon Road, in the vicinity of Saugus Speedway, on the southern bank of the Santa Clara River (See **Figure 4.20-2, Standing Water Locations**). The site (Picture 4) appears to be the result of nuisance flows from properties south of Soledad Canyon Road. The water is conveyed via an underground storm drain, with ponding occurring at the outlet to the river. Water empties from this storm drain into a pile of boulders and drains 15 to 20 yards downstream. This area was chocked with vegetation (cattails and watercress). This site, though the best from a potential habitat perspective, contained no vertebrate life.

Other potential habitat locations are identified on **Figure 4.20-5, River Habitat**. None of these locations contained any standing or flowing water at the time of the site visit.

(b) Unarmored Three-Spine Stickleback (UTS)

The unarmored three-spine stickleback was designated a federally Endangered species in 1970 (U. S. Fish and Wildlife Service 1985) and is restricted to three sections of the upper Santa Clara River including areas both above and below, but not within, the Riverpark project site. Currently, Critical Habitat for unarmored three-spine stickleback has not been formally designated under the Endangered Species Act.

The fish is a small, largely annual fish that requires shallow, slow, marginal stream flows with abundant aquatic vegetation for cover. The male guards territories and builds a small nest of decaying vegetation where he guards the eggs until they hatch. When there is suitable habitat, as described above, large numbers of stickleback can exist in the summer and fall with the long breeding season in Southern California, and breeding can occur almost all year in dry years when a stream is minimally

disrupted by flood flows. Up to a few hundred UTS per 10 meters of stream can exist under optimum conditions. Strong storm flows usually severely decimate the population until the streams stabilize in spring and the numbers can build up again.

Populations occur in the following areas: (1) approximately one mile downstream, or west, of the project site beginning generally west of the McBean Parkway Bridge and the confluence with San Francisquito Creek; (2) approximately eight miles upstream, or east, of the project in Soledad Canyon above Lang Station; (3) San Francisquito Creek, a tributary to the Santa Clara River, northwest of the project site from just below Drinkwater Reservoir upstream to the vicinity of the old St. Francis Dam location (about 7.5 miles upstream, or north, of the Santa Clara River); and (4) Bouquet Canyon Creek, a tributary of the Santa Clara River, approximately 11 miles upstream, or northeast, of its confluence with the Santa Clara River (Jonathan Baskin, personal communication). Only the downstream population west of the McBean Parkway Bridge has the potential to be impacted by the project. This is because the other three locations are upstream of the Santa Clara River in tributaries or upstream of the project site and their hydrology and habitat would, therefore, not be affected.

No indication of the presence of unarmored three-spine stickleback was detected during the visit. The three areas of standing water were sampled with dip nets or seines as appropriate. No fish, including UTS, were observed. This finding is consistent with the findings of recent focused surveys for the species conducted on the Riverpark site. Surface water is rarely present in this stretch of river for long periods of time, and it has never been designated as a location for the species to occur except as occasional winter straying from upstream locations during storm events.

As discussed previously, the nearest populations of stickleback are upstream approximately 8 miles and somewhat closer downstream (approximately one mile). California Natural Diversity Data Base also documents the presence of 26 UTS on January 26, 27, and 28, and February 2, 1999 behind the Greenbrier Mobile Home Park, east of Bouquet Canyon Road Bridge over the Santa Clara River. The Greenbrier Mobile Home Park is located directly across from the Riverpark project area. These UTS observations followed El Nino storms of 1998 that likely brought these fish downstream from the nearest upstream population. These observations do provide an indication that fish may become temporarily established on the project site as a result of high water flows.

Although six drainages (not including the Santa Clara River) have been identified on the project site, no evidence of flow or riparian habitat was present and these drainages appear to be ephemeral, discharging water during storm events. Due to a lack of constant surface water and appropriate habitat characteristics, UTS are unlikely to utilize these six drainages.

The above findings support the conclusions that it is unlikely that UTS would inhabit the project site on a permanent basis. UTS could be expected to inhabit the project site temporarily, during wet years such as those associated with El Nino conditions.

(c) Arroyo Toad

Arroyo toads (*Bufo californicus*) occupy the margins of permanent and seasonal streams in coastal foothill canyons and valleys and to a limited extent in the desert, but they require extremely specialized and limited microhabitat within that general habitat type. Most spawning occurs in shallow overflow pools adjacent to inflow channels of third and higher-order streams, and during the remainder of the year adults occupy adjacent sand bars and sandy terraces, nearly always within 100 meters of suitable spawning pools. Suitable spawning pools lack suspended silt, aquatic predators, and dense woody bordering vegetation (Sweet, 1993). Suitable bordering sandbars are usually dampened by capillarity and include some emergent vegetation. The moist substratum keeps metamorphosing juveniles from desiccating during warm weather (Sweet, 1993; Jennings and Hayes, 1994). Suitable terrace habitat includes at least some dense overgrowth, such as California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), and willows (*Salix* sp.), but the understory is usually barren except for layers of dead leaves (Sweet, 1993). Adult and metamorphosed juvenile arroyo toads are known to forage for various invertebrates around the drip line of large oaks (*Quercus*) and also to forage extensively on ants (Sweet, 1992, 1993). Little is known of arroyo toad winter hibernaculum requirements (USFWS, 1999).

California Natural Diversity Data Base records for arroyo toad sightings include: (1) the Santa Clara River, directly east of Interstate 5, approximately 2 miles west of the project site; (2) Bear Canyon at the Santa Clara River, 6 miles upstream of Solemint (2001) which is about 9 miles east of the project site (also near the Transit Mix project site); and (3) confluence of San Francisquito Creek and the Santa Clara River, approximately one mile west of the project site (Sandburg and Impact Sciences, 2001). Neither of the museum data base queries (CAS, 2003; UC Berkeley, 2003) yielded Santa Clara River watershed specimens of the arroyo toad.

The Biological Opinion (issued in 2002) conducted by the United States Fish and Wildlife Service for the Natural River Management Plan (NRMP) stated that the implementation of NRMP improvements (including bank stabilization and bridge crossings) are unlikely to damage the Santa Clara River arroyo toad population. Critical Habitat designation for the arroyo toad has been set aside by judicial orders and no information is available on the revised Critical Habitat at this time. Thus, Critical Habitat for the species currently is undesignated.

The review of CNDDB records indicates that the arroyo toad still inhabits suitable habitat within the Santa Clara River upstream and downstream of the project. However, no arroyo toads were observed at the project site.

Long-term second-order confluence sand bar/overflow pool habitat of the type favored by arroyo toads for spawning or adult use is mostly absent within the project site, based on the conclusions presented in the ENTRIX report. The Impact Sciences (2001; p. 13) report states that habitat capable of supporting arroyo toads is absent from the Santa Clara River from 450 meters east of Bouquet Canyon Road upstream to the eastern boundary of Newhall Land property, which includes most of the Riverpark project site.

Areas of Standing Water Site No. 3 contained associated damp substrata with willow and cattail patches, but not vegetated sandbars and overflow pools parallel to the main channel. The other Areas of Standing Water Sites and identified drainages are not large enough to provide the water or sediments necessary to form overflow pools and therefore are not considered habitat. In conclusion, in the absence of confluence overflow pool habitat, there is no spawning habitat for arroyo toads within the project boundaries, and currently no information or evidence to suggest that adult arroyo toads occur within those boundaries.

(d) California Red-legged Frog

California red-legged frog (*Rana aurora draytonii*) habitat components include spawning pools and their terrestrial borders, spring/summer refuges, and subterranean hibernation sites. These may be combined at single sites or they may be separated by aquatic or terrestrial "dispersal corridors" (Hayes & Jennings, 1989; Jennings & Hayes, 1994). Spawning pools are the ecologically central components of California red-legged frog habitat, because they support all elements of the species' reproductive biology and also provide forage for all red-legged frog life stages. Spawning pools are typically permanent or extended seasonal (through August) ponds or stream/spring pools of 0.7-1.2 meters in depth, with dense bordering, emergent, and surface vegetation. Such pools may be as small as one square meter in surface area, with no known upper area limit. Always present at spawning habitat is a large complex invertebrate fauna for juvenile forage, extensive submerged herbaceous and algal vegetation for tadpole forage, and small terrestrial mammals such as voles (Microtus) that are an important component of adult frog forage (Jennings & Hayes, 1994). Most suitable ponds are also partially to fully sunlit with mud or silt substrata, environmental factors essential to promote dense floating and emergent vegetation. Large populations of exotic predators such as bullfrogs and exotic centrarchid fish are usually absent from California red-legged frog spawning pools.

Newly constructed or impounded ponds rarely support California red-legged frog populations—most spawning sites have existed in stable, relatively undisturbed form for decades (Barry, unpublished; Hayes & Jennings, 1989). Likewise, red-legged frog spawning habitat is usually absent from river bottomland, presumably because high springtime flows would disrupt spawning success by scouring spawning pools and discouraging long-term aquatic vegetative growth. California red-legged frogs are vulnerable to early season floods because they spawn in early to mid-winter.

Adult California red-legged frogs may move in late spring and summer to shaded pools along streams where undercut banks and exposed root masses offer secure refuges. However, an isolated summer refuge component appears not to be critical to population survival because many adult frogs may be found throughout the summer at spawning pools. Hibernaculum preferences probably include lentic substrata (pond bottoms) or any secure subterranean site near spawning or summer refuge habitat, such as rodent burrows, vegetation mats, and root channels.

There are no California Natural Diversity Data Base records for the California red-legged frog in the Santa Clara River watershed, Los Angeles and Ventura Counties. However, the Museum of Vertebrate Zoology (UC Berkeley, 2003) lists 17, Soledad Canyon/Los Angeles County specimens in its collection, from as recently as 1953. The California Academy of Sciences (CAS, 2003) also lists a Soledad Canyon specimen, from 1950. The nearest specific locality referenced in these records to the project site is approximately 15 miles upstream near the confluence with Agua Dulce Creek. Jennings and Hayes (1994) indicate that this species still occurs in the Santa Clara River watershed, in sites along San Francisquito Creek 5–10 miles northwest of the project site, and in tributaries to the Santa Clara River in Ventura County. The closest documented Ventura County occurrence is in Piru Creek 4.5 miles north of Piru, about 20 airline miles west of the project site (USFWS, 2002). The project site is, therefore, placed within the distribution of the California red-legged frog, as it has been verified upstream and downstream of the project site. However, none have been found on the project site during focused surveys.

Critical Habitat designation for the California red-legged frog has been set aside by judicial orders. No information is available on the revised Critical Habitat at this time. Thus, Critical Habitat for the species currently is undesignated.

The aerial photograph and field evaluation indicates that potential spawning or summer habitat for the California red-legged frog is absent from the main channel of the Santa Clara River within the project site. The floodplain and associated stream channel are clearly subject to episodic flooding and complete desiccation soon thereafter. Such instability does not allow California red-legged frog spawning habitat to develop. In conclusion, no red-legged frogs have been sighted on the site during any focused surveys and their presence is not likely because the site does not provide suitable habitat.

4. PROJECT FLOODPLAIN MODIFICATIONS

The project applicant proposes the future development of a 695.4-acre site at the terminus of Newhall Ranch Road, east of Bouquet Canyon Road between the Castaic Lake Water Agency property and the Santa Clara River, north of Soledad Canyon Road. A 29-acre park is also proposed along and adjacent to the Santa Clara River and approximately 330 acres of river area will remain in a natural state. The project includes the extension of Newhall Ranch Road, including the Newhall Ranch Road/Golden Valley Road Bridge, and the construction of bank stabilization along the Santa Clara River. The site will require 5.5 million cubic yards (mcy) of grading (plus 3.6 mcy of removal and recompaction, over-excavation, and landslide remediation), which will be balanced on site.

Bank stabilization will be constructed along the Santa Clara River for approximately 3,000 linear feet for the east-west extension of Newhall Ranch Road and approximately 6,000 linear feet for the project development. An additional 1,500 linear feet of toe or erosion protection would be installed adjacent to Area B (a residential area). The proposed bank stabilization technique is primarily buried soil cement with other portions reinforced by ungrouted rock riprap, and exposed concrete gunite at the Newhall Ranch Road/Golden Valley Road Bridge abutment. The toe or erosion protection would consist of A-Jacks™, ungrouted rock rip-rap, or exposed soil cement.

This assessment report focuses on potential impacts of the Riverpark project to the three identified protected sensitive aquatic species and their habitat within the Santa Clara River. The bank stabilization, Newhall Ranch Road/Golden Valley Road Bridge, the toe or erosion protection are the primary project features that could potentially affect aquatic and terrestrial habitat used by the three species focused on in this document.

The project utilizes innovative techniques to meet the requirements of flood control while maintaining the natural resources within the Santa Clara River. Traditional flood control techniques in use within Los Angeles County rely upon reinforced concrete or grouted rock rip-rap to minimize erosion while maximizing the volume of flood flows carried by the drainage. While exceedingly efficient as a flood control technique, this approach retains none of the natural resource value.

In contrast, the drainage plan for the project provides drainage and flood control protection to developed uses while preserving the Santa Clara River as a natural resource. **Figure 4.20-6, Typical Cross Section for Buried Bank Stabilization**, depicts a typical cross section for buried bank stabilization. As shown, this approach uses soil cement that is buried beneath the existing banks of the river. Disturbed areas are then revegetated with native plant species maintaining the natural habitat presently found along the river.

The proposed project would involve the installation of bank stabilization at the locations shown on **Figure 4.20-7, Bank Stabilization and Bridge Locations**. Locations where grouted rip-rap or reinforced concrete will be used are limited to outlet structures, access ramps, or bridge abutments. Approximately 60 percent of the riverbanks at the project site would have bank stabilization, of which 73 percent would be buried.

The proposed bank stabilization would encroach into the existing river channel in some areas. A total of 28.5 acres of existing river channel will be disturbed by bank stabilization. In other areas, the bank stabilization would be placed outside the existing river channel, creating additional new river channel.

One bridge is proposed to be constructed across the river in association with the proposed project (i.e., the Newhall Ranch Road Bridge) (See **Figure 4.20-7**). This bridge would include abutments and approaches that would reduce the width of the 100-year floodplain at these locations.

5. PROJECT IMPACTS

a. Significance Threshold Criteria

Modification of the floodplain would cause a significant impact to biological resources if the change in hydraulic conditions in the Santa Clara River caused: (1) widespread and chronic scouring due to increased velocities in the channel bed that removes a significant amount of aquatic, wetland, and riparian habitats from the river channel; (2) substantial modification of the relative amounts of these different habitats in the river, essentially altering the nature and quality of the riverine environment; (3) direct removal of Sensitive habitat by channelization; and/or (4) substantial effects to Rare, Endangered, or Sensitive species.

b. Construction-Related Impacts

The construction-related biological impacts of the proposed project on river corridor habitats and Sensitive species are addressed in the **Biological Resources** section (**Section 4.6**) of this EIR. Given that construction along the river corridor would occur only during low or no flow periods, when aquatic special-status species would not be present, any impacts due to changes in river hydraulics is expected to be temporary and negligible.

c. Operation-Related Impacts

The focus of the impact analysis is on the biological consequences of the project-related post-development changes in hydraulic conditions along the river. Key hydraulic impacts that may occur

include effects on floodplain boundary and areas, discharge (i.e., river flow amount), flow velocities, and sediment transport and deposition patterns. Changes in these conditions can affect the nature, location, and amount of aquatic, wetland, and riparian habitats along the river, and the Sensitive species that use these habitats.

(1) Predicted Hydraulic Conditions

(a) Impact on Flows

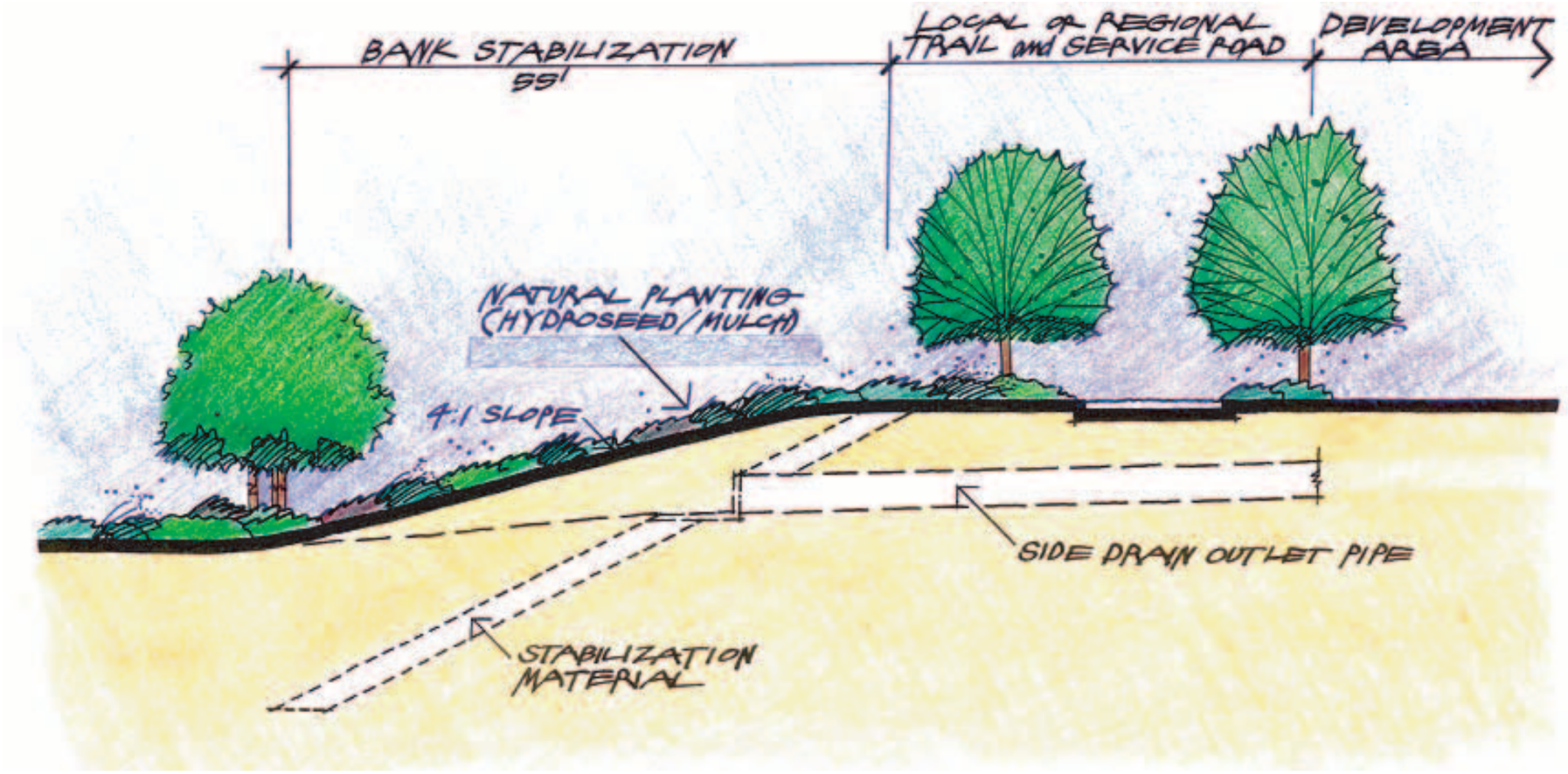
The changes in clear and burned and bulked flows (or runoff)[4] in the river for different return events (2-year, 5-year, 10-year, 20-year, 50-year, 100-year) at the Bouquet Canyon Road Bridge is shown in **Table 4.20-7**. Development of the project would increase runoff from upland areas under clear flow conditions due to increased impervious surface areas (e.g., pavement, roads, and buildings). Relative to the amount of flows occurring in the river under existing conditions, the increase in clear runoff beyond existing conditions ranges from 0.6 percent for high flows to 5.4 percent for the 2-year event (the percentage increase attributable to the project in low flow conditions is greater than in high flow conditions because less water exists in the river during the smaller flow events). In all return events, flows in the river after site development under burned and bulked conditions would decrease due to the removal of debris from the portions of the site to be developed. The proposed project would generally not increase the average flows in the river downstream of the project site (Flood Technical Report for Riverpark, February 2004, Tables 6, 9, and 11). Therefore, no significant impacts to sensitive aquatic species would occur downstream due to the project.

Table 4.20-7
Flows at Bouquet Canyon Santa Clara River (Downstream of the Project)

Recurrence Interval	Existing Discharge Rate (cfs)	Calculated Project Clear Flow Discharge Rate[3] (cfs)	Calculated Existing Burned and Bulked Discharge Rate (cfs)	Calculated Project Burned and Bulked Discharge Rate (cfs)
2-Year[1]	1,300	1,370	1,684	1,650
5-Year[1]	4,100	4,180	4,571	4,530
10-Year[1]	7,400	7,500	7,950	7,900
20-Year[1]	12,100	12,220	12,742	12,680
50-Year[1]	21,400	21,550	22,187	22,120
100-Year[1]	31,300	31,490	32,219	32,110
Capital Flood[2]	52,100	52,100	52,100	52,100

[1] *Source: -Existing Flows from USACOE, August 1994*
[2] *Source: -USACOE, August 1998*
[3] *Note: -These values are used for modeling purposes; however, since the calculations for proposed clear flows do not account for proposed debris collection facilities, these increases represent a conservative upper limit.*

4 "Clear" runoff is runoff that is absent of soil, rocks, vegetation, and other debris. "Burned and bulked" runoff is runoff from burned areas that is laden with burned vegetation, soil, rocks, and other debris.



NOT TO SCALE

SOURCE: FORMA – December 2000

FIGURE **4.20-6**

Typical Cross-Section for Buried Bank Stabilization

SOURCE: PSOMAS – January 2004

FIGURE **4.20-7**

Bank Stabilization and Bridge Locations

112-16•01/04

(b) Impact on Floodplain and Habitat Area

The proposed bank stabilization and bridge associated with the project would alter the existing boundary of the river floodplain at the project site, and affect its area from that shown on **Figures 4.20-8a–g, Santa Clara River Proposed Conditions**. A summary of the changes in the floodplain area due to the full development of the project is shown in **Table 4.20-8** below.

Table 4.20-8
Floodplain Area for Different Discharges – Existing and Proposed Conditions

Return Event (years)	Acreage of Floodplain that is Inundated During a Flood Event in the Study Area[1]	
	Existing Conditions[2]	Proposed Conditions[3]
2	109.4	105.0
5	187.6	179.3
10	266.0	250.8
20	300.5	278.7
50	325.0	295.2
100	337.4	303.7

[1] *The study area begins at the Bouquet Canyon Bridge and ends 3,040 feet upstream of the California Aqueduct pipeline crossing.*
[2] *Source: PSOMAS (February 2004), Table 8.*
[3] *Source: PSOMAS (February 2004).*

For high frequency floods (2-year, 5-year, and 10-year), the proposed floodplain modifications would not hinder flows or reduce the floodplain area. Instead, these flows would spread across the river channel, unaffected by the bank protection because the river would have sufficient width to allow these flows to meander and spread out.

However, during more infrequent floods (20-year, 50-year and 100-year events), flows would spread out to the buried bank stabilization (but no further). This would limit the area of the floodplain during these infrequent flood events, causing inundation over a smaller area because the bank protection will prevent flooding of formerly adjacent floodplain areas. These formerly adjacent areas would be developed under the project. Most of the areas being developed consist of agricultural fields and, to a lesser extent, disturbed and upland habitat areas with limited riparian habitat. **Table 4.20-9** shows the different habitat types affected by proposed development.

Table 4.20-9
Acreage Inundated by Habitat Type During Different Return Events

Habitat Type	Flood Events											
	2-year		5-year		10-year		20-year		50-year		100-year	
	EX.*	PRO.*	EX.	PRO.	EX.	PRO.	EX.	PRO.	EX.	PRO.	EX.	PRO.
HLCS	0	0	0.1	0	0.1	0	0.2	0	0.3	0	0.4	0
SRS	6.1	5.7	31.4	28.9	88.4	84.1	111.5	105	125.7	115.8	131.8	121
NNG	3.6	0.2	9	3.1	14.9	3.7	17.4	3.9	20.5	4.2	22.3	4.3
RSS	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.1
RW	99.2	98.5	146.3	146.6	161.7	162.1	169.5	168	174.6	172.8	176.6	175
DF	0.1	0.1	0.1	0.1	0.2	0.2	1.1	1.0	2.9	1.5	5.2	2.1
MT	0.4	0.4	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9
TOTAL (Acres)	**109.4**	**105.0**	**187.6**	**179.3**	**266**	**250.8**	**300.5**	**278.7**	**325.0**	**295.2**	**337.4**	**303.7**

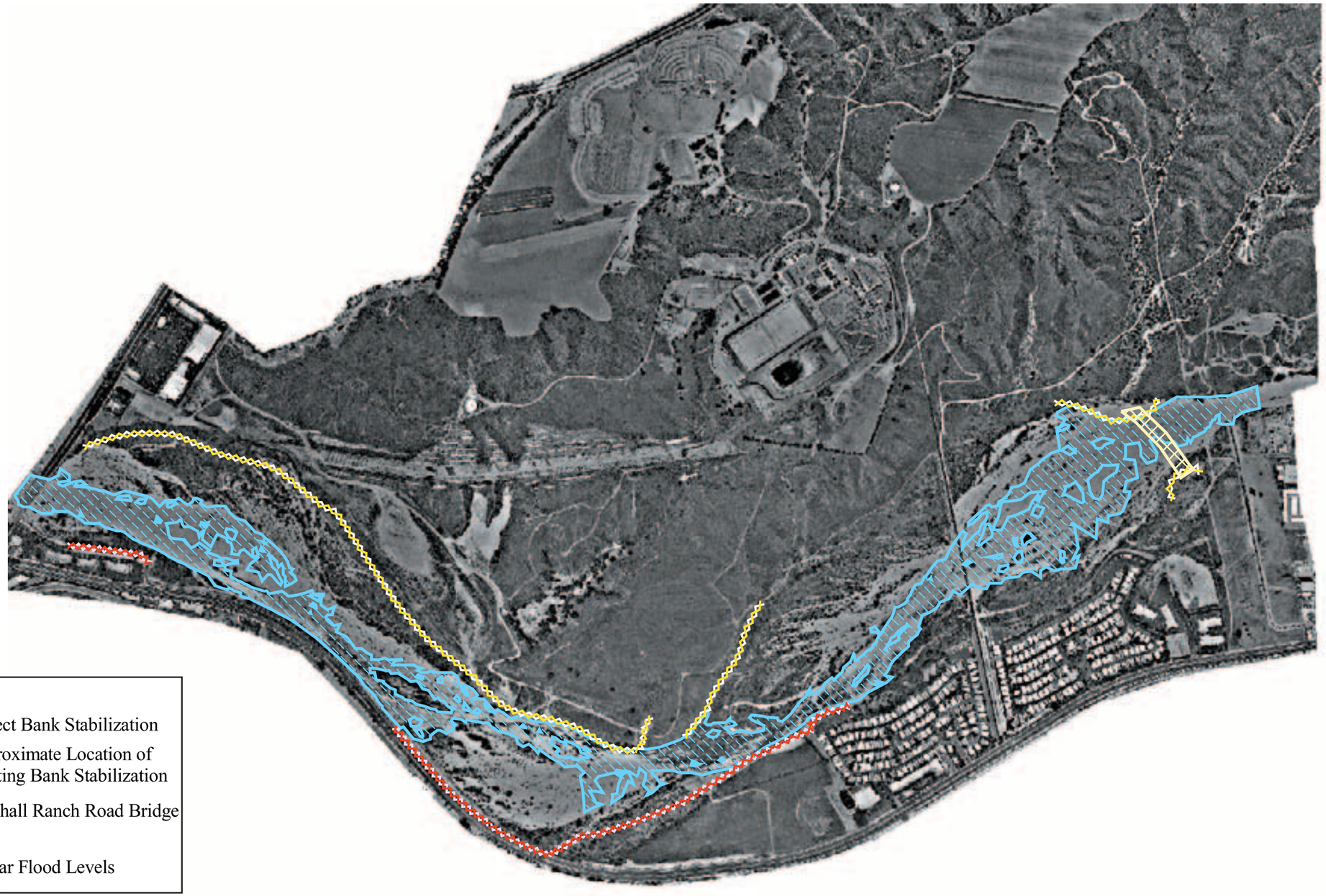
Source: PSOMAS, 2004.
Columns may not sum due to rounding.
EX=Existing
PRO=Proposed
HLCS=Holly-leaf Cherry Scrub
SRS=Southern Riparian Scrub
NNG=Non-Native Grassland
RW=Riverwash
DF=Disked Field
RSS=Riversidian Sage Scrub
MT=Developed

An analysis was conducted to estimate impacts to aquatic, wetland, and riparian habitats from floodplain boundary changes caused by the proposed development. This analysis provides a direct assessment of the potential change in total acreage and configuration of habitats along the river in the project site. The results are shown later in this section in **Charts 4.20-2a–f, Distribution of Flows in Different Habitats, Riverpark Specific Plan Site**. The charts show that there are negligible differences in the total aquatic, wetland, and riparian habitat area inundated under existing and proposed conditions. In all cases, the predicted change is not considered significant (less than 5 percent).

(c) Impact on Velocities

The increased flows and presence of bank protection would also affect water velocities. Water velocities under existing and proposed conditions at key locations (See **Figure 4.20-9, Key Locations**) along the river are shown on **Charts 4.20-1a–1f**.

The changes in velocities throughout the project site are shown with a map of water velocities for proposed conditions on **Figures 4.20-10a–f, Santa Clara River Proposed Velocities**. During infrequent floods (20-year, 50-year and 100-year events), flows would spread out to the buried bank stabilization (but no further). This visual display demonstrates that the reduction in floodplain area caused by bank

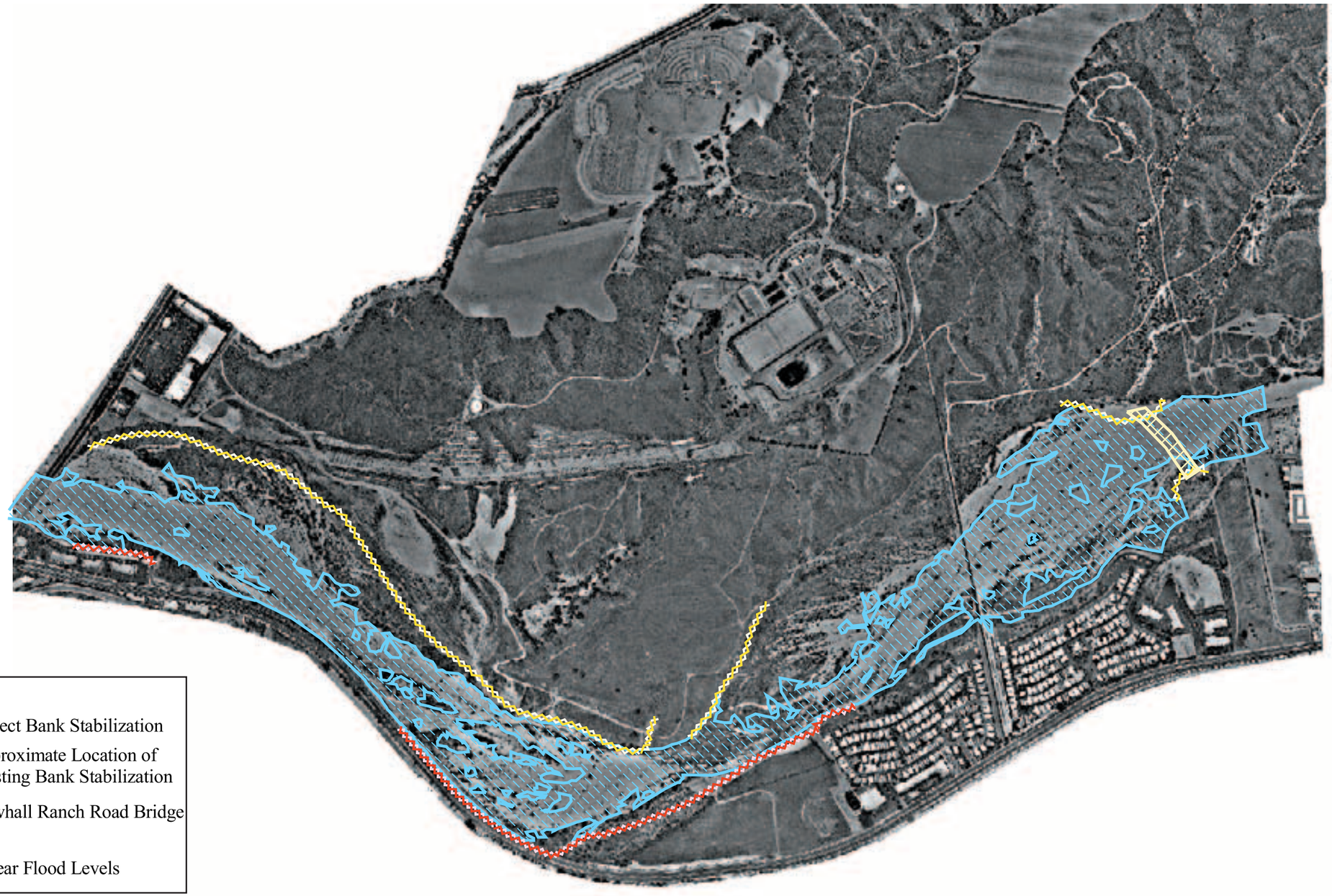


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8a**

Santa Clara River Proposed Conditions – 2 Year Flood Event

112-16•01/04

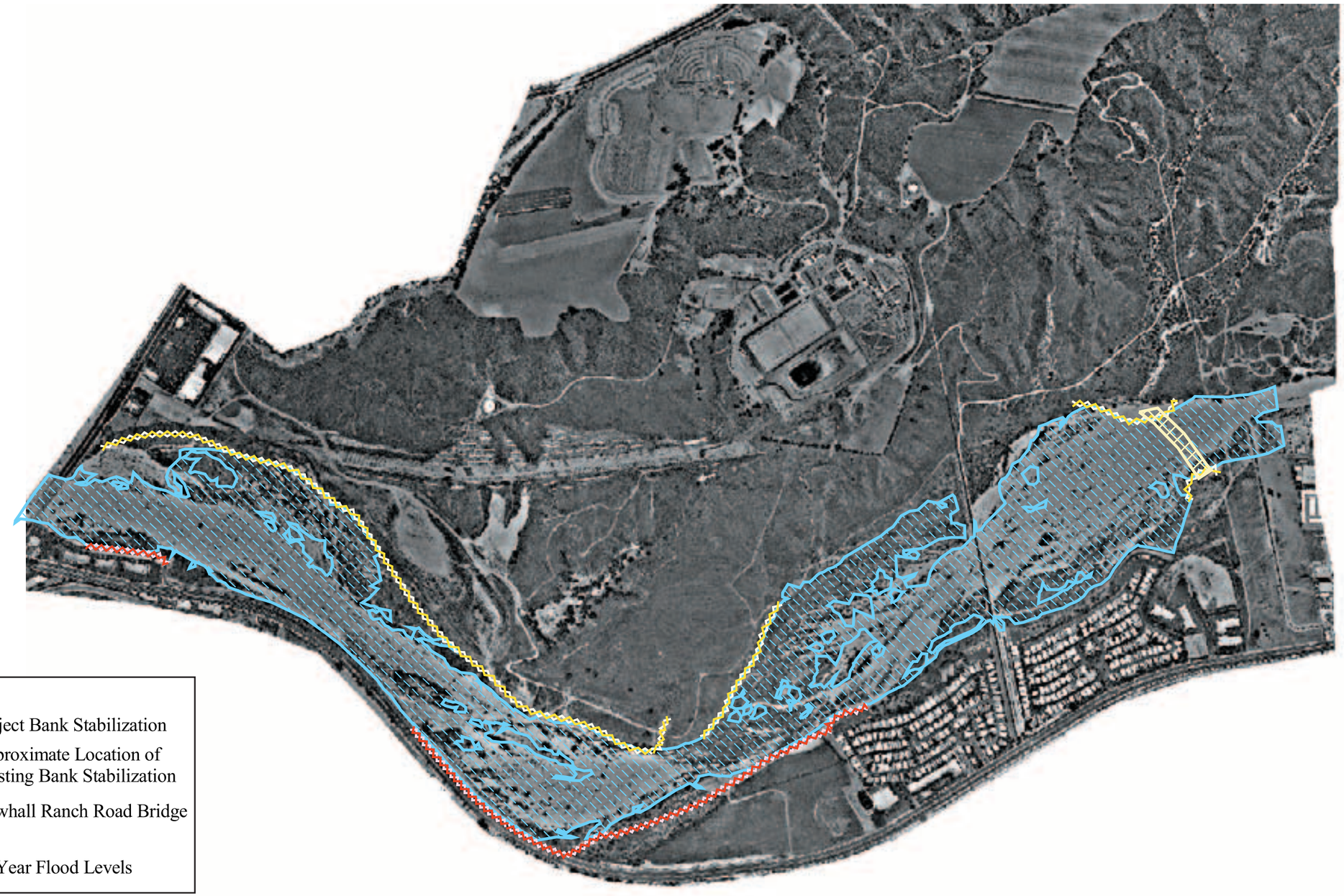


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8b**

Santa Clara River Proposed Conditions – 5 Year Flood Event

112-16•01/04

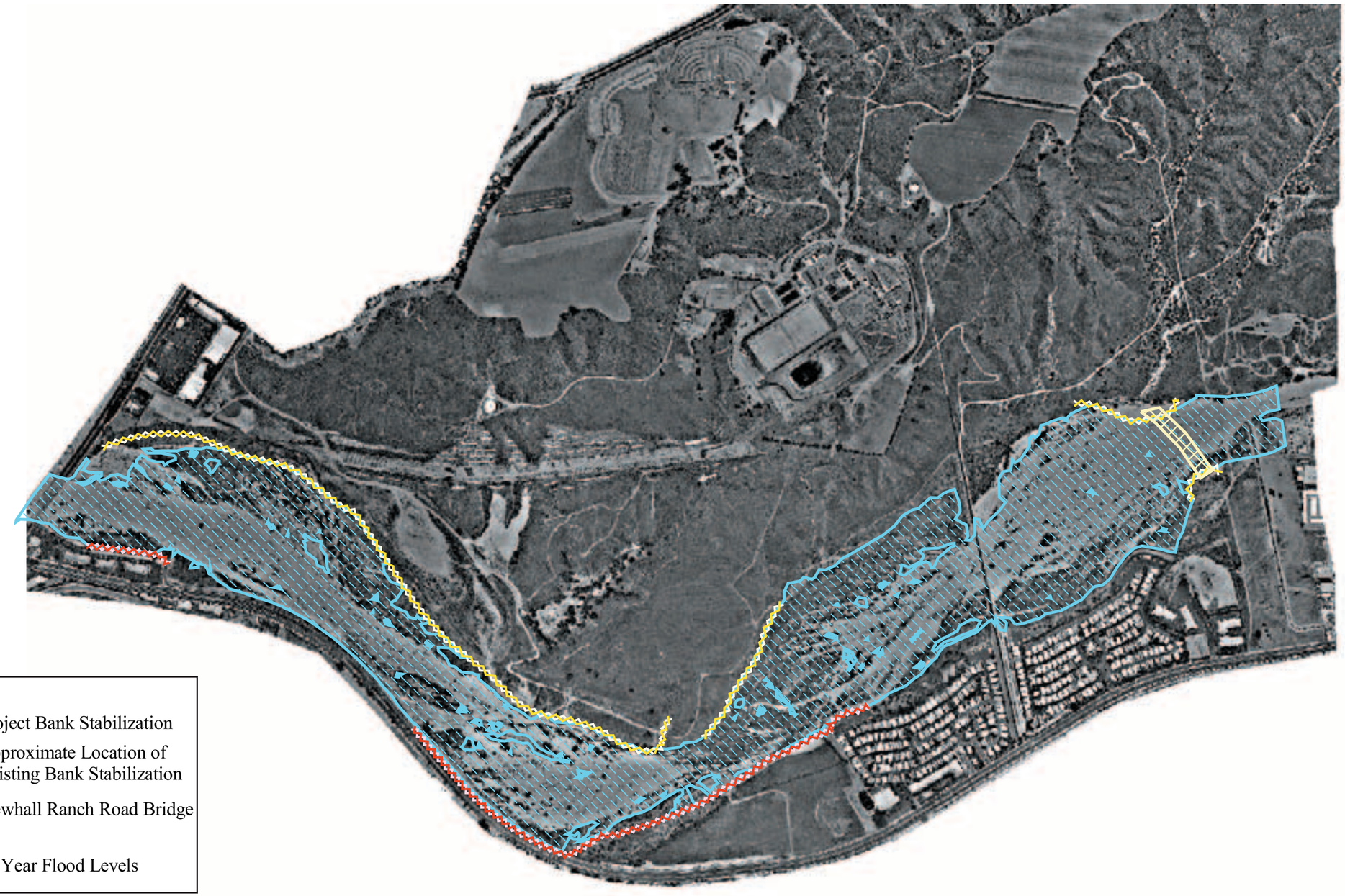


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8c**

Santa Clara River Proposed Conditions – 10 Year Flood Event

112-16•01/04

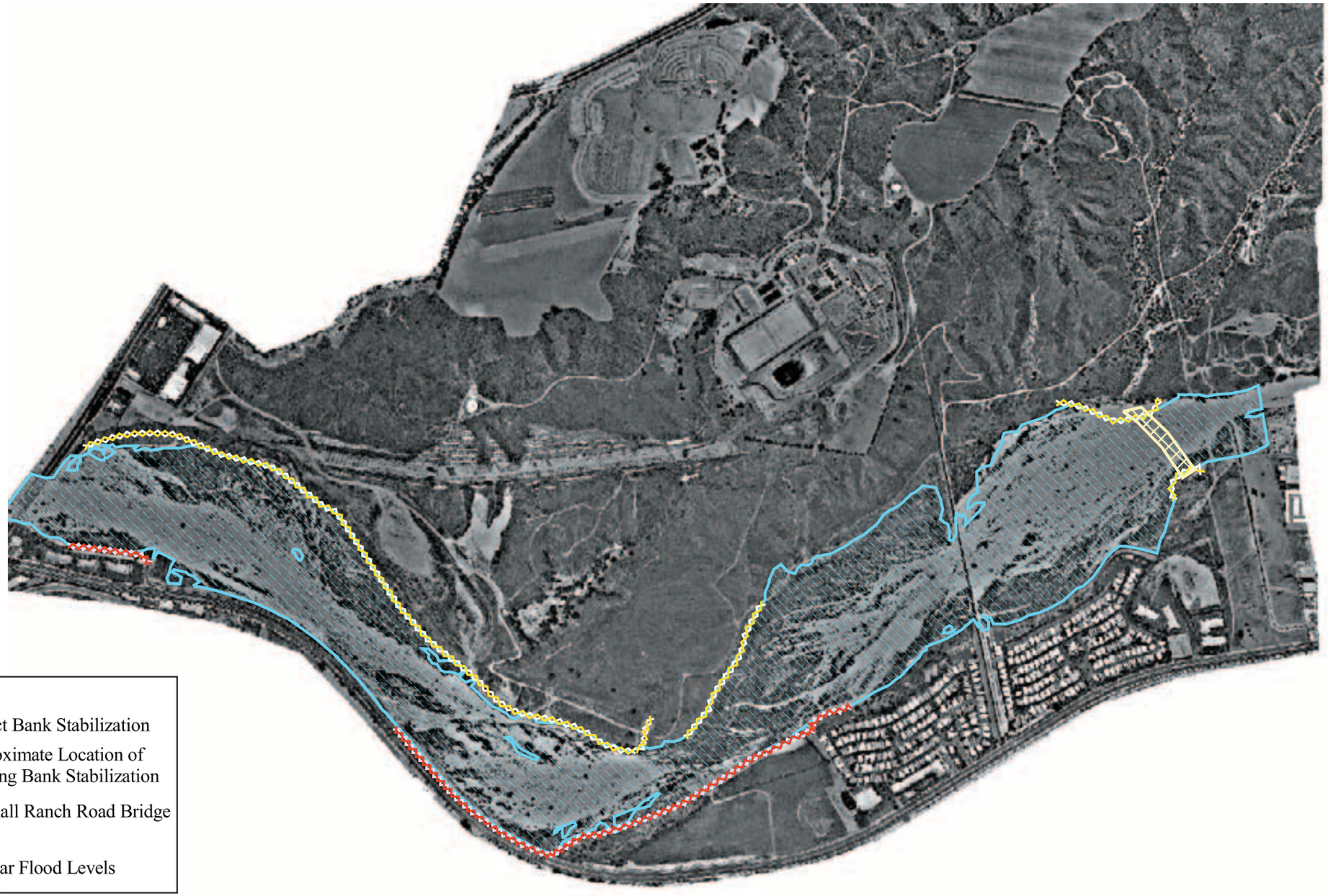


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8d**

Santa Clara River Proposed Conditions – 20 Year Flood Event

112-16•01/04

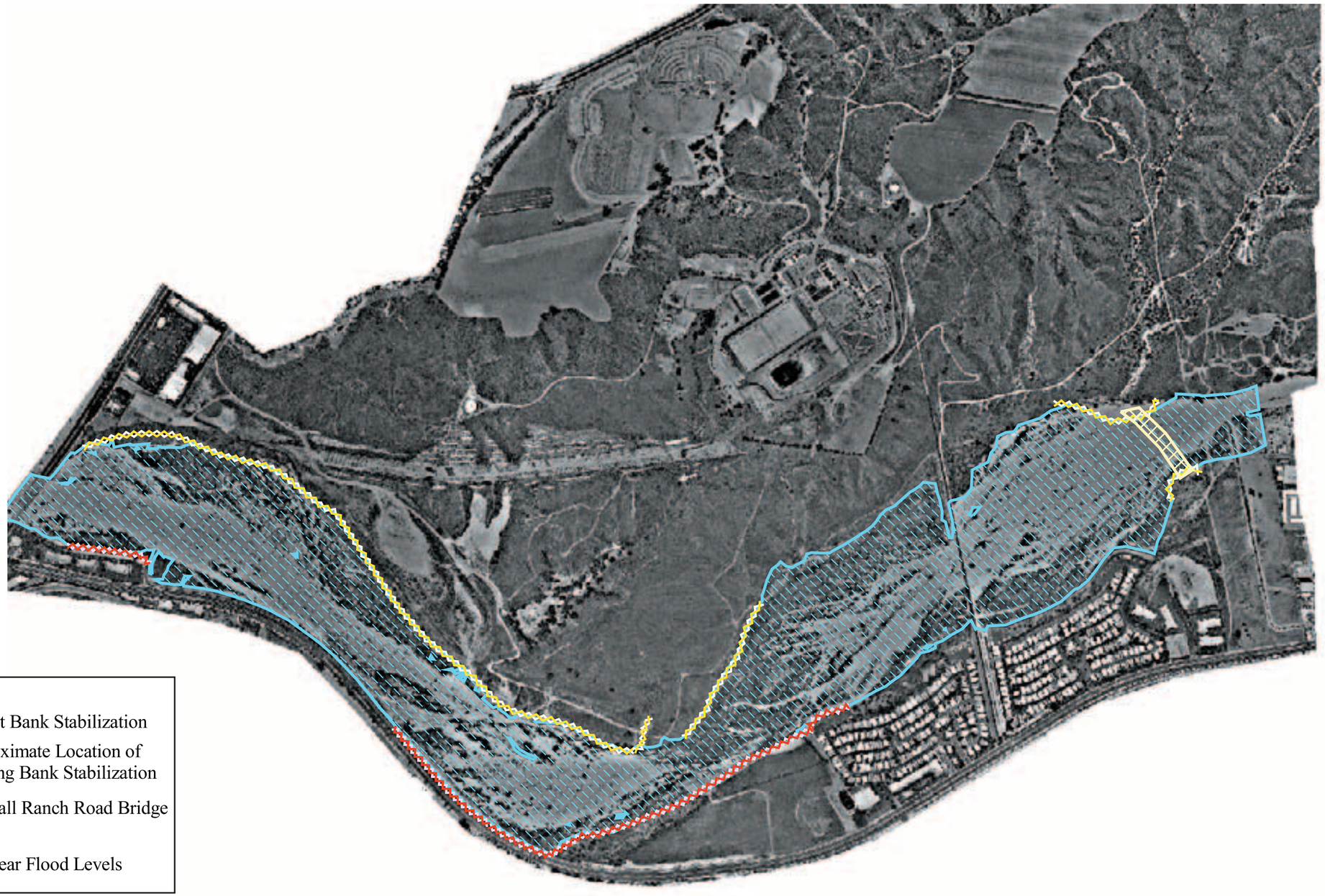


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8e**

Santa Clara River Proposed Conditions – 50 Year Flood Event

112-16•01/04

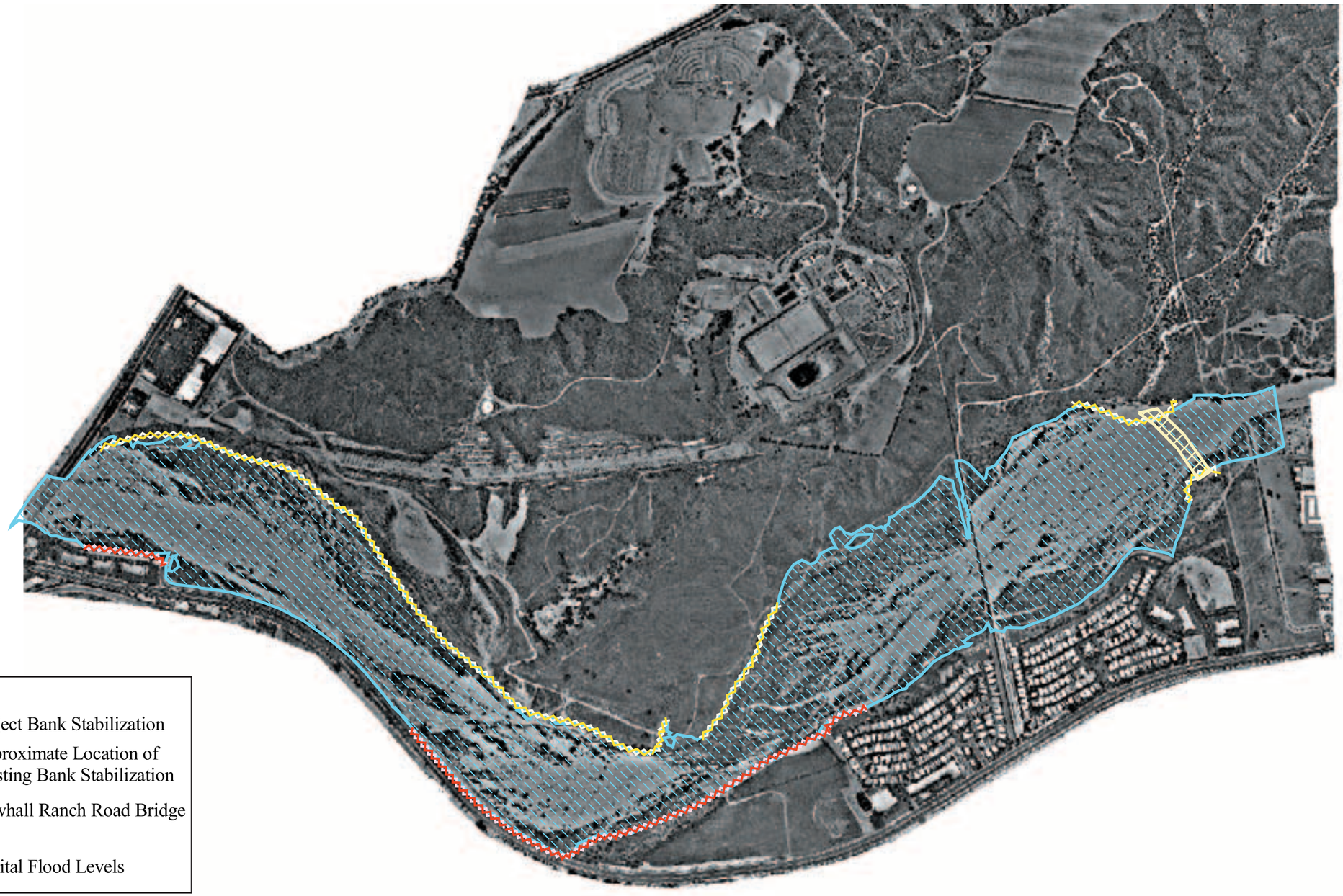


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8f**

Santa Clara River Proposed Conditions – 100 Year Flood Event

112-16•01/04

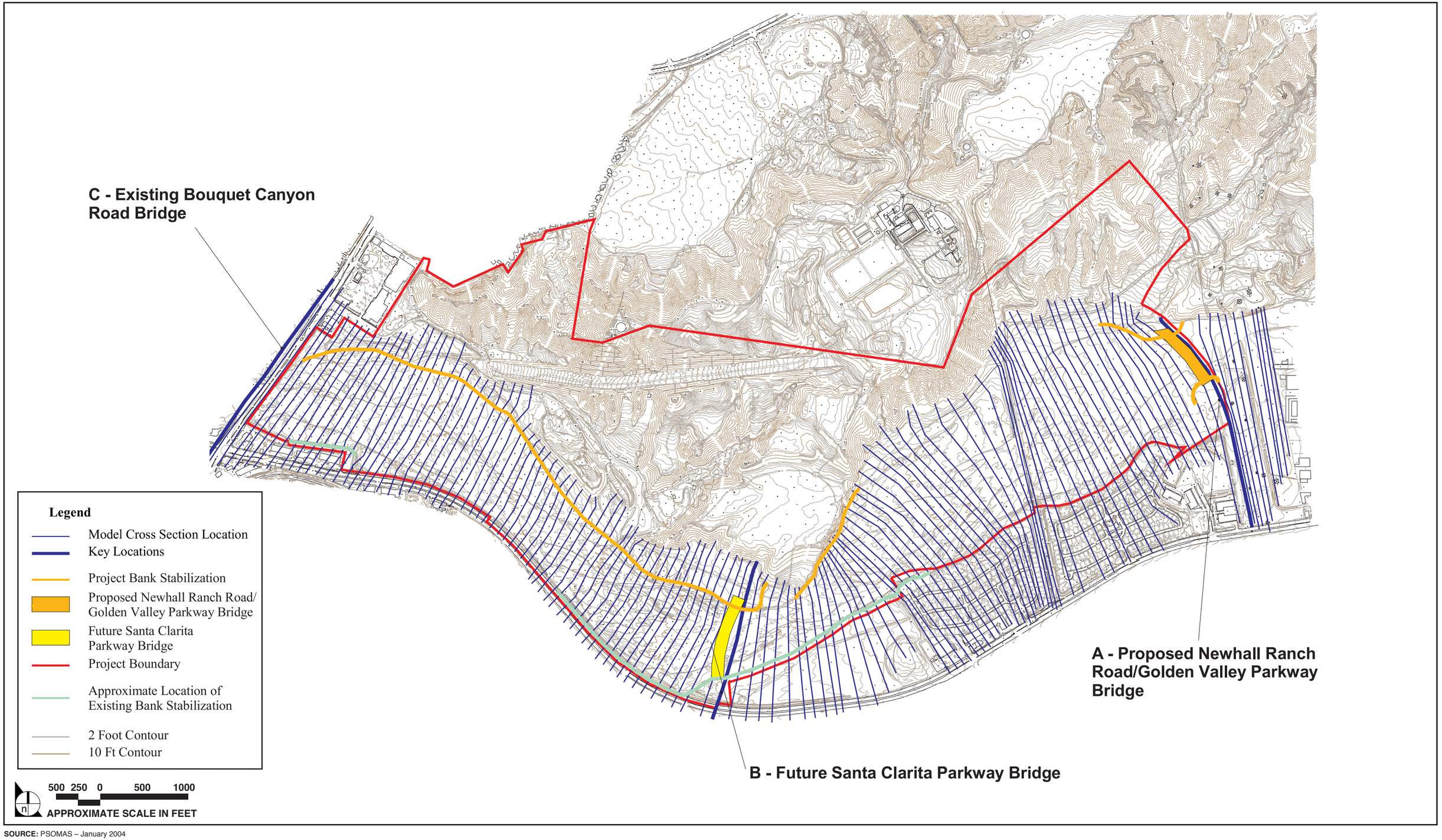


SOURCE: PSOMAS – January 2004

FIGURE **4.20-8g**

Santa Clara River Proposed Conditions – Capital Flood Event

112-16•01/04



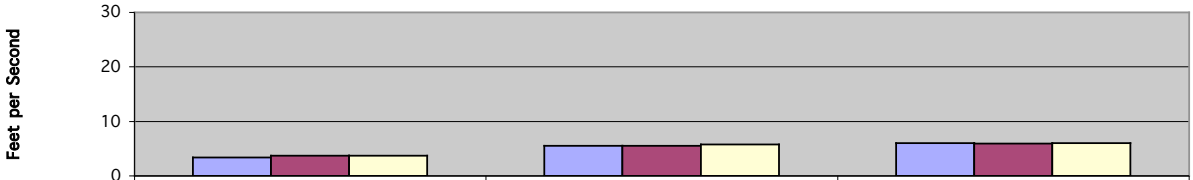
SOURCE: PSOMAS – January 2004

FIGURE **4.20-9**

Key Locations

112-16•02/04

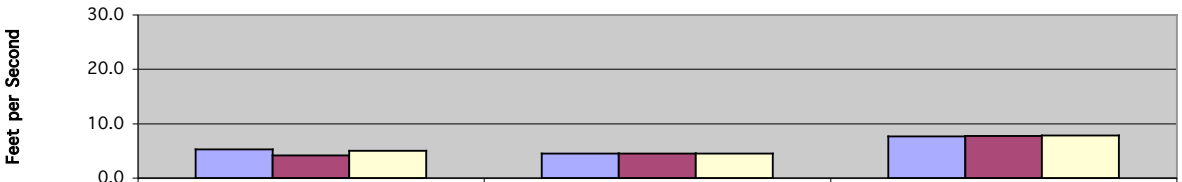
Chart 4.20-1a
Comparision of Average Channel Velocities at Key Locations
2 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	3.4	5.5	6.0
Proposed	3.7	5.5	6.0
Cumulative	3.7	5.8	6.0

Existing Proposed Cumulative

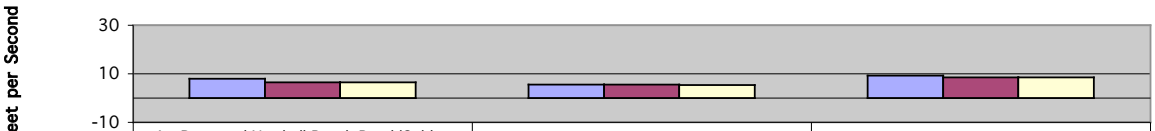
Chart 4.20-1b
Comparision of Average Channel Velocities at Key Locations
5 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	5.3	4.5	7.7
Proposed	4.2	4.5	7.8
Cumulative	5.0	4.5	7.8

Existing Proposed Cumulative

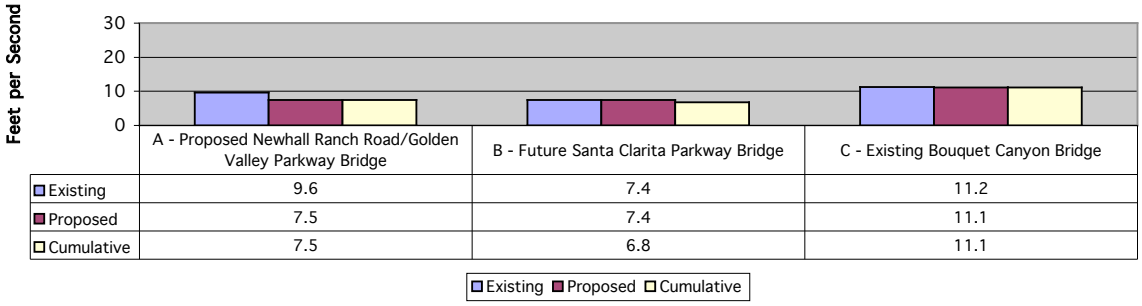
Chart 4.20-1c
Comparision of Average Channel Velocities at Key Locations
10 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	8	5.5	9.3
Proposed	6.4	5.5	8.6
Cumulative	6.4	5.4	8.6

Existing Proposed Cumulative

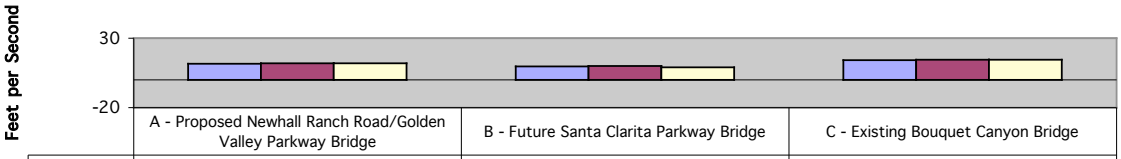
Chart 4.20-1d
Comparision of Average Channel Velocities at Key Locations
20 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	9.6	7.4	11.2
Proposed	7.5	7.4	11.1
Cumulative	7.5	6.8	11.1

Existing Proposed Cumulative

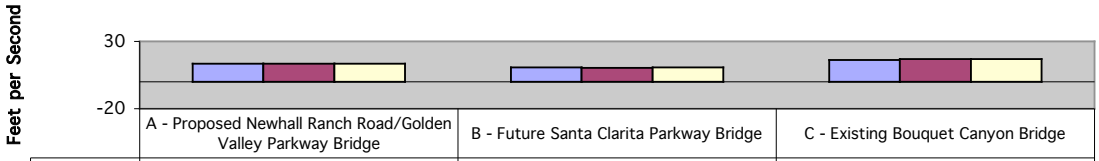
Chart 4.20-1e
Comparision of Average Channel Velocities at Key Locations
50 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	11.7	9.7	14.1
Proposed	11.8	9.9	14.5
Cumulative	11.8	9.1	14.5

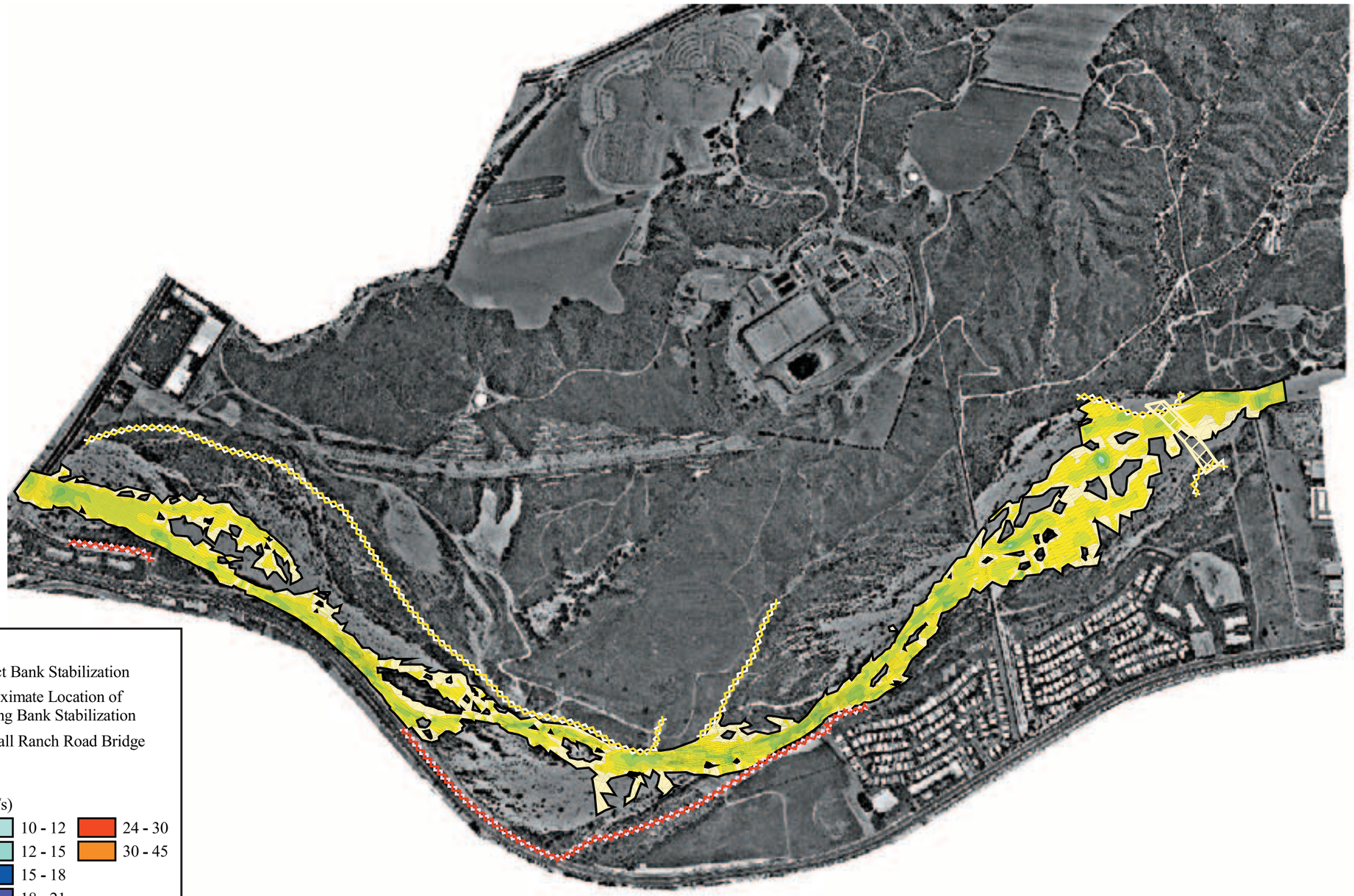
Existing Proposed Cumulative

Chart 4.20-1f
Comparision of Average Channel Velocities at Key Locations
100 Year Storm



	A - Proposed Newhall Ranch Road/Golden Valley Parkway Bridge	B - Future Santa Clarita Parkway Bridge	C - Existing Bouquet Canyon Bridge
Existing	13.6	10.6	16.3
Proposed	13.4	10.4	16.9
Cumulative	13.4	10.8	16.9

Existing Proposed Cumulative

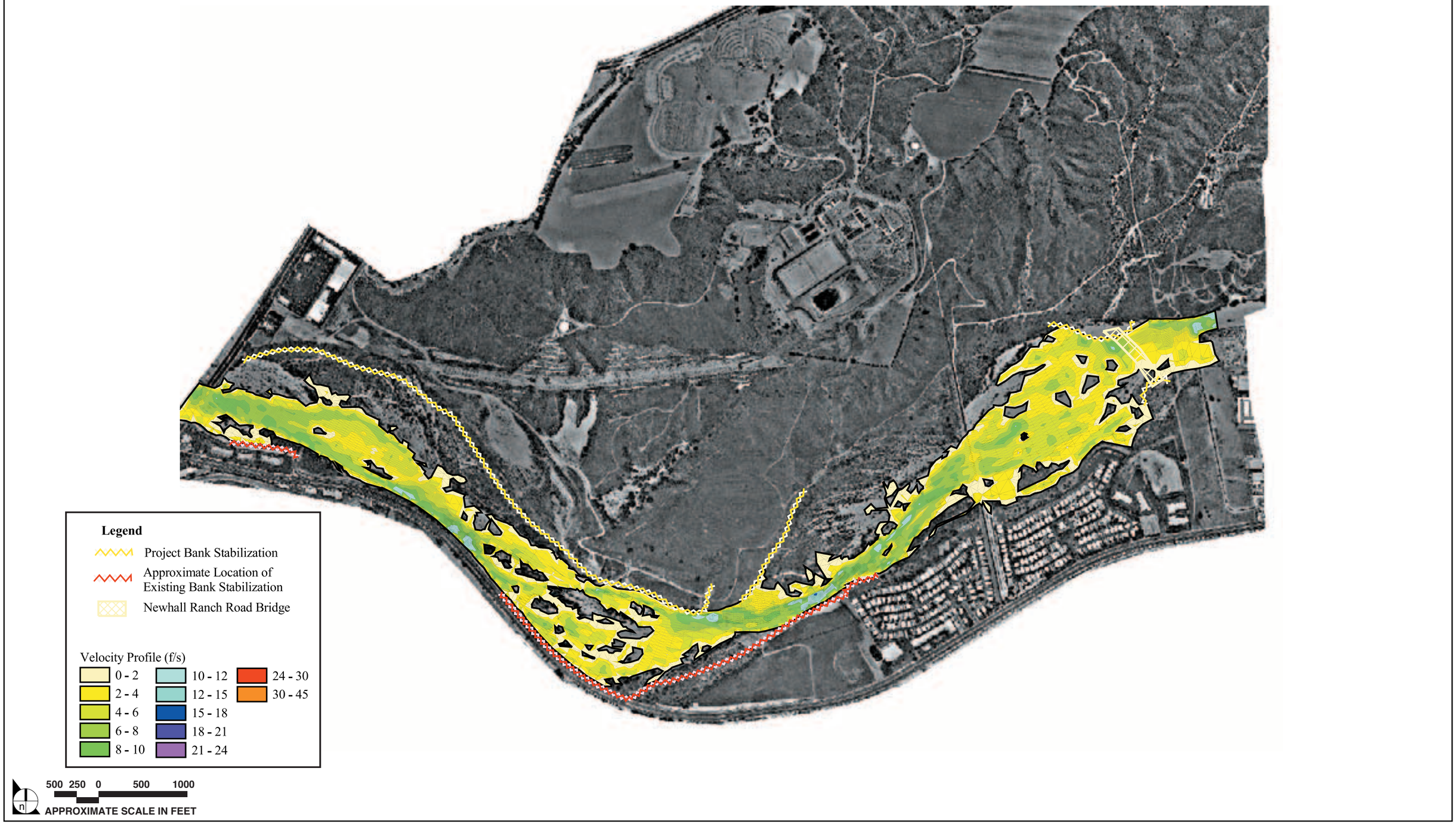


SOURCE: PSOMAS – January 2004

FIGURE **4.20-10a**

Santa Clara River Proposed Velocities – 2 Year Flood Event

112-16•01/04

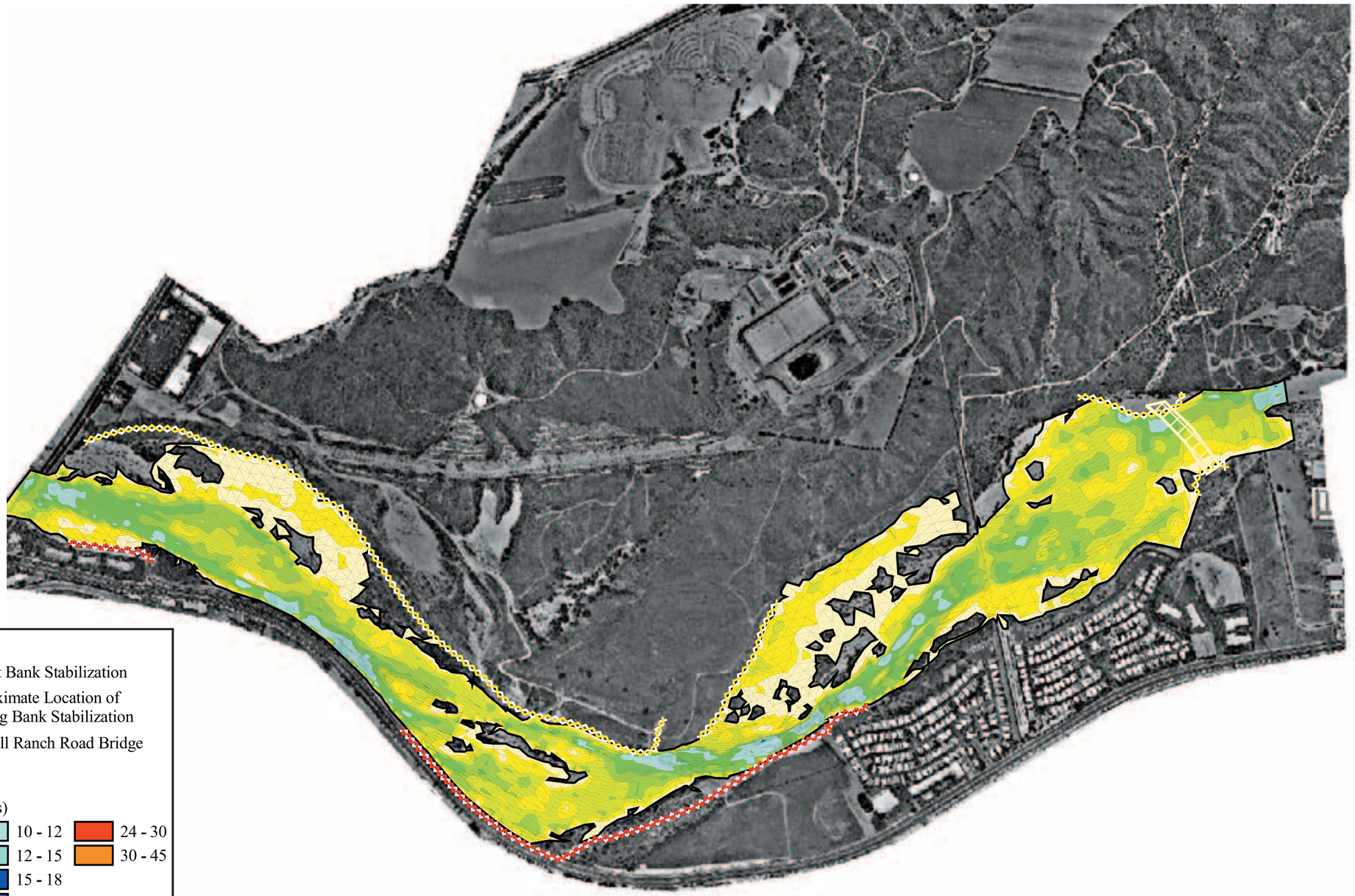


SOURCE: PSOMAS – January 2004

FIGURE **4.20-10b**

Santa Clara River Proposed Velocities – 5 Year Flood Event

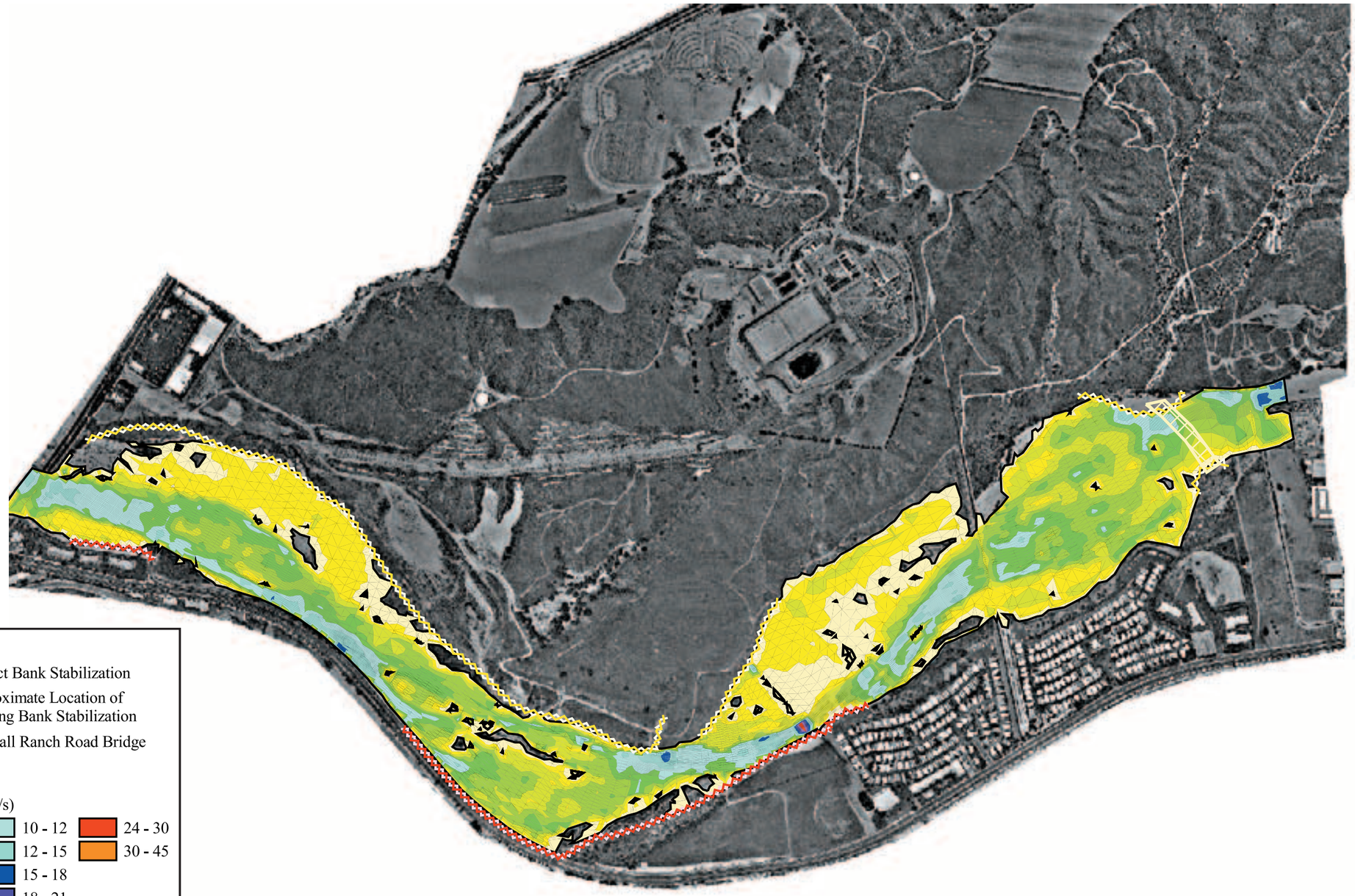
112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-10c**

Santa Clara River Proposed Velocities – 10 Year Flood Event

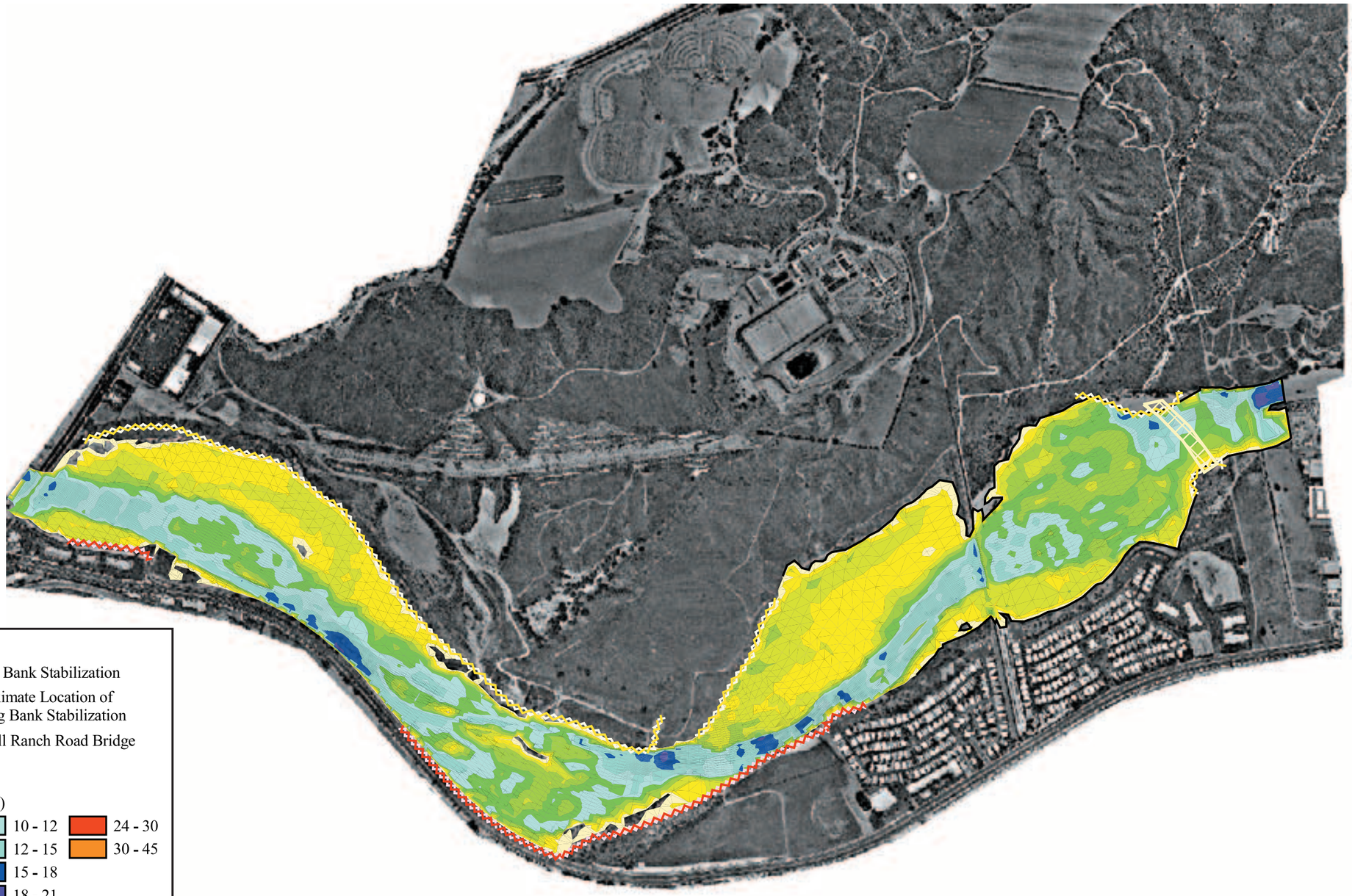


SOURCE: PSOMAS – January 2004

FIGURE **4.20-10d**

Santa Clara River Proposed Velocities – 20 Year Flood Event

112-16•01/04

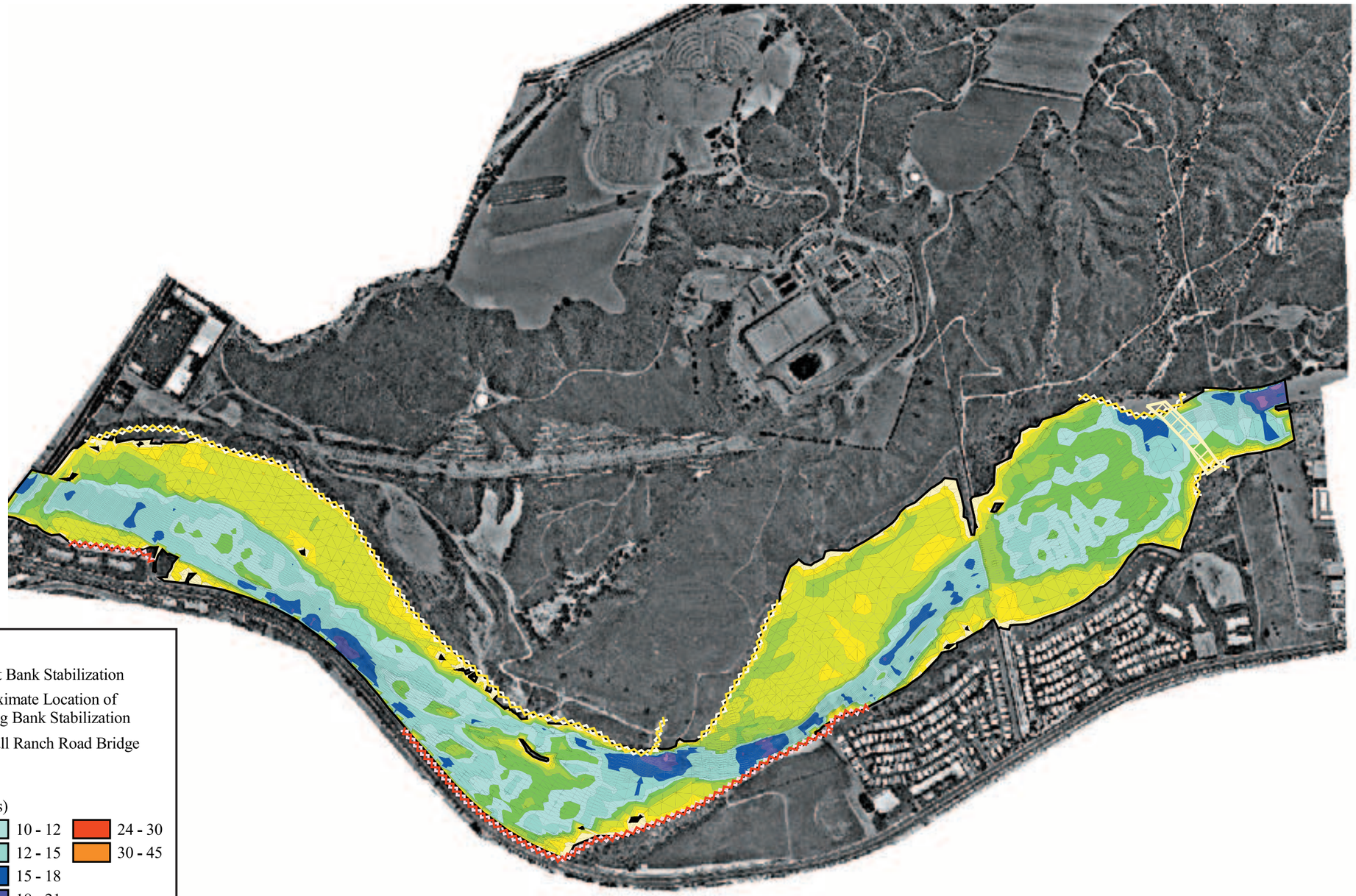


SOURCE: PSOMAS – January 2004

FIGURE **4.20-10e**

Santa Clara River Proposed Velocities – 50 Year Flood Event

112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-10f**

Santa Clara River Proposed Velocities – 100 Year Flood Event

112-16•01/04

protection would not create a significant increase in overall velocities because the volume of flow carried in these shallow, slow-moving areas along the margins of the river is small. This effect is demonstrated by comparing **Figures 4.20-4a–f, Santa Clara River Existing Velocities** with **Figures 4.20-10a–f, Santa Clara River Proposed Velocities**. As shown, water velocities are slower in the floodplain areas.

A comparison of **Figures 4.20-4a–f, Santa Clara River Existing Velocities** with **Figures 4.20-10a–f, Santa Clara River Proposed Velocities**, demonstrates that variations in velocities are localized and limited in scope, especially when viewed in the entirety of the river corridor within the project site. The key locations shown represent a wide range of conditions along the river, including narrower areas and wider areas with larger terraces adjacent to the river.

These data indicate that there would be no significant increase in water velocity for all return intervals at all locations, including the bridge location. The predicted increased velocities at the Newhall Ranch Road Bridge (e.g., an increase in velocity from just 3.4 to 3.7 feet per second during the 2-year storm event) would be very localized and represent a very small segment of river located within the project. Water velocities return to existing rates beyond this point. In the five other instances where velocities increase with the project (i.e., Newhall Ranch Road Bridge location during the 50-year storm; future Santa Clarita Parkway Bridge location during the 50-year storm; and existing Bouquet Canyon Road Bridge during the 5-year storm, 50-year storm and the 100-year storm), such increases range from one to three percent. In four instances (i.e., at the future Santa Clarita Parkway Bridge location during the 2-year, 5-year, 10-year and 20-year storm events) velocity would be unchanged with the project and in eight instances (i.e., at the Newhall Ranch Road Bridge location during the 5-, 10-, 20- and 100-year storm events; the future Santa Clarita Parkway Bridge location during the 100-year storm event; and at the Bouquet Canyon Road Bridge location during the 2-, 10-, and 20-year storm events) velocities would actually decrease. In both existing and post-development cases, water velocities at and downstream of the bridge abutments are generally greater than 4 feet per second, and would continue to be, erosive in all storm events except the 2-year event.

The velocities for all return events are not significantly different between existing and proposed conditions (velocity increases are all less than 10 percent and mostly well less than five percent. In many instances, velocities would be unchanged or would decrease).

(d) Impacts on Water Depth

Increased flows due to the project would also affect water depths. Water depths under existing and proposed conditions at key locations (See **Figure 4.20-9, Key Locations,** above) along the river are shown on **Charts 4.20-1a–f**. These data indicate that there would be no significant increase in water depth for

all return intervals at all locations, including the Newhall Ranch Road Bridge location. As with predicted velocities, there are localized changes in depth, most notably at the bridge crossing, due to the constriction of flow created by bridge abutments. These effects dissipate quickly as shown on **Charts 4.20-1a–f**, which compares existing and predicted water depths throughout the project. As discussed above, the reduction in floodplain area caused by bank protection does not create a significant increase in flow depth. This is because the volume of flow carried in the shallow, slow-moving areas along the margins of the river removed from the floodplain by proposed development is so small.

(2) Biological Impacts of Hydraulic Changes

An increase in velocities in the river could result in significant biological impacts if the increase caused: (1) widespread and chronic scouring of the channel bed that removes a significant amount of aquatic, wetland, and riparian habitats from the river channel; and/or (2) substantial modification of the relative amounts of these different habitats in the river, essentially altering the nature and quality of the riverine environment; and/or (3) substantial effects to Rare, Endangered, or Sensitive species.

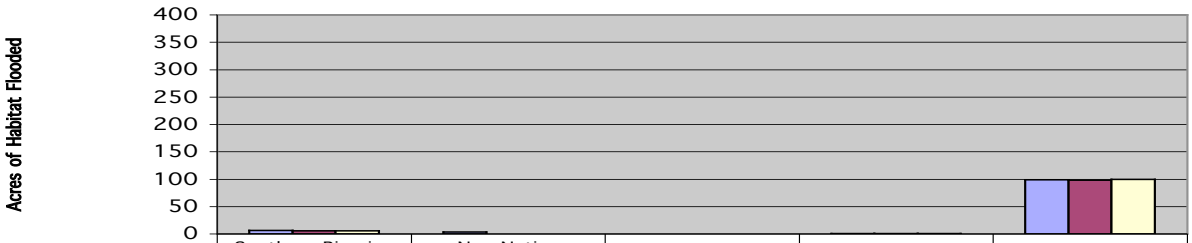
(a) Impact on Flows

The hydraulic analysis above indicates that implementation of the project would slightly increase flows in the river under clear flow conditions and decrease flows in the river under burned and bulked conditions (See **Table 4.20-7**). As shown, clear flows would increase by 5.4 percent and 0.6 percent in the 2- and 100-year storm events, respectively. These hydraulic effects would be minor in magnitude and extent, and would not be sufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream. Therefore, no significant impacts would occur due to river flows.

(b) Impact on Floodplain and Habitat Area

The hydraulic analysis also shows that the project would affect the amount of habitat flooded during certain flow events. The proposed bank stabilization and bridge associated with the project would alter the boundary of the river floodplain at the project site. However, the modeling results (See **Charts 4.20-2a** through **4.20-2f**) shows that there are minimal differences (i.e., less than 5 percent) in the total aquatic, wetland, and riparian habitat area inundated under existing and proposed conditions at the project site. The "pattern" of flow also would not change significantly due to the project. The pattern of flows in different habitats would not change due to the project. Therefore, the overall

Chart 4.20-2a
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
2 Year Storm



	Southern Riparian Scrub	Non-Native Grassland	Disked Field	Developed	Riverwash
Existing 2 yr.	6.1	3.6	0.1	0.4	99.2
Proposed 2 yr.	5.7	0.2	0.1	0.4	98.5
Cumulative 2 yr.	5.7	0.2	0.1	0.4	99.9

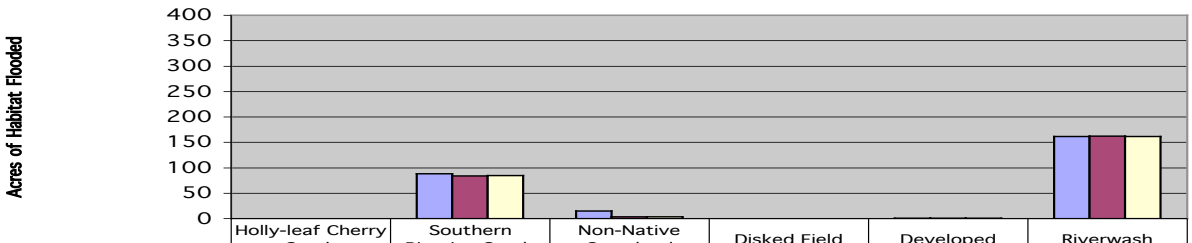
Existing 2 yr. Proposed 2 yr. Cumulative 2 yr.

Chart 4.20-2b
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
5 Year Storm

	Holly-leaf Cherry Scrub	Southern Riparian Scrub	Non-Native Grassland	Disked Field	Developed	Riverwash
Existing 5 yr.	0.1	31.4	9	0.1	0.6	146.3
Proposed 5 yr.	0	28.9	3.1	0.1	0.6	146.6
Cumulative 5 yr.	0	28.0	3.1	0.1	0.6	146.5

Existing 5 yr. Proposed 5 yr. Cumulative 5 yr.

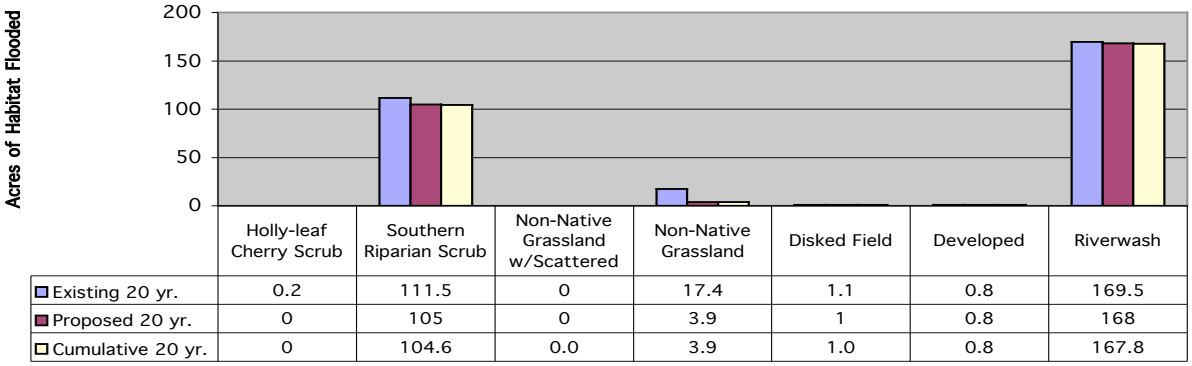
Chart 4.20-2c
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
10 Year Storm



	Holly-leaf Cherry Scrub	Southern Riparian Scrub	Non-Native Grassland	Disked Field	Developed	Riverwash
Existing 10 yr.	0.1	88.4	14.9	0.2	0.7	161.7
Proposed 10 yr.	0	84.1	3.7	0.2	0.7	162.1
Cumulative 10 yr.	0	84.9	3.7	0.3	0.7	161.4

Existing 10 yr. Proposed 10 yr. Cumulative 10 yr.

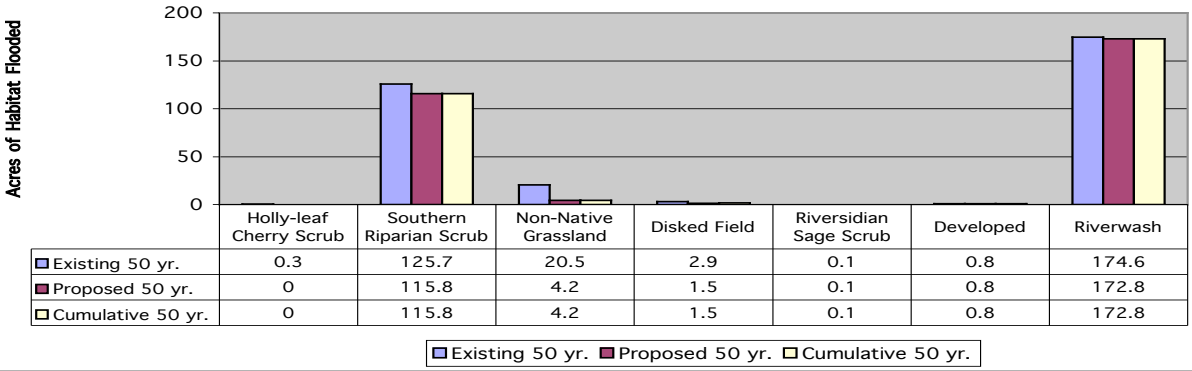
Chart 4.20-2d
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
20 Year Storm



	Holly-leaf Cherry Scrub	Southern Riparian Scrub	Non-Native Grassland w/Scattered	Non-Native Grassland	Disked Field	Developed	Riverwash
Existing 20 yr.	0.2	111.5	0	17.4	1.1	0.8	169.5
Proposed 20 yr.	0	105	0	3.9	1	0.8	168
Cumulative 20 yr.	0	104.6	0.0	3.9	1.0	0.8	167.8

Existing 20 yr. Proposed 20 yr. Cumulative 20 yr.

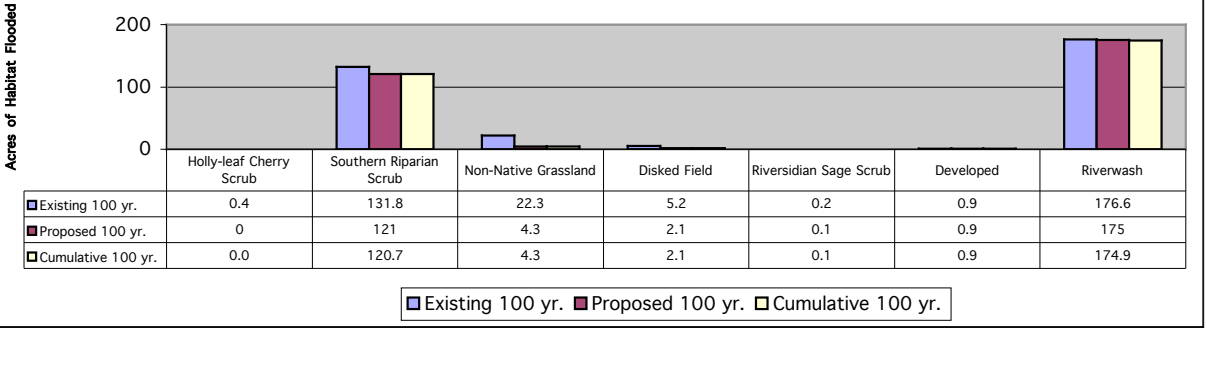
Chart 4.20-2e
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
50 Year Storm



	Holly-leaf Cherry Scrub	Southern Riparian Scrub	Non-Native Grassland	Disked Field	Riversidian Sage Scrub	Developed	Riverwash
Existing 50 yr.	0.3	125.7	20.5	2.9	0.1	0.8	174.6
Proposed 50 yr.	0	115.8	4.2	1.5	0.1	0.8	172.8
Cumulative 50 yr.	0	115.8	4.2	1.5	0.1	0.8	172.8

Existing 50 yr. Proposed 50 yr. Cumulative 50 yr.

Chart 4.20-2f
Distribution of Flows in Different Habitats
Riverpark Specific Plan Site
100 Year Storm



	Holly-leaf Cherry Scrub	Southern Riparian Scrub	Non-Native Grassland	Disked Field	Riversidian Sage Scrub	Developed	Riverwash
Existing 100 yr.	0.4	131.8	22.3	5.2	0.2	0.9	176.6
Proposed 100 yr.	0	121	4.3	2.1	0.1	0.9	175
Cumulative 100 yr.	0.0	120.7	4.3	2.1	0.1	0.9	174.9

Existing 100 yr. Proposed 100 yr. Cumulative 100 yr.

mosaic of habitats in the river would be maintained because the key hydraulic characteristics (i.e., flooded area and velocity) would not be significantly different under the project. This conclusion is visually demonstrated by the boundary of inundation and the "pattern of velocities" shown for existing and proposed conditions on **Figures 4.20-4a–f** and **Figures 4.20-10a–f**. The pattern of velocities is the locations of certain flow speeds measured in feet per second. In addition, the distribution of velocities in the river corridor for different return storm events is almost identical for the existing and proposed conditions (See **Charts 4.20-3a–f**). Therefore, no significant impact would occur due to the flooding of habitat areas.

(c) Impact on Velocities

An increase in velocities in the river could result in significant biological impacts if the increase caused: (1) widespread and chronic scouring of the channel bed that removes a significant amount of aquatic, wetland, and riparian habitats from the river channel; and/or (2) substantial modification of the relative amounts of these different habitats in the river, essentially altering the nature and quality of the riverine environment, and/or (3) substantial effects to Rare, Endangered, or Sensitive species.

The results of the hydraulic analysis indicates that the overall velocities in the river would not increase significantly due to the floodplain modifications associated with the project. Overall, velocities for all return events are not significantly different between existing and proposed conditions (**Charts 4.20-3a–f**) at and downstream of the project site. Localized increases in velocity would occur downstream of the proposed bridge during infrequent major floods, but these impacts would be restricted to a few hundred feet from the bridge and would not cause scouring effects at other locations in the river.

Based on these results, the floodplain modifications associated with the project (i.e., bank protection, bridge, and development in certain floodplain areas described above) would not cause significant scouring, and therefore, would not alter the amount and "pattern" of aquatic, wetland, and riparian habitats in the river at the project site. The current "pattern of scouring" due to high velocities would remain intact, as shown on **Figures 4.20-4a–f** and **Figures 4.20-10a–f**. Based on this information, no significant impacts would occur due to changes in river velocity.

(d) Impacts on Water Depths

An increase in water depth in the river could result in significant biological impacts if the additional water depth causes greater "shear forces" (i.e., friction caused by the weight of water) on the river bottom, and thereby increasing scouring of the channel bed and removal of vegetation. This effect could reduce the extent of aquatic, wetland, and riparian habitats in the river.

The results of the hydraulic analysis indicates that water depths in the river would not increase significantly due to the floodplain modifications associated with the project. Water depths for all return events would not be significantly different between existing and proposed conditions (**Charts 4.20-1a** through **4.20-1f**) at and downstream of the project site. Hence, the floodplain modifications associated with the project would not cause significant scouring and therefore, would not alter the amount and pattern of aquatic, wetland, and riparian habitats in the river at the project site. Therefore, no significant impacts would occur due to changes in water depths in the river.

(e) Impacts on Sensitive Aquatic Animal Species

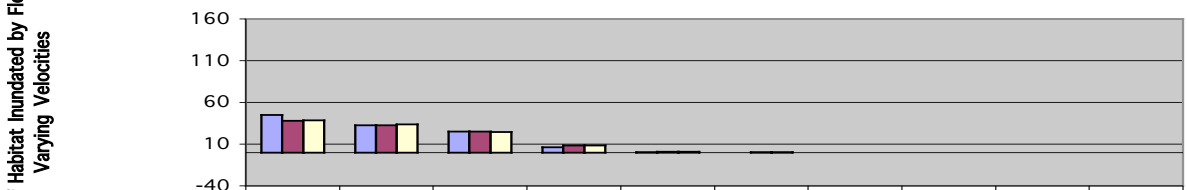
General Findings

The long term historical record for the river indicates it has always been relatively dry in the site area and restoration to previous conditions should not be aimed at developing permanent water flows in this area. However, continued development in the drainage could result in more wastewater discharge that could increase the extent of surface flow and potentially improve conditions for stickleback and other native aquatic forms. As indicated below, no significant impacts to the three sensitive aquatic species addressed would occur as a result of the project implementation. This is generally due to the fact that no substantial change to the aquatic habitats that support Sensitive species would occur (for conclusions related to the more general biological impacts of the proposed project, please see EIR **Section 4.6, Biological Resources**). Specific reasons for the lack of significant impacts to these sensitive aquatic species are provided below.

Unarmored Three-Spine Stickleback

Occurrence of unarmored three-spine stickleback on the project site is predicted to be very sporadic due to occasional strong storms or above average rainy seasons that may flush fish downstream from known established populations upstream. Site Nos. 1- 3 (Areas of Standing Water) and proposed storm drain outlets provide possible areas that could maintain fish for temporary periods depending on the permanence of surface flow in the river and from these tributaries/storm drains. The implementation of

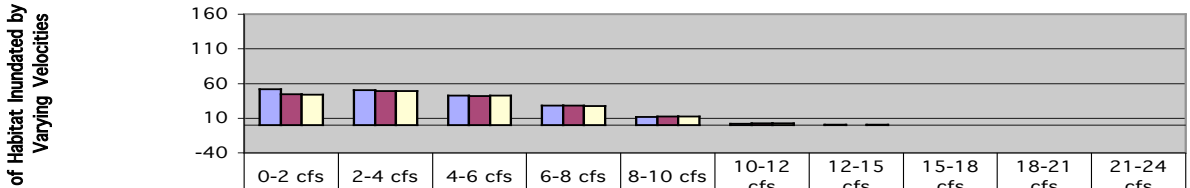
Chart 4.20-3a
Comparison of Velocity Distribution
Riverpark Specific Plan Site
2 Year Storm



	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 2 yr.	44.8	32.7	25.3	6.2	0.4	0	0	0	0	0
Proposed 2 yr.	37.8	32.7	25	8.6	0.8	0.1	0	0	0	0
Cumulative 2 yr.	38.3	33.7	24.8	8.4	0.9	0.1	0	0	0	0

Existing 2 yr. Proposed 2 yr. Cumulative 2 yr.

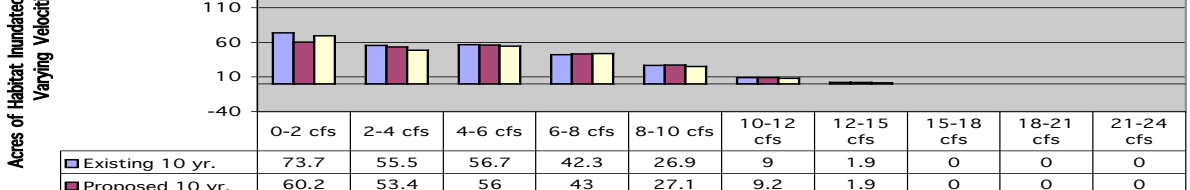
Chart 4.20-3b
Comparison of Velocity Distribution
Riverpark Specific Plan Site
5 Year Storm



	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 5 yr.	51.5	50.5	42.9	28.2	12.1	2	0.4	0	0	0
Proposed 5 yr.	44.7	48.9	42.2	28.2	12.7	2.3	0.3	0	0	0
Cumulative 5 yr.	44.0	48.9	42.6	27.7	12.2	2.6	0.4	0.0	0	0

Existing 5 yr. Proposed 5 yr. Cumulative 5 yr.

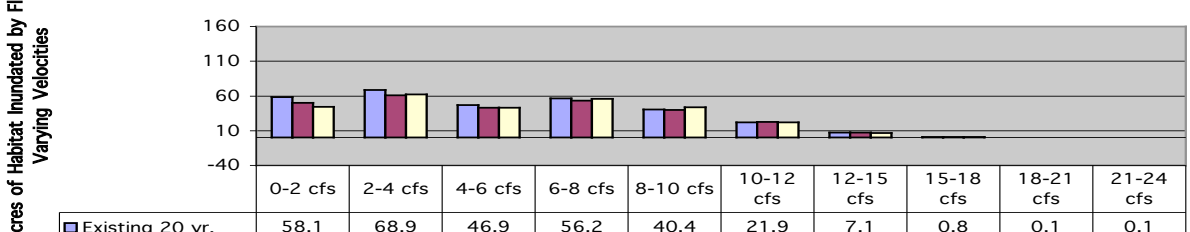
Chart 4.20-3c
Comparison of Velocity Distribution
Riverpark Specific Plan Site
10 Year Storm



	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 10 yr.	73.7	55.5	56.7	42.3	26.9	9	1.9	0	0	0
Proposed 10 yr.	60.2	53.4	56	43	27.1	9.2	1.9	0	0	0
Cumulative 10 yr.	69.3	48.6	54.3	43.6	25.3	8.2	1.6	0.0	0	0

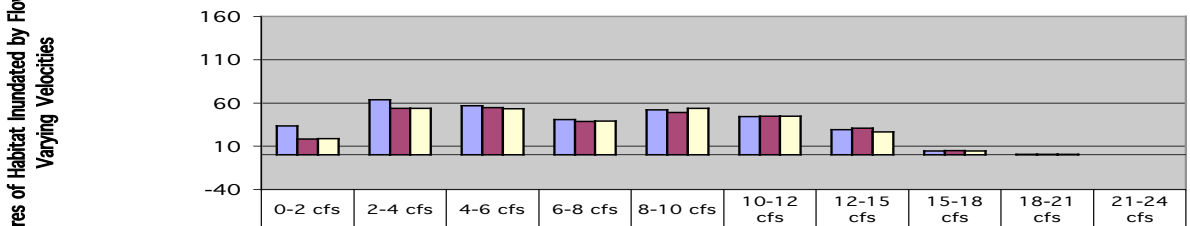
Existing 10 yr. Proposed 10 yr. Cumulative 10 yr.

Chart 4.20-3d
Comparison of Velocity Distribution
Riverpark Specific Plan Site
20 Year Storm



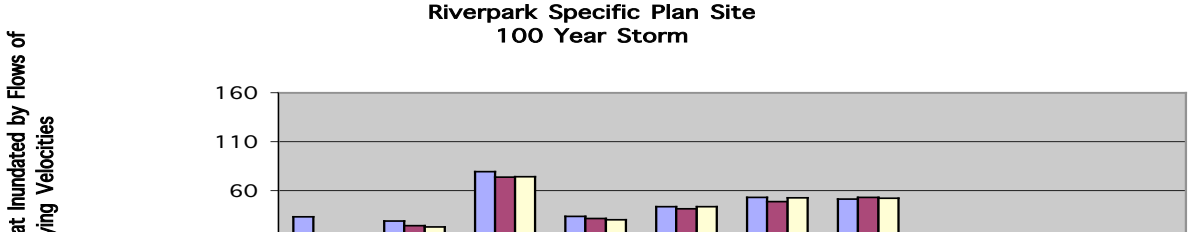
	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 20 yr.	58.1	68.9	46.9	56.2	40.4	21.9	7.1	0.8	0.1	0.1
Proposed 20 yr.	50	61.1	42.9	53.3	40	22.9	7.5	0.8	0.1	0.1
Cumulative 20 yr.	44.3	62.4	42.8	55.8	43.5	21.7	6.9	0.7	0.1	0.1

Chart 4.20-3e
Comparison of Velocity Distribution
Riverpark Specific Plan Site
50 Year Storm



	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 50 yr.	33.3	63.6	56.6	40.8	52.2	44.1	28.9	4.7	0.8	0
Proposed 50 yr.	18.2	53.8	54.8	38.5	48.8	44.7	30.8	5	0.6	0
Cumulative 50 yr.	18.8	53.8	53.4	39.0	53.8	44.6	26.7	4.5	0.5	0.0

Chart 4.20-3f
Comparison of Velocity Distribution
Riverpark Specific Plan Site
100 Year Storm



	0-2 cfs	2-4 cfs	4-6 cfs	6-8 cfs	8-10 cfs	10-12 cfs	12-15 cfs	15-18 cfs	18-21 cfs	21-24 cfs
Existing 100 yr.	33.1	28.7	79.3	33.4	43.4	53	51.2	12.2	2.7	0.4
Proposed 100 yr.	15.3	23.9	73.8	31.3	41.4	48.7	52.8	13.4	2.8	0.3
Cumulative 100 yr.	13.7	22.8	74.2	30.0	43.3	52.4	51.8	11.9	2.6	0.2

project-related improvements are unlikely to affect stickleback from using the Santa Clara River on the project site.

The Flood Technical Report for Riverpark (PSOMAS, February 2004) prepared for the Riverpark project concludes that there would be no significant increase in water surface elevation, velocity or sedimentation downstream of the project site as a result of project improvements. Based upon these facts, no impacts to downstream populations of UTS are expected.

Arroyo Toad

Occurrence of Arroyo Toad on the project site is unlikely, as the project site does not contain the habitat characteristics necessary for the permanent habitation of the species, primarily the lack of overflow pool habitat. Site No. 3 (Areas of Standing Water) contained associated damp substrata with willow and cattail patches, but not vegetated sandbars and overflow pool habitat parallel to the main channel. The other sites (Areas of Standing Water) and on-site drainages are not large enough to form overflow pools and therefore are not considered habitat.

The Flood Technical Report for Riverpark (PSOMAS, February 2004) prepared for the Riverpark project concludes that there would be no significant increase in water surface elevation, velocity or sedimentation downstream of the project site as a result of project improvements. Based these facts, no impacts to downstream populations of Arroyo Toad are expected.

California Red-Legged Frog

California red-legged frogs occur rarely if at all in the Santa Clara River channel within or near the project site. The site lacks the appropriate spawning pools that are the ecologically central component of the California red-legged frog habitat.

(f) Conclusion

The proposed project would modify the floodplain by placing bank stabilization along selected portions of the river, developing the floodplain areas behind the bank stabilization, and installing a bridge across the river. These actions would alter flows in the river; however, the effects would only be observed during infrequent flood events that reach the buried banks (e.g., 50-year and 100-year flood events). The proposed project would cause an increase in flows, water velocities, water depth; and changes in the flooded areas. However, these hydraulic effects would be minor in magnitude and extent. These effects would be insufficient to alter the amount, location, and nature of aquatic and

riparian habitats in the project area and downstream. Under the project, the river would still retain sufficient width to allow natural fluvial processes to continue. Hence, the mosaic of habitats in the river that support various Sensitive species would be maintained, and the populations of the species within and adjacent to the river corridor would not be significantly affected.

6. MITIGATION MEASURES ALREADY INCORPORATED INTO PROJECT DESIGN

The project utilizes innovative techniques (e.g., buried bank stabilization) to meet the requirements of flood control while maintaining the natural resources within the Santa Clara River. Traditional flood control techniques in use within Los Angeles County rely upon reinforced concrete or grouted rock rip-rap to minimize erosion while maximizing the volume of flood flows carried by the drainage. While exceedingly efficient as a flood control technique, this approach retains none of the natural resource value. In contrast, the drainage plan of the project provides drainage and flood control protection to developed uses while preserving the Santa Clara River as a natural resource.

7. MITIGATION MEASURES PROPOSED BY THIS EIR

No additional mitigation beyond that contained in the **Biological Resources** section (**Section 4.6, Biological Resources**) is required because no significant impacts to biological resources are anticipated due to the bank stabilization, bridge, or changes in the floodplain.

8. CUMULATIVE IMPACTS

The focus of this portion of the impact analysis is on the biological consequences of the project-related changes in hydraulic conditions along the river when considered in combination with the conditions caused by the construction of the Santa Clarita Parkway Bridge and the extension of this road through the proposed project site by the City of Santa Clarita and by other development in the Santa Clarita Valley. As indicted for the proposed project, key hydraulic impacts that may occur include effects on floodplain boundary and areas, discharge (i.e., flow amount), and flow velocities. Changes in these conditions can affect the nature, location, and amount of aquatic, wetland, and riparian habitats along the river, and the Sensitive species that use these habitats.

As indicated in the charts and figures above, the proposed project in combination with the construction of Santa Clarita Parkway across the Santa Clara River and project site and other development in the Santa Clarita Valley, would further modify the floodplain by installing an additional bridge across the river (See **Figure 4.20-7, Bank Stabilization and Bridge Locations**). This action would further alter

flows in the river; however, as with the proposed project, the effects would only be observed during infrequent flood events that reach the buried banks (e.g., 50-year and 100-year flood events). As indicated above, the proposed project would cause an increase in flows, water velocities, water depth, and changes in the flooded areas. However, these hydraulic effects would be very minor in magnitude and extent. As also shown in the above charts (**Charts 4.20-1a–f, Comparison or Average Channel Velocities at Key Locations**) and in **Figures 4.20-11a–f, Santa Clara River Cumulative Velocities**, velocity changes in the river near the Santa Clarita Parkway Bridge would result in a very localized increase in velocity of five percent during the 2-year event that would dissipate approximately 200 feet downstream and 100 feet upstream of the bridge. **Figures 4.20-12a–g, Santa Clara River Cumulative Conditions,** show that the land area inundated by various flood events in the cumulative would also not vary significantly from existing and post-project conditions. When the construction of Santa Clarita Parkway across the river and project site is considered, the effects would still be insufficient to significantly alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream. Under the project with Santa Clarita Parkway Bridge, the river would still retain sufficient width to allow natural fluvial processes to continue. Hence, the mosaic of habitats in the river that support various Sensitive species would be maintained, and the populations of the species within and adjacent to the river corridor would not be significantly affected.

9. CUMULATIVE MITIGATION MEASURES

No additional mitigation beyond those contained in **Section 4.6, Biological Resources** for the project are required because no cumulative significant impacts to biological resources are anticipated due to the bank stabilization, bridge, or changes in the floodplain.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

No unavoidable significant impacts are anticipated.

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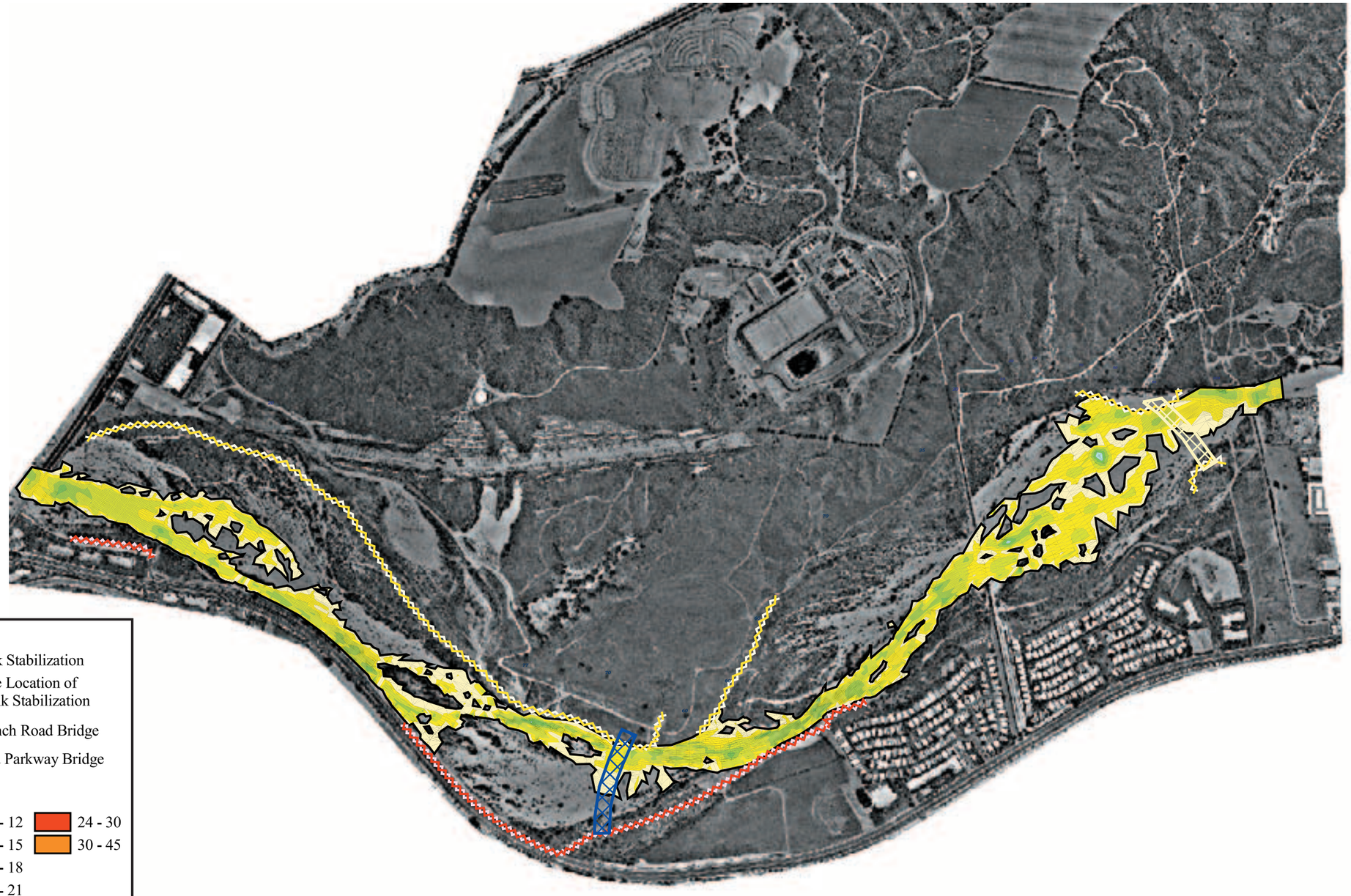
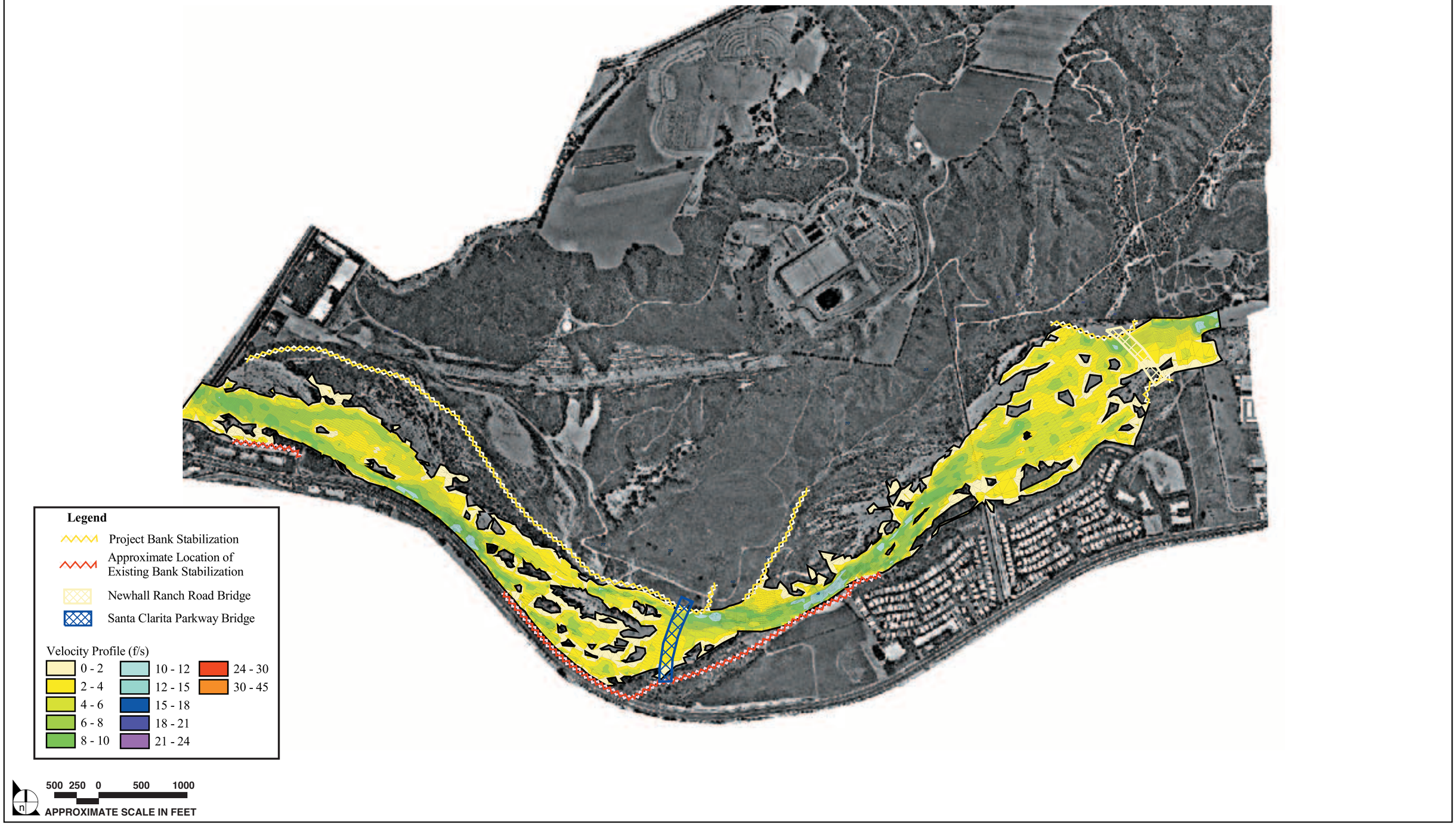


SOURCE: PSOMAS – January 2004

FIGURE **4.20-11a**

Santa Clara River Cumulative Velocities – 2 Year Flood Event

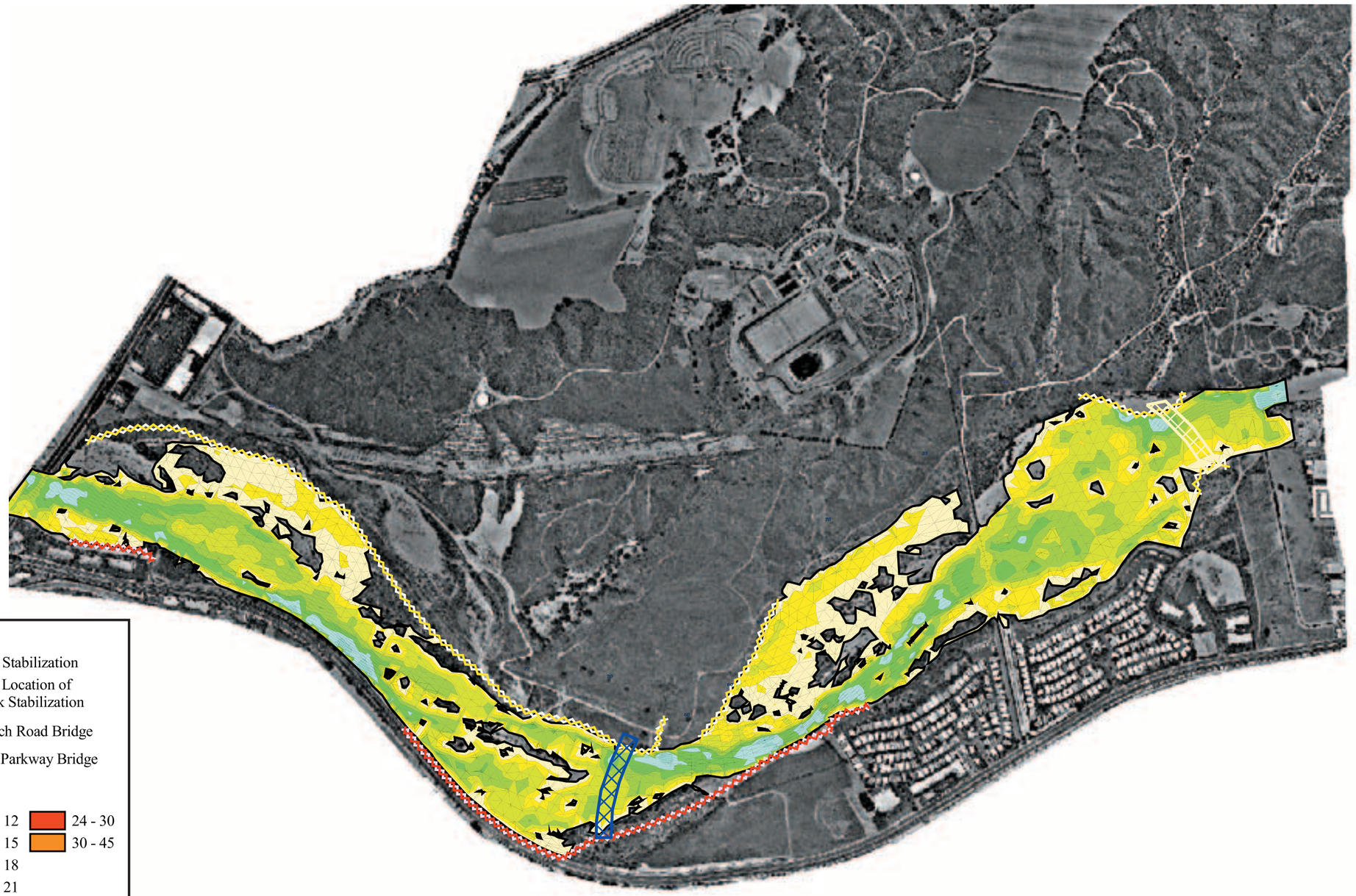
112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-11b**

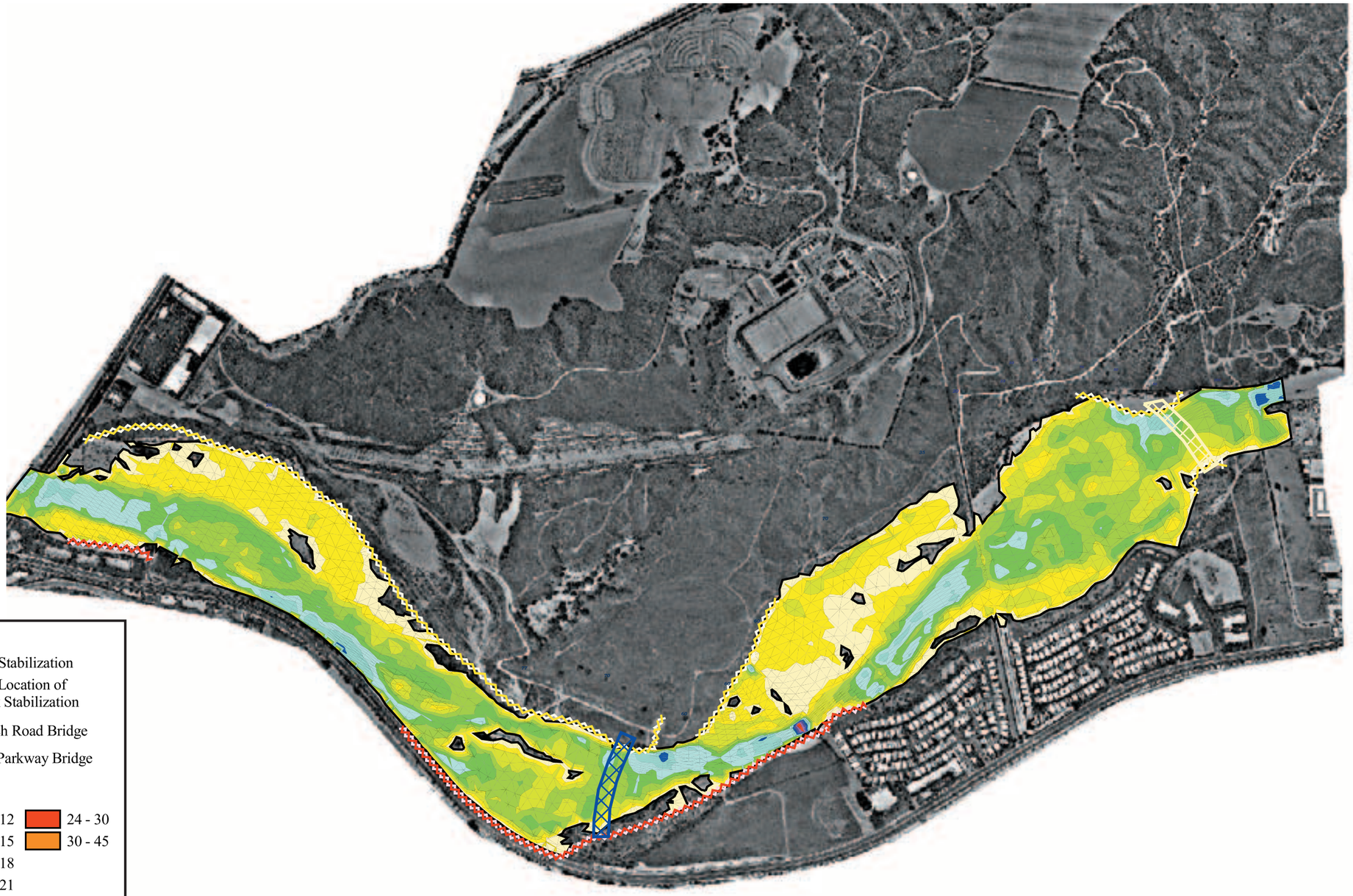
Santa Clara River Cumulative Velocities – 5 Year Flood Event



SOURCE: PSOMAS – January 2004

FIGURE **4.20-11c**

Santa Clara River Cumulative Velocities – 10 Year Flood Event

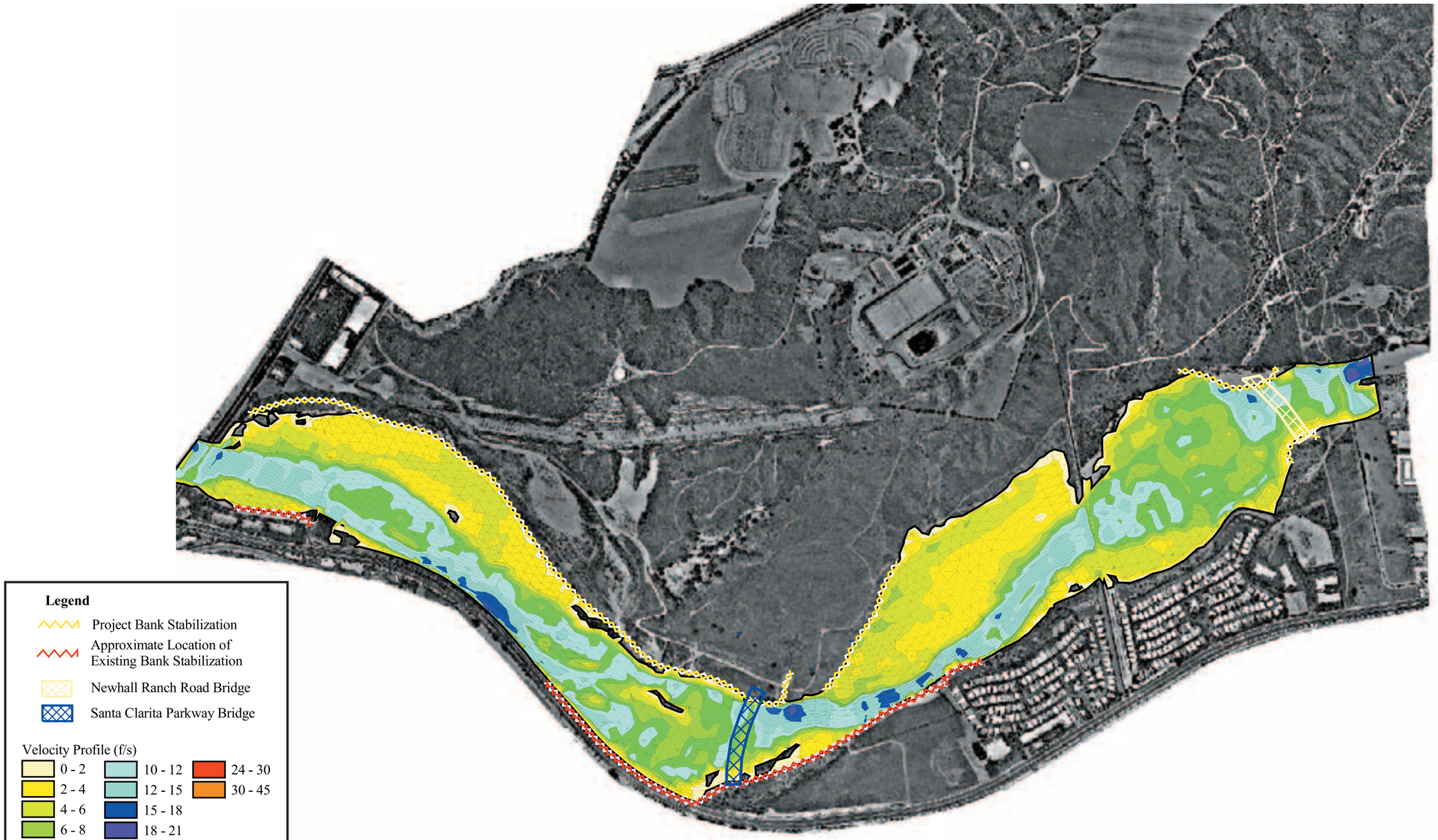


SOURCE: PSOMAS – January 2004

FIGURE **4.20-11d**

Santa Clara River Cumulative Velocities – 20 Year Flood Event

112-16•01/04

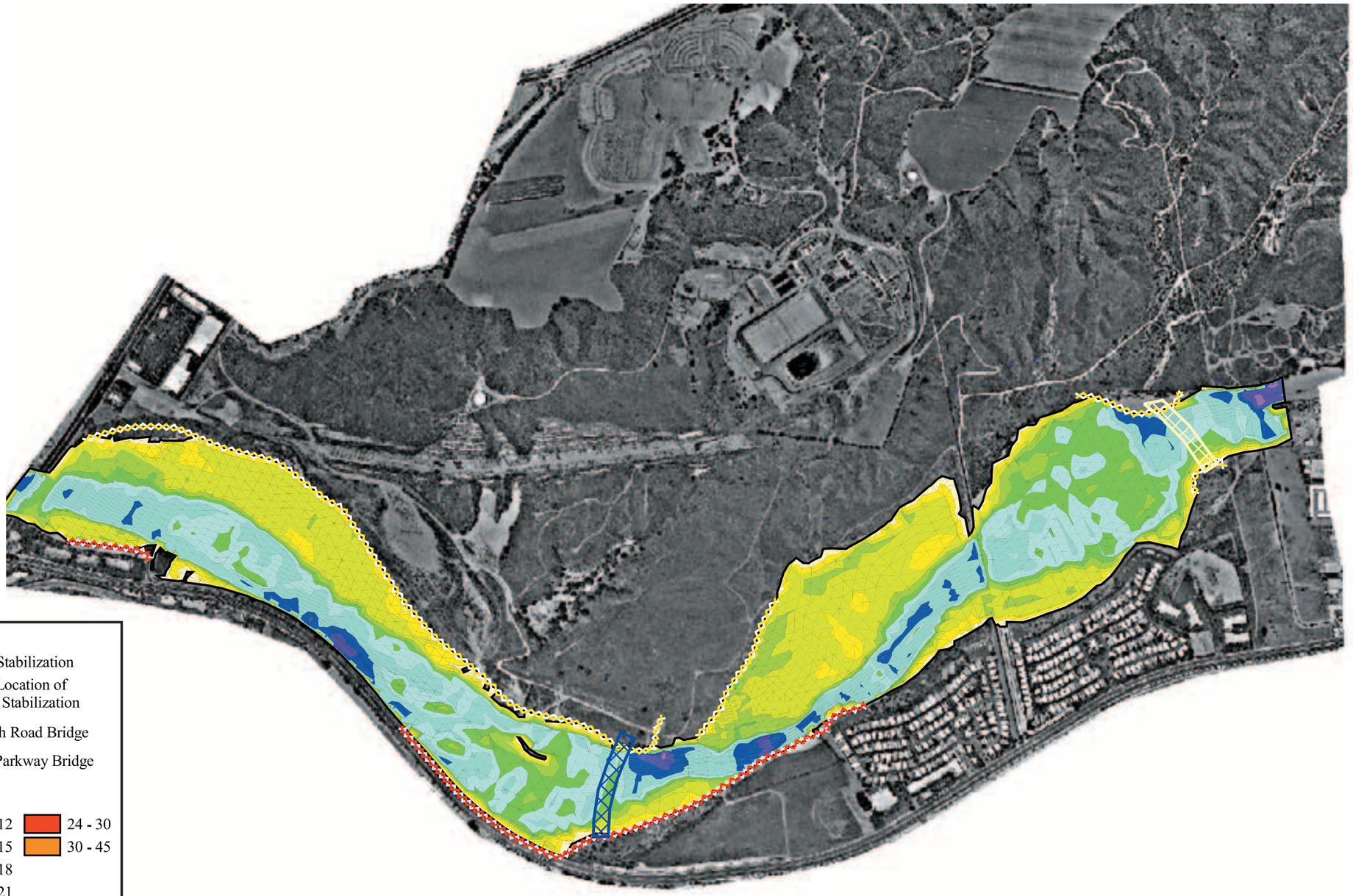


SOURCE: PSOMAS – January 2004

FIGURE **4.20-11e**

Santa Clara River Cumulative Velocities – 50 Year Flood Event

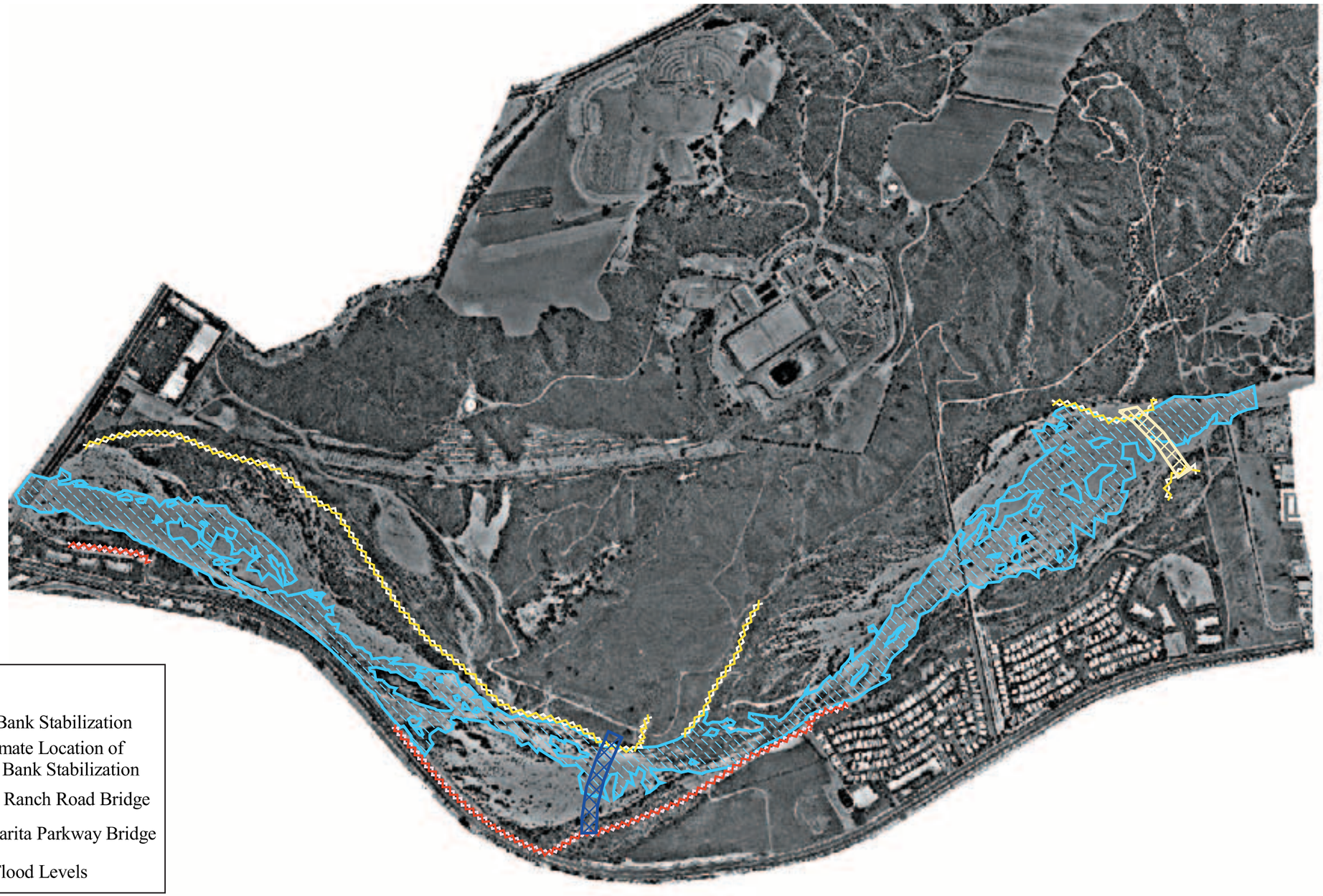
112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-11f**

Santa Clara River Cumulative Velocities – 100 Year Flood Event

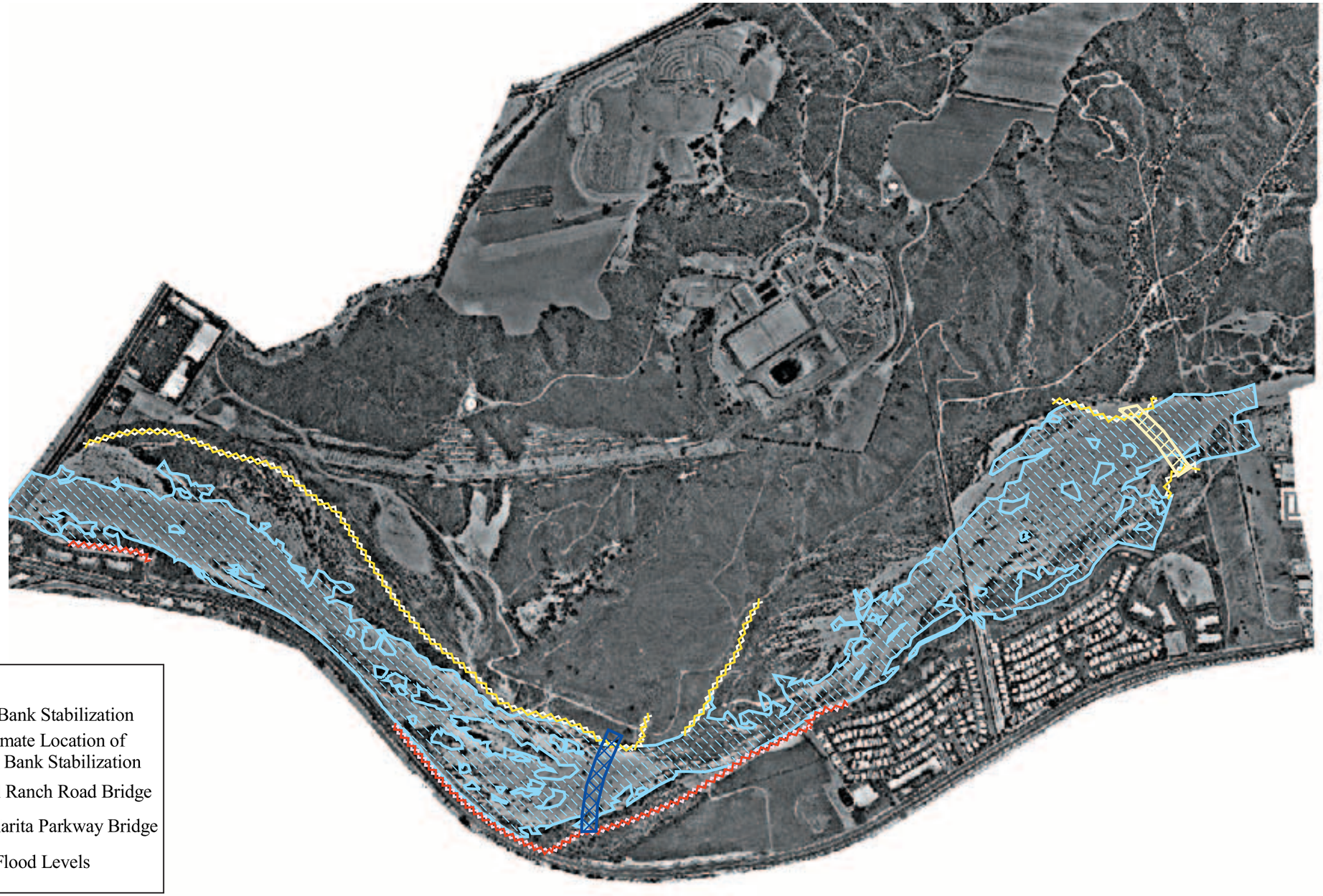


SOURCE: PSOMAS – January 2004

FIGURE **4.20-12a**

Santa Clara River Cumulative Conditions – 2 Year Flood Event

112-16•01/04

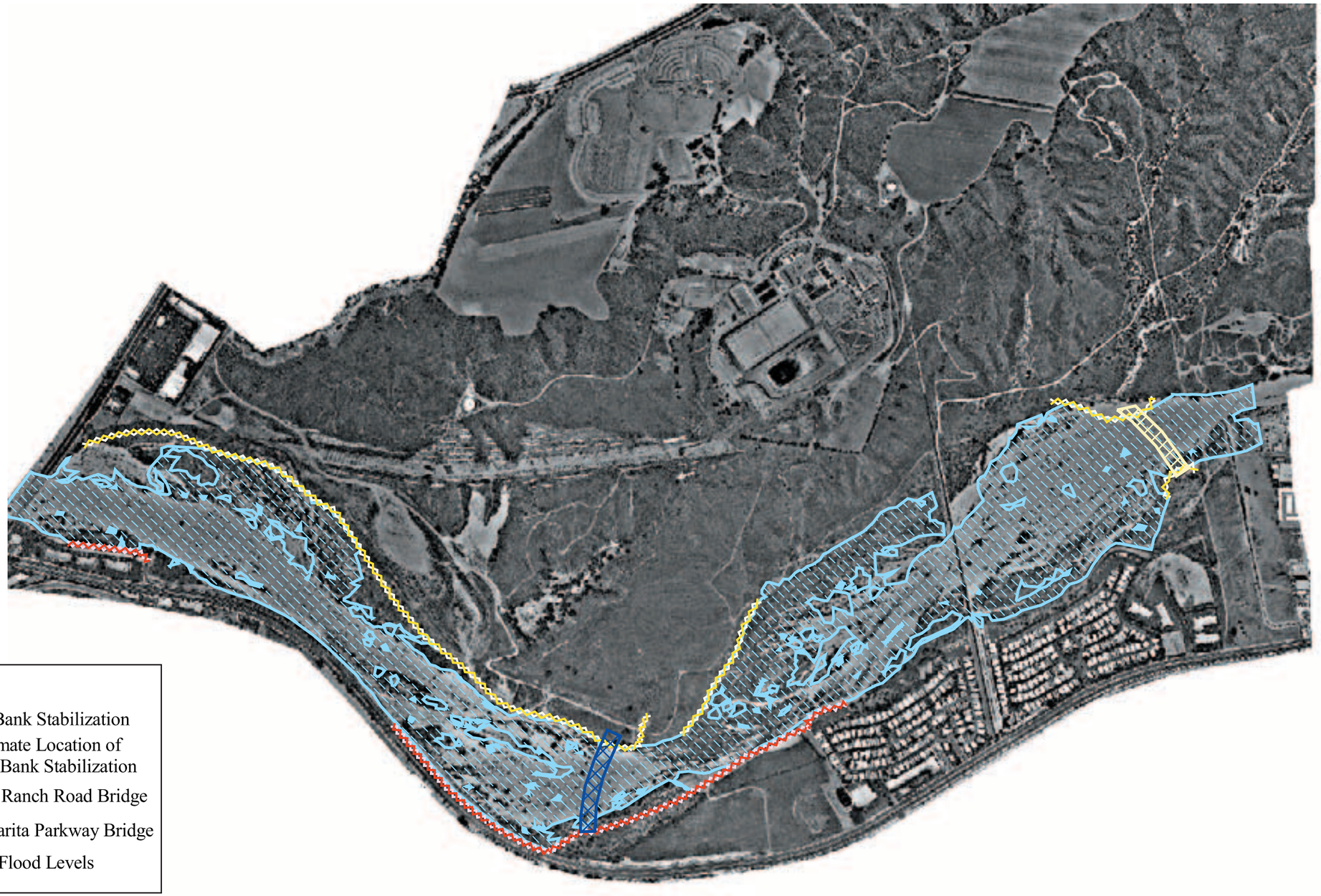


SOURCE: PSOMAS – January 2004

FIGURE **4.20-12b**

Santa Clara River Cumulative Conditions – 5 Year Flood Event

112-16•01/04

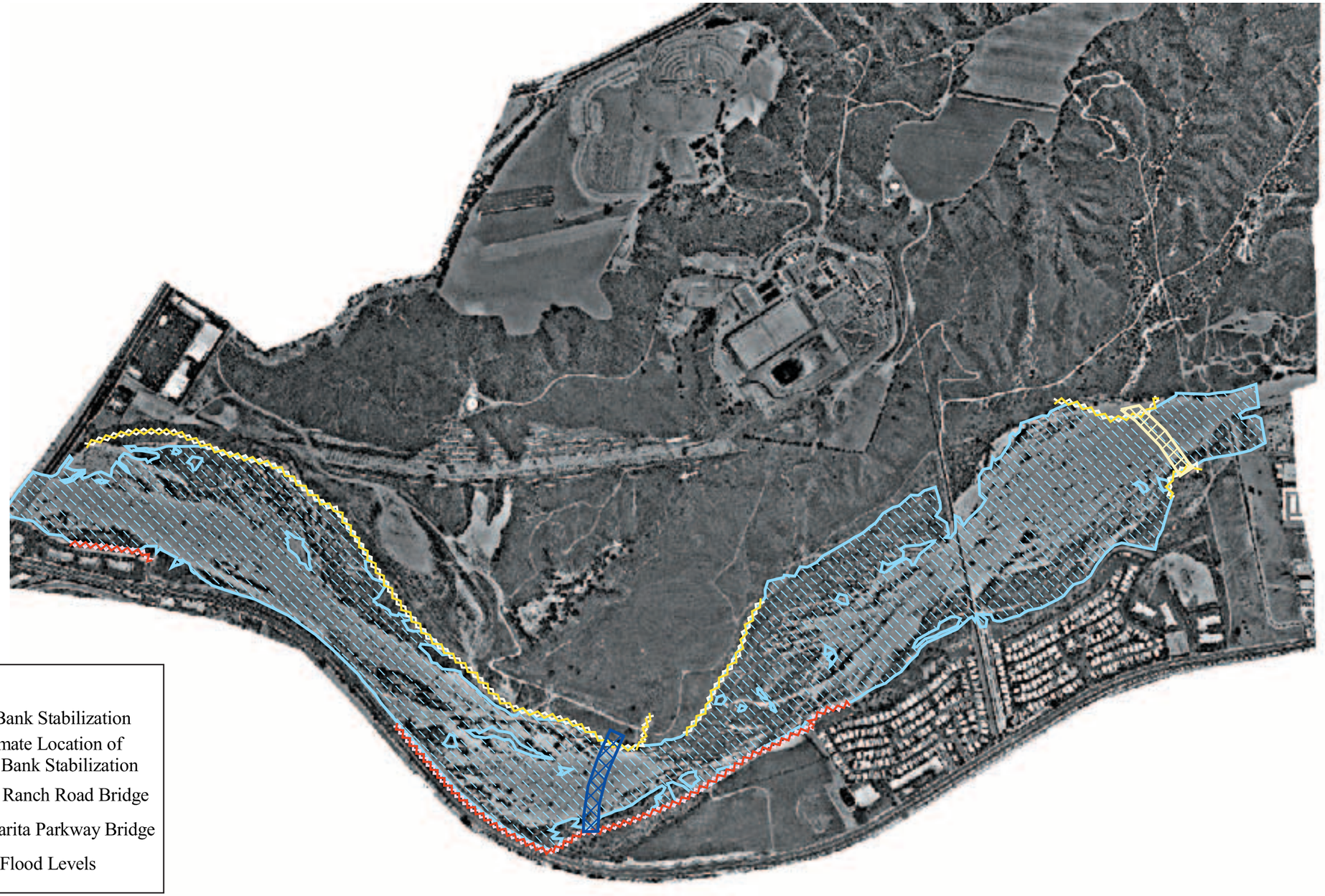


SOURCE: PSOMAS – January 2004

FIGURE **4.20-12c**

Santa Clara River Cumulative Conditions – 10 Year Flood Event

112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-12d**

Santa Clara River Cumulative Conditions – 20 Year Flood Event

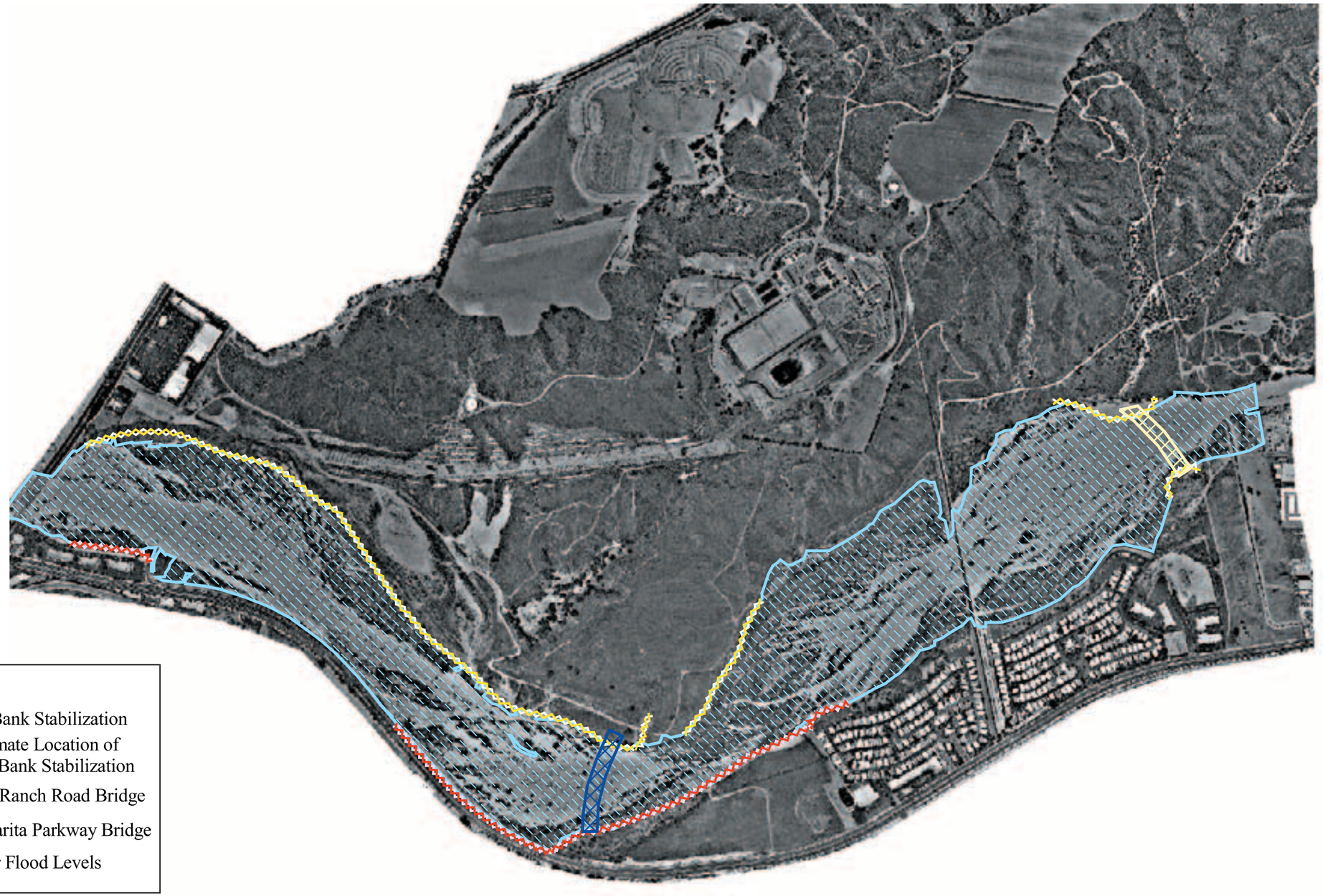
112-16•01/04

SOURCE: PSOMAS – January 2004

FIGURE **4.20-12e**

Santa Clara River Cumulative Conditions – 50 Year Flood Event

112-16•01/04

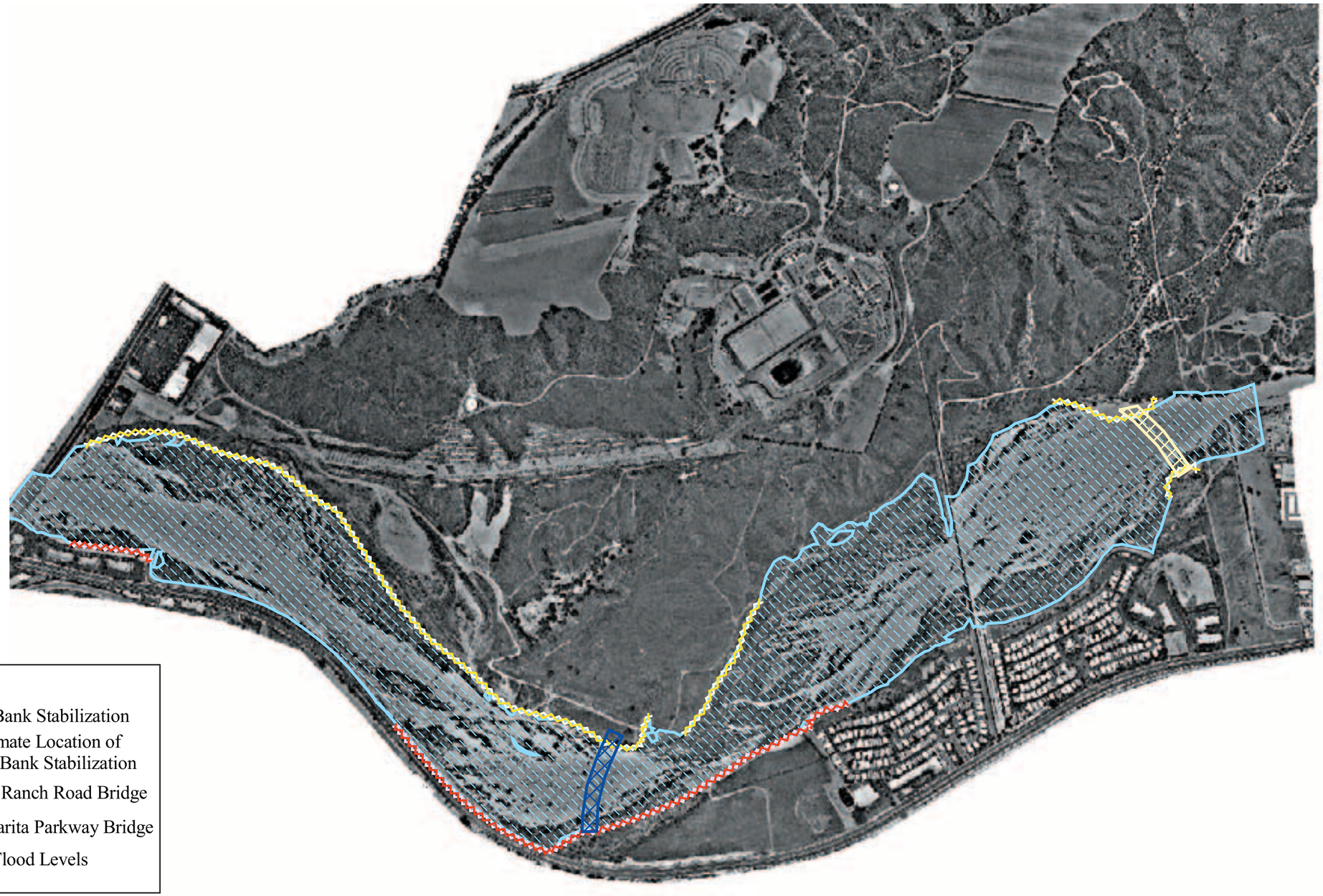


SOURCE: PSOMAS – January 2004

FIGURE **4.20-12f**

Santa Clara River Cumulative Conditions – 100 Year Flood Event

112-16•01/04



SOURCE: PSOMAS – January 2004

FIGURE **4.20-12g**

Santa Clara River Cumulative Conditions – Capital Flood Event

112-16•01/04

4.21 WASTEWATER DISPOSAL

1. SUMMARY

As planned, the proposed project would connect the planned wastewater lines into the existing 24-inch main line in Bouquet Canyon Road or into the main line in Soledad Canyon Road. From these connection points, the planned wastewater lines would extend into the project site primarily through the planned roadway right-of-ways and ultimately connect to the planned land uses. The proposed project, located entirely within the service boundaries of the Saugus Water Reclamation Plant (District 26), would generate approximately 0.26 million gallons of wastewater on a daily basis. This effluent would be treated at both the Saugus Water Reclamation Plant (District 26) as well as the Valencia Water Reclamation Plant (County Sanitation District 32), which together, form the Santa Clarita Valley Joint Sewerage System. These two facilities have a combined permitted treatment capacity of 19.1 mgd with an average treatment volume of 17.3 mgd. Based on the impact analysis prepared for the proposed project, neither project nor cumulative wastewater impacts would be significant.

2. EXISTING CONDITIONS

This Existing Conditions section is divided into two distinct topics:

- Wastewater Treatment Facilities; and
- Wastewater Collection System.

a. Wastewater Treatment Facilities

Most wastewater generated within the Santa Clarita Valley is treated at two existing water reclamation plants (WRPs) which are operated by the County Sanitation Districts of Los Angeles County (CSDLAC). These two treatment facilities, the Saugus WRP (District 26) located at 26200 Springbrook Avenue in Saugus, and the Valencia WRP (District 32), located at 28185 The Old Road in Valencia have been interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). The relationship between the two districts was established through a joint powers agreement that created the regional treatment system and permits the Valencia WRP to accept flows that exceed the capacity of the Saugus WRP. These two facilities, illustrated in **Figure 4.21-1, Existing Wastewater Treatment Facilities and Sanitation Districts**, provide primary, secondary and tertiary treatment. The SCVJSS has a combined permitted treatment capacity of 19.1

mgd and treated an average of 18.3 mgd.[1] The project site is entirely within the service area of the Saugus WRP (District 26).

The mechanism used to fund expansion projects is the Districts' Connection Fee Program. Prior to the connection of the local sewer network to the CSDLAC system, all new users are required to pay for their fair share[2] of the District sewerage system expansion through a "connection fee". The fees fund treatment capacity expansion and trunk lines, while on-site sewer mains are the responsibility of the developer.

The rate at which connections are made—and revenues accumulate—drives the rate at which periodic expansions of the system will be designed and built. However, it should be noted that connection permits are not issued if there is not sufficient capacity. Therefore, the expansion of district facilities may be immediate if adequate capacity does not exist to serve new users, or the expansion may occur in the future if it is determined that there is adequate capacity to serve new users, but inadequate capacity to serve future development within the tributary area(s) of the affected collection/treatment facilities, thereby necessitating future system expansions. In the latter case, the connection fees paid by new users are deposited into a restricted Capital Improvement Fund (CIF) used solely to capitalize the future expansion of affected system facilities. The cyclical process of building phased expansions and collecting connection fees can continue indefinitely. The only restriction would be when the districts run out of land. Existing facilities can be expanded to handle a daily capacity of 34.1 mgd, which is sufficient to meet demand up until 2015.[3] The district does not expect to exceed a daily capacity of 34.1 mgd because connection permits will not be issued that would exceed this amount.

The CSDLAC has prepared a Facilities Plan, with a horizon year of 2015, for the Santa Clarita Valley Joint Sewerage System and a Draft EIR. The Facilities Plan estimates future wastewater generation for the probable future service area of County Sanitation Districts 26 and 32 in order to anticipate future treatment capacity and wastewater conveyance needs. According to CSDLAC estimates, total flows projected from the Santa Clarita Valley in 2015, exclusive of Newhall Ranch, would be 34.1 mgd. This projection is based upon SCAG 96 population projections exclusive of Newhall Ranch. As a result of this finding, CSDLAC proposed to incrementally expand the treatment facilities to meet future needs in two expansions to a total of 34.1 mgd.[4] This two-phase expansion plan, which would increase treatment capacity by approximately 15 mgd, was recently approved. The first phase,

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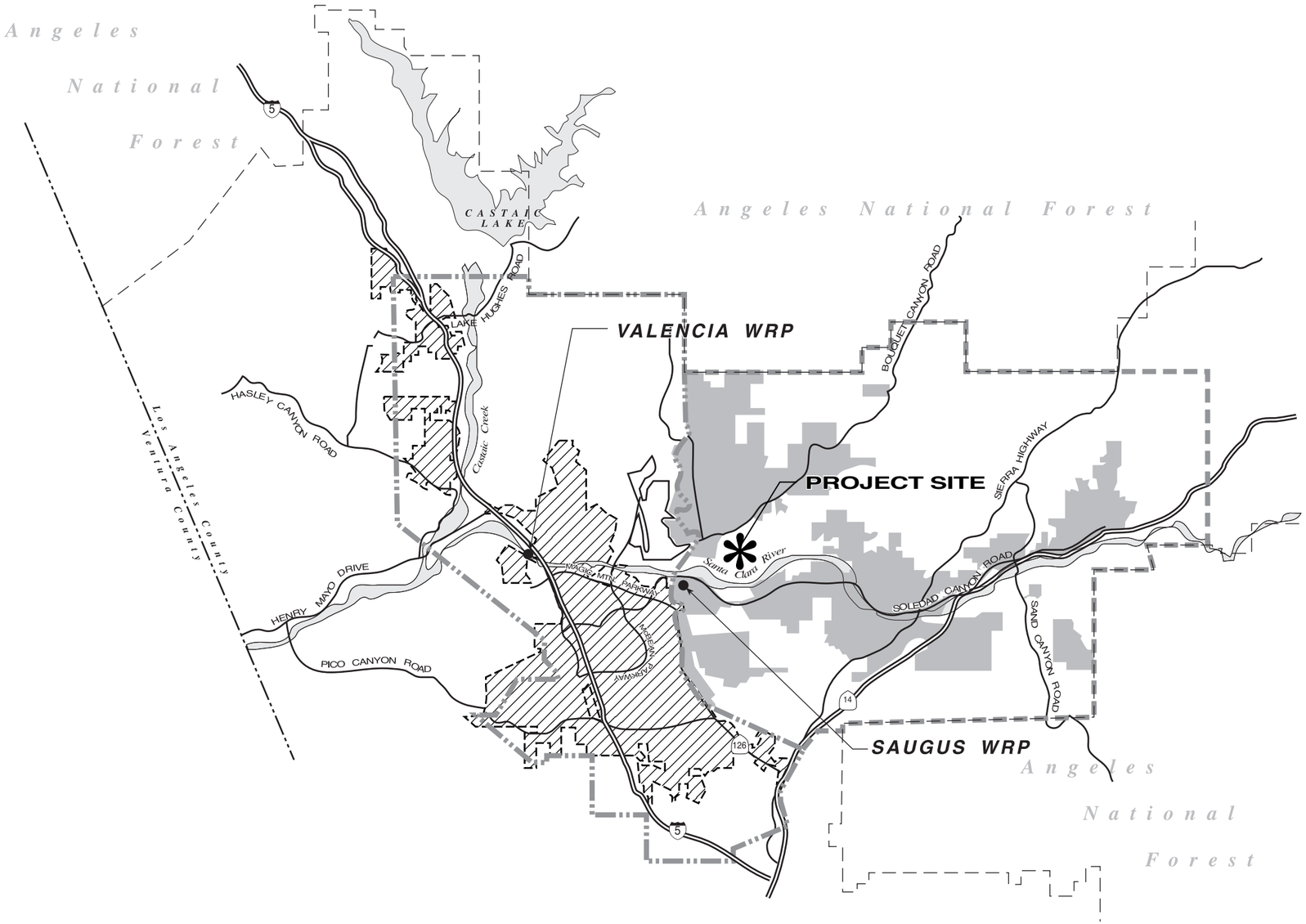
1 Written correspondence from the County Sanitation Districts of Los Angeles County, November 4, 2003.

2 The fair share is equivalent to the cost of expanding the system to accommodate the anticipated sewage flows from the new users.

3 Written correspondence from the County Sanitation Districts of Los Angeles County, October 1, 2002.

4 Ibid.



LEGEND

- Project Site
- County Sanitation District No. 26
- County Sanitation District No. 26 Current Sphere of Influence
- County Sanitation District No. 32 *Current Sphere of Influence*
- County Sanitation District No. 32 Potential Service Area

Source: Impact Sciences, Inc., 2003

FIGURE **4.21-1**

Existing Water Reclamation Plants and Sanitation Districts

112-16•11/03

scheduled for completion in mid-2003, would expand treatment capacity by approximately 9 mgd, or approximately a 47 percent increase over existing capacity. This expansion, when complete, will meet the expected wastewater treatment demand through 2010. The second-phase, scheduled to be complete by 2010, would increase treatment capacity an additional 6 mgd.

b. Wastewater Collection System

The CSDLAC wastewater collection system is composed of service connections that tie into the local collection network. This local network, composed of secondary and primary collectors, flows into the districts' trunk wastewater mains and the water reclamation plants. The CSDLAC maintains the wastewater trunk mains that lead to the two reclamation plants, and the local collection network is maintained by the Los Angeles County Department of Public Works Sewer Maintenance for the City of Santa Clarita. Wastewater generated within the project boundaries will discharge to local wastewater lines not maintained by the districts for conveyance to a districts' trunk wastewater lines.

The project site is presently undeveloped and there is no wastewater collection and conveyance system on the property. Although not present within the project boundaries, sewer lines exist in the vicinity of the project site. Local sewer lines are located to the west of the project site and convey flows to the Bouquet Canyon Relief Trunk Sewer. This 24-inch line is located in Bouquet Canyon Road at Espuella Drive and Newhall Ranch Road and has a conveyance capacity of 11.6 mgd. When last measured, this line conveyed a peak flow of approximately 5.2 mgd.[5] This leaves approximately 6.4 mgd of flow capacity available. Given that the proposed project would generate 0.24 mgd, the existing wastewater conveyance lines would have adequate capacity to convey wastewater flows to the treatment facilities.

The City Department of Planning and Building Services requires that new subdivision wastewater systems connect to the district's existing sanitary wastewater system. Transportation and Engineering Services is the agency responsible for local wastewater in the City of Santa Clarita, and any developer constructing a new wastewater line would have to coordinate the construction and dedication of any such wastewater line with the Building and Engineering Services for future operation and maintenance. It would then be the responsibility of the CSDLAC to upgrade the wastewater collection and treatment systems by providing relief for existing trunk lines nearing capacity and expanding treatment plants to provide sanitation service to outlying areas.

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5 Ibid., Measured in 2001.

3. PROJECT IMPACTS

a. Significance Threshold Criteria

The City of Santa Clarita Environmental Guidelines identify criteria for determining whether a project's impacts are considered to have a significant effect. The criteria are identified below:

(a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

(b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

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

As proposed, the project will generate wastewater from residential and commercial uses. Project impacts will be discussed in terms of effects on wastewater treatment facilities and the wastewater collection system.

b. Construction-Related Impacts

Construction contractors for the project would provide portable, on-site sanitation facilities that would be serviced at approved disposal facilities and/or treatment plants. The amount of construction-related wastewater that would be generated is not expected to have a significant impact on these disposal/treatment facilities due to expected low volumes of wastes.

c. Operational Impacts

(1) Wastewater Treatment Facilities

As shown in **Table 4.21-1**, the proposed project would generate an average total of 243,203 gallons per day of wastewater that would be treated by the SCVJSS.[6] This EIR has calculated a worse-case average total of 263, 220 gallons per day of wastewater that would be treated by the SCVJSS (see **Appendix 4.21, Wastewater Data**, for detailed calculations). The County Sanitation District, utilizing their loading and unit rates, calculated project wastewater generation estimates.

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6 Written correspondence from the County Sanitation Districts of Los Angeles County, November 4, 2003.

Table 4.21-1
Project Wastewater Generation

Wastewater Generation	Million Gallons per Day
Existing Site Generation	0.00
Forecasted Project Generation	0.26
Existing Plus Project	0.26
Existing Available SCVJSS Capacity	1.80
Remaining Available Capacity	1.54

Source: County Sanitation Districts of Los Angeles Loadings and Unit Rates.

Project generated wastewater treatment has been calculated at 0.26 mgd. The available treatment capacity of the SCVJSS, not accounting for the 9 mgd expansion that will be completed in mid-2003, is 1.54 mgd, which is more than adequate to handle project related increases. No significant impacts on wastewater treatment facilities are anticipated with the proposed project.

(2) Wastewater Collection System

As proposed, the project would construct all local wastewater lines within the project boundaries. As currently planned, all wastewater lines that would be installed as a result of the project would connect into existing lines in both Bouquet Canyon Road and Soledad Canyon Road. Currently, the 24-inch trunk line in Bouquet Canyon Road has a capacity of 11.6 mgd and currently conveys 5.2 mgd. From these two connection points, the proposed wastewater lines would be installed, generally, in the planned roadway right-of-ways. From these locations, the planned wastewater line network would be able to adequately serve all planned land uses within the project site. All wastewater lines constructed as part of the proposed project would comply with standards identified by the City of Santa Clarita Transportation and Engineering Services Department, and would be sized to accommodate project-generated effluent. As discussed, existing sewer lines exist in the vicinity of the project site. More specifically, a 24-inch line is located in Bouquet Canyon Road at Espuella Drive and Newhall Ranch Road. Based on its conveyance capacity of 11.6 mgd and a current peak flow of approximately 5.2 mgd,[7] there is approximately 6.4 mgd of available capacity. Given that the proposed project would generate 0.26 mgd, the existing wastewater conveyance lines would have adequate capacity to convey wastewater flows to the treatment facilities. No significant impact would occur.

7 Ibid.

4. MITIGATION MEASURES ALREADY INCORPORATED INTO THE PROJECT

The project has not incorporated any mitigation measures into its design.

5. MITIGATION MEASURES PROPOSED BY THIS EIR

As discussed above in the impact analysis, the proposed project would not result in any significant impacts. However, as is standard operating procedure for development projects in the City of Santa Clarita, the following measures are required to be incorporated into a project's approval process and design.

4.10-1 Applicant shall obtain will-serve letter from County Sanitation Districts of Los Angeles County prior to issuance of building permits in order to verify that there is sufficient capacity in the receiving trunk lines and the reclamation plant to serve the project.

4.10-2 All local wastewater lines within the project boundaries are to be constructed by the applicant and dedicated to the City of Santa Clarita Transportation and Engineering Services Department.

4.10-3 Prior to issuance of building permits, the applicant shall pay wastewater connection fees.

6. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts of this project on regional wastewater disposal facilities, the amount and location of growth expected to occur in the SCVJSS sphere of influence in addition to that of the project was predicted. For this EIR, three separate cumulative development scenarios are analyzed to meet both the City and Santa Clarita Valley-wide CEQA requirements (see **Section 3.0, Cumulative Impact Analysis Methodology**, for a discussion on these requirements):

Scenario 1 Existing development within the combined service area for Districts 26 and 32 plus Development Monitoring System (DMS) projections plus the proposed project (termed "DMS Build-Out Scenario"),

Scenario 2 Buildout within the CLWA service area based on buildout projections for CLWA service area plus active pending General Plan and Area Plan amendment requests, plus the proposed project (termed "Santa Clarita Valley Cumulative Build-Out Scenario"), and

Scenario 3 Buildout of the CSDLAC Facilities Plan for the Santa Clarita Valley Joint Sewerage System.

As discussed, the City requires that, prior to new local sewer networks connecting to the district's existing sanitary sewer system, the applicant get assurance of adequate capacity in the receiving trunk sewers and receiving WRP from the jurisdictional County Sanitation District. If adequate capacity does not exist in the district's system to accommodate the additional flows, the receiving trunk sewers and/or WRP may need to be expanded prior to new local sewer connections to the CSDLAC system.

The mechanism used to fund district expansion projects is the districts' Connection Fee Program. Prior to the connection of the local sewer network to the CSDLAC system, all new users are required to pay for their fair share[8] of the district sewerage system expansion through a "connection fee". The fees fund treatment capacity expansion and trunk lines (on-site sewer mains are funded by the developer). The rate at which connections are made (and revenues accumulate) drives the rate at which periodic expansions of the system will be designed and built. However, as stated earlier, connection permits are not issued if there is not sufficient capacity. The expansion of district facilities may be immediate if adequate capacity does not exist to serve new users, or the expansion may occur in the future if it is determined that there is adequate capacity to serve new users. Therefore, the Connection Fee Program ensures that CSDLAC collection and treatment system capacity keeps pace with development. This program has successfully fulfilled its purpose in the past and is expected to continue to do so.

a. Scenario 1: DMS Build-Out Scenario

The first scenario (herein referred to as the "DMS Build-Out Scenario") entails buildout of only the subdivision and parcel maps listed in the County's DMS plus the proposed project. The City imposes the County's DMS while the City's infrastructure master plan is under development. The County DMS lists all pending, approved, and recorded projects involving land divisions located on unincorporated lands in the Santa Clarita Valley and within the City of Santa Clarita. For this analysis, combined data for the service areas of Sanitation Districts 26 and 32 are used and are summarized below in **Table 4.21-2, Scenario 1: DMS Build-Out Scenario Wastewater Generation for Districts 26 and 32**.

8 The fair share is equivalent to the cost of expanding the system to accommodate the anticipated sewage flows from the new users.

Table 4.21-2
Scenario 1: DMS Build-Out Scenario Wastewater Generation for Districts 26 and 32

Wastewater Generation	Million Gallons/Day
Existing Generation	18.30
Development Monitoring System[1]	26.20
Riverpark Project	0.26
Total Wastewater Generation	**44.76**
Total Existing SCVJSS Treatment Capacity	**19.10**
Remaining Capacity (generation minus capacity)	**(25.66)**

Information compiled by Impact Sciences, Inc. (February 2004)
[1] *Los Angeles County Regional Planning Department, Service Provider Report, October 2003.*

As shown, buildout of this scenario without the proposed project would result in an additional wastewater generation of 26.20 mgd, resulting in a total generation of 44.50 mgd. With the proposed project, total generation would increase by 0.26 mgd, to a total generation at DMS Buildout of 43.76 mgd for both Districts 26 and 32 combined. Given that the existing combined capacity for Districts 26 and 32 is 19.10 mgd and that their capacities are not anticipated to be expanded the additional 9.0 mgd (to 28.1 mgd) until mid 2003, or the additional 6 mgd (to 34.1 mgd) until 2015,[9] development of this scenario without treatment plant expansion would result in a significant wastewater treatment and disposal impact if all pending, approved, and recorded projects were to come on-line before the year 2003. It should also be noted that, even with the expected treatment capacity upgrades planned for mid 2003 and 2015, the total expanded capacity of 34.1 mgd would still be insufficient to accommodate the total wastewater generation expected at DMS buildout. This would result in a significant cumulative impact. However, as stated earlier, connection permits are not issued if there is not sufficient capacity and with the requirement that all new development projects obtain assurance of adequate capacity in the receiving trunk sewers and treatment plants, and with payment of the district's Connection Fee to assure continual expansion of district facilities, no significant impacts under this scenario are anticipated.

b. Scenario 2: Santa Clarita Valley Cumulative Build-Out Scenario

The second scenario of cumulative analysis for this EIR is the Santa Clarita Valley (SCV) Cumulative Build-Out Scenario which entails buildout of all lands under the current land use designations indicated in the Los Angeles County Santa Clarita Valley Area Plan and the City of Santa Clarita

9 Written correspondence from the County Sanitation Districts of Los Angeles County, October 1, 2002.

General Plan, plus the proposed project, plus all known active pending General Plan Amendment requests in the unincorporated area of Santa Clarita Valley and in the City of Santa Clarita.

A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.21-3, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario**.

Table 4.21-3
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario
(Project Option)

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Riverpark[1]
Single-Family	93,281 du	439 du	93,720 du
Multi-Family	48,013 du	744 du	48,757 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	19,859,030 sq. ft.	40,000 sq. ft.	19,899,030 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,953 students		279,340 students
High School	12,843 students		12,958 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,238.0 ac
Developed Parkland	493.3 ac	29 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

Utilizing loading factors provided by the CSDLAC, under this buildout scenario, there would be an additional wastewater generation of 59.3 mgd. See **Table 4.21-4, Wastewater Generation Impact Analysis – SCV Cumulative Build-Out Scenario**, for the detailed breakdown of SCV Cumulative Build-Out Scenario wastewater calculations.

Table 4.21-4
Wastewater Generation Impact Analysis –
SCV Cumulative Build-Out Scenario

Land Use	Generation (mgd)
Single Family	24.367
Multi-Family	9.508
Mobile Home	0.421
Commercial Retail	1.990
Hotel	0.259
Sit-Down Restaurant	0.284
Fast Food Restaurant	0.024
Movie Theater	3.713
Health Club	0.007
Car Dealership	0.041
Elem./Middle School	5.587
High School	0.259
College	0.599
Hospital	0.000
Library	0.009
Church	0.025
Day Care	0.039
Industrial Park	8.349
Business Park	1.685
Manufact./Warehouse	0.786
Utilities	0.029
Commercial Office	1.276
Medical Office	0.027
Golf Course	0.000
Developed Parkland	0.000
Undeveloped Parkland	0.000
Special Generator	0.000
Total	**59.292**

Source: Impact Sciences, Inc. (February 2004)

As previously discussed, the Saugus and Valencia WRPs would have a combined total projected 2015 capacity of approximately 34.1 mgd of wastewater. Using CSDLAC Loading Factors, buildout of the service areas of these two WRPs would increase the amount of wastewater generated in the two districts to 59.29 mgd, which is 25.19 mgd more than the proposed 2015 SCVJSS expansion of 34.1 mgd.

As stated earlier, numerous safeguards exist within the County's project approval process to ensure available treatment capacity for new development within the service areas of CSDLAC such as connection fees to pay for the full cost of facility expansions (including increasing water reclamation plant capacity). Although some amount of development in the Santa Clarita Valley would utilize on-site septic or package treatment facilities, it is expected that most of the buildout wastewater would be treated at CSDLAC plants. If buildout of the Valley was permitted to occur without provision of additional treatment capacity at either the Saugus and Valencia WRPs, or another site, significant wastewater disposal impacts would occur. However, with the safeguards in place, that ensure that no connections permits are issued if capacity is not available, no significant cumulative wastewater treatment impacts would occur.

c. Scenario 3: County Sanitation Districts of Los Angeles County Facilities Plan for the Santa Clarita Valley Joint Sewerage System

A third scenario evaluated in this cumulative impact analysis is buildout of the CSDLAC Facilities Plan for the Santa Clarita Valley Joint Sewerage System. The Facilities Plan, with a horizon year of 2015, estimates future wastewater generation for the probable future service area of County Sanitation Districts 26 and 32 in order to anticipate the future treatment capacity and wastewater conveyance needs of the SCVJSS. The CSDLAC Facilities Plan bases its projections for wastewater generation on the Southern California Association of Governments (SCAG) population projection for the year 2015 within the SCVJSS service area. The Facilities Plan also assumes that, the Newhall Ranch Specific Plan wastewater would be treated at the proposed Newhall Ranch WRP rather than by the SCVJSS. According to CSDLAC estimates, total flows projected from the Santa Clarita Valley in 2015, exclusive of those that would be treated at the proposed Newhall Ranch WRP, would be 34.2 mgd. The Facilities Plan anticipates that a treatment capacity of 34.2 mgd would be constructed by 2015.[10] The district does not expect to exceed a daily capacity of 34.1 mgd because connection permits will not be issued that would exceed this amount. As a result, cumulative impacts on the SCVJSS would not be significant under this scenario.

7. CUMULATIVE MITIGATION MEASURES

There are no additional mitigation measures needed for cumulative impacts than those listed above for the project.

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10 Telephone communication with Gary Yoshida, P.E., Section Head, Planning and Property Management, CSDLAC, Whittier, California, February 27, 1997.

8. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Specific Impacts

With implementation of the above identified mitigation measures, impacts associated with wastewater disposal would be reduced to below a level of significance. No unavoidable project specific significant impacts are anticipated.

b. Cumulative Impacts

As discussed above, as planned, there is not sufficient capacity to accommodate the proposed project development. However, as the project is subject to review to ensure sufficient wastewater capacity and through the payment of fair share wastewater fees, adequate wastewater treatment capacity would be constructed to serve cumulative development as required. Subsequently, no unavoidable significant cumulative impacts would occur.

5.0 UNAVOIDABLE SIGNIFICANT IMPACTS

1. PURPOSE

Section 15126(b) of the CEQA Guidelines requires an EIR to describe any significant impacts, which cannot be mitigated if the proposal is implemented. The discussion is also to include the identification of any significant impacts that can be mitigated, but not to less than significant levels.

2. AIR QUALITY

The increase in vehicle miles traveled (VMT), and vehicular air emissions caused by the proposed residential and non-residential uses of the project, would occur at a higher rate than the rate of growth associated with the expected on-site resident and employee population, not contributing to vehicle miles traveled. The identified mitigation measures would reduce the magnitude of construction-related and operation-related emissions to some extent. However, no feasible mitigation exists which would reduce these emissions to below the SCAQMD's recommended thresholds of significance. Therefore, the project and cumulative air quality impacts of the proposed residential and non-residential uses would be unavoidably significant.

3. TRAFFIC/ACCESS

At buildout, the proposed project development would generate 13,300 average daily trips. The Riverpark project is located within the Bouquet Canyon Bridge and Thoroughfare District. This district is considered a full-mitigation district, that is, traffic improvements identified in the district mitigate traffic impacts created by planned growth within the district.

Mitigation in the form of securing right-of-way for roadways out of the applicant's control improvements is proposed for four intersections and are considered currently infeasible:

Pre-Interim Year: (Occupancy of up to 500 units, without Newhall Ranch Road/Golden Valley Road Bridge)
- Valencia Boulevard/Magic Mountain Parkway

Interim Year: (Full-Buildout of Project)
- Valencia Boulevard/Magic Mountain Parkway
- Bouquet Canyon Road/Soledad Canyon Road
- Seco Canyon Road/Bouquet Canyon Road
- Whites Canyon Road/Soledad Canyon Road.

Mitigation that will reduce the project's impact to a level of insignificance is presently infeasible at the above-identified four intersections for the following reasons. First, the identified mitigation requires the acquisition of additional property for right-of-way, property not controlled by the applicant. Eminent domain may reasonably be seen as necessary to make the necessary acquisitions. Second, the mitigation would require relocation of on-site improvements on properties at the affected intersections. Finally, the mitigation could force the relocation of existing businesses at the affected intersections. Affected intersections are illustrated with photographs depicting right-of-way encroachment in **Appendix 4.3, Traffic and Circulation Report**.

The City has determined that the affected intersections are built-out and generally recognizes the infeasibility of additional improvements at such intersection, with the exception of the Bouquet Canyon Road/Soledad Canyon Road intersection. The Bouquet Canyon Road/Soledad Canyon Road intersection improvements are expected to occur in spring 2004. Upon completion of these improvements, this intersection will be considered built out. The City of Santa Clarita General Plan Circulation Element states, "Existing street improvements are, in some cases, not able to be modified to accommodate additional traffic or circulation movements due to right-of-way limitations and existing development." This language in the adopted General Plan acknowledges that the benefits of improvements at such intersections are not outweighed by a combination of the potential time and cost of actions that may necessary to acquire the property, the physical and economic costs to businesses at the affected intersections, and the social costs that could occur if businesses were forced to relocate in order to continue to operate.

Consequently, these improvements will not be able to be made and impacts would be unavoidable and significant and a statement of overriding considerations would be necessary.

The Bouquet Canyon Road/Soledad Canyon Road intersection is forecast as Level of Service (LOS) E, Whites Canyon Road/Soledad Canyon Road intersection as LOS D, Valencia Boulevard/Magic Mountain Parkway as LOS F, Seco Canyon Road/Bouquet Canyon Road as LOS E, which is considered a significant unmitigatable impact.

4. BIOLOGICAL RESOURCES

Project impacts result in a total net loss of 280 acres of wildlife habitat/natural open space as a result of conversion of undeveloped property to developed. Though over 400 acres of the site will remain as open space and some of the habitat can be restored and enhanced within remaining open space areas of the

site, and measures exist to replace the loss of some habitat, there will still be a net loss of habitat for wildlife and open space that cannot be replaced. This net loss represents a significant unavoidable impact.

Impacts to riverine habitat (as identified by the resource line) and associated riverbed are significant and unavoidable. While riparian vegetation can be planted and enhanced along preserved portions of the river, there will still be a net loss of 25.5 acres of riparian and riverbed habitat that ultimately cannot be replaced. This net loss represents a significant unavoidable impact.

Impacts to adjacent upland habitat within 100 feet of the riparian resource line are significant and unavoidable. While the 100-foot setback threshold will be upheld in several areas along the river, this threshold will not be met along substantial portions of the project. Those portions of the project site that provide less than 100 feet of preserve upland habitat adjacent to the resource line represent a significant unavoidable impact.

Because of the high biological value of riparian and wetland habitats and because of the continued loss of these habitats throughout the region, the proposed Riverpark project's contribution to this loss, although relatively small, is considered a significant cumulative impact, both to the vegetation community itself, as well as to its value to the riparian ecosystem. Continued development in the area also cumulatively contributes to the increase of humans and domestic animals. Because of the substantial amount of disturbance to sensitive resource areas posed by this increase, the project's contribution to this increase is also considered cumulatively significant. Although the proposed project minimizes impacts to the biological resources within the Significant Ecological Area (SEA), the net loss of habitat within the SEA, combined with net losses of SEA habitats from other projects, effectively reduces the overall size of the SEA and is considered a significant cumulative impact.

5. SOLID WASTE DISPOSAL

Land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory and political constraints. This is not to say, though, that alternative solid waste disposal technologies that could substantially reduce landfill disposal will not be developed and legislatively approved in the future; given the market forces that drive the solid waste industry, it is reasonable to assume that they will.

Until long-term landfill space or other disposal alternatives will be adequate to serve the existing and future uses for the foreseeable future, project and cumulative solid waste and hazardous waste impacts within the City will be considered unavoidably significant.

6. VISUAL RESOURCES

The project site is currently undeveloped, and consists primarily of vacant land. The visual resources in the project area include ridgelines that the City has classified as primary or secondary, other ridgelines, and the Santa Clara River. The Santa Clara River is the primary element of the proposed project that is identified as open space.

Views of the existing open space areas from each of the view corridors would be altered due to development of proposed residential and commercial uses. The images of the project's residential and commercial development, exposed bank stabilization, roadways, and other human activity along the Santa Clara River would, overall, be a significant change from the existing characteristics of the project site and consequently a significant and unavoidable impact.

As proposed, the project would result in conversion of the site from vacant land to a man-made urban environment. The proposed project would be most visible from Bouquet Canyon Road, Soledad Canyon Road, the extension of Newhall Ranch Road, the proposed and future extension of Santa Clarita Parkway and the existing residential, commercial, and business park land uses to the west, south and southeast of the project site. Incorporation of recommended mitigation measures would reduce project-level and cumulative visual impacts caused by converting the project site from an undeveloped to a developed urban area, but not to a level less than significant.

7. AGRICULTURAL RESOURCES

Implementation of the proposed project would result in the permanent loss of agricultural productivity on potentially 73 acres of prime agricultural land. However, as indicated previously, agricultural productivity on this farmland is already impaired. Conditions such as the continuing trend by the County to convert cultivated lands to urban uses and because the site is surrounded by development, make this land relatively more difficult and less economical to farm than larger parcels of land in the Valley and westerly in Ventura County. Even though there are existing impaired conditions under which this land is farmed, the agricultural impact of the project with respect to the loss of agricultural productivity is considered significant.

The cumulative conversion of prime agricultural land to urban uses constitutes a loss of an irreplaceable resource and is considered to be a significant cumulative impact. No feasible mitigation exists for this conversion and it would be an unavoidable significant impact.

8. NOISE

Construction of the proposed project would require site preparation, utility infrastructure installation, and roadway and building construction. Each of these construction phases typically involves the use of heavy-duty equipment, including pile drivers associated with the construction of Newhall Ranch Road/Golden Valley Road Bridge, all of which could expose on- and off-site residents, employees, and visitors to temporary noise impacts. Project construction noise would intermittently exceed the noise limits adopted for residential and commercial zones in Section 11.44.040 of the Noise Ordinance and the Noise and Land Use Compatibility Guidelines of the City's Noise Element, resulting in temporary, unavoidably significant noise impacts at nearby residences and commercial establishments.

After the project is built out, future traffic on the proposed Newhall Ranch Road, Santa Clarita Parkway, and Golden Valley Road extensions through the site would generate noise that would have a significant impact on project residents located adjacent or near to those roadways because the noise levels would exceed the City's normally acceptable noise standards as defined in the Noise and Land Use Compatibility Guidelines through its Noise Element and Noise Ordinance. Future traffic on Soledad Canyon Road would also have a significant noise impact on single-family residences within the project that would back to the Santa Clara River. Project-generated traffic would not cause increases in future noise levels at existing off-site sensitive receptors within the project study area to exceed 3.0 dB(A); however, since noise levels at most of these receptors already exceed normally acceptable levels, any increase in noise at these locations is considered significant and unavoidable.

Mitigation measures to ensure that operation-related noise would not exceed the Noise and Land Use Compatibility Guidelines noise standards adopted by the City—through its Noise Element and Noise Ordinance were investigated for this project; however, not all of them are deemed feasible because a large number of units would need to be eliminated from the project site and, consequently, the project as revised would fail to meet most of the project's objectives. Therefore, unavoidable on- and off-site significant noise impacts would result from the proposed project after buildout.

The Saugus Speedway facility, located to the southwest of the site and approximately 1,200 feet from the nearest proposed residential lot on the site, is a special event facility used for exhibitions, swap meets, and special events, including car racing. Many of these activities occur at night. Noise from

these activities may intermittently exceed the Noise and Land Use Compatibility Guidelines City noise standards for residential uses at the site and could result in temporary significant noise impacts on project residents. No mitigation exists that would reduce these potentially significant temporary, intermittent noise impacts to less than significant; nonetheless, mitigation is included in this impact analysis to inform future residents of Riverpark of the activities that can potentially occur at the Saugus Speedway facility and that these activities may be audible on a temporary and intermittent basis. Informing the residents of the potential temporary significant noise impacts would not reduce the impact to less than significant and, whenever the City's noise threshold would be exceeded, it would result in a significant impact to project residents under the City's thresholds of significance. There is no feasible mitigation for these impacts and they would be unavoidably significant should they occur.

The proposed project would result in a significant and unavoidable cumulative noise impact on existing sensitive receptors.

6.0 PROJECT ALTERNATIVES

1. PURPOSE

The purpose of the Alternatives Section of this EIR is to assess a range of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives [CEQA Guidelines § 15126 (a)]. CEQA also states that "…the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." The Guidelines state that the discussion of alternatives should be governed by the "rule of reason." Generally, significant effects of an alternative shall be discussed, but in less detail than the proposed project, and should provide decision-makers perspective as well as a reasoned choice.

This section addresses four alternatives to the proposed project. Specific alternatives include:

- Alternative 1, the No Project Alternative. This alternative is required by the CEQA Guidelines and it compares the impacts that might occur if the site is left in its present condition with those that would be generated by the project as proposed. A subsection of this alternative also includes the project that would be allowed under the City's General Plan. All development would be to the standards allowed by the City of Santa Clarita General Plan and applicable codes and regulations, including but not limited to street and bridge widths. The purpose of a "no project" alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

- Alternative 2, Santa Clara River Reduced Bank Stabilization Alternative. This alternative would implement a setback of the Q-cap 50 year line or the upland preserve/buffer setback from the resource line—whichever is more restrictive in order to preserve the entire river corridor.

- Alternative 3, Ridgeline Preservation Alternative. This alternative would preserve the ridgelines designated by the City as secondary. Implementation of this alternative would remove 76 dwelling units in Area B, 55 units in Area C and 27 units in Area D. All other planning areas remain the same as the proposed project and the only encroachment allowed would be for the construction of Newhall Ranch Road.

- Alternative 4, Noise/Development Standards Alternative. The purpose of this alternative is to ensure that all residential units meet and satisfy the City Noise Ordinance requirements and meet all of the Residential Medium (RM) development standards. As proposed, the project locates some residential units in noise sensitive locations that exceed established noise standards.

- Alternative 5, Deletion of Santa Clarita Parkway Alternative. This alternative would remove the connection of the Santa Clarita Parkway from Soledad Canyon Road to Newhall Ranch Road through the project site. In turn this would increase the number of single-family dwelling units in Area A2 by 9 units. All other planning areas remain unchanged when compared to the proposed project.

Service provider calculations for each of the alternatives are provided in **Appendix 6.0**. Generation demand for services and utilities vary given the type and number (mix) of residential units. The mix of residential units, which has variable generation, figures dependent upon the type of housing unit (single or multi family). Consequently, all services and utilities estimates were calculated individually to give each alternative a worst-case analysis.

2. ALTERNATIVE 1 — No Project Alternative

Under the No Project Alternative, the project site would remain in its present condition and would be used for limited agricultural purposes and a contractor's staging area open space. As described in **Section 2.0, Environmental and Regulatory Setting**, a portion of the site is, or has been, used for limited agricultural activities, water wells, and utility easements, is in an otherwise disturbed state (contractor staging area) or open space. Under the No Project Alternative, the potential project-related impacts described in **Section 4.0, Environmental Impact Analyses**, would not occur.

The No Project Alternative would maintain the existing amounts of sedimentation/erosion. The No Project Alternative would allow the project site to remain in its current state, thereby, allowing continued sedimentation/erosion of the site. Also, in its current state there is no flood protection, except in limited areas, such as adjacent to Bouquet Canyon Road, which would result in greater impacts when compared to the proposed project.

Because of the limited agricultural activities, the project site presently has little true "upland" habitat; the proposed project includes an area, termed the "upland preserve zone," to provide for such habitat. In relation to the proposed project, this alternative would have less demand on public services and utilities (i.e., water service, wastewater, solid waste, education, libraries, parks and recreation, fire and police protection, gas and electricity) and floodplain modification. Project viewsheds would remain the same as the existing condition. The alternative would not generate the traffic, air emissions and noise emissions associated with the proposed project. This alternative would, however, result in the same amount of storm runoff and sedimentation that is occurring today. It would continue the use of fertilizers, herbicides, and pesticides for the limited agricultural activities, which would be carried, into riparian areas through sedimentation/runoff. On balance, the No Project Alternative is considered to be the "environmentally superior" alternative since most of the environmental effects of the project will not occur, although this alternative is less desirable in terms of sedimentation/runoff and effects of agricultural operations, and does not provide the upland habitat, which the proposed project includes.

A subsection of this alternative includes a project that would be allowed under the City's General Plan land use designations. All development would be constructed to the standards allowed by the City of Santa Clarita General Plan and applicable codes and regulations, including but not limited to street and bridge widths. Development of the project area under the City of Santa Clarita General Plan would allow a range of 3,247,903-13,686,552 square feet of commercial uses and between 3,030-15,735 dwelling units. (See **Figure 6.0-1, No Project, Buildout According to the City of Santa Clarita General Plan**.)

Like the proposed project, development of the City General Plan land use designations would reduce the amount of sedimentation/erosion below existing levels as a result of covering the site with landscaping and impervious surfaces. This subset alternative would require flood protection similar to the proposed project.

Given the amount of commercial square footage and residential units allowed under the City's General Plan, it is doubtful whether an "upland preserve zone" could be accommodated. In relation to the proposed project, this subset alternative would have more demand on public services and utilities (i.e., water service, wastewater, solid waste, education, libraries, floodplain modifications, parks and recreation, fire and police protection, gas and electricity). Project viewsheds would be more intensively developed given the large amount of commercial development allowed on the site. This alternative would generate more traffic (81,089 trips compared to 13,274 project trips) and, consequently, more air and noise impacts.

As discussed above, the purpose of the alternatives Section within the EIR is to provide for alternatives, which would lessen any of the significant impacts of the project. Implementation of the City's General Plan would increase significant impacts in all of the areas discussed above and is not preferred environmentally over the proposed project.

3. ALTERNATIVE 2 — Santa Clara River Reduced Bank Stabilization Alternative

As shown on **Figure 6.0-2**, this alternative would implement a setback of the Q-cap 50 year line or the upland preserve/buffer setback from the resource line—whichever is more restrictive in order to preserve the river corridor.

Under this alternative, Planning Area A1 would lose 54 single-family dwelling units, Planning Area A2 would lose 24 units, 1 acre of commercial (approximately 13,000 square feet of commercial use), 4 acres of active parkland would be lost and one additional oak tree would be removed. Santa Clarita Parkway would still be included in the site plan design under this alternative scenario.

The following discussion compares the potential environmental impact of this alternative to those associated with implementation of the proposed project.

a. Geotechnical Hazards

Implementation of this alternative would result in less grading due to a reduced development area (See **Figure 6.0-2**). The identified Alquist-Priolo Fault zone would subject this alternative to the same seismic constraints as that of the proposed project. Therefore, the geotechnical impact potential would be less than that of the proposed project. From a geotechnical standpoint, Alternative 2 would be preferred, when compared to the proposed project.

b. Flood

Implementation of this alternative would result in slightly less storm runoff and more infiltration than the proposed project because less area would be developed resulting in more open area. Also, it is likely the irrigation needs of Alternative 2 would be less than the proposed project due to less landscaped acreage. The urban runoff that is generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. This runoff would require similar treatment before it is discharged into this watercourse in compliance with Regional Water Quality Control Board standards. This alternative would also reduce bank stabilization on site. Bank stabilization would only be necessary in areas to protect private property from erosion. Nevertheless, this alternative would be preferred from a flood perspective over the proposed project because the amount of runoff reaching the river would be less than the proposed project.

c. Traffic and Access

Implementation of Alternative 2 would result in a reduced amount of traffic when compared to the proposed project. Specifically, using ITE Trip Generation Manual factors, average daily trip generation for the proposed project is estimated at 13,274 trips. Alternative 2 would generate 11,676 trips, resulting in a reduction of 1,598 trips when compared to the proposed project. Because there would be less traffic generated with this alternative, from a traffic perspective, this alternative would be preferred over the proposed project.

Legend:

Developed Area

NOT TO SCALE

FIGURE **6.0-1**

No Project, Buildout According to City of Santa Clarita General Plan

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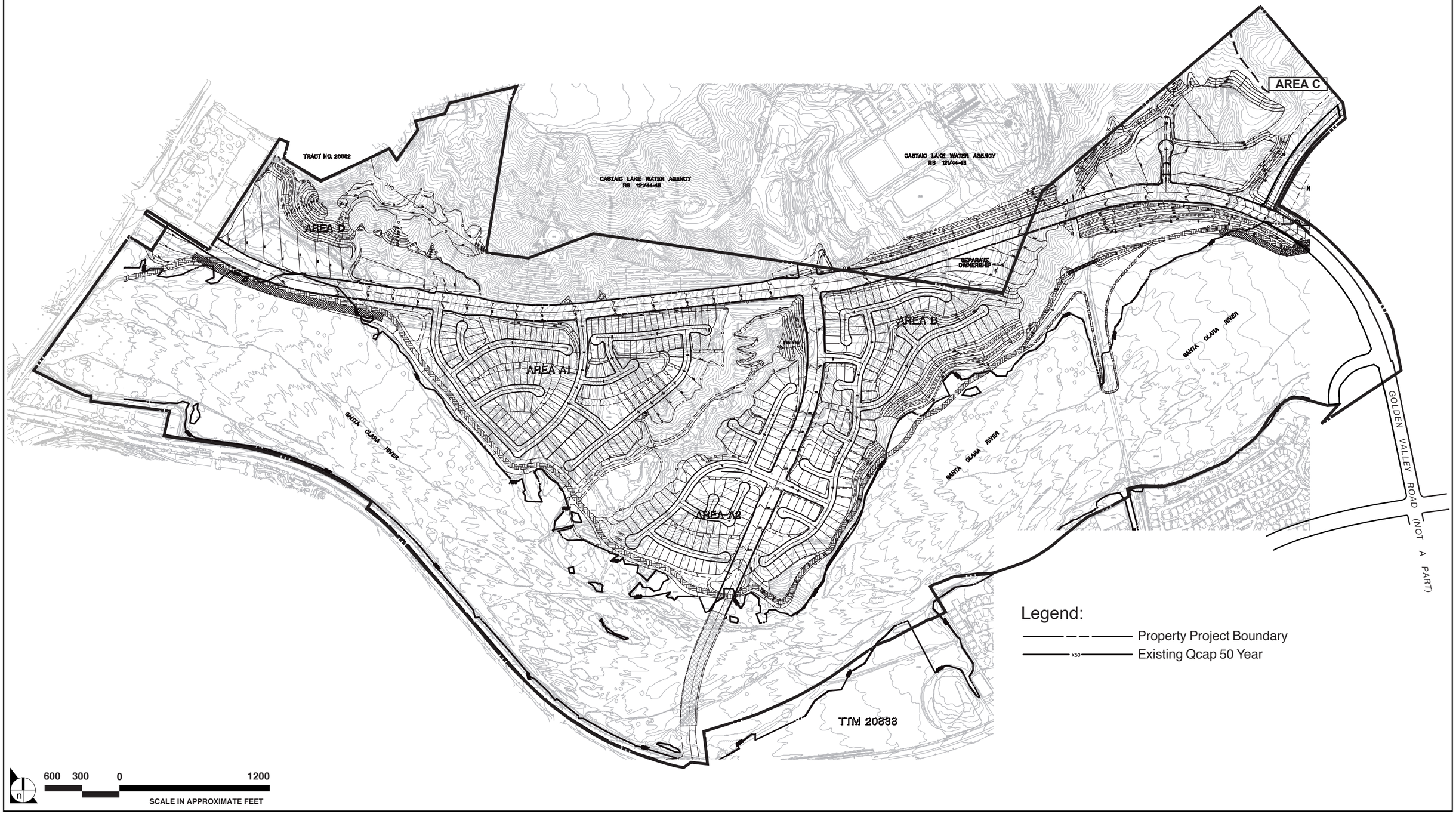

SOURCE: PSOMAS 2003

FIGURE **6.0-2**

Santa Clara River Reduced Bank Stabilization Alternative

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d. Air Quality

As grading requirements are expected to be less for this alternative, short-term grading and construction-related air quality impacts are expected to be reduced to those of the proposed project. As shown in **Table 6.0-1, Estimated Alternative 2 Operational Emissions**, long-term (i.e., operational) impacts for this alternative would also be reduced when compared to the proposed project as the number of operational traffic trips would be reduced because of 78 fewer residential units, less commercial acreage and less parkland. Consequently, this alternative would be preferred over the proposed project.

Table 6.0-1
Estimated Alternative 2 Operational Emissions

	Emissions in Pounds per Day[1]				
Emissions Source	**CO**	**VOC**	**NO_x**	**SO_x**	**PM_{10}**
Summertime Emissions					
Mobile Sources	1,138.55	97.01	105.44	0.73	110.47
Area Sources					
Natural Gas	3.92	0.70	9.24	--	0.02
Wood Stoves	0	0	0	0	0
Fire Places	0	0	0	0	0
Landscape Maintenance	3.64	0.40	0.06	0.09	0.01
Consumer Products	--	54.21	--	--	--
Area Source Subtotal	7.55	55.31	9.31	0.09	0.02
Alternative Mobile and Area Source Totals:	1,146.10	152.21	114.75	0.82	110.50
Project Mobile and Area Source Totals:	1,494.52	195.16	151.94	1.46	111.91
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO
Wintertime Emissions					
Mobile Sources	1,082.56	89.92	152.45	0.60	110.47
Area Sources					
Natural Gas	3.92	0.70	9.24	--	0.02
Wood Stoves	0	0	0	0	0
Fire Places	1,368.96	1,241.06	14.09	2.17	187.53
Landscape Maintenance	0	0	0	0	0
Consumer Products	--	54.21	--	--	--
Area Source Subtotal	1,372.88	1,295.97	23.33	2.17	187.53
Alternative Mobile and Area Source Totals:	2,455.44	1,385.88	175.78	2.76	298.00
Project Mobile and Area Source Totals:	5,410.35	1,846.46	275.06	11.72	726.93
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	YES

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 6.0****.*
[1] *Emissions assume construction of sidewalks and/or pedestrian paths; direct pedestrian connections; street lighting; pedestrian signalization and signage; bike lanes/paths connecting to the bikeway system; no wood burning stoves; and residential and commercial insulation beyond Title 24 requirements.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

Both the proposed project and this alternative would result in SCAQMD air quality thresholds being exceeded in the summertime for CO, VOC and NO_x. Wintertime emissions would result in air quality thresholds being exceeded for CO, VOC, NO_x and PM_{10}. However, fewer emissions would be associated with this alternative. Consequently, based on this information, from an air quality standpoint, this alternative is preferred over the proposed project.

e. Noise

Because of the reduced number of vehicle trip reduction associated with this alternative (both construction and operational), there would be less noise impacts as compared to the proposed project on and in the vicinity of the site. Although there would be less noise impacts, noise impacts that exceed the state guidelines to residential units would remain in Areas A1, A2 and B. However, from an overall noise standpoint, this alternative would be preferred over the proposed project because of less traffic generated noise sources; however, the number of residential lots on site that exceed the City/state guidelines after mitigation does not change.

f. Biota

Given that there would be more open area because of avoidance of the Q-cap 50 year line, there would be a reduction in the direct biological impacts with this alternative compared to the proposed project with the exception of the loss of an additional oak tree. This alternative would create additional open area near the upland preserve zone, which could provide some greater biological benefit than the proposed project. Because the footprint of Alternative 2 would be less than the proposed project, and an additional open area would be located adjacent to the upland preserve zone, Alternative 2 is preferred to the proposed project.

g. Cultural Resources

Grading associated with this alternative would be reduced when compared with the proposed project due to a smaller development footprint. Consequently, potential cultural resource impacts associated with Alternative 2 would be the same as that of the proposed project.

h. Visual Resources

Even with the reduction of 78 total dwelling units and additional open space in Planning Areas A1 and A2, the overall visual perspective of the site would not be perceived substantially different when compared to the proposed project. Presently, the site is generally open space over a majority of the site and the construction of 1,108 units on the site would nonetheless represent a demonstrable negative aesthetic effect like the proposed project. Based on this information, it can be concluded, from a visual resources standpoint, that this alternative would be similar to the proposed project.

i. Water Service

The water demand for Alternative 2 would be 604.29 acre feet per year (AFY), which is 93.08 AFY less than the proposed project due to reduction of residential units and commercial square footage. Consequently, this alternative would be preferred over the proposed project.

j. Wastewater Disposal

Wastewater generation for this alternative would be approximately 0.24 gallons per day (mgd), which would result in a decrease of 0.02 mgd when compared to the proposed project. Alternative 2 would, as a result, be preferred over the proposed project.

k. Solid Waste Disposal

The project would generate 1,862 tons of solid waste per year. In comparison, Alternative 2 would generate 1,680 tons of solid waste per year resulting in a decrease of 182 tons per year of solid waste generated compared to the proposed project. Less waste is generated due to reduced construction waste, reduced population and the like. This alternative would, therefore, be preferred over the proposed project.

l. Education

Alternative 2 would generate 427 students compared to the 481 students that would be generated by the project, resulting in 54 fewer students generated. Alternative 2 is preferred with respect to school impacts, because the alternative would generate fewer students than the proposed project even though there will be less funding.

m. Library Services

Based on County Library planning standards of 0.35 square feet of library facilities per capita and 2 books per capita, Alternative 2 would require a total of 1,167 square feet of library facilities with 6,670 additional volumes of books for the library system's collection. This results in a decrease in demand of 98 square feet of library facilities and 560 library books when compared to the proposed project. Because the impacts on library services are less than the proposed project, Alternative 2 would be preferred.

n. Fire Protection

Because the number of housing units and square footage of commercial uses are decreased with this alternative, the number of fire protection service calls to the project site would also be reduced. Based on this information, this alternative would be preferred over the proposed project.

o. Parks and Recreation

Under City (and Quimby Act) requirements, development of Alternative 2 would require the applicant to provide 10.01 acres of dedicated parkland, a reduction of 0.71 acres when compared to the proposed project. There would also be an increase in passive open area because of the reduction of residential uses near the upland preserve zone. This alternative will result in a greater amount of passive open space, which could become a maintenance burden on the City. If the City would want to retain all of the active open space similar to that proposed for the project, this alternative would require encroachment further into the canyon and the possible take of additional oak trees. However, due to the loss of active open space and because passive open space has use and access limitations, this alternative is not preferred to the proposed project.

p. Population/Housing/Employment

Population/housing/employment impacts under this alternative would generate a residential population of 3,386, which is 229 persons less than the proposed project. Employment opportunities would be slightly reduced from the proposed project, which estimated an employment generation figure of 94. Alternative 2 would generate a slightly reduced employment generation figure of 75, resulting in a loss of 19 employment opportunities. This alternative, when compared to the proposed project, would create fewer jobs in the employment poor Santa Clarita Valley and so would not go as far in meeting the

long-term housing needs projected by the City and SCAG. Consequently, Alternative 2 is not preferred over the proposed project.

q. Agricultural Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production, but less than the proposed project due to a smaller development footprint. From a practical standpoint it would be difficult to cost effectively manage and farm small discontinuous agricultural areas. However, under Alternative 2, area that would be dedicated to upland preserve would most likely not be actively farmed given its biological constraints. Consequently, based on this information, from an agricultural resources standpoint, Alternative 2 would be the same as the proposed project.

r. Sheriff Services

Based upon the dwelling unit factor of 3.056, the proposed project would result in a resident population of approximately 3,615 persons. Alternative 2 would result in a population of 3,386. Given the Sheriff Department ratio of 1 officer per 1,000 population, this alternative would require the services of 3 officers, which is one officer less than the proposed project. Based on this information, from a sheriff services standpoint Alternative 2 would be less than the proposed project.

s. Human Made Hazards

Development of the project site under this alternative would be reduced when compared with the proposed project due to a smaller development footprint. Based on this information and a general reduction in exposure to human hazards, from a human made hazards standpoint, this alternative would be preferred over the proposed project.

t. Biota/Hydrology

Development of the project site under this alternative would create slightly less increase in flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, given that Alternative 2 creates slightly less impacts given a reduced development pad, it can be concluded that this alternative would be preferred over the proposed project.

u. Conclusion

Generally, under Alternative 2, impacts associated with geotechnical resources, flood, traffic/access, air quality, noise, biota, visual, water, wastewater, solid waste, education, library services, fire protection, human made hazards and sheriff demands, floodplain modifications would be reduced when compared to the proposed project. This alternative would have greater impacts associated with population/housing/employment and parks and recreation. Agricultural resources, cultural resources and sheriff services would have a similar impact when compared to the proposed project. A summary comparison of impacts associated with the project alternatives is provided in **Table 6.0-5**, **Alternatives Impact Comparison Matrix**. Furthermore, Alternative 2 does not meet many of the project objectives. Specific objectives not fully met or impeded to some extent with Alternative 2 are listed below.

- Provide a substantial number of new housing units to accommodate projected regional growth in a location, which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors and major employment areas.

  This objective is not met because this alternative substantially reduces the number of housing units thereby accommodating less housing for regional growth projections.

- Provide for adequate flood protection, including bank stabilization where necessary, for the safety of the public and property.

  Alternative 2 would not provide for flood protection or bank stabilization and does not meet the intent of this objective.

- Develop the site to include housing of varying types, accommodating a range of incomes and commercial opportunities for the residents of the project as well as the local area.

  This objective is not met because Alternative 2 reduces the number of dwelling units proposed by 78, thereby reducing the housing options available at the project site.

- Provide a neighborhood park and improvements, which satisfy park dedication requirements and meet the recreational needs of local residents including both active and passive parkland.

  This alternative would reduce the number of residential units on the site. Consequently, smaller parkland dedication would be requiring which in turn would reduce recreational opportunities.

- Provide a range of active/passive recreational opportunities.

  Because this alternative would allow for substantially fewer housing units on the site, there would consequently be less parkland provided, diminishing the amount of active and passive recreational opportunities provided.

On the basis of environmental impacts alone, this alternative is environmentally superior to the proposed project. This alternative would meet the project objectives of a balanced community providing for residential, commercial and recreational opportunities, although it would provide somewhat fewer housing opportunities to meet the anticipated demand for housing expected for the area there would

have to be greater or more dense development in other areas, which would likely create the same impacts as meeting such development on the project site. However, Alternative 2 would too narrowly limits the housing opportunities on the site and it would not provide as many housing opportunities as the proposed project.

4. ALTERNATIVE 3 — Ridgeline Preservation Alternative

This alternative, as is shown on **Figure 6.0-3, Ridgeline Protection Alternative,** would preserve the ridgelines designated by the City as secondary. Implementation of this alternative would remove 76 dwelling units in Area B, 55 units in Area C and 27 units in Area D. All other planning areas remain the same as the proposed project and the only encroachment allowed would be for the construction of Newhall Ranch Road.

The following discussion compares the potential environmental impact of this alternative to those associated with implementation of the proposed project.

a. Geotechnical Hazards

Implementation of this alternative would result in less grading and would consequently be expected to result in a reduction in geotechnical impacts. The identified Alquist-Priolo Fault zone would subject this alternative to the same seismic constraints as that of the proposed project. From a geotechnical standpoint, Alternative 3 would be preferred over the proposed project.

b. Flood

Implementation of this alternative would result in less storm runoff and more water infiltration than the proposed project because there will be less residential development area and more open area. Also, it is likely the irrigation needs of Alternative 3 would be less than the proposed project due to less landscaped acreage. The urban runoff that is generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. This runoff would require similar treatment before it is discharged into this watercourse in compliance with Regional Water Quality Control Board standards. Nevertheless, this alternative would be preferred from a Flood perspective over the proposed project because amount of drainage reaching the river would be less than the proposed project.

c. Traffic and Access

Implementation of Alternative 3 would result in a decrease in project-generated traffic due to the reduction in residential units. Specifically, using ITE Trip Generation Manual factors, average daily trip generation on the project site would decrease from 13,274 trips to 11,956 trips (a decrease of 1,318 trips). Alternative 3 would be preferred to the proposed project with respect to traffic and circulation impacts because of the actual reduction in the number of vehicle trips generated.

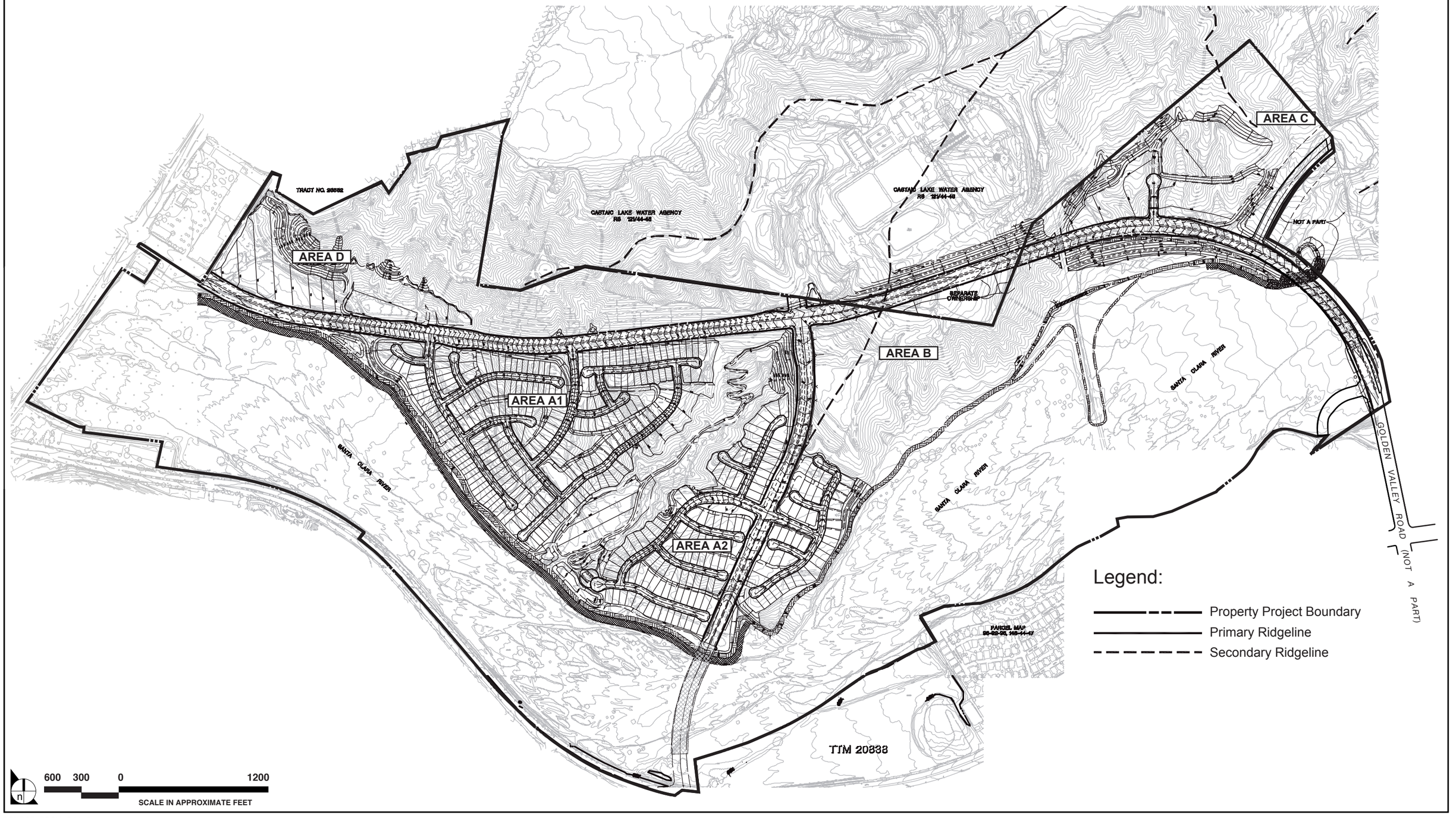
d. Air Quality

As grading requirements are expected to be less for this alternative, short-term grading and construction-related air quality impacts are expected to be less than those of the proposed project.

Table 6.0-2
Estimated Alternative 3 Operational Emissions

	Emissions in Pounds per Day[1]				
Emissions Source	**CO**	**VOC**	**NO_x**	**SO_x**	**PM_{10}**
Summertime Emissions					
Mobile Sources	1,182.38	98.98	110.02	0.76	115.06
Area Sources					
Natural Gas	3.73	0.67	8.81	--	0.02
Wood Stoves	0	0	0	0	0
Fire Places	0	0	0	0	0
Landscape Maintenance	3.63	0.40	0.06	0.09	0.01
Consumer Products	--		--	--	--
Area Source Subtotal	7.35	51.21	8.88	0.09	0.02
Alternative Mobile and Area Source Totals:	1,189.73	150.16	118.89	0.85	115.09
Project Mobile and Area Source Totals:	1,494.52	195.16	151.94	1.46	111.91
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO
Wintertime Emissions					
Mobile Sources	1,126.99	93.42	159.02	0.62	115.06
Area Sources					
Natural Gas	3.73	0.67	8.81	--	0.02
Wood Stoves	0	0	0	0	0
Fire Places	1,266.41	1,148.09	13.04	2.01	173.47
Landscape Maintenance	0	0	0	0	0
Consumer Products	--	50.15	--	--	--
Area Source Subtotal	1,270.14	1,198.91	21.85	2.01	173.48
Alternative Mobile and Area Source Totals:	2,397.12	1,292.33	180.87	2.62	288.55
Project Mobile and Area Source Totals:	5,410.35	1,846.46	275.06	11.72	726.93
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	YES

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 6.0****.*
[1] *Emissions assume construction of sidewalks and/or pedestrian paths; direct pedestrian connections; street lighting; pedestrian signalization and signage; bike lanes/paths connecting to the bikeway system; no wood burning stoves; and residential and commercial insulation beyond Title 24 requirements.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.



SOURCE: PSOMAS 2003

FIGURE **6.0-3**

Ridgeline Protection Alternative

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As shown in **Table 6.0-2, Estimated Alternative 3 Operational Emissions,** long-term (i.e., operational) impacts for this alternative would also be reduced when compared with the proposed project. The decrease in air quality impacts would primarily occur due to the decrease in the number of traffic trips. Both the proposed project and this alternative would result in SCAQMD summertime air quality thresholds being exceeded for CO, NO_x and VOC. Additionally, both the project and alternative would exceed wintertime air quality threshold standards for CO, VOC, NO_x and PM_{10}. Nevertheless, Alternative 3 would be preferred over the proposed project because the magnitude of air quality impacts would be greater with the proposed project.

e. Noise

Because of the vehicle trip reduction associated with this alternative, there would be a reduction in project-generated noise impacts on and in the vicinity of the site. The noise impacts of this alternative would not be consistent with the City/state Noise Compatibility Guidelines, similar to the proposed project. Therefore, Alternative 3 would be preferred over the proposed project from a noise perspective, given the reduction in the magnitude of impacts.

f. Biota

There would be more open area because of the reduction in the number of residential units. Consequently there may be a reduction in the impacts to biota under this alternative compared to the proposed project. This alternative would provide additional open area in Area B near the upland preserve zone, which could provide greater biological benefit than the proposed project. Because the footprint of the Alternative 3 would be less that the proposed project, and additional open area could be located adjacent to the upland preserve zone, Alternative 3 is preferred to the proposed project.

g. Cultural Resources

Grading associated with this alternative would be reduced when compared with the proposed project due to a smaller development footprint. Consequently, potential cultural resource impacts associated with Alternative 3 would be less than that of the proposed project.

h. Visual Resources

The secondary ridgelines on the site are not visually prominent. Consequently, their preservation would not be highly noticeable. However, due to the reduction in the number of residential units in

Area B, viewsheds may be more 'open' and development may appear less visually dense. Based on this information, it can be concluded, from a visual resources standpoint, that this alternative would be preferred over the proposed project.

i. Water Service

The water demand for this alternative would be 588.99 AFY, which is 108.38 AFY less than the proposed project. Consequently, this alternative would be preferred over the proposed project.

j. Wastewater Disposal

Wastewater generation for this alternative would be 0.23 mgd, which is 0.03 mgd less than the proposed project. This alternative would, therefore, be preferred over the proposed project.

k. Solid Waste Disposal

The project would generate 1,862 tons of solid waste per year. In comparison, Alternative 3 would generate 1,614 tons of solid waste per year, resulting in a decrease of 248 tons per year of solid waste generated compared to the proposed project. This alternative would, therefore, be preferred over the proposed project.

l. Education

Alternative 3 would generate 408 students compared to the 481 students that would be generated by the project due to the reduction in units. Alternative 3 is preferred with respect to school impacts because the alternative would generate 73 fewer students than would the proposed project.

m. Library Services

This alternative would create a resident population of 3,137 persons. The proposed project would create a resident population of 3,615 persons. Based on County Library planning standards of 0.35 square feet of library facilities per capita and 2 books per capita, Alternative 3 would require a total of 1,096 square feet of library facilities with 6,265 additional volumes of books for the library system's collection. This demand is 169 fewer square feet of library facilities and 965 fewer volumes of books than the proposed project. Consequently, the demand for library services of Alternative 3 is less than the proposed project and is preferred over the proposed project.

n. Fire Protection

This alternative would result in a smaller resident population on the project site than would occur under the proposed project due to the reduction in the number of units. There would, however, be more open space that would present a fire hazard to residents. However, because there would be fewer calls made to the Fire Department than under the proposed project this alternative would be preferred.

o. Parks and Recreation

Under County (and Quimby Act) requirements, development of the project would require the applicant to provide 10.72 acres of dedicated parkland. Development under this alternative would require 1.32 fewer acres of parkland than the proposed project. This alternative will result in a greater amount of passive open space, which could become a maintenance burden on the City. Nevertheless, this alternative would result in fewer demands for parkland and would be preferred over the proposed project.

p. Population/Housing/Employment

Development under this alternative would result in the construction of 1,025 dwelling units and 39,000 commercial square feet, resulting in a resident population of 3,132, which is a decrease of 483 persons as compared to the proposed project. Alternative 3 would generate the same number of employees, as the commercial area would not change with the alternative. SCAG projects that northern Los Angeles County and the City of Santa Clarita will have a substantially greater need for housing in the future. This alternative, when compared to the proposed project, would create the same number of jobs in the Santa Clarita Valley, but would not go as far in meeting the long-term housing needs projected by the City and SCAG. Consequently, Alternative 3 is not preferred over the proposed project.

q. Agricultural Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production, but potentially less than the proposed project due to a smaller development footprint. However, from a practical standpoint it would be difficult to cost effectively manage and farm such small discontinuous agricultural areas so it is unlikely they would actually continue in agricultural use. However, based on this information, from an agricultural resources standpoint, this alternative would be similar to the proposed project.

r. Sheriff Services

Based upon the dwelling unit factor of 3.06 utilized by the Sheriff's Department, Alternative 3 would result in a resident population of 3,132 persons. Given the Sheriff Department ratio of 1 officer per 1,000 population, this alternative would require the services of 3 officers, which is the same as the proposed project. Based on this information, this alternative would have similar impacts as the proposed project.

s. Human Made Hazards

Development of the project site under this alternative would be reduced when compared with the proposed project due to a smaller development footprint. Based on this information, from a human made hazards standpoint, this alternative would be preferred over the proposed project.

t. Biota/Hydrology

Development of the project site under this alternative would create slightly less increase in flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, given that Alternative 3 creates slightly less impacts given a reduced development pad, it can be concluded that this alternative would be preferred over the proposed project.

u. Conclusion

Impacts under this alternative associated with geotechnical resources, flood, traffic/access, air quality, noise, biota, cultural resources, visual resources, water, wastewater, solid waste, education, library services and fire, parks and recreation, human made hazards and floodplain modifications would be less than the proposed project. Impacts to agricultural resources and sheriff services would be similar when compared to the proposed project. Impacts regarding population/housing/employment would be greater than the proposed project. A summary comparison of impacts associated with the project alternatives is provided in **Table 6.0-5, Alternatives Impact Comparison Matrix**. Furthermore, Alternative 3 does not meet many of the project objectives. Specific objectives not fully met or impeded to some extent with Alternative 3 are listed below.

- Provide a substantial number of new housing units to accommodate projected regional growth in a location, which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors and major employment areas.

  This objective is not met because the project removes 127 dwelling units, which are needed to fulfill housing goals in the region.

- Provide for adequate flood protection, including bank stabilization where necessary, for the safety of the public and property.

  This objective is not met because with this alternative toe stabilization will not be provided adjacent to Planning Area B.

- Develop the site to include housing of varying types, accommodating a range of incomes and commercial opportunities for the residents of the project as well as the local area.

  This objective is not met because the project removes 127 dwelling units (both single and multi-family), which are needed to fulfill housing goals in the region.

- Provide a neighborhood park and improvements, which satisfy park dedication requirements and meet the recreational needs of local residents including both active and passive parkland.

  This alternative would reduce the number of residential units on the site. Consequently, smaller parkland dedication would be requiring which in turn would reduce recreational opportunities.

- Provide a range of active/passive recreational opportunities.

  Because this alternative would reduce the number of residential units on the site, the area required for parkland dedication would be smaller, thereby, reducing the range of active and passive recreational opportunities.

On the basis of environmental impacts alone, this alternative is environmentally superior to the proposed project. Implementation of this alternative would remove 76 dwelling units in Area B, 55 units in Area C and 27 units in Area D. The alternative would still provide varied residential, commercial and recreational opportunities. However, the ridgelines under protection in this alternative are not prominent and have been previously compromised by other development activities. However, Alternative 3 would too narrowly limit the housing opportunities on the site and it would not provide as many housing opportunities as the proposed project.

5. ALTERNATIVE 4 — Noise/Development Standards

The purpose of this alternative, as shown in **Figure 6.0-4, Noise/Development Standards,** is to ensure that all residential units meet and satisfy the City/state Noise Compatibility Guidelines and the development standards of the Residential Medium zone. The alternative also includes compliance with all of the Residential Medium (RM) standards. The project proposes to vary from these standards to allow for a maximum 20 percent reduction in the minimum lot size and lot width for lots within

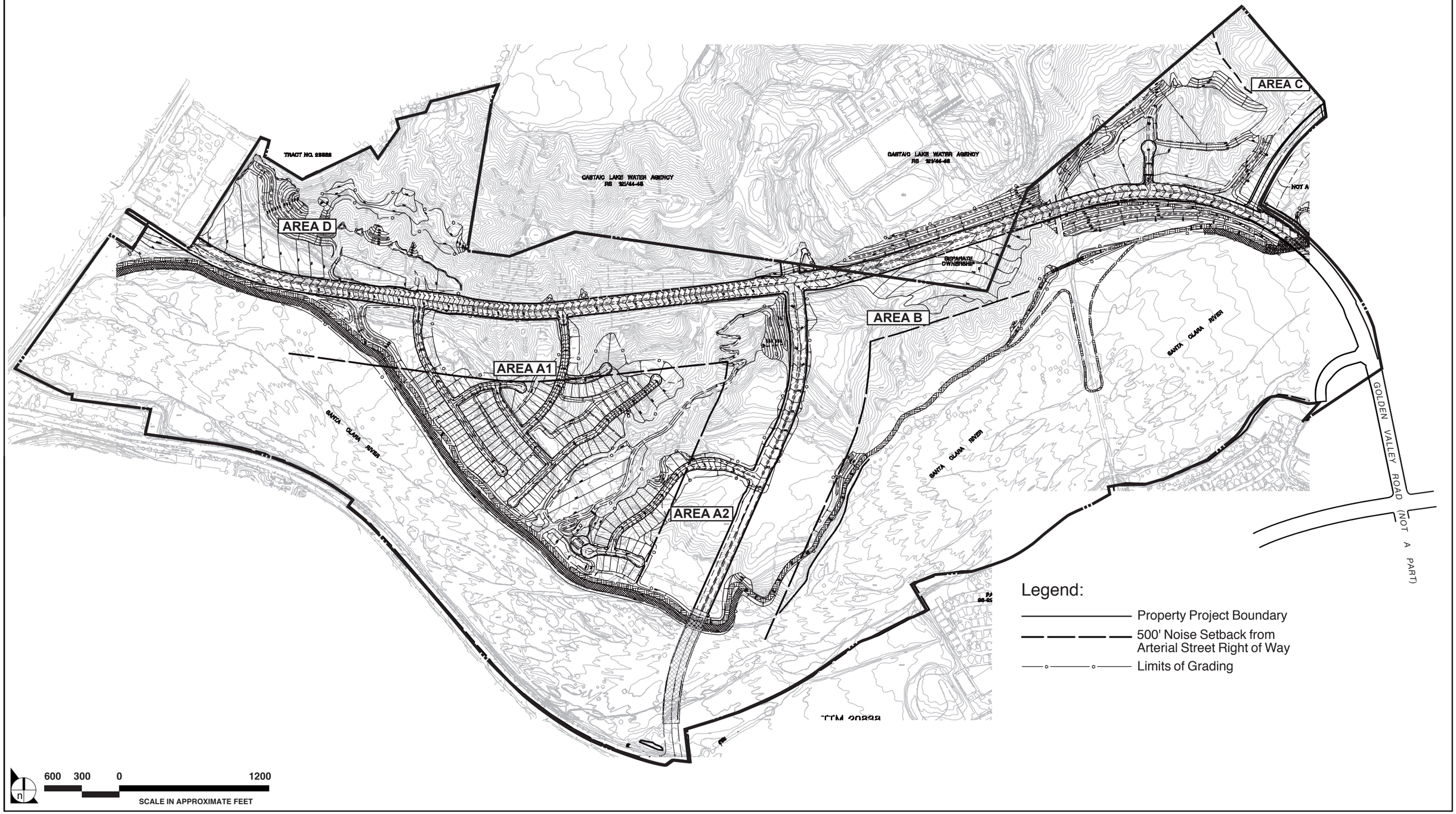
Planning Area A1. The project modification request would also allow for a 16-foot front yard setback on a traditional garage-facing street within a minimum driveway length of 18-feet and to increase the proposed maximum height of sound walls to seven feet. As proposed, the project locates some residential units in noise sensitive locations that exceed established noise standards. In order to comply with the state/City Noise Compatibility Guidelines, and assuming no mitigation, 109 units would be removed from Area A1, 75 units from Area A2, and all of the 117 single-family units proposed by the project in Area B would be removed. Neither the apartment uses nor the commercial site would be affected with implementation of this alternative. The purpose of this discussion is to describe and compare impacts generated by this alternative with impacts generated by the proposed project.

a. Geotechnical Hazards

Implementation of this alternative would result in less grading and would, consequently, be expected to result in a reduction in geotechnical/seismic. The identified Alquist-Priolo Fault zone would subject this alternative to the same constraints as that of the proposed project. Therefore, geotechnical impact potential would be less, than that of the proposed project. From a geotechnical standpoint, Alternative 4 would be preferred.

b. Flood

Implementation of this alternative would result in less storm runoff and more infiltration than the proposed project because there would be 301 fewer single-family residential units. Also, it is likely the irrigation needs of Alternative 4 would be less than the proposed project due to less landscaped acreage. The urban runoff that is generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. This runoff would require similar treatment before it is discharged into the creek in compliance with Regional Water Quality Control Board standards. Nevertheless, this alternative would be preferred from a flood perspective over the proposed project because the amount of drainage reaching the river would be less than the proposed project.



SOURCE: PSOMAS 2003

FIGURE **6.0-4**

Alternative 4 – Noise/Development Standards

c. Traffic and Access

Implementation of Alternative 4 would result in fewer traffic trips as compared to the proposed project. Specifically, using ITE Trip Generation Manual factors, average daily trip generation on the project site would be estimated at 10,294 trips as compared with the proposed project trips of 13,274. Because there would be 2,980 fewer traffic generated with this alternative, from a traffic perspective this alternative would be preferred over the proposed project. Alternative 4 would be preferred to the proposed project with respect to traffic and circulation impacts because of the actual reduction in the number of vehicle trips generated.

d. Air Quality

As grading requirements are expected to be less for this alternative, short-term grading and construction-related air quality impacts are expected to be reduced to those of the proposed project. Long-term (i.e., operational) impacts for this alternative would be less than the proposed project.

As shown in **Table 6.0-3, Estimated Alternative 4 Operational Emissions,** long-term (i.e., operational) impacts for this alternative would also be reduced when compared with the proposed project. The decrease in air quality impacts would primarily occur due to the decrease in the number of traffic trips. Both the proposed project and this alternative would result in SCAQMD summertime air quality thresholds being exceeded for CO, NO_x and VOC. Additionally, both the project and alternative would exceed wintertime air quality threshold standards for CO, VOC, NO_x and PM_{10}. Nevertheless, Alternative 4 would be preferred over the proposed project because the magnitude of air quality impacts would be greater with the proposed project.

Table 6.0-3
Estimated Alternative 4 Operational Emissions

Emissions Source	Emissions in Pounds per Day[1]				
	CO	VOC	NO_x	SO_x	PM_{10}
Summertime Emissions					
Mobile Sources	1,007.26	84.54	93.98	0.65	98.19
Area Sources					
Natural Gas	2.90	0.52	6.87	--	0.01
Wood Stoves	0	0	0	0	0
Fire Places	0	0	0	0	0
Landscape Maintenance	1.85	0.21	0.03	0.04	0.00
Consumer Products	--	43.15	--	--	--
Area Source Subtotal	4.75	43.88	6.09	0.04	0.02
Alternative Mobile and Area Source Totals:	1,012.01	128.43	100.88	0.68	98.21
Project Mobile and Area Source Totals:	1,494.52	195.16	151.94	1.46	111.91
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO
Wintertime Emissions					
Mobile Sources	961.44	79.65	135.82	0.53	98.19
Area Sources					
Natural Gas	2.90	0.52	6.87	--	0.01
Wood Stoves	0	0	0	0	0
Fire Places	1,089.73	987.92	11.22	1.73	149.27
Landscape Maintenance	0	0	0	0	0
Consumer Products	--	43.15	--	--	--
Area Source Subtotal	1,092.63	1,031.59	18.08	1.73	149.28
Alternative Mobile and Area Source Totals:	2,054.07	1,111.24	153.91	2.25	247.47
Project Mobile and Area Source Totals:	5,410.35	1,846.46	275.06	11.72	726.93
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	YES

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 6.0****.*
[1]*Emissions assume construction of sidewalks and/or pedestrian paths; direct pedestrian connections; street lighting; pedestrian signalization and signage; bike lanes/paths connecting to the bikeway system; no wood burning stoves; and residential and commercial insulation beyond Title 24 requirements.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

e. Noise

Because of the reduced number of vehicle trip reduction associated with this alternative, there would be less noise impacts as compared to the proposed project on and in the vicinity of the site. This would result in less noise impacts on and off site. Deleting 301 dwelling units from the project site plan would render the site in conformance with the City's Noise Ordinance. Consequently, from a noise standpoint this alternative would be preferred over the proposed project.

f. Biota

Given that there would be more open area because of a reduction of 301 residential units, there would be a reduction in the direct biological impacts with this alternative compared to the proposed project. Additional open area near the upland preserve zone in Areas A2 and B and would provide greater biological benefit than the proposed project. In comparison, to the project, this alternative would not require the transplant of 6 oak trees in Area 1B, when allowing them to be left in place. Because the development footprint of Alternative 4 would be less than the proposed project, additional open area could be located adjacent to the upland preserve zone, and due to the preservation of more oak trees in place, Alternative 4 is preferred over the proposed project.

g. Cultural Resources

Grading associated with this alternative would be reduced when compared with the proposed project. Consequently, potential cultural resource impacts associated with Alternative 4 would be less than that of the proposed project.

h. Visual Resources

Alternative 4 would remove 301 units from the proposed project development site plan. In doing so, the visual perspective looking south from Newhall Ranch Road would be substantially different when compared to the project. The viewing perspective from Newhall Ranch Road traveling south would create a more open and less dense perspective when compared to the proposed project. This perspective would also be achieved from traveling north or south along Santa Clarita Parkway. The visual perspective of the commercial and apartment uses would remain the same as the proposed project. Based on this information, it can be concluded, from a visual resources standpoint, that this alternative would be preferred over the proposed project.

i. Water Service

The water demand for this alternative would be 327.82 AFY, which is 369.55 AFY less than the proposed project due to the reduction of residential units. Consequently, this alternative would be preferred over the proposed project.

j. Wastewater Disposal

Wastewater generation for this alternative would be approximately 0.18 mgd, which would result in a decrease of 0.08 mgd when compared to the proposed project due to the reduction of residential units. This alternative would, as a result, be preferred over the proposed project.

k. Solid Waste Disposal

The project would generate 1,862 tons of solid waste per year. In comparison, Alternative 4 would generate 1,251 tons of solid waste per year resulting in a decrease of 611 tons per year of solid waste generated compared to the proposed project. Less waste is generated due to reduced construction waste, reduced population and the like. This alternative would, therefore, be preferred over the proposed project.

l. Education

Alternative 4 would generate 266 students compared to the 481 students that would be generated by the project, resulting in a reduction of 215 students. Therefore, Alternative 4 is preferred with respect to school impacts, because the alternative would generate fewer students than would the proposed project.

m. Library Services

Based on County Library planning standards of 0.35 square feet of library facilities per capita and 2 books per capita, Alternative 4 would require a total of 943 square feet of library facilities with 5,391 additional volumes of books for the library system's collection. Therefore this alternative would result in a decreased need for 322 square feet of facilities and 1,839 fewer books when compared to the proposed project. Because the impacts on library services would be fewer than the proposed project, Alternative 4 is preferred.

n. Fire Protection

The number of residential units on the site would remain the same as the proposed project. The population estimates used by the City of Santa Clarita utilize a 3.056 persons per household generation figure (3.056 x 882=2,695). Because population figures are reduced, as a result of fewer residential units, this alternative would result in fewer service calls to the site as the proposed project. Based on this information, Alternative 4 is preferred.

o. Parks and Recreation

Under City (and Quimby Act) requirements, development of Alternative 4 would require the applicant to provide 8.09 acres of dedicated parkland, 2.09 acres less than the proposed project. There would, however, be an increase in passive open area because of the reduction of residential units. This alternative will result in a greater amount of passive open space, which could become a maintenance burden on the City. Because this alternative would provide additional passive open area, it would be preferred from a parks and recreation perspective.

p. Population/Housing/Employment

Population impacts under this alternative would generate 2,695 persons, resulting in 920 fewer persons. As discussed above, Alternative 4 would result in a reduction of 301 dwelling units when compared to the proposed project. The commercial uses proposed for Alternative 4 would remain the same as the proposed project. This alternative, when compared to the proposed project would create the same number of jobs in the Santa Clarita Valley, but would not go as far in meeting the long-term housing needs projected by the City and SCAG. Based upon this information, overall Alternative 4 would not be preferred over the proposed project.

q. Agricultural Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production, but less than the proposed project due to a smaller development footprint. From a practical standpoint it would be difficult to cost-effectively manage and farm small discontinuous agricultural areas. Therefore, from an agricultural resources standpoint, this alternative would be similar to the proposed project.

r. Sheriff Services

Based upon the dwelling unit factor of 3.056 utilized by the Sheriff's Department, Alternative 4 would result in a resident population of approximately 2,695 persons. Given the Sheriff Department ratio of 1 officer per 1,000 population, this alternative would require the services of 3 officers, which is the same as the proposed project. Based on this information, from a sheriff services standpoint Alternative 4 is preferred when compared to the proposed project.

s. Human Made Hazards

Development of the project site under this alternative would be less when compared with the proposed project because of a smaller development footprint compared to the proposed project. Based on this information, from a human made hazards standpoint, this alternative would be preferred to the proposed project.

t. Biota/Hydrology

Development of the project site under this alternative would create slightly less increase in flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, given that Alternative 4 creates slightly less impacts given a reduced development pad, it can be concluded that this alternative would be preferred over the proposed project.

u. Conclusion

This alternative is environmentally superior to the proposed project because it produces fewer impacts when compared to the proposed project. This alternative reduces the number of units by 301, which would result in fewer impacts associated with geotechnical resources, flood, traffic/access, air quality, noise, biota, cultural resources, visual, water, wastewater, solid waste, education, library services, fire protection, parks and recreation and human made hazards. Agricultural resources and sheriff services would have similar impacts when compared to the proposed projects. Population/housing/employment would not be preferred to the proposed project. A summary comparison of impacts associated with the project alternatives is provided in **Table 6.0-5, Alternatives Impact Comparison Matrix**. Furthermore, Alternative 4 does not meet many of the project objectives. Specific objectives not fully met or impeded to some extent with Alternative 4 are listed below.

- Provide a substantial number of new housing units to accommodate projected regional growth in a location, which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors and major employment areas.

  This objective is not met because this alternative substantially reduces the number of housing units thereby accommodating less housing for regional growth projections.

- Develop the site to include housing of varying types, accommodating a range of incomes, and commercial opportunities for the residents of the project as well as the local area.

This objective is not met because Alternative 4 reduces the number of dwelling units proposed by 301, thereby reducing the housing options available at the project site.

- Provide a range of active/passive recreational opportunities.

  Because this alternative would allow for substantially fewer housing units on the site, there would consequently be less parkland provided, diminishing the amount of active and passive recreational opportunities provided.

6. ALTERNATIVE 5 — Deletion of Santa Clarita Parkway

This alternative would remove the connection of the Santa Clarita Parkway from Soledad Canyon Road to Newhall Ranch Road that is planned to bisect the project site. In turn, removal of this roadway from the site plan would increase the number of single-family dwelling units in Area A2 by 9 units. All other planning areas remain unchanged when compared to the proposed project.

The following discussion compares the potential environmental impact of this alternative to those associated with implementation of the proposed project.

a. Geotechnical Hazards

Implementation of this alternative would result in similar grading, when compared to the proposed project, because Alternative 5 would grade the same amount of area for development as the project and would, consequently, be expected to result in similar geotechnical impacts, as shown in **Figure 6.0-5, Alternative 5 Deletion of Santa Clarita Parkway Alternative**. The identified Alquist-Priolo Fault zone would subject this alternative to the same constraints as that of the proposed project. From a geotechnical standpoint, Alternative 5 would have similar impacts to the proposed project.

b. Flood

Implementation of this alternative would result in similar storm runoff and similar water infiltration than the proposed project because there will be 9 additional residential units developed in place of the Santa Clarita Parkway. The urban runoff that is generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. This runoff would require similar treatment before it is discharged into this watercourse in compliance with Regional Water Quality Control Board standards. Nevertheless, this alternative would be similar to the proposed project because amount of drainage reaching the river would similar to the proposed project.

c. Traffic and Access

Implementation of Alternative 5 would result in a minor increase in project-generated traffic due to the addition of 9 residential units. Specifically, using ITE Trip Generation Manual factors, average daily trip generation on the project site would increase from 13,274 trips to 13,363 trips (an increase of 89 trips). Additionally, the removal of Santa Clarita Parkway as an alternative connector roadway between Newhall Ranch Road and Soledad Canyon Road would add substantial circulation pressure to the Soledad Canyon Road/Newhall Ranch Road intersection east of the project site. Consequently, Alternative 5 would not be preferred to the proposed project with respect to traffic and circulation impacts.

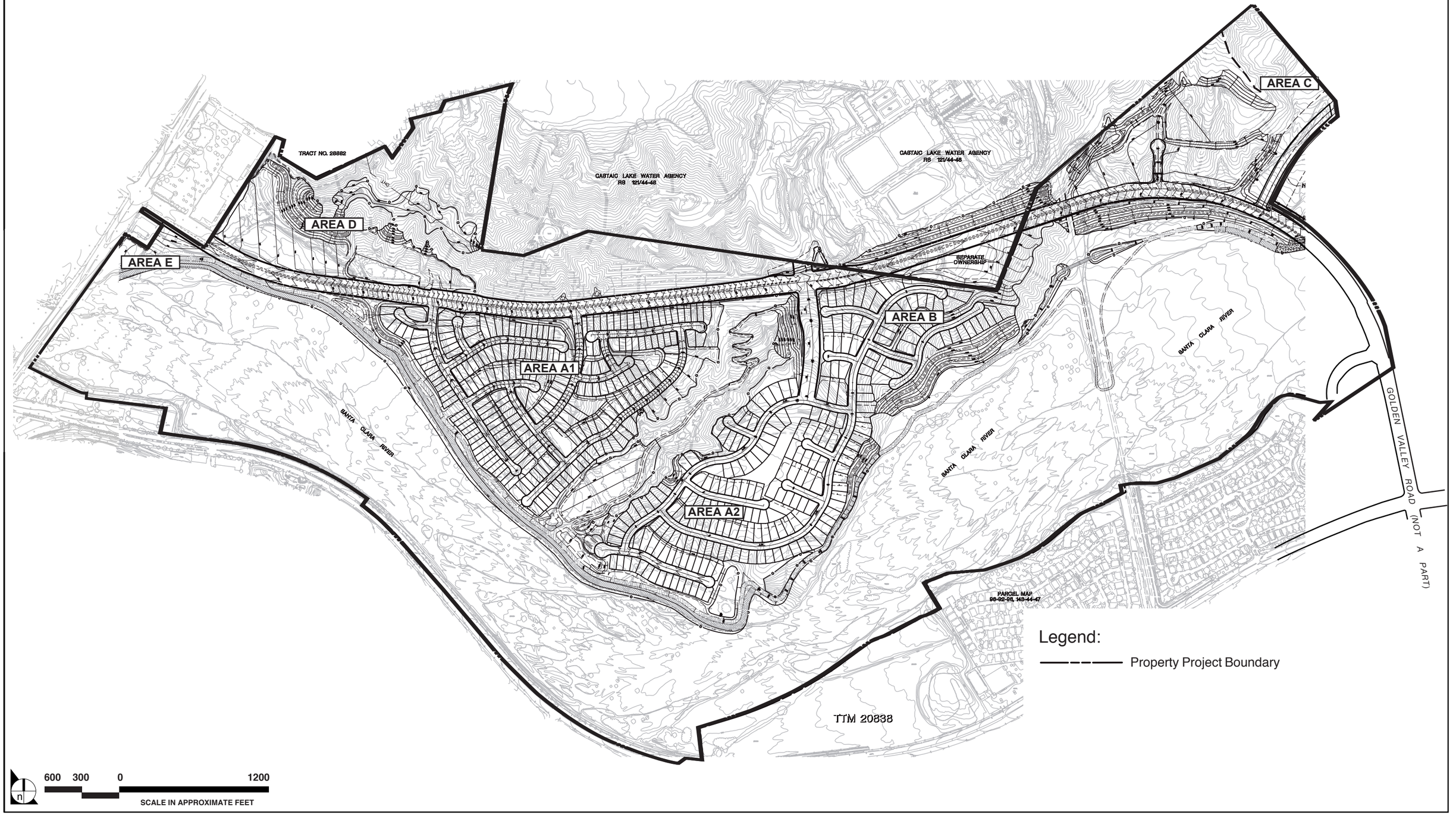
d. Air Quality

As grading requirements are expected to be slightly greater for this alternative, short-term grading and construction-related air quality impacts are expected to be greater than those of the proposed project.

Table 6.0-4
Estimated Alternative 5 Operational Emissions

	Emissions in Pounds per Day[1]				
Emissions Source	**CO**	**VOC**	**NO_x**	**SO_x**	**PM_{10}**
Summertime Emissions					
Mobile Sources	1,007.26	84.54	93.98	0.65	98.19
Area Sources					
Natural Gas	2.90	0.52	6.87	--	0.01
Wood Stoves	0	0	0	0	0
Fire Places	0	0	0	0	0
Landscape Maintenance	1.85	0.21	0.03	0.04	0.00
Consumer Products	--	43.15	--	--	--
Area Source Subtotal	4.75	43.88	6.09	0.04	0.02
Alternative Mobile and Area Source Totals:	1,012.01	128.43	100.88	0.68	98.21
Project Mobile and Area Source Totals:	1,494.52	195.16	151.94	1.46	111.91
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	NO
Wintertime Emissions					
Mobile Sources	961.44	79.65	135.82	0.53	98.19
Area Sources					
Natural Gas	2.90	0.52	6.87	--	0.01
Wood Stoves	0	0	0	0	0
Fire Places	1,089.73	987.92	11.22	1.73	149.27
Landscape Maintenance	0	0	0	0	0
Consumer Products	--	43.15	--	--	--
Area Source Subtotal	1,092.63	1,031.59	18.08	1.73	149.28
Alternative Mobile and Area Source Totals:	2,054.07	1,111.24	153.91	2.25	247.47
Project Mobile and Area Source Totals:	5,410.35	1,846.46	275.06	11.72	726.93
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	YES	YES	YES	NO	YES

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 6.0****.*
[1]*Emissions assume construction of sidewalks and/or pedestrian paths; direct pedestrian connections; street lighting; pedestrian signalization and signage; bike lanes/paths connecting to the bikeway system; no wood burning stoves; and residential and commercial insulation beyond Title 24 requirements.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.



SOURCE: PSOMAS 2003

FIGURE **6.0-5**

Deletion of Santa Clarita Parkway Alternative

A shown above in **Table 6.0-4, Estimated Alternative 5 Operational Emissions**, Alternative 5 produces slightly less CO, VOC, $NO_{x,}$ SO_x and PM_{10} summertime emissions when compared to the proposed project. Like the proposed project, Alternative 5 emissions exceed SCAQMD thresholds for CO, VOC and NO_x. Like the proposed project, Alternative 5 exceeds wintertime emissions for CO, VOC, NO_x and PM_{10}. However, because the emissions are greater with Alternative 5, Alternative 5 would not be preferred to the proposed project for air quality.

e. Noise

Because of the vehicle trip increase associated with this alternative, there would be a slight increase in project-generated noise impacts on and in the vicinity of the site. The noise impacts of this alternative would be not be consistent with the City's General Plan Noise Element, similar to the proposed project. Alternative 5 increases the number of residential units and this alternative would still place residential units in locations that would not meet the goals of the General Plan. Alternative 5 locates residential units in noise sensitive areas (along Newhall Ranch Road) and would have significant noise impacts. Therefore, Alternative 5 would not be preferred over the proposed project from a noise perspective.

f. Biota

It is anticipated that there would be more open area because of the elimination of hardscape associated with the Santa Clarita Parkway. However, any area removed from hardscape would be developed with housing units. Consequently, there impacts to biota under this alternative when compared to the proposed project would be similar or the same. Because the development footprint of the Alternative 5 would be similar to that of the proposed project, Alternative 5 is the same as the proposed project.

g. Cultural Resources

Grading associated with this alternative would be the same when compared with the proposed project due to a smaller development footprint. Consequently, potential cultural resource impacts associated with Alternative 5 would be the same or similar to that of the proposed project.

h. Visual Resources

The addition of 9 additional houses in the overall perspective of the site will not be noticeable. The deletion of Santa Clarita Parkway will eliminate a swath of hardscape through the center of the

project site, which would be more visually appealing. The area eliminated as a roadway would be developed as housing or for internal roadways to housing units. However, the elimination of the Santa Clarita Parkway from the project and the subsequent elimination of the future extension crossing the Santa Clara River will remove a man-made structure from the natural riverway and the project would therefore be less visually obtrusive. Based on this information, it can be concluded, from a visual resources standpoint, that this alternative would be preferred over the proposed project.

i. Water Service

The water demand for this alternative would be 711.32 AFY, which is 13.95 AFY more when compared to the proposed project. Consequently, this alternative would not preferred when compared to the proposed project.

j. Wastewater Disposal

Wastewater generation for this alternative would be 0.27 mgd, which is 0.01 mgd greater as the proposed project. Due to this increase, this alternative would, not be preferred when compared to the proposed project.

k. Solid Waste Disposal

The project would generate 1,862 tons of solid waste per year. In comparison, Alternative 5 would generate 1,884 tons of solid waste per year, resulting in an increase of 22 tons per year of solid waste generated compared to the proposed project. This alternative would, therefore not be preferred over the proposed project.

l. Education

Alternative 5 would generate 487 students compared to the 481 students that would be generated by the project due to the increase in single-family dwelling units, resulting in six additional students. Therefore, Alternative 5 is not preferred with respect to school impacts because the alternative would increase the student population by six students than would the proposed project.

m. Library Services

This alternative would create a resident population of 3,643 persons. The proposed project would create a resident population of 3,615 persons. Based on County Library planning standards of 0.35 square feet of library facilities per capita and 2 books per capita, Alternative 5 would require a total of 1,275 square feet of library facilities with 7,286 additional volumes of books for the library system's collection. This demand is 10 additional square feet of library facilities and 56 additional volumes of books than the proposed project. Consequently, the demand for library services of Alternative 5 is greater than the proposed project and is not preferred over the proposed project.

n. Fire Protection

This alternative would result in a slightly greater resident population on the project site than would occur under the proposed project due to the reduction in the number of units. Therefore, there would be a greater opportunity for additional calls made to the Fire Department than under the proposed project. Based on this information, this alternative would not be preferred.

o. Parks and Recreation

Under County (and Quimby Act) requirements, development of the project would require the applicant to provide 10.72 acres of dedicated parkland. Development under this alternative would require an additional 0.21 acres of parkland than the proposed project. Based on this information, this alternative would result in greater demands for parkland and would not be preferred over the proposed project.

p. Population/Housing/Employment

Development under this alternative would result in the construction of 1,192 dwelling units and 39,000 commercial square feet, resulting in a resident population of 3,643, which is an increase of 28 persons when compared to the proposed project. Alternative 5 would generate the same number of employees as the commercial area would not change with the alternative. SCAG projects that northern Los Angeles County and the City of Santa Clarita will have a substantially greater need for housing in the future. This alternative, when compared to the proposed project, would create the same number of jobs in the employment poor Santa Clarita Valley, but would not go farther in meeting the long-term housing needs projected by the City and SCAG. Consequently, Alternative 5 is not preferred over the proposed project.

q. Agricultural Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production, similar to the proposed project, as generally the same area would be developed under Alternative 5. Therefore from an agricultural resources standpoint, this alternative would be similar to the proposed project.

r. Sheriff Services

Based upon the dwelling unit factor of 3.06 utilized by the Sheriff's Department, Alternative 5 would result in a resident population of 3,643 persons. Given the Sheriff Department ratio of 1 officer per 1,000 population, this alternative would require the services of 4 officers, which is one officer greater than the proposed project. Based on this information, this alternative would have greater impacts as the proposed project.

s. Human Made Hazards

Development of the project site under this alternative would be similar to the proposed project, as generally the same amount of area would be disturbed with Alternative 5 when compared to the proposed project. Based on this information, from a human made hazards standpoint, this alternative would be similar to the proposed project.

t. Biota/Hydrology

Development of the project site under this alternative would create a slightly greater increase in flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, given that Alternative 5 creates slightly greater impacts given a larger development pad, it can be concluded that this alternative would not be preferred over the proposed project.

u. Conclusion

Impacts under this alternative associated with visual resources and human made hazards would be less than the proposed project. Impacts regarding traffic/access, air quality, noise, water, wastewater, solid waste, population/housing/employment, education, library services, fire protection, sheriff

services, parks and recreation and floodplain modification would be greater than the proposed project. Impacts under this alternative would result in similar impacts to geotechnical hazards, flood, biota, cultural resources, agricultural resources and human made hazards. A summary comparison of impacts associated with the project alternatives is provided in **Table 6.0-5, Alternatives Impact Comparison Matrix**. Furthermore, Alternative 5 does not meet many of the project objectives. The deletion of Santa Clarita Parkway would delete a major north/south connection route from Soledad Canyon Road to Newhall Ranch Road, which would cause greater traffic impacts when compared to the proposed project. This alternative is not environmentally superior to the proposed project and is rejected as it eliminated a major north/south connector roadway. Specific objectives not fully met or impeded to some extent with Alternative 5 are listed below.

- Construct all required on- and off-site infrastructure improvements in a timely manner in order to provide concurrence of infrastructure availability and to meet the service needs of the project. Provide a coordinated "pay as you go" development that is consistent with surrounding uses. Alternative 5 does not meet this objective because it deletes Santa Clarita Parkway, which is a major north/south connector within the community.

- To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile. **Figure 6.0-5** illustrates that the project would incorporate longer spine streets through Planning Area A2 and B, which would in-turn focus upon the dominance of the automobile.

- Provide a safe, efficient and aesthetically attractive street system, which includes pedestrian walkways (sidewalks) with connections to adjoining regional transportation routes. Alternative 5 does not meet this objective because it deletes Santa Clarita Parkway, which is a major north/south connector within the community.

- Provide an efficient street circulation system that minimizes impacts on residential neighborhoods and environmentally sensitive areas. Alternative 5 does not meet this objective because it deletes Santa Clarita Parkway. Santa Clarita Parkway is a major north/south connector within the community and its deletion will in-turn make for more circuitous routes throughout the community when attempting to access major transportation routes as opposed to routes that could be taken if this roadway were provided.

6. OFF-SITE ALTERNATIVES

The proposed project is being proposed to meet the expected demands for increased housing opportunities in the City of Santa Clarita and northern Los Angeles County. Individual alternative sites to the project site could be found and developed in order to meet expected demands for growth, or this amount of demand could be met by developing many smaller parcels of land that are spread out over the area. Consequently, there could literally be hundreds, if not thousands, of land parcels that could be developed in place of the proposed project. However, given the population growth expected in

the Santa Clarita Valley, and statewide, a need may exist to develop all available parcels suitable for housing, including the proposed project site and all other sites. For this reason, these other sites may actually not be "alternative" sites at all; rather, to meet expected demand, there may be a need in the future to develop them all.

Alternate sites within or directly adjacent to the City do not exist or are the subject of other development proposals. The proposed project would involve buildout of an area that is characterized by existing and pending urban development, and associated infrastructure improvements (i.e., roadways, water mains, sewer lines, and natural gas and electrical service). The City of Santa Clarita General Plan designates the project site for urban density development. Potential alternative project sites in the local vicinity which are similar in acreage and are close to existing or planned infrastructure improvements are also currently also proposed for development. Alternative sites, which are located beyond existing urbanized areas, would induce growth in these non-urban areas, thereby expanding urban development. For all of the reasons indicated above, no alternative sites were analyzed for this project.

7. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As discussed in the **Introduction** Section, the CEQA Guidelines require that the discussion of alternatives to a project focus on those alternatives, which can feasibly attain the basic objectives of the project while avoiding or reducing the significant impacts of the project as, proposed. Section 15326(d)(2) of the CEQA Guidelines indicates that, if the no project alternative is the "environmentally superior" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. On the following page, **Table 6.0-5, Alternatives Impact Comparison Matrix**, provides a summary of alternatives discussed in this section in relation to environmental impacts and the ability to meet project objectives.

The No Project Alternative will have reduced environmental impacts but would not meet the project objectives of constructing a balanced project consisting of residential, commercial and recreational uses within the project area to meet anticipated future demands. This alternative will not bring population/employment opportunities to the presently employment poor Santa Clarita Valley.

Table 6.0-5
Alternatives Impact Comparison Matrix

Environmental Topic	No Project	Alternative 1 Buildout According to General Plan	Alternative 2- Santa Clara Reduced bank Stabilization	Alternative 3- Ridgeline Protection	Alternative 4- Noise/Development Standards	Alternative 5- Deletion of Santa Clarita Parkway
Geotechnical	L	G	L	L	L	S
Flood	G	G	L	L	L	S
Traffic Access	L	G	L	L	L	G
Air Quality	L	G	L	L	L	G
Noise	L	G	L	L	L	G
Biota	G	G	L	L	L	S
Cultural	L	G	S	L	L	L
Visual	L	G	L	L	L	L
Water Service	L	G	L	L	L	G
Wastewater Disposal	L	G	L	L	L	G
Solid Waste	L	G	L	L	L	G
Education	L	G	L	L	L	G
Libraries	L	G	L	L	L	G
Fire Protection	L	G	L	L	L	G
Parks and Rec.	L	G	G	L	L	G
Pop/Housing/Emp.	L	G	G	G	G	G
Agricultural	L	G	G	S	S	S
Sheriff Services	L	G	S	S	S	G
Human Made Hazards	L	G	L	L	L	S
Biota/Hydrology	L	L	L	L	L	G

KEY (Level of Impact in Comparison to the Proposed Project):
G = Alternative Produces Greater Level of Impact
S = Alternative Produces Similar Level of Impact
L = Alternative Produces Lesser Level of Impact.

Buildout, according to the City of Santa Clarita General Plan, will provide a considerably greater amount of employment opportunities for the employment poor Santa Clarita Valley. However, this alternative will not meet the project objectives of creating a balanced community consisting of residential, commercial and recreational uses. Additionally, it will create greater environmental impacts for all environmental topic areas due to its intensity, so this alternative is not environmentally superior to the proposed project.

Alternative 2, Santa Clara River Reduced Bank Stabilization, would implement a setback of the Q-cap 50 year line or the upland preserve/buffer setback from the resource line—whichever is more restrictive in order to preserve the river. The number of dwelling units would be reduced (by 78 units), a loss of 13,000 square feet of commercial use, four acres of parkland would be lost and one additional oak tree would be removed. This alternative would meet the project objectives of a balanced community providing for residential, commercial and recreational opportunities, although it would provide somewhat fewer housing opportunities. To meet the anticipated demand for housing expected for the area there would have to be greater or more dense development in other areas, which would likely

create the impacts at other locations similar to the project. Although Alternative 2 would be environmentally superior to the proposed project, this alternative has been rejected in favor of the proposed project because this alternative would limit the number of housing opportunities and not implement the project objectives and, thus, it would not reflect the housing opportunities demand under which the project site could be developed.

Alternative 3, Ridgeline Protection, This alternative would preserve the ridgelines designated by the City as secondary. Implementation of this alternative would remove 76 dwelling units in Area B, 55 units in Area C and 27 units in Area D. All other planning areas remain the same as the proposed project and the only encroachment allowed would be for the construction of Newhall Ranch Road. The alternative would still provide varied residential, commercial and recreational opportunities. However, the ridgelines under protection in this alternative are not prominent and have been previously compromised by other development activities. This alternative would be environmentally superior to the proposed project. However, this alternative has been rejected in favor of the proposed project because this alternative would limit housing opportunities and not implement the project objectives, and thus would not accommodate the housing demands of the regional area under which the project site could be developed and, therefore, does not meet project objectives.

Alternative 4, Noise/Development Standards, 109 units would be removed from Area A1, 75 units from Area A2, and all of the 117 single-family units proposed by the project in Area B would be removed by complying with the City/State of California Guidelines for Noise and Land Use Compatibility. This alternative also includes compliance with all of the Residential Medium (RM) standards. The project proposes to vary from these standards to allow for a maximum 20 percent reduction in the minimum lot size and lot width for lots within Planning Area A1. The project modification request would also allow for a 16-foot front yard setback on a traditional garage-facing street within a minimum driveway length of 18-feet and to increase the proposed maximum height of sound walls to seven feet. Neither the apartment uses nor the commercial site would be affected with implementation of this alternative. This alternative would provide varied housing, commercial and recreational opportunities, albeit to a lesser degree. The City's General Plan envisions higher density dwelling units in the project area. This alternative does not meet the project objectives of providing a mix of residential opportunities as it reduces the number of housing units available. The reduction of housing units does not meet the project objectives of responding to economic conditions by providing as great a variety of housing types. This alternative would be the environmentally superior alternative to the proposed project and the other previously noted alternatives. However, this alternative would limit the amount of housing opportunities, and thus would not accommodate the housing or employment demands of the regional area under which the project site could be developed and, therefore, does not meet project objectives.

Any loss of housing units (particularly rental housing) is considered undesirable. As of 2003, the vacancy factor for the City of Santa Clarita was 3.16 percent, which is well below the average vacancy factor of 4.62 for Los Angeles County unincorporated areas and 4.14 percent for incorporated areas.[1] Typically, rental units are more affordable than single-family units and given the low vacancy rate in the City any loss of units is undesirable. As discussed above in the Alternative 4 analysis, this alternative does not meet the following objectives: Provide a substantial number of new housing units to accommodate projected regional growth in a location, which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors and major employment areas; Develop the site to include housing of varying types, accommodating a range of incomes, and commercial opportunities for the residents of the project as well as the local area; and provide a range of active/passive recreational opportunities. In order to meet the anticipated demand for housing and jobs expected for the area there would have to be greater or more dense development in other areas, which would likely create the same impacts as meeting such development in the project. Because this alternative produces fewer impacts than the proposed project, this alternative can be considered to be environmentally superior.

Alternative 5, Deletion of Santa Clarita Parkway, would remove Santa Clarita Parkway from the site plan and would add an additional 9 single-family units to the development plan. This alternative does meet the project objectives of providing a mix of residential and commercial activities. However, the deletion of Santa Clarita Parkway would delete a major north/south connection route from Soledad Canyon Road to Newhall Ranch Road, which would cause greater traffic impacts when compared to the proposed project. This alternative is not environmentally superior to the proposed project and is rejected as it eliminated a major north/south connector roadway.

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1 State of California, Department of Finance, Table 2:E-5 City/County Population and Housing Estimates 1/1/2003.

7.0 GROWTH-INDUCING IMPACTS

1. PURPOSE

The California Environmental Quality Act (CEQA) requires the discussion of the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects, which would remove obstacles to population growth. Such discussion should also include the characteristics of a project, which may encourage and/or facilitate other activities that, either individually or cumulatively, could significantly affect the environment. CEQA emphasizes that growth in an area should not be considered beneficial, detrimental or of little significance. The purpose of this section is to evaluate the growth-inducing potential of this project.

2. INTRODUCTION

CEQA Guidelines require an EIR to "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." (CEQA Guidelines §15126.2). The Guidelines, though, do not require or even suggest that an EIR speculate with respect to the specific growth that the project may induce, such as where such growth would occur, in what form it would occur, or when it would occur (CEQA Guidelines §15145). It also must not be assumed that induced growth in a particular area is necessarily beneficial, detrimental, or of little significance to the environment (CEQA Guidelines §15126.2).

Generally, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of four criteria that are identified below.

- Removal of an impediment to growth (e.g., expansion of a wastewater treatment plant or the provision of new access to an area);
- Economic expansion or growth (e.g., changes in revenue base or employment expansion, etc.);
- Establishment of a precedent setting action (e.g., an innovation, a change in zoning or general plan designation); and/or
- Development or encroachment in an isolated or adjacent area of open space (being distinct from an "infill" type of project.

Should a project meet any one of these criteria, it can be considered growth inducing. An evaluation of this project versus these four growth-inducing criteria are provided in the sections below.

The CEQA Guidelines also require that consideration also be given to potential impacts on community service facilities resulting from increases in population. **Section 4.0** of this EIR addresses potential impacts on community service facilities (e.g., police, fire, water, wastewater, schools, etc.) resulting from expected population growth both on and off the project site.

3. GROWTH INDUCEMENT POTENTIAL

a. Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services.

Approval of the proposed project would not directly remove physical impediments to growth, and therefore, it would not be growth inducing with respect to this criterion. The project is an infill development that is generally surrounded by existing and proposed residential, commercial and industrial development. The proposed project site is proximal to existing major roadways such that access is not a restriction, and public services (i.e., electricity, sanitary sewers, water service, natural gas, police and fire protection) would be available and would require no major expansions or extensions. Development of the project would be consistent with the overall infrastructure improvement program planned for this area of the City. In this case, growth would occur as envisioned by the City's General Plan. As an example the construction of Newhall Ranch Road is designated on the City of Santa Clarita General Plan Circulation Element Map and is designated as a major highway. Any potential growth inducing impacts of the construction of the roadways were addressed when the City updated its General Plan Circulation Element (December 1997). Additionally, this extension is not growth inducing, as the land nearest its terminal points on the south and west of the project are already urbanized and as discussed above it is accommodating growth already projected in the Santa Clarita General Plan. Santa Clarita Parkway provides for an alternate access from Bouquet Canyon Road, connecting to Placerita Canyon Road and ultimately to Sierra Highway. This roadway is also location on the City of Santa Clarita Circulation Element Map and any growth inducing aspects of this roadway were addressed as a part of the update to the Circulation Element.

b. Economic Growth

The proposed project could potentially induce growth by introducing additional short-term employment opportunities from construction on the project site. These new, albeit temporary, employment

opportunities could induce a small number of people to move into the Santa Clarita Valley. This new population could, in turn, induce incremental secondary short-term growth in the local or regional area. Long-term secondary growth, should it occur, would primarily be in the form of an economic response to the increased population and employment opportunities that could occur on the site which could incrementally increase the area's demand for local goods and services. Given this project's relatively small size in relation to the area's regional population and work force, the economic contribution of this project alone (the creation of 94 jobs) would not be considered significant. Additionally, the proposed project is consistent with the goals and objectives of the City of Santa Clarita General Plan, and is a component of the overall growth planned for the Santa Clarita Valley. However, despite such consistency, the small increase in economic activity potentially generated by the proposed project would be considered growth inducing.

c. Precedent Setting Action

Approval of this project would require, a General Plan Amendment, Zone Change, Vesting Tentative Tract Map, Conditional Use Permit, an Oak Tree Permit, a Hillside Review Application including an Innovative Application and an Adjustment. A General Plan Amendment would change the land use designation of the project site to the Residential Moderate (RM) and Community Commercial designations with SEA and VCC Overlays and to define the specific alignments for Santa Clarita Parkway and Newhall Ranch Road. The Zone Change would revise the areas zoned IC, CO PD, CC, CC PD, and MPH, to Residential Medium Planned Development (RM PD) and Community Commercial Planned Development (CC PD). The Planned Development Designation would encompass all of the zoning designations on the project site. However, the zone change would not be considered precedent-setting in that the pre-zoning for the site already calls for urban development for the site and the General Plan envisioned an even greater type and intensity of development than sought for the project. Consequently, the proposed project would not be considered growth inducing.

d. Development of Open Space

Development of open space is considered growth-inducing when it occurs on the fringes of built-up areas, or if the development "leapfrogs" over an intervening area of open space with the expectation or reasonable foreseeability that the intervening open space will fill in as a result of service extensions to serve that initial "leapfrog" development. The proposed project site is situated in an area that is surrounded predominantly by existing and planned urbanized portions of the City of Santa Clarita, (i.e., civic center, Portobella, existing Emblem Tract, industrial uses, and a multi-modal transit center) and a large intervening area of open space between the project and those uses would not be created.

Urban services including water, sewer, police and fire protection would require only minor and/or planned extensions, and it is unlikely that the availability of these services would create additional incentive for further development in the project area. Given that the project is neither on the urban fringe nor "leaps over" large tracts of open space, this project would not be considered growth inducing.

e. Conclusion

As the proposed project meets one of the growth-inducing criteria specified in this section, the proposed project is considered growth inducing.

4. IMPACTS CREATED BY GROWTH

Attempting to determine the environmental impacts created by non-spatial growth related to this project is speculative in that the size, type, and location of specific, future projects which may be induced by the project are unknown and unforeseeable at the present time. There are many variables unrelated to the project that must be considered when examining the mechanics of urban growth (e.g., market forces, demographic trends, etc.). Impacts associated with any future development project that could be influenced by development of the project would be examined in depth during the environmental review conducted for that project as part of its review and approval process.

Impacts of growth associated with buildout of the Santa Clarita Valley can be found in the cumulative analyses for each topic that were conducted in **Section 4.0** of this EIR. The cumulative analyses identify all known planned, approved, and active pending projects (including General Plan Amendments), and also assume Santa Clarita Valley buildout according to the City of Santa Clarita General Plan and the County of Los Angeles Santa Clarita Valley Area Plan for vacant land not currently proposed for development. Impacts identified in the cumulative analyses include, but are not limited to, increased vehicle traffic and vehicle exhaust emissions, increased noise levels, loss of natural habitat, and growth in the demand for community services and utilities.

8.0 ANY SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

1. PURPOSE

Uses of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible if a large commitment of these resources makes their restoration thereafter unlikely. According to Section 15126(c) of the CEQA Guidelines, irretrievable commitment of such resources are to be evaluated to assure that their consumption by a proposed project is justified. In addition, this section must also identify any irreversible damage that can result from environmental accidents associated with the proposed project.

2. DISCUSSION

Buildout of the proposed project would represent a long-term commitment to a more intensive land use than currently occurs on the project site. The proposed project would, therefore, involve an irreversible commitment to the use of non-renewable resources during the construction and operation phases in the form of refined petroleum-based fuels, natural gas for space and water heating, and mineral resources used in construction materials. Once transformed into fuel or other energy forms, or into construction materials, these resources cannot be recovered. Some reuse of construction materials after the useful life of this project may be possible. It is anticipated that these resources would likely be committed to other projects, if not used for this one.

Irreversible long-term environmental changes would accompany the proposed conversion of a partially disturbed, but primarily undeveloped area, to a residential and commercial urban scale in-fill development site. These changes would include: a significant change in the visual character of the site associated with landform modification and increased building height and bulk, an increase in local and regional traffic with associated air pollution emissions and noise levels, volumes of solid waste and wastewater generation, and an increase in water and energy consumption. The project would create the need for additional school space and the need for a variety of recreational opportunities. Although the project site is partially disturbed, it does contain natural open space areas that have significant biological habitat value and project development would result in the site being converted from primarily undeveloped property to urban uses. Portions of the river area will be modified during the

construction of bank stabilization for the project. It is not likely that the existing environmental conditions could be restored to their original condition subsequent to project development; however, mitigation measures are proposed throughout **Section 4.0** of this EIR to minimize the effects of the development impacts.

The CEQA Guidelines also require a discussion of the potential for irreversible damage caused by an environmental accident associated with the project. The following discussion identifies the characteristics of the site and proposed future uses, which could be sources of potential accidents.

No unique hazards are found on the site, nor does the site contain any uniquely hazardous uses. The site is located within a seismically active region and would be exposed to ground shaking in the event of a seismic event. Approximately 2.5 acres of the southwestern portion of the site lies within the Alquist-Priolo Earthquake Fault Zone for the San Gabriel Fault. Conformance with the regulatory provisions of the City of Santa Clarita and the Uniform Building Code pertaining to construction standards would minimize, to the extent feasible, damage and injuries in the event of such an occurrence. Geotechnical hazards can be mitigated by stabilization, removal, or redesign, and no significant impacts on the site are expected.

Uses proposed by the project (such as some commercial uses) would be expected to use and store chemicals and/or substances, which are typically found in such urban settings. Given the multitude of federal, state, and local regulations governing the use of such substances, the project development is not expected to involve activities that would damage the environment or pose a risk to public health.

Within the site boundaries, no Proposition 65 pesticides (insecticides, herbicides, and fungicides) would be used in the common and public areas, or in areas that are currently farmed and which would be phased out as development occurs. Humans would not be subject to either acute overexposure or chronic exposure to these substances if used and handled according to state and federal regulations.

9.0 EFFECTS NOT FOUND TO BE SIGNIFICANT

1. PURPOSE

Section 15128 of the CEQA Guidelines requires an EIR to briefly describe any potential environmental effects that were determined not to be significant during the Initial Study scoping process and were, therefore, not discussed in detail in the EIR.

The City Initial Study for the Riverpark did not eliminate any potential environmental effects from consideration during the Initial Study scoping process. All potential environmental effects considered on the City Initial Study form are discussed in detail throughout this EIR.

10.0 ORGANIZATIONS/PERSONS CONSULTED

The following persons were involved in the preparation of this environmental impact report.

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The following individuals/agencies were contacted for information during the preparation of this environmental impact report.

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  Terri Burbank

- Lancaster Landfill

  Kay Krumwied

- Bradley Landfill West

  Bruce Matlock

Susan Tebo

Associate Principal

Ms. Tebo serves as an Associate Principal with Impact Sciences, Inc. Her primary responsibilities include: environmental document preparation, agency consultation, project scheduling, budget supervision and control, subconsultant coordination, client contacts, presentation and testimony before public agencies and private groups. Ms. Tebo has over 24 years of professional experience in environmental review, resource management, and land use planning. She has managed and prepared environmental documents in compliance with the California Environmental Quality Act (CEQA).

Representative Professional Experience

- Project Manager for the **North Valencia No. 2** EIR project for the City of Santa Clarita assessing the potential environmental impacts associated with the annexation of 596.2 acres of land and the entitlement to develop the undeveloped portion of the annexation area (391.2 acres). The project site is located in the northwestern portion of unincorporated Los Angeles County, and is situated immediately adjacent to the jurisdictional boundaries of the City of Santa Clarita. This EIR is full scope and addresses all environmental topics. The proposed project includes development of 1,900 dwelling units, 210,000 square feet of commercial uses, a 15.9-acre community park site, 20 acre school site, 4.1 acres of private neighborhood parks, 93.4 acres of natural open space and over 9 miles of trails and paseos. Impact Sciences, Inc. was responsible for EIR project management, writing all EIR sections, coordination of technical studies conducted by subconsultants, and preparation of noise and air quality studies. This project is located adjacent to San Francisquito Creek and portions of the project site are within Los Angeles Significant Ecological Area 19.

- Project Manager for the **North Valencia Annexation** EIR. The project applicant requested the approval of the annexation of 872 acres of land into the City of Santa Clarita and the entitlement to develop the undeveloped portion of the annexation area. Approximately 153 acres of this area was already developed. The applicant also requested approval of a Specific Plan, Vesting Tentative Tract Map (VTTM) 51931, a General Plan Amendment, a Development Agreement and an Oak Tree Permit, which govern a series of development activities on the project site. Many technical studies were completed as part of the EIR including: a traffic and access study, a master geotechnical/soils analysis, a noise and air quality modeling analysis, a biological analysis, and a master drainage analysis. Particular effort was expended studying the issues of floodplain management, biological resource management and conservation, population and housing, and vehicular traffic access.

- Project Manager for preparation of the Mitigated Negative Declaration for the **Woodland Community** (Greystone Homes) in Los Angeles County. The project site was a former drive-in theatre. The project requested development of the 15-acre site into 125 single-family residential lots. Major issues associated with development of the site, included traffic, drainage and noise.

- Project Manager for the preparation of the Mitigated Negative Declaration for the **Emerald Square** project (Greystone Homes) located in the City of Gardena. The 21.5-acre project site was formerly a drive-in theatre site. The project request included 159 single-family detached homes along with five additional common areas and landscaping lots (totaling 164 lots). Major issues associated with the request included traffic, noise, and energy efficiency.

  This development is proposed in areas proximal to riparian vegetation that is considered sensitive by state and federal agencies, local governments and the public. As such, it was the intent of applicant to develop land, but in a way that is responsive to the sensitive resources present and their ecology. Past studies of riparian ecosystems were substantial, but no direct research was known that provided specific standards for development proximal to sensitive riparian vegetation. Without such guidance, it was not possible for project applicant to confidently plan projects that

balance their needs and protect riparian resources. As a component of the EIR, Impact Sciences, Inc. was asked to study this issue and make specific recommendations that would protect the riparian resource and mitigate and residual impacts. Impact Sciences, Inc. was hired based on their experience with the ecology of the Santa Clarita area, their understanding of the areas sensitive biological resources, their understanding of issues associated with land development, and their understanding of, and direct relationship to, the EIR that would be the mechanism ensuring implementation of study recommendations.

- Project Manager for a focused EIR on a proposed Middle School for the **Manhattan Beach Unified School District**. The Middle School is proposed to serve sixth, seventh and eight grades with a maximum student population of 1,400. The new school will include traditional classroom facilities, outdoor classrooms, a media and exploratory facility, and a multi-use gymnasium. The topics analyzed in this focused EIR included transportation/circulation, noise, air quality and recreation. Key issues included the impact of the loss of a lighted baseball field and central play field areas used by local soccer and baseball programs; additional traffic generated by the project impacting the surrounding neighborhood and associated air quality and noise impacts.

- Project Manager for the Addendum EIR for the **Warner Bros. Studios Main and Ranch Lots** Addendum EIR for a three story parking facility in the City of Burbank. The key environmental issues included impacts resulting from changes to visual perspectives, traffic and noise. The construction of the parking structure was particularly sensitive due to its location immediately adjacent to residential units.

- Project Manager for the Supplemental EIR for the **San Marcos Landfill Expansion** (San Diego County). Key issues involved coordination and preparation of technical reports and permitting efforts for the proposed landfill expansion. Key issues include geology, hydrology, air quality, and noise. Intensive project coordination with many agencies included County of San Diego Department of Public Works, California State Regional Water Quality Control Board, California State Integrated Waste Management Board, Air Pollution Control District, and the County of San Diego Department of Health Services.

- Project Manager for **Project 9250** (Los Angeles County) EIR. The project EIR analyzed the potential impacts of the implementation of a 10- mile Storm Drain Project. Major issues included geology, construction scheduling, flood, air quality, traffic and noise.

- Project Manager for an Initial Study/Environmental Assessment - **I-10 Freeway/Pepper Avenue Interchange Improvement** in San Bernardino County. Major issues involved biota (several special status species were identified on or adjacent to the project site), noise, air quality and traffic.

- Project Manager for over 30 **Phase I Site Assessments** in California, Maryland, Pennsylvania and Virginia.

- Serves as Environmental Consultant to the City of Malibu for as-needed on-call services.

- Serves as staff to the **City of Gardena** preparing numerous Initial Studies and staff reports for projects located within the City. Many of the projects have been complex and controversial including a drug-rehabilitation facility as well as a casino signage program.

Education

Masters of Public Administration, California State University, Long Beach
Bachelor of Science, Environmental Studies (emphasis Urban Planning), San Jose State University

Professional Affiliations

American Planning Association

Thomas Worthington

Principal, Impact Sciences

Mr. Worthington is one of two founding Principals of Impact Sciences, an environmental and land planning consulting firm created in 1988. He oversees the firm's general management and provides environmental consulting services for key clients of the firm. Since 1983, Mr. Worthington has been responsible for the preparation of environmental reports and supporting documentation for large, regionally prominent projects proposed throughout the state. Public sector clients for which services have been provided range from smaller cities, such as the Cities of Camarillo, Elk Grove and San Buenaventura, up to the most populous in California (both the County and City of Los Angeles). Private sector clients include some of the state's most prominent: Tejon Ranch, The Newhall Land and Farming Company, Warner Bros. Studios, McDonald's Corporation, and Ahmanson Commercial Development Company. This broad array of environmental experience, combined with his business experience and management abilities, allows Mr. Worthington to develop and apply workable environmental principals that address the needs of the key parties involved in the environmental review process.

Mr. Worthington has particular expertise in the environmental review of master planned communities and new towns. Most recently, he is responsible for the preparation of the Newhall Ranch Specific Plan and Water Reclamation Plant EIR, a 12,000 acre, 21,000 home new town proposed in northern Los Angeles County. He has also the environmental impacts associated with many commercial projects including regional malls, power centers, factory outlet centers, auto malls, and office and hotel centers. Due to the regional significance of these projects, all were subject to a very high level of scrutiny and potential legal challenge. Consequently, Mr. Worthington has developed solid experience assisting with the defense of environmental documents in Court settings. Clearly, this broad array of experience gives Mr. Worthington a unique understanding of the important role environmental consulting and planning plays in the review and design of major projects.

The availability of water has become a very critical issue requiring assessment in environmental documents. Through direct project experience, Mr. Worthington has become one of the leading experts on water supply assessment and planning in the state. This experience has proven to be valuable to public and private sector clients as they address the many questions posed as a result of limited water resources.

Representative Project Experience

- Mr. Worthington served as the Principal-in-Charge and Project Manager for the EIR being prepared for the 12,000 acre, 21,000 dwelling unit **Newhall Ranch Specific Plan and Water Reclamation Plant** proposed by The Newhall Land and Farming Company (NLF) in Los Angeles County. Approval of the Specific Plan would establish the zoning necessary for the Ranch to be developed with 21,000 residential units on 4,493 acres, 91 acres of commercial uses, 256 acres of business park uses, 37 acres of visitor-serving uses, 1,089 acres of open area, 4,763 acres in Special Management Areas (permanent open area), and other uses such as fire stations, a library, school sites, a public trails system, a 15 acre lake, associated community facilities (roads, bridges, etc.), and a 6.9-million gallon per day water reclamation plant. The Newhall Ranch Specific Plan would eventually require approval by the County of the various subdivision maps, parcel maps, conditional use permits, and/or oak tree permits necessary to implement the Specific Plan. Additional permits or approvals would also be required from various Responsible Agencies. Many comments were received in response to the Draft EIR. Clearly, one of the most frequently identified issues is the conversion of a large open area to urban and suburban land uses, and the impacts that might result. Most of the specific environmental issues raised concerned the potential Specific Plan impacts on biological resources, traffic and circulation, public services including water availability, and air quality.

- Mr. Worthington served as the Principal-in-charge for the **North Valencia Annexation and Specific Plan EIR**, City of Santa Clarita. The project applicant requested the approval of the annexation of 872 acres of land into the City of Santa Clarita and the entitlement to develop the undeveloped portion of the annexation area. Approximately 153 acres of this area was already developed. The development of the undeveloped portion of the project (approximately 706.6 acres) will be guided by the *North Valencia Specific Plan*. The applicant also requested approval of a Vesting Tentative Tract Map (VTTM) 51931, a General Plan Amendment, a Development Agreement and an Oak Tree Permit, which govern a series of development activities on the project site. Major components of the development include 2,000 dwelling units, 636,000 square feet of commercial/retail space, 167,000 square feet of industrial/business park space, a 15-acre lake, and 348 acres of river/creek-related open space. Many technical studies were completed as part of the EIR including: a traffic and access study, a master geotechnical/soils analysis, a noise and air quality modeling analysis, a biological analysis, and a master drainage analysis. Particular effort was expended studying the issues of floodplain management, biological resource management and conservation, population and housing, and vehicular traffic access. Clearly the most important issue was the project's potential effects on the Santa Clara River and San Francisquito Creek, both of which are designated Significant Ecological Areas.

- Mr. Worthington served as the Principal-in-Charge for a U.S. Fish and Wildlife Service Section 7 Consultation and Mitigation Agreement for a proposed **Petro Stopping Center and Travel Plaza**, Kern County, California. Primary issues focused on direct and indirect biological impacts associated with the proposed project including those associated with a package wastewater treatment plant.

- Mr. Worthington served as the Project Manager for the **La Cañada Village** EIR proposed by Sports Chalet, Inc. in the City of La Cañada Flintridge. The La Cañada Village Project, which was proposed on the same site as the currently proposed Sports Chalet Project, involved the construction and operation of a commercial retail and office development. Overall, the project would have been constructed in three phases and would have consisted of a total of 117,625 square feet of retail commercial space, 61,284 square feet of office space, an 8,500 square-foot restaurant, a 13,350 square-foot four-plex cinema, and a 2,500 square foot day care center. Key concerns for the project included traffic, noise, visual effects and the compatibility of the commercial project with surrounding residential areas.

- Served as Principal-in-Charge for the Draft and Final EIR for **Decoro Highlands**, proposed in the County of Los Angeles. This project involves the development of 460 residential units on 70 acres in the unincorporated area of San Francisquito Canyon. This EIR was focused to address specific environmental issues, including: geotechnical, flooding, biological resources, traffic, air quality, education, and public services. Impact Sciences was responsible for EIR project management, writing all EIR sections, coordination of technical studies conducted by subconsultants, and preparation of biological and air quality studies.

- Mr. Worthington serves as the Principal-in-Charge for **Westridge at Valencia**, proposed in the County of Los Angeles. Impact Sciences is preparing the EIR for the County of Los Angeles to assess the potential environmental impacts associated with the development of 798 acres in the unincorporated area of the Santa Clarita Valley. The proposed project includes development of 1,714 dwelling units, an 18-hole golf course, 41,000 square feet of commercial retail uses, an elementary school site, and 226 acres of open space. This EIR was focused to address specific environmental issues, including: biota, visual qualities, traffic, air quality, water resources, solid waste, education public services, geotechnical hazards, flood, and parks, trails and recreation. Impact Sciences is responsible for EIR project management, preparation of all EIR sections, and preparation of biological, noise and air quality studies. A portion of this project is located within Los Angeles Significant Ecological Area 64 (Valley Oak Savannah).

Other Retail Project Experience

Impact Sciences has been extensively involved for over 10 years with retail commercial projects involving "Power", "Big Box", and "Category Killer" tenants. The firm, under Mr. Worthington's direction, has prepared technical studies, Environmental Impact Reports (EIRs) and Specific Plans for stand-alone stores and major regional centers. Representative experience includes:

- **Valencia Marketplace** - Impact Sciences participated in the preparation of an EIR for this 650,000 square foot power center located in the master planned community of Valencia, California. Tenants include Wal-Mart, Staples, Sport Chalet, and Circuit City.
- **Camarillo Factory Outlet Center** - Over a 3-year period Impact Sciences prepared EIRs for the first and second phase of this 500,000 factory outlet center in Ventura County.
- **Shopping at the Rose, Oxnard** - Impact Sciences prepared separate EIRs for the two phases of this power center. Tenants include Wal-Mart, Sam's Club, Sportsmart, Best Buy Electronics and Office Max.
- **Quail Lake Factory Outlet Mall** - Impact Sciences prepared an EIR for this 400,000 square foot outlet center proposed near Gorman, California on Interstate 5.
- **Airport North/Town Center Project** - Impact Sciences prepared this EIR for a 400,000 square foot center in Camarillo California. Tenants include Target and Staples.
- **Oxnard Factory Outlet Center** - Impact Sciences prepared an EIR for a 300,000 square foot factory outlet center.

Professional Presentations

Raising the CEQA Bar, American Planning Association, California Chapter Annual Conference, October 2002. A presentation before the American Planning Association regarding recent changes in the application of the California Environment Quality Act.

Water and Planning, League of California Cities Annual Conference, March 2002. A presentation before the League of California Cities regarding the availability of water supply and its effect on land planning.

CEQA and Smart Growth, Urban Land Institute, February 2002. A presentation before the Urban Land Institute's California Smart Growth Initiative's Statewide Coordinating Committee regarding the role CEQA can play in encouraging smart growth.

Santa Clarita Valley Air Quality and Open Space Update, City of Santa Clarita, February 2001. A presentation before the Mayor's Committee on Managed Growth regarding the status of air quality and open space in and around the Santa Clarita Valley.

Quenching Our Thirst, American Planning Association, California Chapter Annual Conference, September 2000. A presentation before the American Planning Association regarding the availability and reliability of water supplies in California.

Professional Publications

Urban Land Institute, *Putting the Pieces Together; State Actions to Encourage Smart Growth Practices in California,* 2002. A report from the ULI California Smart Growth Initiative's Statewide Coordinating Committee.

Past Related Employment Experience

Mr. Worthington served as an environmental project manager and consultant with Envicom Corporation from 1983 to 1988.

Education

Bachelor of Arts, Physical Geography and Ecosystem Studies, University of California, Los Angeles, 1984
Master of Business Administration, Pepperdine University, 1989

Professional Affiliations

Association of Environmental Professionals
Urban Land Institute
American Management Association
American Planning Association

Rosemarie Mamaghani, AICP

Project Manager

Ms. Mamaghani is a project manager for Impact Sciences, Inc. with experience in preparing both environmental and planning documents. Specifically, Ms. Mamaghani prepares environmental impact reports, negative declarations, initial studies, categorical exemptions, and required CEQA noticing for political jurisdictions throughout northern and southern California, as well as specific plan documents pursuant to California Government Code. Within the company framework, she prepares air quality impact analyses using URBEMIS2000 and noise impact analyses using SOUND32 and SOUND2000, in addition to assessing impacts associated with many environmental topics. Ms. Mamaghani is uniquely qualified to prepare traffic noise impact analyses using the FHWA-approved Caltrans models, SOUND32 and SOUND2000, and has prepared a number of noise studies adjacent to busy southern California freeway, including the heavily-traveled Interstate 5.

With a Masters Degree in City and Regional Planning from the Ohio State University College of Engineering and twenty years of experience in planning and environmental consulting, Ms. Mamaghani has the background and experience needed to prepare technically accurate planning and environmental documents for development projects that meet the requirements of CEQA, California Government Code, and local agency requirements.

Prior to joining Impact Sciences, Inc., Ms. Mamaghani worked for engineering firms in both Austin, Texas and Ventura, California where she prepared preliminary hydrology, storm drainage, water, sewer, and traffic studies under the supervision of Senior Engineers. Ms. Mamaghani brought this valued experience to Impact Sciences, Inc. in 1989 where she continues to be an active liaison between project engineers and the CEQA process. Because she understands engineering concepts well, Ms. Mamaghani has the ability to translate complex engineering designs and practices into terms that are defensible, yet understandable to the lay reader.

Representative Project Experience

- **Athens Materials Recovery Facility** for Athens Services, Los Angeles County – Ms. Mamaghani prepared the EIR for expansion of an existing materials recovery facility/transfer station that overlaid unincorporated Los Angeles County and the City of Industry. The facility site is surrounded to the south and west by residences, so noise impacts of the facility expansion were a key environmental topic of the EIR. Other issues addressed in the EIR included truck traffic, air quality, water quality, and environmental safety.

- **Westview Estates** for Centura Investments, Inc., City of Lancaster – Ms. Mamaghani prepared both the Specific Plan and the EIR for this 120-acre development project of 425 single family residences. The project site lies outside the urban core of the City of Lancaster and required extension of sewer and water infrastructure to the site. Under agricultural production, the development proposal was assessed for its environmental impacts on agricultural, geotechnical, biological, and cultural resources; air quality; noise; the local transportation system; and public services and facilities. The project was eventually assessed as a residential planned development rather than as a specific plan.

- **Newhall Ranch Specific Plan and Water Reclamation Plant** EIR for The Newhall Land and Farming Company (NLF), Los Angeles County – Ms. Mamaghani assisted in the preparation of the EIR for the Specific Plan that would permit the 12,000 acre ranch site to be developed with a new community with over 20,000 residential units; commercial, business park, and recreational uses; public facilities, such as a library, fire stations, schools; and a 7.7-million gallon per day water reclamation plant. Ms. Mamaghani spent four years working on the Specific Plan EIR both coordinating with engineering subconsultants and in preparing many of the technical sections of the

document, as well as assessing the project's impacts on regional population and housing plans and goals. In preparing such a document, Impact Sciences worked closely with development standards of the Specific Plan and analyzed the County General Plan applicable goals and policies for these sections.

- **Westridge at Valencia** EIR for Valencia Company, Los Angeles County – Ms. Mamaghani assisted in the preparation of the EIR for the 798-acre development in an unincorporated area of the Santa Clarita Valley. The project included 1,714 dwelling units, an 18-hole golf course, 41,000 square feet of commercial retail uses, an elementary school site, and 226 acres of open space. The focus of the EIR was air quality, biota, visual qualities, traffic, water resources, solid waste, education public services, geotechnical hazards, flood, and parks, trails and recreation. Ms. Mamaghani prepared the air quality section in addition to most of these other technical sections. In preparing such a document, Impact Sciences analyzed the County General Plan applicable goals and policies for these sections.

- **North Valencia Annexation** EIR for Valencia Company, City of Santa Clarita, Los Angeles County – Ms. Mamaghani prepared the air quality and noise sections for this 872-acre annexation project that also included a Specific Plan, Vesting Tentative Tract Map (VTTM) 51931, General Plan Amendment, Development Agreement, and Oak Tree Permit. Many technical studies were completed as part of the EIR including: a traffic and access study, a master geotechnical/soils analysis, a noise and air quality modeling analysis, a biological analysis, and a master drainage analysis. In preparing such a document, Impact Sciences worked closely with development standards of the Specific Plan and analyzed the County General Plan applicable goals and policies for these sections.

- **Westcreek Development Project** for the Valencia Company, Los Angeles County – Ms. Mamaghani prepared the air quality and noise sections for this 572-acre development project for 2,400 dwelling units and a 18-hole golf course. Impact Sciences was responsible for EIR project management, writing all EIR section, coordination of technical studies conducted by subconsultants, and preparation of noise, air quality and biological studies.

Education

Bachelor of Arts, College of Arts and Sciences, Ohio State University
Masters in City and Regional Planning, College of Engineering, Ohio State University

Professional Affiliations

American Institute of Certified Planners
Association of Environmental Professionals

Debbie Builder

Project Planner

Ms. Builder is a project planner with demonstrated working knowledge of regulatory compliance, resource agency permits, and preparation of environmental documents. She has participated in the preparation of various documents including Environmental Impact Reports and Mitigated Negative Declarations. She has assured project compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Her technical knowledge includes the use and application of project management software, presentation software, and various statistical programs.

Representative Project Experience

- **Chaffey Community College District**, Rancho Cucamonga Campus Master Plan Environmental Impact Report, Chaffey Community College District – Acting as Project Manager for the preparation of the Master Plan EIR for construction of new buildings, modification of existing buildings, and improvements to parking and circulation on the Chaffey Community College Rancho Cucamonga campus. Major issues are traffic impacts to the surrounding streets and compatibility with neighboring residential uses.

- **Lompoc Aquatic Center**, Environmental Impact Report, City of Lompoc – Acted as Project Planner for the preparation of an EIR analyzing the development of an Aquatic Center to serve the City of Lompoc and surrounding communities. Impact analysis prepared by Ms. Builder included, visual resources, cultural resources, land use and planning, cumulative analysis and growth inducing impact sections of the EIR.

- **Tentative Tract Map 5340**, Environmental Impact Report, City of Oxnard – Prepared analysis of impacts resulting from a 200 single-family subdivision with accompanying 14-acre public park located adjacent to the Oxnard Airport. Impact analysis prepared by Ms. Builder included, land use and planning, noise, and hazard impact sections of the EIR.

- **Encore Hall Senior Apartments**, Mitigated Negative Declaration, City of Los Angeles Community Redevelopment Agency – Prepared analysis of impacts resulting from development of a 106 unit senior housing apartment, 75 underground parking spaces, 6,500 square feet of resident community space, 2,000 square feet of public open space and an approximately 613 space public parking garage in the Hollywood Community of the City of Los Angeles.

- **Camino Del Sol Roadway Extension**, Mitigated Negative Declaration, City of Oxnard – Prepared analysis of impacts resulting from the roadway extension of Camino Del Sol, an east-west arterial roadway located within the City of Oxnard.

- **Vogel Industrial Park Highway 58**, Environmental Impact Report, County of Kern – Acting as Project Planner for the preparation of an EIR analyzing the impacts of a 620-acre industrial park. Impact analysis prepared by Ms. Builder includes agriculture, geology, population, employment, cumulative impacts and alternative impact sections of the EIR.

- **Valencia Boulevard/Soledad Canyon Road Improvements** Mitigated Negative Declaration, City of Santa Clarita – Prepared analysis of impacts resulting from improvements to the Valencia Boulevard and Soledad Canyon Road intersection.

- **North Valencia Auto Mall** Mitigated Negative Declaration, City of Valencia – Prepared analysis of impacts resulting from the proposed automotive sales development (auto mall) and the environmental effects of the additional import of 230,000 cubic yards of soil to the project site.

- **Tentative Tract Map 52717** Amendment to Specific Plan No. 4 EIR, City of San Dimas – Acted as Assistant Project Manager for the preparation of an EIR analyzing the impacts of a 19-acre residential community containing 18 proposed homes, equestrian uses, and open space. Impact analysis prepared by Ms. Builder included geology and soils, visual resources, noise, agricultural, cultural, public safety impact analysis and cumulative impacts sections of the EIR. Key issues analyzed included loss of the existing open space, public safety impacts and water quality issues.

- **Valencia High School** Negative Mitigated Declaration, City of Valencia – Prepared analysis of light impacts resulting from the proposed addition of stadium lights to the Valencia High School stadium to adjacent residential uses.

Education

Juris Doctor, Concentration Environmental Law, Thomas Jefferson School of Law
Master of Science, Environmental Studies, Concentration Ecology & Entomology, Ohio University
Bachelor of Science, Environmental Biology, Ohio University

Keith W. Babcock

Director of Biological Services/Wildlife Biologist

Mr. Babcock is Director of Biological Services at Impact Sciences, Inc., and is a wildlife biologist with over 15 years of experience in both wildlife biology and project management. He has directed, managed, or conducted a broad range of terrestrial wildlife research and studies, biological resource inventories, sensitive species surveys, environmental impact assessments, biological constraints analysis, habitat conservation/management plans, and mitigation monitoring plans for a variety of private and public sector clients in virtually every major habitat type in California. Mr. Babcock has a thorough understanding of the California Environmental Quality Act, both state and federal Endangered Species Acts, and state and federal regulations and permits involving biological resources. He has worked on over 200 environmental compliance projects, including EIRs, EISs, Section 10(a) permits, Habitat Conservation Plans, Section 7 consultations, Section 404 permits, and Streambed Alteration Agreements. His biological expertise includes knowledge of a wide range of terrestrial organisms and ecological relationships, with particular emphasis on general ornithology, raptors, threatened and endangered species, and wildlife movement corridors.

Representative Professional Experience

Environmental Compliance

- Managed and participated in field investigations, data collection, and preparation of the biological resources assessment portion of EIRs for the California Department of Corrections for proposed prison facilities throughout northern and central California. Significant issues included potential impacts on numerous state- and federally-listed threatened or endangered animal species including desert tortoise, San Joaquin kit fox, Swainson's hawk, blunt-nosed leopard lizard, Tipton kangaroo rat, and California red-legged frog. Potential impacts on wildlife movement corridors were also addressed. In some cases, consultations were conducted with the USFWS and CDFG in preparation of the need for a potential federal Section 10(a) permit and a state Section 2090 permit.

- Directed the biological resources analysis for the proposed Westridge residential and golf course project on approximately 300 acres of open space in northern Los Angeles County. Significant biological issues included oak woodlands and oak trees, raptor foraging habitat, and wildlife movement. A majority of the project site is included within a Los Angeles County Significant Ecological Area (SEA), which required the preparation of a separate biological assessment and impact analysis as well as appearances before a SEA technical advisory committee to present the findings of the analysis and respond to concerns and issues.

- Managed field surveys, data collection, and documentation of sensitive biological resources for a 5,000-acre study area, and participated in preserve area design for a 45,000-acre study area, on the Rancho Mission Viejo ranch in south Orange County, California, for inclusion in the Natural Communities Conservation Planning (NCCP) multispecies habitat management program. Directed and participated in focused surveys for more than 15 sensitive species including the California gnatcatcher, coastal cactus wren, least Bell's vireo, yellow-breasted chat, San Diego horned lizard, orange-throated whiptail, many-stemmed dudleya, Palmer's grappling-hook, southwestern pond turtle, arroyo toad, and several raptor species.

- Directed all aspects of the biological resources section of the North Valencia Annexation EIR in the City of Santa Clarita, California. This complex analysis involved potential impacts on two large riparian systems (San Francisquito Creek and Santa Clara River), threatened and endangered species (unarmored threespined stickleback, least Bell's vireo), riparian and upland habitats, and wildlife movement corridors. The analysis included a riparian buffer study to determine a biologically appropriate upland buffer between proposed development and protected riparian

systems to ensure the overall viability of riparian associated wildlife populations. The project involved extensive coordination with ACOE and CDFG regarding permitting for impacts on wetlands and riparian areas.

- Directed and participated in the biological resources analysis and EIR section documentation for the proposed Glenwood Specific Plan on approximately 125 acres in the City of Scotts Valley, Santa Cruz County. Significant biological issues included potential impacts on two threatened or endangered species (Scott's Valley spineflower and California red-legged frog), a species being petitioned for listing (Ohlone tiger beetle) and several other special-status plant and wildlife species, ACOE and CDFG jurisdictional wetlands and riparian areas, heritage trees, wildlife movement, and wildlife habitat. Extensive coordination with CDFG, ACOE, and USFWS was required, as well as participation in several public hearings. The project involved the development of several unique mitigation measures, including a preserve for the Ohlone tiger beetle and several special-status plant species.

- Directed and participated in field investigations and documentation of the biological resources inventory and impact assessment component of a statewide EIR for proposed electrified fences at 29 state prisons throughout California. Tasks involved determining species at risk of electrocution, managing baseline assessments of habitats and species at each prison site, developing creative measures to mitigate impacts, and consulting with state and federal resource agencies. Also assisted in the management of, and participated in, a similar investigation for two prisons in the state of Washington.

- Directed and participated in field surveys and documentation for the biological resources component of a Mitigated Negative Declaration for a seismic upgrade project of a 15-mile portion of the Mokelumne Aqueduct in San Joaquin and Contra Costa Counties. Directed subconsultants to perform wetland delineations, coordinated field verifications and meetings with ACOE, CDFG, and USFWS, and managed all aspects of a Section 404 ACOE wetland fill permit, a Section 7 Consultation with USFWS, and a Section 1600 Streambed Alteration Agreement with CDFG. Potential impacts of the project on the biological resources associated with three major rivers and two sloughs were addressed.

- Managed and participated in the field survey design and methods of focused surveys for the federally-listed endangered desert tortoise on a site proposed for a new state prison in eastern Los Angeles County. The survey effort included characterizing and mapping suitable habitat for the tortoise as well as for other special-status species, including Mohave ground squirrel and San Joaquin antelope squirrel. Consultations were conducted with the USFWS and CDFG in preparation of the need for a potential federal Section 10(a) permit and a state Section 2090 permit.

- Managed and participated in field surveys, data collection, and preparation of a biological assessment for potential impacts on the federally-listed Threatened California gnatcatcher as a result of a proposed project in Chula Vista, San Diego County. The biological assessment was used as a basis for a Section 7 consultation with the U.S. Fish and Wildlife Service which resulted in a no jeopardy determination. Informal and formal consultations and meetings with USFWS were conducted throughout the process.

- Directed and participated in field surveys and documentation for the biological resources component of an EIR for proposed gravel mining operation in Yolo County. Analysis focused on the potential impacts of out-of-channel mining along Cache Creek, especially with respect to riparian vegetation and stream associated wildlife. Special-status species issues included Valley Elderberry longhorn beetle and Swainson's hawk.

- Prepared the biological documentation necessary for the proposed central coast NCCP in Orange County. The NCCP documentation established plans for The Irvine Company (TIC), the Transportation Corridor Agencies (TCA), the County of Orange, and other affected parties to

comply with the NCCP Act of 1992, providing a comprehensive approach to resolving inherent conflicts between the need to protect sensitive and critical coastal sage scrub habitat and wildlife, and the need to proceed with TIC, TCA, and other development projects.

- Managed and participated in the field surveys and documentation efforts for the biological components of several environmental compliance documents in northern California including the Rancho Dorado EIR in El Dorado County, two gravel and rock mining projects in Yolo County, the Roseville General Plan in Placer County, the Palos Colorados EIR in Contra Costa County, the North Rocklin Circulation Element EIR in Sacramento County, and the Paradise Treatment Plant Biological Assessment in Butte County. Issues included potential impacts on vernal pools, wildlife movement corridors, wetlands, sensitive plants, and numerous sensitive animal species including bald eagle, red-legged frog, Valley elderberry longhorn beetle, Swainson's hawk, western spadefoot toad, and California tiger salamander.

- Managed and participated in field surveys, impact analysis, and documentation of an Environmental Assessment of a proposed 15-mile water and gas pipeline corridor in the Mojave Desert of southern California. Focused surveys and habitat analysis for the federally-listed endangered desert tortoise and Mojave ground squirrel were also conducted within the corridor alignment. Consultations were conducted with the USFWS and CDFG in preparation of the need for a potential federal Section 10(a) permit and a state Section 2090 permit.

- Directed and participated in the environmental documentation of biological resources for an EIR on the Water Forum Agreement, an agreement between over 20 water purveyors and water districts on the future use and management of water along the lower American River. The project involved the documentation of existing biological resources along the river and an analysis of potential impacts on these resources as a result of projected changes in water flow levels.

- Managed field investigations, impact analysis, mitigation planning, and overall biological assessment documentation for several proposed projects within Significant Ecological Areas (SEAs) in Los Angeles County, California. Significant issues included several sensitive plant and wildlife species, sensitive habitat areas, and potential impacts on wildlife movement corridors.

- Assisted in the management and preparation of the biological resources assessment for the East Coyote Hills EIR in Orange County, California. Coordinated field surveys and analyses of the onsite population of California gnatcatchers. The assessment resulted in the development of a pre-listing Habitat Conservation Plan (HCP) for the California gnatcatcher that resulted in the issuance of a Section 10(a) permit pursuant to the federal Endangered Species Act.

- Managed and conducted numerous biological resources inventories and baseline assessments in a variety of habitat types varying from in the counties of Sacramento, Contra Costa, Solano, Yolo, Merced, San Joaquin, Tulare, Fresno, Ventura, Los Angeles, San Bernardino, Riverside, and Orange, California. Issues included potential impacts on vernal pools, riparian habitats, wildlife movement corridors, wetlands, special-status plants, and numerous special-status animal species including bald eagle, California red-legged frog, Valley elderberry longhorn beetle, Swainson's hawk, desert tortoise, California gnatcatcher, San Joaquin kit fox, vernal pool and fairy shrimp, and California spotted owl. Most of these assessments were used in subsequent environmental impact reports and other regulatory documents.

- Managed field investigations and document preparation for biological resources inventory within the 5700-acre Villages of Laguna San Luis proposed project in Merced County, California. Sensitive species surveys included San Joaquin kit fox and burrowing owl.

Focused Studies

- Designed and managed a Swainson's hawk radio-telemetry study over an 8,000-acre study area in West Sacramento, California, to determine home range and habitat use of eight pairs of nesting Swainson's hawks. Responsible for overall study design, capture and attachment of radio transmitters on five Swainson's hawks, radio tracking methodology, staffing, and overall data analysis and interpretation. All data was incorporated into a Geographic Information System (GIS) for analysis and presentation. The information obtained was used to evaluate potential impacts on nesting Swainson's hawks and to develop suitable mitigation measures. The project involved coordination between CDFG, the City of West Sacramento, and the applicants during all phases of the study. The information was eventually used as part of a Section 2081 consultation pursuant to CESA.

- Designed and managed wildlife movement corridor studies for four proposed projects in Ventura County and three proposed projects in Orange County, including a 16-mile transportation corridor project. The studies, which involved the use of remote motion-triggered camera, track plates, and others wildlife movement data collection techniques, were designed to identify and quantify target wildlife species using the project sites, identify areas that are used by these species as travel routes, and to evaluate the relative importance of these areas as potential movement corridors. Recommendations on corridor design were also developed to mitigate potential adverse impacts on movement corridors.

- Conducted survey and habitat analysis for burrowing owls on a 30-acre project site in the City of Milpitas. Based on the presence of breeding pair of owls, identified and evaluated that portion of the site most likely to be included within the foraging range of the owls. Developed a mitigation plan for proposed impacts to the owls and occupied habitat, which included the passive relocation of the owls from the site. Directed and participated in the implementation of the owl mitigation measures, including coordination with CDFG.

- Designed, managed, and implemented a mitigation and construction monitoring program for a large-scale project potentially impacting breeding burrowing owls in Fresno County, California. Designed and presented educational materials at a pre-construction meeting attended by 40 individuals. Trapped and banded burrowing owls. Coordinated and consulted with the California Department of Fish and Game on all aspects of the program.

- Conducted numerous focused surveys for the federally-listed threatened California gnatcatcher in San Diego, Orange, Los Angeles, and Ventura Counties. Surveys were conducted under a federal USFWS survey permit.

- Directed the surveys for three federally-listed threatened and endangered fairy shrimp species in a large vernal pool complex (over 100 pools) in eastern Sacramento County. Managed subcontractor contracts and directed the compiling of data and information into a document that met USFWS documentation protocols for surveys of fairy shrimp species.

- Managed an analysis of potential impacts of wind turbines on biological resources on a proposed wind energy site in Solano County. The study focused on the potential effects of wind anemometer towers and wind turbine towers on avian species, particularly raptors and migratory birds.

- Served as field investigator and principal author of a biological resources assessment for a U.S. Navy development project in Mono County, California. Conducted a survey for mule deer and specifically addressed potential impacts on mule deer migration areas.

Professional History

Impact Sciences, Inc. - Director of Biological Services, Wildlife Biologist
Michael Brandman Associates - Senior Project Manager, Wildlife Biologist
U.S. Fish and Wildlife Service (USFWS), Patuxent Wildlife Research Center - Biological Technician

Education

Master of Science, Business Management, Colorado State University
Bachelor of Science, Wildlife Biology, Colorado State University

Professional Affiliations

Association of Environmental Professionals (AEP)
Raptor Research Foundation
Society for Conservation Biology
California Swainson's Hawk Technical Advisory Committee

Permits/Certifications

Scientific Collecting Permit, State of California, CDFG
Federal Bird Banding Permit, USFWS
Section 10(a) Permit to Survey for California Gnatcatcher, USFWS
Habitat Evaluation Procedures, USFWS
Certified Scuba

Publications

Babcock, K.W. 1995. Home range and habitat use of breeding Swainson's hawks in the Sacramento Valley of California. *J. Raptor Research* 29(3):193-197.

Jeff Johnson

Senior Biologist

Mr. Johnson is a senior biologist with Impact Sciences and has 13 years experience working in the environmental field. Previously, he worked for the Department of Defense as a natural resources program manager at a Naval Weapons Station where he was responsible for managing numerous wildlife research and compliance projects. In the course of his management for the Navy, he prepared and reviewed Biological Assessments and lead formal and informal consultations, as per Section 7 of the Endangered Species Act, in conjunction with a National Wildlife Refuge on Navy owned land. For several years, he acted as NEPA program manager and has considerable experience with the project review process and written documents, as required by this process.

While employed with Impact Sciences, Mr. Johnson has been involved in the preparation of several Environmental Impact Reports and conducted several biological constraints analysis for the use in preliminary project planning.

Mr. Johnson jointly managed a National Wildlife Refuge with the U.S. Fish & Wildlife Service. He developed and implemented the natural resources management plan that prescribes projects and studies involving a variety of scientific techniques and data collection. Mr. Johnson has successfully negotiated and authored, on behalf of the Navy, a Memorandum of Understanding (MOU) with the U.S. Fish & Wildlife Service for management of the Seal Beach National Wildlife Refuge located on Naval Weapons Station Seal Beach. This MOU diffused a long-standing conflict between the Navy and the Service regarding stewardship responsibilities.

Representative Project Experience

- **D.R. Horton, residential development**, Biological Constraints Analysis – Acted as senior biologist in the preparation of a biological constraints report for the development of 400 housing units on a parcel of native land. Client contact is Senior Vice-President of Planning, Dan Boyd.

- **Del Webb California Corp., Sun City Shadow Hills Development**, Biological Resources Section of Environmental Impact Report, City of Indio – Acted as senior biologist in charge of analyzing field data and writing the biological resources section of the EIR including impact analysis of a 806-acre development project.

- **Naval Weapons Station Seal Beach** – While working at Naval Weapons Station Seal Beach, Mr. Johnson actively managed breeding populations of two endangered bird species. He monitored the breeding success and development management strategies to ensure success into the future. His management duties were to assess project impacts, develop mitigation measures, determine appropriate predator control actions and enhance the surrounding habitat. Contact is U.S. Fish & Wildlife Service Refuge Manager, John Bradley.

Education

Bachelor and Master of Science, General Biology with an emphasis in Ornithology

Julie Berger

Environmental Planner

Ms. Berger is an Environmental Planner with broad experience in environmental research and planning. She has prepared environmental documents including Initial Studies, Mitigated Negative Declarations, and Environmental Impact Reports. She has prepared a wide variety of technical sections for EIRs including public services, utilities, water and energy conservation, and visual and aesthetic, including shade, shadow, light and glare sections. Ms. Berger has also researched and prepared Final Environmental Risk and Site Assessment (Phase I) Reports.

Representative Project Experience

- **Rolling Hills Covenant Church Expansion Project** – Performed environmental analysis and assisted in preparation of California Environmental Quality Act documentation for all sections of this focussed EIR.

- **Shadow Hills Project Master Plan Subsequent EIR** – Performed environmental analysis and assisted in preparation of California Environmental Quality Act documentation with focus on Public Services, Utilities and Agricultural Resources sections.

- **RiverPark EIR** – Prepared the Findings and Mitigation Monitoring program for this Specific Plan in Oxnard. RiverPark was the largest project throughout Ventura, Los Angeles and Santa Barbara counties.

- **Tejon Industrial Complex East** – Prepared Mitigation Monitoring Program for this focused EIR on a master-planned mixed use industrial/commercial complex proposed by the Tejon Ranch.

- **Playa Vista Master Plan and Phase I Development** – Performed environmental analysis and assisted in preparation of California Environmental Quality Act documentation.

- **Fox Studios Historic Preservation and Expansion** – Coordinated and prepared documentation following research and analysis of project site. Reviewed reports, taking into consideration the historical nature of the property and environmental issues affected.

- **Lincoln Place Redevelopment** – Reviewed and summarized reports for inclusion in environmental documents.

- **Environmental Site Assessments (Phase 1)** – Performed approximately 15 ESAs for real estate transfers and refinancing in the southern California area and prepared reports summarizing findings. Research included visual reconnaissance of site; review of property records and aerial photographs; review of governmental and regulatory agency files and records; investigation of local and regional geology, hydrogeology and hydrology; asbestos sampling and assessment and interpretation of laboratory reports; and observation of drilling techniques and soil sampling and interpretation of laboratory reports.

Education

B.S., Health Science, Environmental and Occupational Health Option, California State University, Northridge, California

Basic Real Estate Development Seminar, Urban Land Institute, Los Angeles, CA November 2001

RESUMES OF COMPANY PRINCIPALS AND KEY EMPLOYEES

ALLAN E. SEWARD, RG, CEG
Principal Engineering Geologist

EDUCATION

M.A., Engineering Geology, University of Southern California (USC), 1962
B.A., Geology, University of California, Los Angeles (UCLA), 1958

PROFESSIONAL LICENSES

Registered Geologist, CA (RG No. 571) on 3/31/70
Certified Engineering Geologist, CA (CEG No. 246) on 11/27/70

Registered Geologist, OR (RG No. 438)
Certified Engineering Geologist, OR (CEG No. E438)

Teaching Credential - General and Physical Science
Certification as an Engineering Geologist with L.A. County 1/29/68

EXPERIENCE

Allan E. Seward has over forty-two years of experience in geology. Allan Seward founded Allan E. Seward Engineering Geology, Inc. in 1978 and is still the principal engineering geologist. He has prepared geologic reports on all phases of residential, commercial and industrial development for sites ranging from single lots to large subdivisions. Investigations have addressed landslides, active and potentially active faults, and geohydrologic evaluations of ground water occurrence, water well locations and pumping capacities. Geologic reports on gold and petroleum potential have also been prepared. Prior to starting this company, Allan Seward was the County Geologist for the northern half of Los Angeles County from 1971 to 1978 and for the eastern half of the County from 1966 to 1971. In this capacity, he was responsible for the review and evaluation of tentative subdivisions, parcel maps, grading plans and building plans with respect to geologic hazards, including the San Andreas Fault Zone. All of his experience has helped Allan E. Seward assemble and manage one of the most successful geologic and geotechnical teams in California.

ALLAN E. SEWARD RESUME (Cont.)

AFFILIATIONS

1980 - Present	Current Chairman of the Los Angeles County Engineering Geology and Soils Review Appeals Board
1985 - Present	L.A. County Advisory Committee Land Development Division Department of Public Works
1982 - 1988	Geologic Expert for the Los Angeles City District Attorney's office on numerous litigations.
1984 - 1985	Commissioner on the Los Angeles County Toxic Waste Task Force
1980 - 1981	Commissioner on the Los Angeles County Earthquake Fact Finding Committee (only geologist)
1985 - Present	American Association for Advancement of Science
September 1991 - February 1992	Only Geologist on Technical Review Committee for City of Santa Clarita - Revised Hillside Ordinance and Unified Development Code
November 1993 - 1997	Only Geologist on City of Santa Clarita Mayor's Committee on Elsmere EIS/EIR

RESUME

ERIC J. SEWARD
CHIEF ENGINEERING GEOLOGIST AND FINANCIAL OFFICER

EDUCATION

B.Sc., Geology: California State University, Northridge, 1992

REGISTRATIONS/CERTIFICATIONS

Registered Geologist, CA (RG No. 6794)
Certified Engineering Geologist, CA (CEG No. 2110)

EXPERIENCE

Eric J. Seward has been working closely with his father, Allan, for many years. Prior to his college education, he was conducting geologic mapping and logging under Allan's direct supervision. Now he has over eight years of experience conducting a wide variety of geologic and geotechnical investigations, specializing in complex hillside projects and liquefaction studies. Additional to his geologic work, Eric Seward's role is the general office manager and financial officer. He also manages many of the company's largest projects and provides much of the geologic input at project design meetings. Eric also maintains project quality control and supervision of the entire office staff.

RESUME

STUART K. MAYES
SENIOR ENGINEERING GEOLOGIST

EDUCATION

B.Sc., Geologic Sciences; California State University, Northridge, 1987

REGISTRATION/CERTIFICATIONS

Registered Geologist, CA (RG No. 6917)
Certified Engineering Geologist, CA (CEG No. 2169)

EXPERIENCE

Mr. Mayes has 13 years of experience working as an Engineering Geologist conducting both fieldwork and project management. His responsibilities have included overseeing grading operations and heading up numerous geologic/geotechnical investigations. These investigations have ranged from detailed studies for grading plans and tentative tracts for large residential and commercial developments to preliminary assessments of small to large tracts of land. Most of his experience has been in hillside areas where both active faulting and landsliding complicated the geology. Mr. Mayes has worked closely with clients and civil engineers, aiding them in designing more efficient tentative tracts by avoiding or making better use of geologic constraints. In addition, Mr. Mayes has an excellent track record in preparing reports that achieve prompt agency approval with minimal review response required.

RESUME

VICTOR C. GOETHALS
SENOR ENGINEERING GEOLOGIST

EDUCATION

B.Sc, Geology: California State University, Northridge, 1986

REGISTRATIONS/CERTIFICATIONS

Registered Geologist, CA. (RG No. 5638)
Certified Engineering Geologist, CA. (CEG No. 1759)

EXPERIENCE

Mr. Goethals technical background represents over fourteen years of experience in the fields of geology and engineering geology. He has been involved with numerous residential and commercial developments that range in size from single lot to 2,000-acre tracts in southern California. His experience includes distress evaluations, fault activity assessments (San Gabriel, Holser, San Andreas, Little Rock, Agua Dulce and Malibu Coast Faults), landslide and rippability studies. In addition, he has performed Phase I and II environmental assessments as well as natural gas hazard assessments in the Santa Clarita Valley and Fairfax areas of Los Angeles County. Key projects undertaken by Mr. Goethals include a hydrogeologic investigation for the Los Angeles County Sanitation District involving ground water modeling, analysis and technical recommendations; a third party geologic review of a subsurface aqueduct through the Santa Clarita area; and a geologic evaluation of a site relative to a potential source of aggregate materials. His responsibilities have included project management, field mapping, geologic grading observations, preparation of geologic reports for essentially all phases of development. He also has provided geologic input at project design meetings.

RESUME

BRIAN J. SWANSON
SENIOR ENGINEERING GEOLOGIST

EDUCATION

M.Sc, Geology: California State University, Northridge, 1996
B.A., Earth Science: California State University, Northridge, 1988

REGISTRATIONS/CERTIFICATIONS

Registered Geologist, CA (RG No. 6494)
Certified Engineering Geologist, CA (CEG No. 2055)

EXPERIENCE

Mr. Swanson has over 11 years of experience working in Engineering Geology. He has been responsible for completing geologic investigations at the feasibility, tentative map, and grading plan stages for numerous residential and commercial developments in Southern California. Projects have included Newhall Ranch, the proposed City of Santa Clarita Civic Center, Golden Valley Ranch and numerous other parcels and tracts in the Santa Clarita Valley area. His responsibilities have included project management (coordination with the client, civil engineer, and equipment contractors), detailed fault investigations (ex. San Gabriel, Holser, Del Valle, Salt Creek, Santa Felicia and Littlerock Faults), evaluations of complex landslides, and review of other engineering geologic parameters such as seismic ground motion assessments, debris flow hazards, ground water levels, rippability, expansive/collapsible materials, review of grading plans and preparation of geologic reports presenting appropriate recommendations, geologic maps and cross sections.

ALLAN E. SEWARD
ENGINEERING GEOLOGY, INC.
Geological And Geotechnical Consultants

RESUME

BAYLOR GIBSON, P.E., G.E.
SENIOR GEOTECHNICAL ENGINEER

EDUCATION

Master of Engineering., Geotechnical Engineering, Cornell University, Ithaca, NY, 1974
BS, Civil Engineering, Cornell University, Ithaca, NY 1973

PROFESSIONAL LICENSES

Registered Geotechnical Engineer, CA (RGE # 2061)
Professional Civil Engineer, CA (RCE# 41568)

EXPERIENCE

Baylor Gibson has 28 years of experience as a Geotechnical Engineer with a diverse background covering a wide range of projects, including numerous projects for Metropolitan Water District of Southern California. He has been responsible for completing and supervising geotechnical explorations, routine and specialized laboratory testing, plan review, geotechnical analyses, construction Quality Control (QC), and coordination with clients and public agencies. He has prepared proposals, cost estimates, design recommendations, specifications, geotechnical reports, and as-built/compaction reports. Mr. Gibson has engineered design and construction of multi-million cubic yard hillside developments, bridges, major highways, hi-rise buildings, water and wastewater plants, major pipelines, waterfront docks and piers, dams. Mr. Gibson has particular expertise in design and construction of structural and hillside grading, slope stability analyses, geogrid-reinforced earth slopes, shallow and deep foundations, retaining walls.

DHARMESH AMIN, M.S., P.E., G.E.
SENIOR GEOTECHNICAL ENGINEER

EDUCATION

Master of Engineering, Geotechnical Engineering, 1988
BS, Civil Engineering, 1983
Post-Graduate Study in Coastal Engineering, Cal-State Los Angles, 1990

PROFESSIONAL LICENSES

Registered Geotechnical Engineer, CA (RGE # 2553
Professional Civil Engineer, CA (RCE# 52029)
Deputy Grading Inspector, City of Los Angeles (License # P009869)

EXPERIENCE

Mr. Amin has 20 years of experience as Civil and Geotechical Engineer with a diverse background covering a wide range of projects. Projects include landslide, earthquake, seismic analyses, complex soil investigation and distress investigation reports. He has been responsible for completing and supervising geotechnical explorations, routine and specialized laboratory testing, plan review, geotechnical analyses, construction Quality Control (QC), and coordination with clients and public agencies. He has prepared proposals, cost estimates, design recommendations, specifications, geotechnical reports, and as-built/compaction reports. Mr. Amin has engineered design and construction of multi-million cubic yard hillside developments, bridges, major highways, hi-rise buildings, water and wastewater plants, major pipelines, and piers, dams. Mr. Amin has particular expertise in design and construction of structural and hillside grading, slope stability analyses, mud flow calculation, erosion control, shallow and deep foundations, and retaining walls.

He has successfully completed drainage design, construction review of drawings and specifications and as-built drawings for 13 small buildings and two large storage buildings for MCAS at El Toro; Drainage design and construction review of drawings for I-110 widening project; Geotechnical and geologic investigations for parking structure # 6, (with Walker Parking), runway K and service road L, (with Bechtel) at Los Angeles International Airport., Century City Medical Office Building, Pacific Palisades and Brentwood School Gymnasium, Malibu Pier renovation project and Santa Monica Senior Center.

W & S Consultants

2242 Stinson Street, Simi Valley, CA 93065
805-581-3577

STATEMENT OF QUALIFICATIONS
And Summary of Professional Experience

W & S Consultants was formed as a general partnership in 1982 by David S. Whitley, Ph.D., RPA, and Joseph M. Simon to provide solution-oriented cultural resource management (CRM) consulting services. The firm specializes in assisting land developers, mining and energy companies, environmental impact analysis firms and governmental agencies with advance planning, development permitting and environmental regulatory compliance.

CRM Projects and Clients

Some of our ongoing major CRM projects and clients include:

- *Newhall Ranch*, Los Angeles County, for the Newhall Land and Farming Company;
- *Boron Facility expansion*, Kern County, for U.S. Borax, Inc.; and
- *Santa Susana Field Lab*, for the Boeing Corporation, Rocketdyne Division

In addition, we have successfully completed major projects for clients as diverse as the David Murdock Development Corporation (*Lake Sherwood Ranch*); Golden Queen Mining Company (*Soledad Mountain project*); Standard Pacific-Ventura (*Thousand Oaks Tract 2808*); Potomac Investment Association (*Jordan Ranch*); Washington Mutual (*Ahmanson Ranch*) and the Messenger Investment Corporation (*Hidden Creek Ranch*); as well as numerous other projects of all sizes. Our recent projects include prehistoric archaeological studies; historical archaeological test and salvage excavations; and National Register of Historic Places nominations.

Awards and Honors

- Dr. Whitley received the THOMAS F. KING AWARD FOR EXCELLANCE IN CULTURAL RESOURCES MANAGEMENT by the *Society for California Archaeology*, March, 2001.

- W & S Consultants has received SPECIAL APPRECIATION AWARDS from the *Candelaria American Indian Tribal Council* (1988), the *Simi Valley Historical Society* (1991), and the *California Indian Council Foundation* (1993 and 1998).

- Whitley has received POST-DOCTORAL RESEARCH FELLOWSHIPS from the *Association for Field Archaeology* (1983) and the *University of the Witwatersrand* (1987-9).

- Whitley was made a FELLOW of the *American Anthropological Association* in 1993, and has been listed in WHO'S WHO IN AMERICA.

- Whitley's archaeological documentary films have received the *CINE* GOLDEN EAGLE AWARD and the New York Film and Television Festival SILVER MEDAL (1983).

- Whitley's most recent book, *The Art of the Shaman* (University of Utah Press, 2000) spent one month on the AMAZON.COM Los Angeles Regional Market BEST-SELLER LIST, and the French edition of the book *(L'Art des Chamanes de Californie*, Edition du Seuil, Paris,

2000) was selected by the U.S. DEPARTMENT OF STATE, African Embassies Section, as a PRESENTATION VOLUME in May, 2000.

Professional Appointments

- Dr. Whitley was appointed PREHISTORIC ARCHAEOLOGIST by Governor George Deukmejian to the State of California *Historical Resources Commission* (1986-1987).

- Whitley and Mr. Simon serve as the ARCHAEOLOGICAL and ANTHROPOLOGICAL ADVISORS to the *Ventura County Cultural Heritage Board.*

- Whitley was appointed US REPRESENTATIVE to the International Committee on Monuments and Sites (*ICOMOS*), *Comité D'Art Rupestre* (CAR), in 1992, and was elected to the COUNCIL OF DIRECTORS in 1997.

- In 1995, Whitley was appointed to the INTERNATIONAL RESEARCH ADVISORY COMMITTEE for the recently discovered CHAUVET CAVE, France, by the Conservator General of the *French Ministry of Education and Culture.*

- Whitley is editor for the Routledge Press (London), *Readers in Archaeological Theory* series, and for the AltaMira Press (Walnut Creek, CA), *Readers in the Archaeology of Religion* series.

- Whitley and Simon serve on the BOARD OF DIRECTORS for the *Foundation for Archaeology and Rock Art.*

- As a member of the REPUBLICAN CONGRESSIONAL LEADERSHIP COMMITTEE, Simon participated in Cabinet level briefings in Washington, D.C., attending five meetings at the White House with Presidents Ronald Reagan and George Bush, advising them and the Secretary of the Interior on environmental issues.

Additional Professional Experience

- Dr. Whitley served as CHIEF ARCHAEOLOGIST for the *UCLA Archaeological Survey and Information Center* (1983 - 1987), supervising the review of the cultural resource sections of all environmental documents for Los Angeles, Orange and Ventura Counties. He has served as an EXPERT LEGAL WITNESS for archaeological concerns before the *State of Washington, Shorelines Hearings Board,* the *California Energy Commission* and the *U.S. District Court, Central District of California.*

- W & S Consultants has been responsible for the listing of over 450 prehistoric archaeological sites on the NATIONAL REGISTER OF HISTORIC PLACES.

- The professional publications of the W & S Consultants staff includes 15 books and over 65 articles.

- W & S Consultants hold a current *ARPA permit* for archaeological work on federal lands and *MSHA certifications* for work on mining properties.

- Dr. Whitley is a *Registered Professional Archaeologist* (RPA).

Complete list of previous projects and references available upon request.

CURRICULUM VITAE OF
DAVID S. WHITLEY, Ph.D., RPA

447 Third Street, Fillmore, CA 93015; 805-524-3620; <huitli@impulse.net>

Personal Information

Citizenship: U.S.A. Birthdate: 5 March 1953
S.S #: 556-90-5616 Marital Status: Married, 1 child.
Foreign Languages: Spanish; French (reading and writing).

Professional employment

Current: Owner, W & S Consultants, cultural resource management consultants (1982 - present). Instructor, Division of Social Sciences and Humanities, UCLA Extension (1983 - 1987, 1989 - present).
1987 - 1989: Postdoctoral Research Fellow, Rock Art Research Unit, Archaeology Department, University of the Witwatersrand.
1983 - 1987: Chief Archaeologist, Inst. of Archaeology, and Lecturer, Dept. of Anthropology, UCLA.

Education

Ph.D. in Anthropology, UCLA, 1982, specialization in archaeology.
M.A. in Geography, UCLA, March 1979, specialization in urban/quantitative studies.
A.B. in Anthropology, A.B. in Geography, UCLA, 1976.

Awards and Honors

Listed in Who's Who in America and Who's Who among Hispanic Americans.

2001	Thomas F. King Award for Excellence in Cultural Resource Management, Society for California Archaeology.
2001	Art of the Shaman (University of Utah Press) reached #4 on Amazon.com LA Best-Seller list (September); French edition (Editions du Seuil) selected by U.S. State Department, African Section, as Ambassadorial Presentation volume.
1999	Special Appreciation Award, California Indian Council.
1993	Fellow, American Anthropological Association.
1993	Special Appreciation Award, California Indian Council.
1991	Special Appreciation Award, Simi Valley Historical Society.
1989	Special Appreciation Award, Candelaria Indian Tribal Council.
1987-9	Postdoctoral Research Fellowship, Rock Art Research Unit, University of the Witwatersrand.
1983	Golden Eagle Award, CINE Film Festival, Washington, D.C.
1983	Silver Medal, New York Film and Television Festival.
1983	Postdoctoral Research Fellowship, Association for Field Archaeology.
1976	A.B. degrees in Anthropology and Geography awarded Magna Cum Laude.

Professional Appointments

Adjunct Professor, Department of Geography, Arizona State University.
Chairman of the Board, Foundation for Archaeology and Rock Art, Inc. (FARA), 2001-.
Series Editor, AltaMira Press, Archaeology of Religion, 2000-.
United States Representative, International Council on Monuments and Sites (ICOMOS), Comité International d'Art Rupestre (CAR), 1992-; Council of Directors, 1997-.
Chauvet Cave Research Advisory Committee, Ministere de la Culture, France, 1996-.
Archaeological & Anthropological Advisor, Ventura County Cultural Heritage Board, 1996-
Prehistoric Archaeologist, State of California Historical Resources Commission, 1986-7.

Funded Research Projects

Christmas Canyon Shoreline Survey, Mojave Desert, BLM & OHV Green Tag grant, 2002-2003, $25,000.
3D Laser, Digitizing, GIS & Photogrammetric Rock Art Recording Project (with James Ebert & Associates), 1998-1999, NSF Small Business Innovation Research Grant (DMI-9801160), $299,966.00.
Chronometric dating of petroglyphs in the Mojave Desert, Association for Field Archaeology, 1983-1984, $3500.00. BLM and US Army, 1995 - 2002, $11,800.00.
Sin Cabezas, Guatemala, Excavation Project, 1986-1987: Private funding, 1986-1987, $22,000.00; USIS Technical Specialists Grant, Guatemala, 1987, $3500.00; Seven Springs Foundation, 1987, $2000.00;
Coso Junction Ranch Excavation Project (CA-INY-2284), 1983-1987: Dean of Social Science, Discretionary Fund, UCLA, 1984, $2000.00; Coso Junction Ranch, Inc., 1983-1985, $2100.00; University Research Expeditions Program, 1984-1986, $18,000.00.

Research Specializations

Art and belief systems
Landscape symbolism
Hunter-gatherers
Western North America & Mesoamerica
Cognitive neurosciences
Method and theory

Publications: Books and Monographs

2001 Handbook of Rock Art Research, ed. D.S. Whitley. Walnut Creek: AltaMira Press.
2000 The Art of the Shaman: Rock Art of California. Salt Lake City: Univ. of Utah Press.
(French edition: L'Art des Chamanes de Californie: Le Monde des Amerindien. Paris: Editions du Seuil.)
1998 Reader in Archaeological Theory: Postprocessual and Cognitive Approaches, ed. D.S. Whitley. London: Routledge.
1998 Reader in Gender Archaeology. ed. K. Hays-Gilpin and D.S. Whitley. London: Routledge.
(Slovakian edition: Arheologija Spolov. Ljubljana: Skuc, 2000.)

1998 Following the Shaman's Path: A Walking Tour of Little Petroglyph Canyon. Ridgecrest: Maturango Museum.
1996 Guide to Rock Art Sites: Southern California and Southern Nevada. Missoula, MT: Mountain Press Publishing, Inc.
1994 New Light on Old Art: Recent Advances in Hunter-Gatherer Rock Art Research, ed. DS Whitley and LL Loendorf. UCLA Institute of Archaeology, Monograph 36.
1989 Investigaciones Arqueológicas en la Costa Sur de Guatemala, ed. DS Whitley and MP Beaudry. UCLA Institute of Archaeology, Monograph 31.
1982 Pictographs of the Coso Region: Analysis and Interpretation of the Coso Painted Style, ed. RA Schiffman, DS Whitley et al. Bakersfield College Publications in Archaeology No. 2. (2nd edition 1986; Coyote Press, Salinas).
1980 Inland Chumash Archaeological Investigations, ed DS Whitley, EL McCann and CW Clewlow, Jr. UCLA Institute of Archaeology, Monograph 15.
1979 Archaeological Investigations at the Ring Brothers Site Complex, Thousand Oaks California, ed. CW Clewlow, Jr., DS Whitley and EL McCann. UCLA Institute of Archaeology, Monograph 13.
1979 The Archaeology of Oak Park, Ventura County, California, Volume III, ed CW Clewlow, Jr. and DS Whitley. UCLA Institute of Archaeology, Monograph 11.

Professional Papers: Refereed Journals & Series

2003 Faith in the Past: Debating an archaeology of religion, DS Whitley & J Keyser. Antiquity 77:415-424.
2003 What is Hedges Arguing About? American Indian Rock Art 29:83-104.
2000 Use and abuse of ethnohistory in the far west. 1999 International Rock Art Congress, Vol. 1:127-154. Tucson: American Rock Art Research Association.
1999 Sally's Rockshelter and the Archaeology of the Vision Quest, by D.S. Whitley et al; Cambridge Archaeological Journal 9:221-246.
1999 The vision quest in the Coso Range, with J Simon & R Dorn. American Indian Rock Art 25:1-32.
1998 Cognitive Neuroscience, Shamanism and the Rock Art of Native California. Anthropology of Consciousness 9:22-37.
1994 By the Hunter, For the Gatherer: Art, Social Relations and Subsistence Change in the Great Basin. World Archaeology 25:356-373.
1993 New Perspectives on the Clovis vs. Pre-Clovis Controversy, by DS Whitley and RI Dorn. American Antiquity 58:626-647.
1992 Prehistory and Post-Positivist Science: A Prolegomenon to Cognitive Archaeology. Archaeological Method and Theory, Volume 4: 57-100.
1992 Shamanism and Rock Art in Far Western North America. Cambridge Archaeological Journal 2:89-113.
1992 New Approach to the Radiocarbon Dating of Rock Varnish, with Examples from Drylands, by RI Dorn et al, Annals, Assoc. of American Geographers 82:136-151.
1989 Archaeology after the Revolution: The ideological use of the past in the development of Mexican nationalism. Latin American Reports 5(2):10-22.
1988 Cation-Ratio Dating of Petroglyphs Using PIXE, by DS Whitley and RI Dorn,

Nuclear Instruments and Methods in Physics Research B35:410-414.

1988 The Late Prehistoric Period in the Coso Range and Environs, by DS Whitley et al. Pacific Coast Archaeological Society Quarterly 24(1):2-10.

1987 Socioreligious Context and Rock Art in East-Central California. Journal of Anthropological Archaeology 6:159-188.

1987 Rock art chronology in eastern California, by DS Whitley and RI Dorn. World Archaeology 19:150-164.

1986 Cation-Ratio and Accelerator Radiocarbon Dating of Rock Varnish on Mojave Artifacts and Landforms, by RI Dorn et al. Science 231:830-833.

1985 Spatial Autocorrelation Tests and the Classic Maya Collapse: Methods and Inferences, by DS Whitley and WAV Clark. Journal of Archaeological Science 12:377-395.

1985 El Balsamo Residential Investigations: A Pilot Project and Research Issues, by BL Starke et al. American Anthropologist 87:100-111.

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Papers Presented at Professional Meetings

La etnografÌa y el arte rupestre mundial. IV Colloquio Guatemalteco de Arte Rupestre, Museo Popul Vuh, Guatemala, 2003.

Ethnographic interpretation and scientific method, Society for American Anthropology, Milwaukee, 2003.

Landscape symbolism and Modoc Plateau rock art, Society for American Anthropology, Denver, 2002.

Metaphoric representation in shamanistic rock art: a discussion from the Mojave Desert. Millennium Conference on the Mojave Desert, Barstow, 2001.

Archaic (Gypsum Period) pictographs at Newberry Cave. (w/ J.M. Simon and R. Kaldenberg). Millennium Conference on the Mojave Desert, Barstow, 2001.

Art Beyond Belief: Culture Change, Cognitive Neurosciences and Shamanism in the Far West. Society for American Anthropology, Philadelphia, 2000.

Ethnography and Archaeology in South-Central California. Society for Applied Anthropology, San Francisco, 2000.

Cognitive Theory, Traditional Thought Systems and Rock Art Interpretation. International Rock Art Conference, Ripon, 1999.

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Issues in the Commodification of the Past. Society for American Archaeology, Chicago, 1999.

The vision quest in the far west. Plains Anthropological Conference, Bismark, ND, 1998.

Interpretive Theory in US Rock Art Research: Science and the Concept of the Sacred. Alta Conference on Rock Art II, University of Trømso, Alta, Norway, 1998.

Varieties of Ritual Landscapes in Western North America. Alta Conference on Rock Art II, University of Trømso, Alta, Norway, 1998.

The vision quest in the Coso Range, w/ RI Dorn. American Rock Art Research Association, Ridgecrest, 1998

Sally's Rockshelter and the Archaeology of the Mojave Desert Vision Quest, w/ RI Dorn & J Simon. Society for California Archaeology, San Diego, 1998.

The Excluded Past and the Divided Present in the Far West. Society for American Archaeology, Seattle, 1998

Explanatory Bridges, Epistemological Divides: Cognition, Rock Art and Archaeological Method and Theory. Society for American Archaeology, Nashville, 1997.

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Landscape, Gender and Sacred Places in the Far West; Society for American Archaeology, New Orleans, 1996.

Foreign Materials Analysis of Petroglyphs, with RI Dorn; Society for American Archaeology, New Orleans, 1996.

The Vision Quest in Southern California; Eleventh Annual California Indian Conference, UCLA, 1995.

Art, Ideology and Gender: A Great Basin Case Study; Durango Conference on Southwest Archaeology, Ft. Lewis College, 1995

Art, Myth and Ritual in the Far West; Society for American Archaeology, Minneapolis, 1995.

The Long and the Short of It: California Archaeology, Varnish Dating and the Peopling of the Americas, with RI Dorn and JM Simon; Society for California Archaeology, Eureka, 1995.

Sacred Land, Mythic Country: Supernatural Landscape in Far Western North America; American Anthropological Association, Atlanta, 1994.
Migrations and Metaphors; Arizona Archaeological Council, Phoenix, 1994.
The Numic Spread Reconsidered, with J Francis and L Loendorf; Great Basin Anthropological Conference, Elko, 1994.
Rock Art and the Origin of Great Basin Political Systems; Southwest Symposium, Tempe, 1994.
Rock Art and the Peopling of the Americas, with RI Dorn; Southwest Symposium, Tempe, 1994.
Re-Thinking the Clovis/Pre-Clovis Debate, with RI Dorn and J Simon; Society for California Archaeology, Ventura, 1994.
Ethnohistory and South-Central California Rock Art; Society for California Archaeology, Ventura, 1994.
The Origins of Numic Political Differentiation; Society for American Archaeology, Anaheim, 1994.
Rock Art and the Pre-Clovis Colonization of the Americas, with RI Dorn and J Simon; Society for American Archaeology, Anaheim, 1994.
Shamanism, Ethnohistory and South-Central California Rock Art; American Rock Art Research Association/International Rock Art Conference, Flagstaff, 1994.
Dinwoody Rock Art in a Numic-Wide Perspective; with L Loendorf; First Rocky Mountain Archaeological Conference, Jackson, 1993.
Ethnography and rock art in the far west; Society for American Archaeology, Pittsburgh, 1992.
Cation-ratio dating of rock engravings from Klipfontein, South Africa; Society of Africanist Archaeologists, Los Angeles, 1992.
Clovis versus Pre-Clovis: Perspectives on the Peopling of the New World, with RI Dorn; International Geographical Union, Washington, D.C., 1992.
The vision quest in the Great Basin; Great Basin Anthropological Conference, Boise, 1992.
"To Have Died": Shamanism and rock art in far western North America; American Anthropological Association, New Orleans, 1990.
Etiology and ideology in the Great Basin; Great Basin Anthropological Conference, Reno, 1990.
Rock art conservation in southern Africa; Society of Africanist Archaeologists, Gainesville, 1990.
Cation-ratio dating of petroglyphs with PIXE (Invited Address); Eighth International Conference on Ion Beam Analysis, International Union of Pure and Applied Physics, Johannesburg, 1988.
Chiefs on the Coast: the Tiquisate region in ethnographic perspective, with M Beaudry; American Anthropological Association, Philadelphia, 1988.
Bears and Baskets: aspects of aboriginal southern Sierra Nevada symbolism; Southern African Association of Archaeologists, Johannesburg, 1988.
Ethnography of communication and rock art in the active voice; Society for American Archaeology, Toronto, 1987.
Cation-ratio dating and rock art chronology in the western Great Basin, with RI Dorn; Society for American Archaeology, Toronto, 1987.

The Late Prehistoric Period in the Coso Range and Environs, with G Gumerman, J Simon and T Rose; Society for California Archaeology, Fresno, 1987.
Excavations at Sin Cabezas, Tiquisate, 1986, with M Beaudry; Society for American Archaeology, New Orleans, 1986.
Archaeology and geomorphology at the Coso Junction Ranch Site, with J Simon; Great Basin Anthropological Conference, Las Vegas, 1986.
Pre-Clovis evidence from the Coso Range; Society for California Archaeology, San Diego, 1985.
Style, style areas and southern Sierra Nevada pictographs; Society for American Archaeology, Denver, 1985.
Rock art chronology in the western Great Basin; Great Basin Anthropological Conference, Boise, 1984.
Chronometric age-determination of surface artifacts from Lake Mohave, CA, with RI Dorn; Society for American Archaeology, Portland, 1984.
Cation-ratio dating of petroglyphs from the Coso Range; Society for California Archaeology, San Diego, 1983.
Notes on the etiological mythology of the Shoshone and the Coso petroglyphs; Great Basin Anthropological Conference, Reno, 1982.
Shell beads to glass bangles: the evolution of a chiefdom in southern California; Society for Historical Archaeology, Albuquerque, 1980.

Invited Lectures & Conferences

Mesa Redondas: Arte rupestre de España y Francia: similitudes y diferencias; and Antropologia y arte rupestre, with Ramon Viñas. IV Colloquio Guatemalteco de Arte Rupestre, Museo Popul Vuh, Guatemala, 2003.
Paleolithic Art and the Origins of Religion, Winthrop University, Rock Hill, 2002.
Shamanism and California Rock Art, Winthrop University, Rock Hill, 2002.
Shamanism and the Origin of Art, Oregon Archaeological Society, Portland, 2002.
The Ethnography of World Rock Art, US Forest Service and the Oregon Archaeological Society, Portland, 2002.
Backtracking to the Beginning: Chauvet Cave and the Origin of Art & Belief. Keynote address, Northwest Anthropological Conference meetings, Boise, 2002.
Chauvet Cave and the Origins of Human Consciousness, Department of Anthropology, Northern Arizona University, 2001.
Scientific Method and Rock Art Research. Department of Anthropology, Northern Arizona University, 2001.
Chauvet Cave and the Origins of Art, El Camino College, 2001.
Minding the Past: Shamanism and Far Western Rock Art. Written in Stone: Shamanism, Rock Art and the Origins of Art. Museum of the Rockies and the Bradshaw Foundation, Bozeman, 2001.
Third DJ Sibley Family Conference on World Traditions of Culture and Art, University of Texas, Austin, 2000.
Recent Advances in Paleolithic Rock Art Research, Dept of Anthropology, Texas A&M University, 2000.
Shamanism and California Rock Art, El Camino College, 2000.
Bighorn Sheep and North American Rock Art: Stormy Weather in Rock Art

Interpretation. Plenary lecture, International Rock Art Conference, Ripon, 1999.

Archaeology of Hunter-Gatherer Religion, Dept of Anthropology, Northern Arizona University, 1999.

The Archaeology of Shamanism, Museum of Northern Arizona, 1999 Sedona Lecture Series.

Rock Art of the Southern Sierra Nevada. Kern County Archaeological Society, Bakersfield, 1999.

Dating the Coso Petroglyphs. Maturango Museum, Ridgecrest, 1999.

L'art rupestre et le tourisme culturel en Amérique du Sud-Ouest: situations et perspectives. UNESCO Forum: Préservation du Patrimoine et dévelopement touristique. Perigueux, France, 1998.

Rock Art and Cultural Tourism. BLM PACKRAT meetings, Barstow, 1997.

Native California and the Origins of Art. California Art Educators Association, Palm Springs, 1997.

Prehistoric and Ethnographic Chumash Culture. California Indian Council Foundation, Thousand Oaks, 1997.

Rock Art of Ft. Irwin and the Central Mojave Desert. Southern Nevada Rock Art Enthusiasts, Las Vegas,1997.

Shamanism and Great Basin Rock Art. Oregon Museum of Science and Industry, Young Scholars Program, Burns, OR, 1997.

Native Californian Rock Art. California Indian Council Foundation, Thousand Oaks, 1997.

The Origin of Shoshonean Bands. Anthropology Dept, San Diego State University, 1997.

The Rock Art of Southern Africa. Dept of History, UCLA, 1997.

The Vision Quest in South-Central California. Santa Barbara Museum of Natural History, Keynote Address, Archaeology Week, Santa Barbara, 1996.

Shamans, Myths and Ritual Pilgrimages: Recent Research on Lower Colorado River Rock Art. Southern Nevada Rock Art Enthusiasts, Archaeology Week, Las Vegas, 1996.

Pre-Clovis Peopling of the Americas and the Buck Wheeler Site, Nevada. Friends of Calico, 31st Annual Meeting, 1995.

Shamanism and North American Rock Art. Oregon Museum of Science and Industry, Young Scholars Program, Fossil, OR, 1995.

Rock Art: A Global Perspective. Kern County Archaeological Society, Keynote Address, Archaeology Week, California State University, Bakersfield, 1995.

The Latest on the Oldest: Recent Research on the Peopling of the Americas. Archaeological Institute of America/Minnesota Archaeology Week, Minneapolis, 1995.

Shamanism and Rock Art in Far Western North America. Oregon Archaeological Society, Portland, 1995.

Neuropsychology and the Origins of Art. Dept. of Anthropology, Northern Arizona University, Flagstaff, 1995.

With a Place in Mind: The Geography of Rock Art and the Invention of the Cultural Landscape. Dept. of Geography, Arizona State University, Tempe, 1995.

Altered States of Consciousness, Neuropsychological Models and Shamanistic Iconography. Dept. of Art History, University of Texas, Austin, 1994.

Art, Gender and Subsistence Change in the Coso Range. Dept. of Anthropology, California State University, San Bernardino, 1994.

The Latest on the Oldest: Pre-Clovis Rock Art in California. Friends of Calico, Thirtieth Annual Meeting, 1994.

Recent Advances in Coso Range Petroglyph Research. Maturango Museum, Ridgecrest, 1994.

Ethnography and Rock Art. University of Arizona, Rock Art field class, La Junta, CO, 1994.

Ethnography and Great Basin Rock Art. USFS PIT Program , Bend, OR, 1994.

Shamanism and Natural Modeling in Far Western North America. Second DJ Sibley Family Conference on World Traditions of Culture and Art: Cosmology and Natural Modeling Among Aboriginal American Peoples. University of Texas, Austin, 1993.

Rain Shamanism in the Coso Range. Trinity University/Witte Museum, San Antonio, 1993.

Recent developments in African rock art research. Dept. of History, UCLA, 1993.

Cognitive Archaeology in the Coso Range. Dept. of Anthropology, Occidental College, Los Angeles, 1993.

New Perspectives on the First Peopling of the Americas. Friends of Calico, 29th Annual Meeting, 1993.

Clovis versus Pre-Clovis in the Quincentenary year. Archaeological Society, UCLA, 1992.

The Early Horizon/Intermediate Period Transition. Antelope Valley Archaeological Society, 1991.

Archaeology and ideology in the southern Sierra Nevada. Dept. ofAnthropology, UC Santa Cruz, 1990.

Peopling of the New World; Southern African Archaeological Society, Johannesburg, 1989.

New light on old art: recent advances in dating African rock art; UCLA Friends of Archaeology, 1989.

Shamanism and Rock Art in North America. University of the Witwatersrand, Johannesburg, 1988.

Prehistory of Mesoamerica. Johannesburg College, 1988.

Sitio Sin Cabezas y cultura de la Costa Sur; Asociacion Tikal, Guatemala, 1987.

Recent advances in Mesoamerican archaeology. Southern African Archaeological Society, 1987.

Recent advances in rock art research. Eastern Sierra Museum, Annual Meeting, 1986.

Recent advances in Coso Range petroglyph studies. Antelope Valley Archaeological Society, 1986.

Excavations at Tiquisate, Guatemala. UCLA Institute of Archaeology, 1986.

Hidratacion de obsidiana: un metodo chronometrico. Universidad de San Carlos, Guatemala, 1986.

Site types and site-environment relationships in inland Ventura County. Dept. Anthropology, UC Davis, 1985.

Cation-ratio dating and the peopling of the New World. Friends of Calico, Annual Meeting, 1985.
Prehistory of the Coso Range. UCLA Institute of Archaeology, 1983.
Rock art of California. American Association of University Women, Westchester, 1983.
Rock Art of the Coso Range. Maturango Museum, 1982.

Professional & Public Service

Chair & Organizer, Society for American Archaeology, Rock Art Interest Group, 1996-.
Discussant, symposium on Anthropological Approaches to Rock Art Research, American Anthropological Association meetings, New Orleans, 2002
Science Fair judge, La Reina High School, Thousand Oaks, 2002.
Workshop instructor, California Desert rock art, California Site Stewards Archaeological Program, California City, BLM, 2002.
Intensive Coso Range rock art study workshop, Maturango Museum, 2001.
Educational fieldtrip to Black Mountain petroglyph sites, California Indian Council Foundation, 2001.
Career Day lecturer, La Reina High School, Thousand Oaks, 2001.
Public lecture, "Chauvet Cave and the Origin of Art and Belief," Stagecoach Museum, Thousand Oaks, 2001.
Science Fair judge, La Reina High School, Thousand Oaks, 2001.
Workshop instructor, California Desert rock art, California Site Stewards Archaeological Program, Maturango Museum/BLM, 2000.
Public lecture, "Shamanic symbolism in California rock art," Friends of Ethnic Arts,
Rock art site management workshop, Consejo de Arqueologia, Instituto de Cultura Puertoriqueña and El Yunque National Forest, Puerto Rico, 1999.
Intensive Coso Range rock art study workshop, Maturango Museum, 1999.
Classroom lecture, "Early man", Fillmore Middle School, 1999.
Organizer and chair, "Theory in Rock Art Research", International Rock Art Conference, Ripon, 1999.
Organizer, "Archaeology and Cultural Tourism: Practice, Theory and Prospect", Society for American Archaeology meetings, Chicago, 1999.
Workshop lecture, PACKRAT Mojave Desert research group, Barstow, 1998.
Scientific Advisor, "The Dawn of the Human Spirit" museum exhibit, Koln Museum (Germany), Naturalis Museum (Brussels), Moesgard Museum (Denmark), etc., 1998-2001.
Public lecture, "Rock art and the origins of belief". Adventurers' Club, Los Angeles, 1999.
Public lecture, "Chelonians and Native Californians", California Turtle and Tortoise Club, 1999.
Chair, President's Symposium: "Recent Research in the Coso Range". American Rock Art Research Association meetings, Ridgecrest, CA, 1998.
Organizer and chair, "The Excluded Past in Archaeological History: Histories of American Rock Art Research", Society for American Archaeology meetings, Seattle, 1998.
Classroom lecture, California gold mining history, St. Sebastian School, 1998.
Grant Writer, St. Sebastian School, 1997-8. (Recipient of grants for classroom

microscope purchases from Hansen Agricultural Trust and Amgen Foundation)
Classroom lecture, "Indians of California", St. Sebastian School, 1997.
Classroom lecture, "Introduction to Archaeology", Fillmore Middle School, 1997.
Facilitator and committee member, Rocky Hill Advisory Committee, The Archaeological Conservancy, 1997.
Organizer and Instructor, Workshop on rock art recording and analysis, BLM, California State Office,1997.
Organizer and chair, "The State of the Art: A Critical Appraisal of American Rock Art Studies", Society for American Archaeology meetings, Nashville, 1997.
Co-organizer and chair (with D. Myers and R. Clemmer), "Re-Reading Julian Steward: History, Theory and Subsistence in Great Basin Research", Fiftieth Biennual Great Basin Conference, Lake Tahoe, 1996.
Organizer, "In Steward's Shadow: Iconography, Neuropsychology, Landscape and Gender in Rock Art", Society for American Archaeology meetings, New Orleans, 1996.
Public lecture, Rock Art at Fort Irwin, 11th Armored Cavalry, Fort Irwin NTC, 1996, 1997.
Adult advisor, Fillmore-Piru 4H turtle and tortoise project, 1995-1996.
Classroom lecture, Chumash Indians, St. Sebastian School, Santa Paula, 1995, 1996, 1997.
Organizer and co-chair (with L Loendorf and J Keyser), "Time, Culture and Art I: Small Scale Societies"; and "Time, Culture and Art II: Large Scale Societies and Culture Contact and Change", Society for American Archaeology meetings, Minneapolis, 1995.
Public lecture, Recent Discoveries in Upper Paleolithic Rock Art, Optimist Club, Thousand Oaks, 1995.
Lecture for park docents, Rock art of eastern California; Tomokhani State Park, Tehachapi, 1995.
Adult advisor, Fillmore-Piru 4H turtle and tortoise project, 1994-1995.
Co-organizer (with the Getty Conservation Institute), Rock Art Site Management Workshop, Society for American Archaeology meetings, Anaheim, 1994.
Organizer and co-chair (with L Loendorf), "Rock Art: Implications for Culture Process and Culture History", Society for American Archaeology meetings, Anaheim, 1994.
Classroom lecture, St. Sebastian School Honors Program, Gold mining and gold mining history in southern California, Santa Paula, 1994.
Participant, National Park Service, Petroglyph National Monument planning symposium, Albuquerque, 1993
Classroom lecture, "Mesoamerican archaeology", Crestview School, Simi Valley, 1993.
Organizer, Society of Africanist Archaeologists meetings, fieldtrip, Los Angeles, 1992.
Co-organizer and co-chair (with Lawrence Loendorf), "New Light on Old Art: Advances in Hunter-gatherer rock art studies"; Society for American Archaeology meetings, Pittsburgh, 1992.
Maturango Museum of the Indian Wells Valley, Exhibit Consultant, "From Rock Art to Rockets", 1992.
Classroom lecture, Peopling of the Americas, Our Lady of Lourdes School, Tujunga,

1992.

Co-organizer and co-chair (with C Chippindale), "Beyond Counts, Catalogs and Chronologies: New Directions in Rock Art Research"; Society for American Archaeology meetings, Toronto, 1987.

Organizer and instructor, lab course in obsidian hydration dating for the Instituto de Antropologia e Historia, Guatemala, and the Instituto de Antropologia e Historia, Honduras, IDEAH, Guatemala City, 1986.

Chair, "Recent research in the Coso Range"; Great Basin Anthropological Conference, Los Vegas, 1986.

Classroom lecture, Introduction to Archaeology, St. Matthews School, Santa Monica, 1985.

Professional Memberships

Register of Professional Archaeologists (RPA; formerly Society of Professional Archaeologists, SOPA)
American Anthropological Association (Fellow, 1993-)
Society for American Archaeology
Society for California Archaeology

Teaching Experience (for the UCLA Department of Anthropology; UCLA Extension Division of Social Sciences and Humanities; and the University of the Witwatersrand, Archaeology Department)

North American Prehistory
Eastern Mesoamerica (Maya sphere)
California Prehistory
Archaeological Field Training
North American Ethnography
Western Mesoamerica (Aztec sphere)
California Ethnography
World Rock Art

Manuscript Reviews

Antiquity
Journal of Anthropological Archaeology
Journal of Archaeological Science
Nuclear Instruments and Methods in Physics Research
Journal of California and Great Basin Anthropology
Cambridge Archaeological Journal
Canadian Journal of Archaeology
Journal of Social Archaeology
Routledge Press
University of New Mexico Press
Cambridge University Press
University of Utah Press
Stanford University Press
American Antiquity
Geographical Analysis
Studies in Conservation
Ancient Mesoamerica
Chungara
Plains Anthropologist
South African Humanities
Expedition Magazine
University of Arizona Press
Texas A&M University Press
Smithsonian Institution Press
AltaMira Press
Sage Publications

Research Proposal Reviews

John Simon Guggenheim Foundation
National Endowment for the Humanities
National Geographic Society

Schools of the Pacific Foundation
LSB Leakey Foundation
Association for Field Archaeology
Lawrence Livermore Laboratory - Univ. California Program
National Park Service, National Center for Preservation Technology & Training
South African National Research Foundation
McDonald Institute for Archaeological Research, Cambridge University, England

Published Professional/Research Profiles and Summaries

Brian Fagan, 2003, Before California: An Archaeologist Looks at Our Earliest Inhabitants, Chapter 9 (pp. 191-213). Walnut Creek: AltaMira Press.
J. David Lewis-Williams, 2002, The Mind in the Cave: Consciousness and the Origins of Art, pp. 166-179. London: Thames and Hudson.
Brian Fagan, 2000, Focus: Exploring Intangibles. Discovering Archaeology 2(4)18-21.
Mary C. Roach, 1998, Ancient Altered States, Discover 19(6), June, pp. 52-58.
Susan Zwinger, 1998, Rock Art of Ages, America West Airline Magazine 13(9):62-65, 134.
Tom Curwen, 1997, Spirited Stories on Ancient Walls, Pacific Discovery 50(3):8-15.
Sharman Apt Russell, 1996, When the Land Was Young: Reflections on American Archaeology, NY: Addison-Wesley .
Carol Ann Lysek, 1996, Interpreting Rock Art, Mammoth Trumpet 11(2):6-9.

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American Archaeology Magazine 1(3), Fall 1997, pp. 19-23.
Discover Magazine 19(6), June 1998, pp. 52-58.
Discovering Archaeology Magazine 2(4), September 2000, pp.18-21.
Shaman's Drum Magazine 56, Fall 2000, pp.16-29.
American Archaeology Magazine, 5(1), Spring 2001, pp. 26-27.

Professional References

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RESUME

DARYL ZERFASS, P.E.
Transportation Engineer

SUMMARY: Daryl Zerfass is a Transportation Engineer with Austin-Foust Associates, Inc. (AFA). He has over twelve years experience in both traffic engineering and transportation planning and is a Registered Traffic Engineer in the State of California.

EXPERIENCE: Mr. Zerfass has performed numerous engineering studies involving site impact analyses, roadway capacity analyses, traffic signal timing, arterial traffic signal coordination, traffic signal design and traffic management plans. He is also experienced in traffic forecasting and has worked on projects involving traffic modeling for areas throughout Southern California. Examples of recent project experience are as follows:

TRANSPORTATION SYSTEM STUDIES
- Santa Clarita Valley Highway System - Interim Year Improvement Program
- Santa Clarita Valley Highway System - Evaluation of New Roadway Links
- Eastern Transportation Corridor Phasing Analysis

IMPACT ANALYSIS STUDIES
- North Valencia Annexation Areas 1 and 2 EIR Traffic Studies
- Gates/King Development EIR Traffic Analysis
- City of Costa Mesa General Plan Update
- John Wayne Airport EIR Traffic analysis
- South Coast Plaza Town Center EIR Traffic Analysis
- Segerstrom Home Ranch EIR
- Newport Coast Traffic Analyses
- Fashion Island Expansion Traffic Analysis
- Rye Canyon Business Park Traffic Study
- Marketplace at Laguna Niguel Traffic Analysis

SIGNAL PROGRESSION ANALYSIS
- City of Irvine – Main Street Signal Coordination
- Santa Clarita Mall Signal System
- City of Corona - 6th Street Progression

DESIGN
- I-710/Firestone Boulevard Interchange Reconstruction Project PS&E
- San Joaquin Hills Transportation Corridor Stage Construction and Traffic Handling Plans
- Traffic Signal and Channelization Plans in Orange and Riverside Counties

Mr. Zerfass is experienced with various traffic engineering software packages, including SYNCHRO, SIMTRAFFIC, HCS, TRANSYT-7F, PASSER II-90 and AFA's own TRANPAC modeling software.

EDUCATION: Mr. Zerfass holds a degree in Civil Engineering from the University of California, Irvine.

MEMBER: Institute of Transportation Engineers (ITE)
American Society of Civil Engineers (ASCE)

RESUME

TERENCE W. AUSTIN
Principal

SUMMARY: Mr. Austin is co-founder of Austin-Foust Associates. Over the past thirty years, he has been involved in all aspects of transportation planning, directing projects that have ranged from small-scale circulation analyses to comprehensive multi-modal transportation studies.

Mr. Austin is particularly skilled and experienced in the area of City and County infrastructure planning. He has directed many General Plan and Specific Plan traffic studies, and been responsible for preparing circulation plans for numerous jurisdictions in Southern California. As part of this work, he has established Nexus fee programs for many areas, including the highly acclaimed $240 million Foothill Circulation Phasing Program. He is a frequent speaker at conferences and seminars, and a regular guest lecturer on transportation at the University of California, Irvine, extension classes.

EXPERIENCE: An overview of Mr. Austin's technical and project management background can be seen from the following list of representative projects.

Comprehensive Transportation Planning

Santa Clarita Valley Long-Range Circulation Analysis
City of Irvine General Plan Circulation Analysis
Anaheim Circulation and Transportation Management Study
City of Tustin General Plan Circulation
City of Newport Beach General Plan Circulation
City of Orange General Plan Circulation
City of Encinitas General Plan Circulation
City of Oxnard General Plan Circulation
Valencia Area Traffic Analysis
San Francisco Bay Area Southern Crossing Study
Denver Regional Transportation Study
Copenhagen Regional Transportation Study
London Transportation Study, Phase III

Transportation Analyses

Orange County Transportation Corridor Analyses (various studies)
Orange County Master Plan of Arterial Highways (various studies for specific applications)
Santa Clarita Valley Transportation Analysis
BART Travel Analysis for Oakland Airport
Bay Area Traffic Forecasting for Analysis of Southern Crossing Proposal
Irvine Coast Circulation Plan
Tustin MCAS Reuse Planning Study

El Toro MCAS Reuse Planning Study
Irvine Spectrum Traffic Analysis
Irvine Business Complex Traffic Analysis
Gypsum Canyon Traffic Analysis
South Coast Metro Area Traffic Analysis

Special Studies

Freeway Interchange Studies (various locations)
Bay Area Airport System Study (Ground Transportation)
Highway Air Quality Impact Study (Responsible for Transportation portion)
The Effects on Highway Design, Location, and Operation on Photochemical Smog Formation (Responsible for Transportation portion)
San Diego Growth Management Study (Responsible for Transportation portion)
Santa Ana Arena
Foothill Circulation and Phasing Study
Newport Center Transit Center Facility Programming
Orange County Transportation System Management
San Bernardino County Transit Alternatives Analysis
Riverside County Transit Alternatives Analysis
Riverside Transportation Terminal Feasibility Study
Riverside Service Alternatives and Route Restructuring Study
Eastern Transportation Corridor Transition Study
San Joaquin Hills Transportation Corridor South End Analysis
San Clemente Traffic Shares Analysis

EDUCATION

University of Canterbury, New Zealand
B.E. (Civil Engineering)

University of New South Wales, Australia
M.S. (Transportation)

University of Canterbury, New Zealand
B.S. (Mathematics)

University of California, Irvine
M.S. (Administration, Graduate School of Management)

PAPERS, PRESENTATIONS, AND REPORTS

"An Estimation of Potential Peripheral Parking Usage for the Los Angeles CBC," Highway Research Record Number 444, 1973.
"The Environmental Capacity Concept," Institute of Transportation Engineers, Western Region Meeting, 1973.
"Aiding Bus Performance Through Traffic Operations Techniques," Transit Journal, American Public Transit Association; Fall, 1980.

"Energy Use in Industry; The Potential for Capital Substitution," Graduate Thesis, University of California, Irvine; 1980.

"What Can Managers Learn From Leadership Theories?", Supervisory Management, American Management Association; July, 1981.

"Traffic Impact Analysis", American Planning Association, California Conference; 1988.

"Residential Street Design", American Public Works Conference; 1989.

"Transportation Demand Management", American Planning Association, California Conference; 1990.

- Responsible authorship for over 100 project reports on various transportation studies.

- Guest speaker at various educational institutions and professional meetings and conferences on subjects related to transportation.

- Professional resource member at a variety of invitational design and planning charrettes

AFFILIATIONS

Member, Institute of Transportation Engineers
Member, American Planning Association
Registered, Traffic Engineer, State of California

David G. Crawford

President/ Principal Biologist
Compliance Biology, Inc.

Mr. Crawford is the President and Principal Biologist of Compliance Biology, Inc. He has over 10 years of professional experience with specialties in fisheries and wildlife ecology. He has managed and conducted a variety of aquatic and terrestrial studies including endangered species surveys, biological assessments, biological constraints analyses, mitigation monitoring plans, habitat evaluations, and environmental document preparation. During Mr. Crawford's career, he has conducted over 20,000 cumulative trap-nights surveying small mammals in a variety of habitats in California and has conducted over 1,600 field hours sampling fish in rivers, streams, estuaries, and ponds. He has a thorough understanding of both State and Federal Endangered Species Acts, holds a current Section 10(a)(1)(A) Endangered Species Recovery permit to survey for California gnatcatcher (*Polioptila californica*), tidewater goby (*Eucyclogobius newberryi*), and unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), and is authorized by the US Fish and Wildlife Service to survey for arroyo toad (*Bufo californicus*), and California red-legged frog (*Rana aurora draytonii*). Mr. Crawford also has a joint federal-state Scientific Collectors Permit and has been included in several Memoranda of Understanding (MOUs). In addition to listed species, he has also conducted numerous special-status reptile and amphibian, fish, bird, and small mammal surveys under state and federal permits throughout southern California.

Representative Professional Experience

Governmental Services

Mr. Crawford provides assistance to City governments with projects involving environmental document review and advises on major biological issues. In this capacity he currently serves twice weekly as the City Biologist for the City of Malibu. Duties include regular correspondence with the public and local officials, review of general landscape plans to ensure compliance with local ordinances, review of Initial Studies and biology sections in EIRs, Chair of the City Environmental Review Board, and recently, assisted City Staff with review and revision of the Local Coastal Plan the California Coastal Commission certified for Malibu.

Project Management

As Principal Biologist, Mr. Crawford manages general day to day operations of his consulting business located in Camarillo, California. He has reviewed, written and contributed to numerous biology sections for CEQA and NEPA documents including EIRs, EISs, Biological Assessments, and Mitigated Negative Declarations. Mr. Crawford has also conducted and managed numerous focused endangered species projects throughout southern California. Management tasks include scoping and cost estimating, communication with state and federal agency personnel, managing sub-consultants, field surveys, and development and/or editing documentation of survey results. Projects also often include managing both development and implementation of mitigation and monitoring programs.

Selected Focused Studies

- Manages and conducts on-going focused surveys for the unarmored threespine stickleback (UTS) within approximately 12 miles of drainage courses in the Santa Clara River watershed in the Santa Clarita area, in Los Angeles and Ventura Counties. Tasks include focused presence/absence surveys and reporting for UTS and other special-status aquatic vertebrates.

- Performed numerous focused surveys for the coastal California gnatcatcher throughout the species' range. Tasks included presence/absence surveys and reporting following U.S. Fish and Wildlife Service recommended survey protocol guidelines.

- Performed multiple focused surveys and habitat evaluation for the arroyo toad on approximately 8 miles of drainage courses including the Santa Clara River and its major tributaries in the Santa Clarita area, Los Angeles County. Tasks included presence/absence surveys for arroyo toad following U.S. Fish and Wildlife Service recommended protocol survey guidelines. Additionally, a comprehensive habitat analysis was conducted throughout the study reach including upland habitats extending approximately 500 meters outward from the stream channels surveyed. Surveys also included identification of special-status aquatic reptiles and habitat evaluation for California red-legged frog.

- Performed focused surveys for the endangered tidewater goby in Ormond Beach Lagoon for Ventura County Flood Control. Water quality and goby distribution is currently being evaluated for pre- and post-breach conditions. Several thousand gobies were identified and released.

- Conducted numerous habitat-based evaluations for the Delhi sands flower-loving fly in San Bernardino and Riverside Counties. Tasks include on-site vegetation community analysis, basic soils analysis, and comprehensive reporting discussing potential occurrences of the species.

- Managed and conducted numerous focused surveys for Delhi sands flower-loving fly in Riverside and San Bernardino Counties. Tasks included presence/absence surveys for DSF following US Fish and Wildlife Service recommended protocol surveys guidelines and preparation of comprehensive reports to clients and the Service.

- Conducted habitat based assessments for southern California steelhead in coastal drainages in Santa Barbara, Ventura and Los Angeles Counties.

- Performed burrowing owl surveys and implemented exclusion mitigation plans for numerous projects in San Bernardino and Riverside Counties, California. Tasks included walk-over surveys to determine presence/absence of burrowing owls and to identify potential owl burrows. Several surveys resulted in implementation of passive relocation programs.

- Completed numerous Essential Fish Habitat (EFH) assessments in coastal waters of Ventura and Los Angeles Counties following survey guidelines established by the National Marine Fisheries Service.

- Conducted habitat evaluations, and focused USFWS protocol surveys for special-status wildlife species on Tejon Ranch in Kern County including San Joaquin kit fox, blunt-nosed leopard lizard, western spadefoot, and Tehachapi slender salamander.

- Completed focused presence/absence surveys and reporting for tidewater goby at numerous coastal estuarine locations in Ventura, Los Angeles, Santa Barbara, and San Luis Obispo Counties.

- Served as a Wildlife Technician for the Camp Roberts Kit Fox Recovery Program conducted by California Polytechnic State University at San Luis Obispo for the Department of the Army. Duties included spotlight surveys, scent station surveys, habitat evaluation, and data entry.

Environmental Compliance

- Prepared biological resources section of the Parker Ranch EIR in Simi Valley. Tasks included collection and analysis of data, description of existing conditions, detailed impact analysis, and development of recommended mitigation measures.

- Participated in the development of an Index of Habitat Quality (IHQ); a quantitative rapid habitat assessment methodology for evaluating project impacts on existing biological resources. Accepted by ACOE and utilized for the Playa Vista project (Los Angeles County).

- Designed and implemented on-site relocation program for a western spadefoot toad population in Simi Valley, CA. Tasks included design and construction of relocation ponds, capture and relocation of tadpoles and adult toads, and the design of five year monitoring plan.

- Designed and implemented mitigation relocation plan for southwestern pond turtles and two-striped garter snakes for the Dos Vientos project in Newbury Park, California.

- Conducted numerous constraints-level analyses of biological resources for due diligence purposes throughout southern California. Tasks include literature search for special-status species occurrences and on-site habitat evaluations to determine site potential to support special-status species.

- Participated in the development of the biological resources section of the Playa Vista EIS/EIR and Ballona wetlands restoration plan data collection. Duties included over 4,000 trap-nights of focused pacific pocket mouse and saltmarsh shrew surveys, coordination of and participation in marine, estuarine, and freshwater fisheries surveys, as well as focused sensitive reptile surveys.

- Directed the hatch survey and monitoring portion of the Los Angeles District Army Corps of Engineers five year monitoring program to study the effects of dredging on the California grunion in Santa Barbara during the fifth year of the project. Mr. Crawford directed efforts involving egg excavation, incubation, hatching, and hatch data collection over a period of four months. Collected data was tabulated and summarized in a report presented to the Army Corps.

- Participated in pre-construction endangered species surveys for Mobil Exploration & Producing U.S. Inc., North and South Midway Operations Areas in California's Central Valley. Duties included focused surveys for San Joaquin kit fox, San Joaquin antelope squirrel, blunt-nosed leopard lizard, and western burrowing owl. Survey activities included walk-over transects to identify endangered species through direct observation and location of dens, tracks, and scat, as well as monitoring of scent and track stations.

- Participated in a 7,500 cumulative trap-night small mammal survey for the U.S. Army Corps of Engineers Land Condition Trend Analysis study at Camp San Luis Obispo and Camp Roberts in San Luis Obispo and Monterey counties. Duties involved live trapping, handling and identifying several small rodent species including the sensitive Salinas pocket mouse and Monterey dusky-footed woodrat. Listed as Authorized Person on CDFG Memorandum of Understanding. During trapping efforts, Mr. Crawford documented the presence of California red-legged frog, and western yellow-bellied racer.

Professional History

Compliance Biology, Inc. – Owner/Principal Biologist; May 2002 - Present
Impact Sciences, Inc. - Senior Biologist; May 1995 – May 2002
Crawford Ecological Surveys – Principal Biologist; June, 1994 – May 1995
Cal Poly San Luis Obispo
- Wildlife Technician; U.S. Army Corps of Engineers, LCTA Program; March 1994 – June 1994
- Wildlife Technician; Kit Fox Recovery Program; January 1994 – March 1994

Education and Certifications

Bachelor of Science, Ecology and Systematic Biology (Fisheries and Wildlife Science Concentration); California Polytechnic State University at San Luis Obispo; 1994
Joint State and Federal Scientific Collecting Permit # 801085-01 (expires 06-02-05).
Federal Section 10(a)(1)(A) Endangered Species Recovery Permit for Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*), Tidewater Goby (*Eucyclogobius newberryi*), and coastal California gnatcatcher (*Polioptila californica californica*). Permit #TE-821229-4.
Certification, Desert Tortoise: handling, burrow construction, and egg handling techniques. U.S. Fish and Wildlife Service approved workshop and training session.
Certification, Advanced Open Water Diver, PADI

Professional Affiliations

The Wildlife Society
American Fisheries Society
American Society of Mammalogists

11.0 REFERENCES

Documents referred to, referenced or cited are incorporated by reference and are available at the City of Santa Clarita, Department of Planning & Building Services, 23920 Valencia Boulevard, Suite 302, Santa Clarita, CA 91355.

2002 Congestion Management Program for LA County Metropolitan Transportation Authority.

Air Resources Board. Toxic Air Contaminant Staff Report/Executive Summaries (Updated September 27, 1999).

American Ornithologists' Union. 2000. The A.O.U. Check-List of North American Birds. 7th ed. Allen Press. Lawrence, Kansas.

Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants, 2002. State of California, The Resources Agency, Department of Fish and Game.

Barbour, Michael G. and Jack Major (eds.). 1988. Terrestrial Vegetation of California. John Wiley and Sons, New York.

Baril, Lorna. William S. Hart Union High School District, Santa Clarita, California. Correspondence to Impact Sciences, Inc., January 20, 2003.

Barry, T.M., and J.A. Reagan. FHWA Highway Traffic Noise Prediction Model (NTIS, FHWA-RD-77-108). Washington, D.C.: United States Department of Transportation, Federal Highway Administration, Office of Research, Office of Environmental Policy, December 1978.

Benson, Paul, P.E. CALINE4 – A Model for Predicting Air Pollutant Concentrations Near Roadways. Sacramento, California: California Department of Transportation, Division of New Technology and Research, (Revised June 1989).

Brandman, Michael, and Associates. "Air Quality Element." City of Santa Clarita General Plan. Santa Clarita, California (adopted June 25, 1991)

Brandman, Michael, and Associates. "Housing Element." City of Santa Clarita General Plan. Santa Clarita, California, 1991.

Brandman, Michael, and Associates. "Noise Element." In City of Santa Clarita General Plan. Santa Clarita, California, 1991.

Brandman, Michael, and Associates. "Public Services, Facilities, and Utilities Element." In City of Santa Clarita General Plan. Santa Clarita, California, 1991.

Bruyea Biological Consulting. Letter summarizing the results of a Butterfly Survey for River Park SEATAC Biota Projects. June 2003.

Burbank, Terri, E-mail correspondence <sspeedwy@pacbell.net>. RE: Uses of Saugus Speedway. 12 December 2002. To Rosemarie Mamaghani <rosem@impactsciences.com>.

Burbank, Terri, E-mail correspondence. <sspeedwy@pacbell.net>. RE: Saugus Speedway. 14 May2003. To Rosemarie Mamaghani <rosem@impactsciences.com>.

California Agricultural Statistics Review, County Rank, Total Value of Production and Leading Commodities, 2001.

California Air Resources Board, Area Designations (Activities and Maps) (Updated January 30, 2004).

California Air Resources Board. Air Quality Data Statistics. [Online] 22 December 2003. < http://www.arb.ca.gov/adam/welcome.html>.

California Air Resources Board. Area Designation Maps/State and Federal. [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/adm.htm>.

California Air Resources Board. Carbon Monoxide. [Online] 8 January 2004. < http://www.arb.ca.gov/research/aaqs/caaqs/co/co.htm>.

California Air Resources Board. Hydrogen Sulfide. [Online] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/h2s/h2s.htm>.

California Air Resources Board. Nitrogen Dioxide. [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/no2-1/no2-1.htm>.

California Air Resources Board. Ozone. [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/ozone-1/ozone-1.htm>.

California Air Resources Board. Particulate Matter. [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm>.

California Air Resources Board. Review of the Ambient Air Quality Standards for Particulate Matter and Sulfates; Standards Review Schedule. [Online] 16 June 2003. <http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm>.

California Air Resources Board. State Area Designation Map: CO. [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_co.htm>.

California Air Resources Board. State Area Designation Map: Hydrogen Sulfide. [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_h2s.htm>.

California Air Resources Board. State Area Designation Map: Ozone. [Online] 22 December 2003. < http://www.arb.ca.gov/desig/adm/s_ozone.htm>

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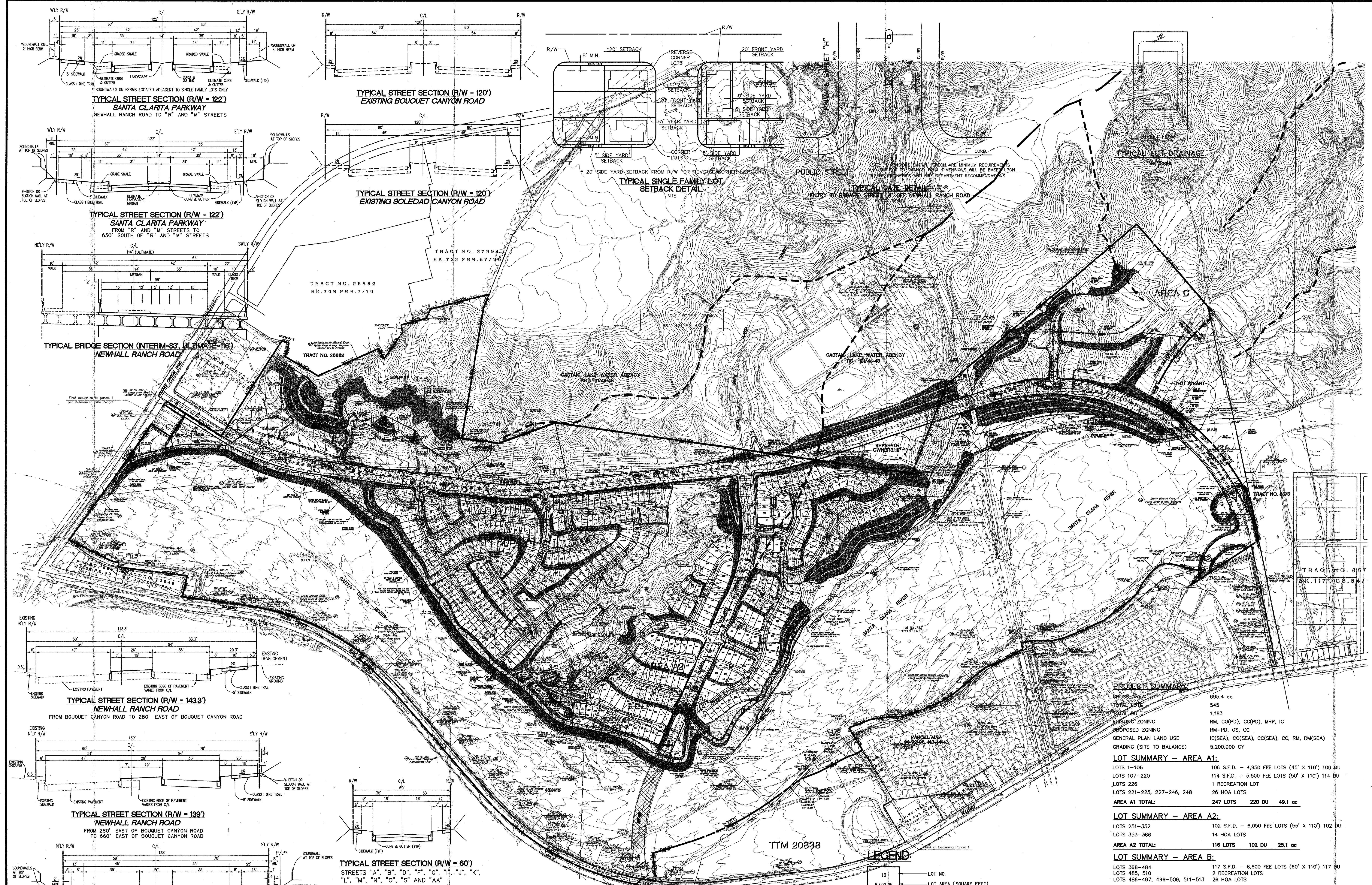
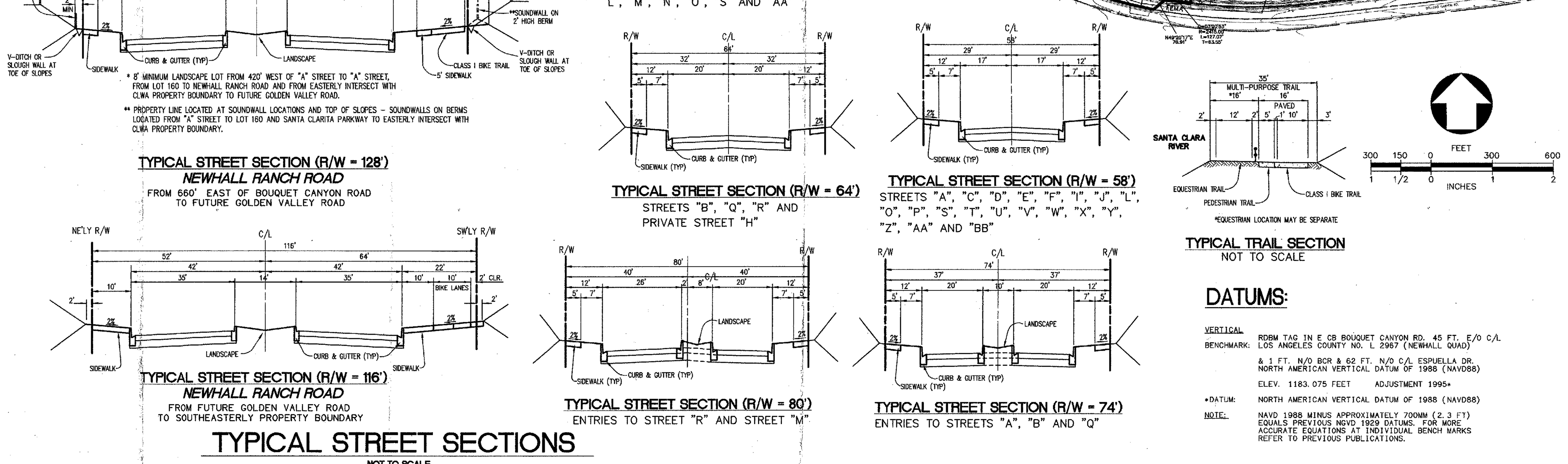
Riverpark
Draft Environmental Impact Report

LIST OF MAPS IN MAP BOX

DEIR Map #1 ..... Vesting Tentative Tract Map Sheet 1 of 5
DEIR Map #2 ..... Vesting Tentative Tract Map Sheet 2 of 5
DEIR Map #3 ..... Vesting Tentative Tract Map Sheet 3 of 5
DEIR Map #4 ..... Vesting Tentative Tract Map Sheet 4 of 5
DEIR Map #5 ..... Vesting Tentative Tract Map Sheet 5 of 5
DEIR Map #6 ..... Slope Exhibit
DEIR Map #7 ..... Geological/Geotechnical Map Sheet 1 of 4
DEIR Map #8 ..... Geological/Geotechnical Map Sheet 2 of 4
DEIR Map #9 ..... Geological/Geotechnical Map Sheet 3 of 4
DEIR Map #10..... Geological/Geotechnical Map Sheet 4 of 4
DEIR Map #11..... Drainage Concept Map Sheet 1 of 5
DEIR Map #12..... Drainage Concept Map Sheet 2 of 5
DEIR Map #13..... Drainage Concept Map Sheet 3 of 5
DEIR Map #14..... Drainage Concept Map Sheet 4 of 5
DEIR Map #15..... Drainage Concept Map Sheet 5 of 5
DEIR Map #16..... Vegetation Impacts



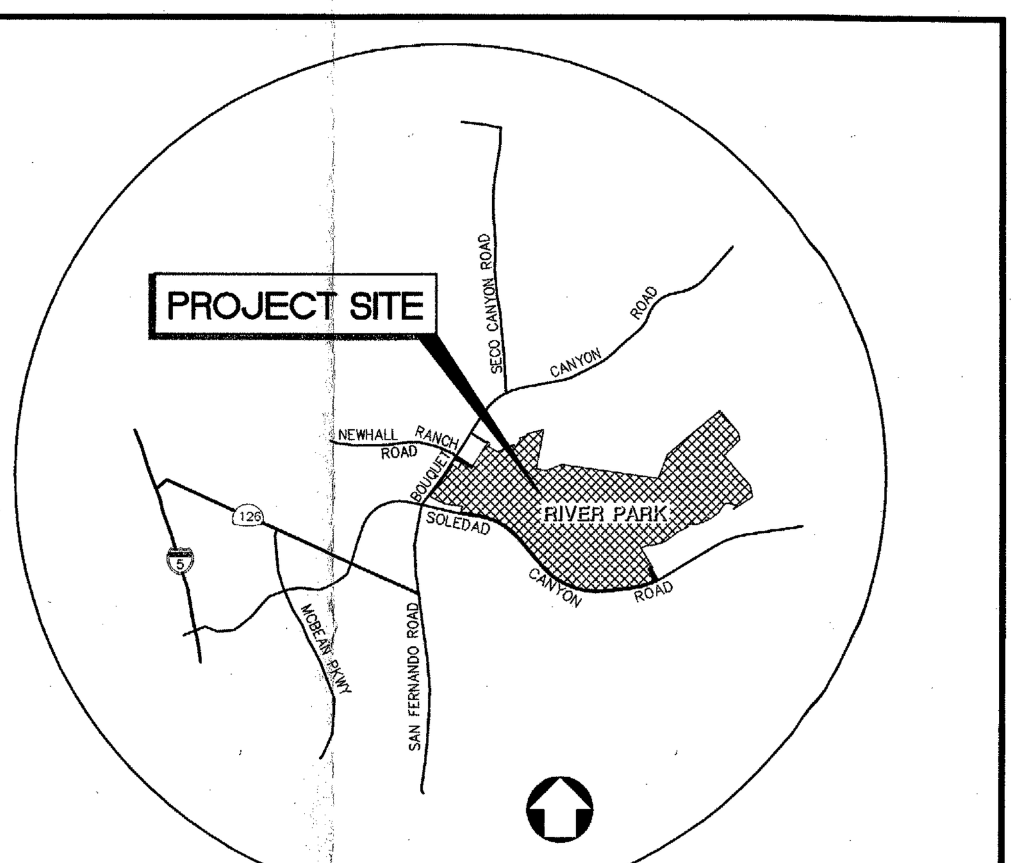


TYPICAL STREET SECTIONS

NOT TO SCALE

GENERAL NOTES:

1. REQUEST PERMISSION FOR UNIT PHASING.
2. REQUEST PERMISSION TO FILE PARCEL MAP (MIN. 20 ACRE PARCELS).
3. REQUEST PERMISSION TO ADJUST LOT LINES IN SUBSTANTIAL CONFORMANCE WITH THIS MAP.
4. REQUEST PERMISSION TO COMBINE LOTS IN SUBSTANTIAL CONFORMANCE WITH THIS MAP.
5. REQUEST PERMISSION TO RECORD ADDITIONAL OPEN SPACE LOTS, AS NECESSARY, SUBJECT TO THE APPROVAL OF THE DIRECTOR OF PLANNING.
6. ALL LOTS DEVELOPABLE DEDICATE THE RIGHT TO RESTRICT DRIVEWAY ACCESS TO MAJOR HIGHWAYS.
7. TOPOGRAPHY COMPILED FROM AERIAL TOPOGRAPHY DATED 11/20/98.
8. EASEMENT FOR ACCESS, UTILITIES AND PIPELINES TO WATER WELL SITES TO BE GRANTED TO VALENCIA WATER CO. PRIOR TO RECORDATION.
9. ANY STREET THAT WILL BE GATED SHALL BE DEDICATED AS A PRIVATE STREET. EXCEPT FOR PRIVATE DRIVEWAYS.
10. EXISTING EASEMENTS PER FIRST AMERICAN PRELIMINARY SUBDIVISION REPORT NO. 217627-58 DATED 8/29/02 WILL BE ADJUSTED WHERE NECESSARY TO ACCOMMODATE DEVELOPMENT.
11. ALL LOCATIONS OF TRAILS AND TRAIL CROSS SECTIONS SHALL BE OF A DIMENSION, LOCATION AND MATERIAL TO THE SATISFACTION OF THE DIRECTOR OF PARKS, RECREATION AND COMMUNITY SERVICES.
12. PARKING RESTRICTIONS MAY APPLY IN LOCATIONS OF MINIMAL PAVING WIDTHS, PER FIRE DEPARTMENT REQUIREMENTS.
13. ALL GRADES SHOWN ON TENTATIVE TRACT MAP ARE APPROXIMATE. CHANGES IN GRADE SUBJECT TO PLANNING DEPARTMENT APPROVAL.



VICINITY MAP

NOT TO SCALE

PLOTTED EASEMENTS:

(10) A ONE HUNDRED FOOT WIDE EASEMENT TO KERN RIVER COMPANY FOR POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED FEBRUARY 20, 1909 AS INSTRUMENT NO. 120 IN BOOK 3644 PAGE 41 OF DEEDS. LOCATION APPROXIMATE ONLY.
- TO BE VACATED

(11) A ONE HUNDRED FOOT WIDE EASEMENT TO CITY OF LOS ANGELES FOR CONVEYING WATER FROM THE OWENS RIVER VALLEY, KNOWN AS THE LOS ANGELES AQUADUCT, RECORDED MAY 8, 1911 AS INSTRUMENT NO. 9 IN BOOK 4555 PAGE 125 OF DEEDS.
- TO BE VACATED

(12) A ONE HUNDRED FOOT WIDE EASEMENT TO CITY OF LOS ANGELES FOR CONVEYING WATER FROM THE OWENS RIVER VALLEY, KNOWN AS THE LOS ANGELES AQUADUCT, RECORDED MAY 15, 1911 AS INSTRUMENT NO. 37 IN BOOK 4552 PAGE 178 OF DEEDS.

(13) A SIXTY FOOT WIDE EASEMENT TO CITY OF LOS ANGELS FOR POLE AND WIRE LINES FOR THE TRANSMISSION OF ELECTRICAL ENERGY AND TELEPHONE AND TELEGRAPH MESSAGES, RECORDED MAY 8, 1911 AS INSTRUMENT NO. 9 IN BOOK 4555 PAGE 125 OF DEEDS AND RECORDED MAY 15, 1911 AS INSTRUMENT NO. 37 IN BOOK 4552 PAGE 178 OF DEEDS.

(14) A FIFTEEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON FOR THE RIGHT TO CONSTRUCT, USE, MAINTAIN AND REPLACE POLES OR TOWERS UPON WHICH TO SUSPEND FROM CROSS-ARMS, BRACKETS, OR OTHER APPROPRIATE DEVICES TO BE ATTACHED TO SAID POLES, OR TOWERS, WIRES FOR CONVEYING ELECTRICAL ENERGY RECORDED NOVEMBER 15, 1911 AS INSTRUMENT NO. 224 IN BOOK 4790 PAGE 73 OF DEEDS.

(19) A 100' FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES AS RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

(23) A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED OCTOBER 15, 1943 AS INSTRUMENT NO. 1551 IN BOOK 20331 PAGE 245, OFFICIAL RECORDS.
- TO BE VACATED

(26) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED NOVEMBER 3, 1952 AS INSTRUMENT NO. 2461 IN BOOK 40222 PAGE 376, OFFICIAL RECORDS.
- TO BE VACATED

(27) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED DECEMBER 19, 1952 AS INSTRUMENT NO. 2079 IN BOOK 40559 PAGE 446, OFFICIAL RECORDS.
- TO BE VACATED

(28) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED APRIL 29, 1953 AS INSTRUMENT NO. 3135 IN BOOK 41597 PAGE 412, OFFICIAL RECORDS.
- TO BE VACATED

(29) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED JULY 15, 1953 AS INSTRUMENT NO. 2843 IN BOOK 42220 PAGE 298, OFFICIAL RECORDS.
- TO BE VACATED

(30) A SIX FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED SEPTEMBER 4, 1953 AS INSTRUMENT NO. 3127 IN BOOK 42632 PAGE 211, OFFICIAL RECORDS.
- TO BE VACATED

(32) A 20' WIDE EASEMENT TO COUNTY SANITATION DISTRICT NO. 26 OF LOS ANGELES FOR SEWER PURPOSES AND THE RIGHT TO LAY, CONSTRUCT, MAINTAIN AND OPERATE A SEWER PIPE LINE RECORDED SEPTEMBER 17, 1962 AS INSTRUMENT NO. 4870 IN BOOK D-1758 PAGE 969, OFFICIAL RECORDS.

(33) TWO (2) TEN FOOT WIDE EASEMENTS TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 12, 1966 AS INSTRUMENT NO. 3407 IN BOOK D-3303 PAGE 10, OFFICIAL RECORDS.

(34) VARIABLE WIDTH EASEMENTS TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 31, 1966 AS INSTRUMENT NO. 2560 IN BOOK M-2236 PAGE 474, OFFICIAL RECORDS.

(36) A SIXTY THREE FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES RECORDED JUNE 13, 1966 AS INSTRUMENT NO. 1814 IN BOOK D-3333 PAGE 544, OFFICIAL RECORDS.

(38) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, SLOPES, DRAINS AND APPURTENANT STRUCTURES RECORDED JUNE 11, 1971 AS INSTRUMENT NO. 2621 IN BOOK D-5086 PAGE 478, OFFICIAL RECORDS.

(39) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY AS RECORDED AUGUST 2, 1972 AS INSTRUMENT NO. 3927 IN BOOK D-5554 PAGE 328, OFFICIAL RECORDS.

(40) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, SLOPES, DRAINS AND APPURTENANT STRUCTURES RECORDED OCTOBER 18, 1972 AS INSTRUMENT NO. 3265 IN BOOK D-5639 PAGE 106, OFFICIAL RECORDS.

(41) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, DRAINS AND APPURTENANT STRUCTURES RECORDED OCTOBER 18, 1972 AS INSTRUMENT NO. 3266 IN BOOK D-5639 PAGE 115, OFFICIAL RECORDS.

(42) A FIFTEEN FOOT WIDE AND NINETY FOOT WIDE EASEMENT TO LOS ANGELES COUNTY FOR STORM DRAIN AND PATROL ROAD PURPOSES RECORDED MARCH 8, 1974 AS INSTRUMENT NO. 3688 IN BOOK D-6194 PAGE 694, OFFICIAL RECORDS.

(43) A TEN FOOT WIDE AND THREE FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MARCH 10, 1976 AS INSTRUMENT NO. 2379 IN BOOK D-6997 PAGE 781, OFFICIAL RECORDS.

(44) REMAINDER OF A TWENTY FOOT WIDE, FIFTEEN FOOT WIDE AND ONE HUNDRED FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINES RECORDED NOVEMBER 26, 1976 AS INSTRUMENT NO. 2950 IN BOOK D-7333 PAGE 151, OFFICIAL RECORDS. SAID EASEMENTS WERE QUITCLAIMED TO THE NEWHALL LAND AND FARMING COMPANY RECORDED JULY 2, 1997 AS INSTRUMENT NO. 97-984038, OFFICIAL RECORDS.
- TO BE RELOCATED

(45) VARIABLE WIDTH EASEMENTS TO LACFCD FOR STORM DRAIN PURPOSES AND APPURTENANT STRUCTURES AS SHOWN ON PARCEL MAP NO. 8675 RECORDED IN BOOK 96, PAGES 92 THROUGH 96, INCLUSIVE OF PARCEL MAPS, SAID EASEMENT WAS QUITCLAIMED TO THE LA COUNTY FLOOD CONTROL DISTRICT AND RECORDED JANUARY 24, 1980 AS INSTRUMENT NO. 80-91107 OFFICIAL RECORDS.

(46) A FORTY FOOT WIDE EASEMENT TO CASTAIC LAKE WATER AGENCY FOR WATER TRANSMISSION CONDUIT PURPOSES INCLUDING THE RIGHT TO USE EXISTING PRIVATE ROADS FOR INGRESS TO AND EGRESS FROM SAID EASEMENT RECORDED OCTOBER 17, 1978 AS INSTRUMENT NO. 78-1153522, OFFICIAL RECORDS.
- VACATE OVER PORTION OF PIPE TO BE ABANDONED

(48) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES RECORDED OCTOBER 15, 1979 AS INSTRUMENT NO. 79-1153551, OFFICIAL RECORDS. SAID EASEMENT WAS QUITCLAIMED TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT BY QUITCLAIM DEED DATED JUNE 30, 1981 AND RECORDED JULY 6, 1981 AS INSTRUMENT NO. 81-673920, OFFICIAL RECORDS.

(49) A 36 FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES AS SHOWN ON PARCEL MAP NO. 15721 RECORDED IN BOOK 175, PAGES 80 THROUGH 82, INCLUSIVE OF PARCEL MAPS.

(50) A NINETY FOOT WIDE EASEMENT TO NEWHALL INVESTMENT PROPERTIES FOR PARKING OF VEHICLES, PARKING FACILITIES AND LANDSCAPING PURPOSES RECORDED MARCH 25, 1985 AS INSTRUMENT NO. 85-319020, OFFICIAL RECORDS.

(53) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES TO BE KNOWN AS NEWHALL RANCH ROAD (ROUTE 126), RIO VISTA ROAD AND GOLDEN VALLEY ROAD RECORDED MARCH 6, 1986 AS INSTRUMENT NO. 86-287610, OFFICIAL RECORDS.
- TO BE VACATED

(54) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES TO BE KNOWN AS RIO VISTA ROAD AND GOLDEN VALLEY ROAD TOGETHER WITH SLOPE, CUTS AND/OR FILLS AND APPURTENANT STRUCTURES RECORDED MARCH 6, 1986 AS INSTRUMENT NO. 86-287611, OFFICIAL RECORDS.
- VACATE TO BE REPLACED BY FUTURE PUBLIC R/W

(57) VARIABLE WIDTH EASEMENTS TO CASTAIC LAKE WATER AGENCY FOR RAW AND TREATED WATER PIPELINES RECORDED JANUARY 5, 1993 AS INSTRUMENT NO. 93-141359, OFFICIAL RECORDS.
- TO BE VACATED

(59) A SIX FOOT WIDE EASEMENT TO PACIFIC BELL TO CONSTRUCT AND MAINTAIN AERIAL FACILITIES CONSISTING OF POLES, ANCHORS, GUYS, CABLES AND OTHER NECESSARY FIXTURES AND MAINTENANCE INCLUDING INGRESS THERETO AND EGRESS THEREFROM RECORDED MARCH 9, 1993 AS INSTRUMENT NO. 93-445282, OFFICIAL RECORDS.
- TO BE RELOCATED INTO NEWHALL RANCH ROAD (NRR) RIGHT OF WAY (A PORTION NORTH OF NRR TO REMAIN - SEE PLAN)

(60) A FIFTEEN FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINES AND APPURTENANCES RECORDED JULY 27, 1995 AS INSTRUMENT NO. 95-1220108, OFFICIAL RECORDS.
- VACATE PORTION WITHIN PROPOSED PUBLIC R/W

(61) A VARIABLE WIDTH EASEMENT TO CITY OF SANTA CLARITA FOR COVERED STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES RECORDED NOVEMBER 9, 1995 AS INSTRUMENT NO. 95-1804649, OFFICIAL RECORDS.
- TO BE VACATE DUE TO REMOVAL OF INLET & OUTLET STRUCTURES

(62) A FIFTY FOOT WIDE, FORTY FOOT WIDE AND THIRTY FOOT WIDE EASEMENT (PARCELS A-D) TO CASTAIC LAKE WATER AGENCY FOR WATER PIPELINES AND THE RIGHT OF INGRESS AND EGRESS FOR SUCH PURPOSES RECORDED OCTOBER 2, 1996 AS INSTRUMENT NO. 96-1619209, OFFICIAL RECORDS.
- VACATE PORTION WITHIN PROPOSED PUBLIC R/W

(64) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR OVERHEAD AND UNDERGROUND ELECTRICAL SUPPLY SYSTEMS CONSISTING OF CABLES, VAULTS AND MANHOLES, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED FEBRUARY 3, 1997 AS INSTRUMENT NO. 97-181386, OFFICIAL RECORDS.

(A) A TWELVE FOOT AND TWENTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 84-599509, MODIFIED BY INSTRUMENT NO 98-2128583 AND A PORTION QUITCLAIMED BY INSTRUMENT NO 98-2271119

(B) A FIFTEEN FOOT AND FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE AND WATER WELL PURPOSES, PER INSTRUMENT NO 92-1433075, PORTION QUITCLAIMED BY INSTRUMENT NO 01-0410999 AND A PORTION QUITCLAIMED BY INSTRUMENT NO 01-0411000
- VACATE OVER PORTION OF PIPE TO BE ABANDONED

(C) A TWENTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 00-1185545
- TO BE VACATED

(D) A TWENTY FOOT AND FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE AND WATER WELL PURPOSES, PER INSTRUMENT NO 00-1185546

(E) A FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 01-1001061
- TO BE VACATED

(F) A SIX FOOT WIDE EASEMENT TO PACIFIC BELL FOR UNDERGROUND COMMUNICATION DEVICES, PER INSTRUMENT NO 85-56585
- TO BE RELOCATED INTO NEWHALL RANCH ROAD RIGHT OF WAY

COMMENTS:

BOUNDARY LINES . . . . . . WERE DEVELOPED BASED ON RECORD INFORMATION PROVIDED IN THE HEREIN REFERENCED TITLE REPORT. A FIELD SURVEY WAS NOT PERFORMED.

NUMBERED EASEMENTS . . . . PLOTTABLE EASEMENTS ARE SHOWN FROM AN OWNER SUPPLIED TITLE REPORT. NON-PLOTTABLE ONES ARE NOTED ON THE MAP AS HAVING "EFFECT OF". BECAUSE OUR SERVICE IS LIMITED TO REPORTING ON EASEMENT LOCATIONS, WE STRONGLY RECOMMEND LEGAL COUNSEL BE RETAINED TO REPORT ON TITLE PAPERS IN THEIR ENTIRETY.

LETTERED EASEMENTS . . . ADDITIONAL PLOTTED EASEMENTS WERE TAKEN FROM THE PRELIMINARY SUBDIVISION REPORT, ORDER NUMBER 2217627-58 FOR TRACT NO 53425 DATED AUGUST 29, 2002 BY FIRST AMERICAN TITLE COMPANY.

TITLE REPORT . . . . CHICAGO TITLE COMPANY PRELIMINARY TITLE REPORT NO. 8128021 DATED NOVEMBER 12, 1998. (PANHANDLE)

( ) - INDICATES TITLE REPORT EXCEPTION NO.

BASIS OF BEARINGS . . . . THE BEARING NORTH 76°52'13" WEST ALONG THE PROPOSED CENTERLINE OF SOLEDAD CANYON ROAD AS SHOWN ON CSB MAP NO. 2874-3 ON FILE IN THE OFFICE OF THE COUNTY SURVEYOR, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

AREA . . . . BASED UPON RECORD BEARINGS AND DISTANCES AS SHOWN HEREON, THE GROSS AREA IS: 32,389,038 SQ.FT. = 743.55 ACRES

AERIAL SURVEY . . . . . . THIS SURVEY WAS PREPARED BY PHOTOGRAMMETRIC PROCESSES, UTILIZING AERIAL PHOTOGRAMMETRY DATED NOVEMBER 20, 1998. THE OUTLINE OF BUILDINGS AND OTHER ROOFED IMPROVEMENTS MAY INCLUDE EAVES, CANOPIES AND BALCONIES, SINCE BUILDINGS BELOW THESE ITEMS ARE NOT VISIBLE TO THE CAMERA.

TOPOGRAPHY . . . . BY PHOTOGRAMMETRIC PROCESSES FROM AERIAL PHOTOGRAPHY DATED NOVEMBER 20, 1998, AND COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR 40 SCALE MAPPING AND SMALLER.

ORTHOPHOTO . . . . PRODUCED FROM AERIAL PHOTOGRAPHY DATED NOVEMBER 20, 1998. PHOTOGRAPH RECTIFIED AT GROUND LEVEL ONLY SUITABLE FOR 40 SCALE AND SMALLER MAPPING PURPOSES.

CONTOUR INTERVAL . . . . . TWO FOOT.

EFFECT OF . . . . (15) THE RIGHT TO EXTEND ANY PIPES, CULVERTS, BULKHEAD, PASSES OR WING-WALLS THAT MAY BE NECESSARY IN THE PROPER CONSTRUCTION AND DRAINAGE OF SOLEDAD CANYON ACROSS SAID LAND, AND TO EXTEND THE SLOPES OF CUT OR FILL OF SAID ROAD BEYOND THE LIMITS OF SAID ROADWAY WHENEVER IT MAY BE NECESSARY TO DO SO, AS CONVEYED TO THE COUNTY OF LOS ANGELES BY DEED RECORDED JULY 10, 1916 AS INSTRUMENT NO. 64 IN BOOK 6322 PAGE 19 OF DEEDS.

EFFECT OF . . . . (16) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRICAL LINE CONSISTING OF PLOES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 15, 1918 AS INSTRUMENT NO. 156 IN BOOK 6682 PAGE 77 OF DEEDS. SAID EASEMENT NORTH OF PIQ.

EFFECT OF . . . . (18) THE PERMISSIVE LICENSE TO EMPTY OR SPILL WATER FROM THE LOS ANGELES AQUEDUCT INTO THE STREAMS OR WATER CHANNELS RUNNING THROUGH CERTAIN PORTIONS OF THE PREMISES HEREINAFTER DESCRIBED UPON CERTAIN CONDITIONS AND CONTAINED IN THE AGREEMENT BETWEEN THE NEWHALL LAND AND FARMING COMPANY AND THE CITY OF LOS ANGELES, RECORDED DECEMBER 14, 1920 AS INSTRUMENT NO. 825 IN BOOK 308 PAGE 82 OF MISCELLANEOUS RECORDS, OF SAID COUNTY.

EFFECT OF . . . . (20) THE RIGHT TO EXTEND DRAINAGE STRUCTURES AND EXCAVATION AND EMBANKMENT SLOPES BEYOND THE LIMITS OF THE 100 FOOT EASEMENT FOR SOLEDAD CANYON ROAD WHERE REQUIRED FOR CONSTRUCTION AND MAINTENANCE OF SAID HIGHWAY RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

EFFECT OF . . . . (21) A WAIVER OF ANY CLAIMS FOR DAMAGES BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF A HIGHWAY OR FREEWAY CONTIGUOUS THERETO, AS CONTAINED IN AN INSTRUMENT RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

EFFECT OF . . . . (22) AN AGREEMENT DATED DECEMBER 30, 1939, EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY AND AUGUST A. RUBEL AND MARY RUBEL RELATING TO THE RESPECTIVE RIGHTS OF THE SANTA CLARA RIVER AND THE UNDERGROUND WATERS UNDERLYING THE LANDS OF THE NEWHALL RANCH AND THE CAMULOS RANCH AND TO THE APPORTIONMENT AND DIVISION OF SUCH WATERS, AND TO THE METHODS OF DIVERTING AND TRANSPORTING SUCH WATERS, AND WHEREIN NEWHALL LAND AND FARMING GRANTS TO AUGUST AND MARY RUBEL, EASEMENTS OVER THE LAND FOR PIPE LINES, THE CONSTRUCTION AND MAINTENANCE OF DIVERSION WORKS, AND INCIDENTAL PURPOSES RECORDED JUNE 14, 1940 AS INSTRUMENT NO. 988 IN BOOK 17568 PAGE 237, OFFICIAL RECORDS. SAID EASEMENT IS INDETERMINATE IN NATURE.

EFFECT OF . . . . (24) A TWO FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED AUGUST 26, 1949 AS INSTRUMENT NO. 2120 IN BOOK 30870 PAGE 237, OFFICIAL RECORDS. SAID EASEMENT IS INDETERMINATE IN NATURE.

EFFECT OF . . . . (25) A TWO FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED APRIL 2, 1952 AS INSTRUMENT NO. 2552 IN BOOK 38621 PAGE 251, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD, 120 FEET WIDE.

EFFECT OF . . . . (31) SLANT DRILLING RIGHTS AND ALL OTHER RIGHTS GRANTED IN CONNECTION WITH A LEASE RECORDED MARCH 6, 1958 AS INSTRUMENT NO. 3785 IN BOOK 56515 PAGE 445 AND LATER QUITCLAIMED BY DEEDS RECORDED AUGUST 30, 1960 AS INSTRUMENT NO. 4187 IN BOOK R719 PAGE 554 AND JUNE 6, 1961 AS INSTRUMENT NO. 4250 IN BOOK D-1244 PAGE 316, ALL OF OFFICIAL RECORDS.

EFFECT OF . . . . (34) A TWENTY FIVE FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED MAY 31, 1966 AS INSTRUMENT NO. 2560 IN BOOK M-2236 PAGE 474, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD.

EFFECT OF . . . . (37) A VARIABLE WIDTH EASEMENT FOR WATER PIPE LINES GRANTED TO BOUQUET CANYON WATER COMPANY RECORDED DECEMBER 8, 1967 AS INSTRUMENT NO. 654 IN BOOK D-3852 PAGE 864, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD, 120 FEET WIDE.

EFFECT OF . . . . (42) THE CITY OF LOS ANGELES, DEPARTMENT OF POWER AND WATER RIGHTS TO CONVEY TO THE COUNTY OF LOS ANGELES A JOINT USE EASEMENT FOR ACESS ROAD AS RECORDED MARCH 8, 1974 AS INSTRUMENT NO. 3688 IN BOOK D-6194 PAGE 694, OFFICIAL RECORDS.

EFFECT OF . . . . (46) A FORTY FOOT WIDE EASEMENT TO CASTAIC LAKE WATER AGENCY FOR WATER TRANSMISSION CONDUIT PURPOSES INCLUDING THE RIGHT TO USE EXISTING PRIVATE ROADS FOR INGRESS TO AND EGRESS FROM SAID EASEMENT RECORDED OCTOBER 17, 1978 AS INSTRUMENT NO. 78-1153522, OFFICIAL RECORDS.

EFFECT OF . . . . (52) A CONDITIONAL CERTIFICATE OF COMPLIANCE EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY RECORDED OCTOBER 31, 1985 AS INSTRUMENT NO. 85-1293150, OFFICIAL RECORDS. SAID DOCUMENT IS CONDITIONED UPON THE FOLLOWING:

1. OFFER FOR ROAD RIGHT OF WAY ANY PORTION OF THE SUBJECT PROPERTY WITHIN 60 FEET OF THE CENTERLINES FOR BOUQUET AND SOLEDAD CANYON ROADS AND SLOPE EASEMENTS ADJACENT THERETO.
2. DEDICATE TO THE COUNTY THE RIGHT TO RESTRICT ACCESS FROM THE SUBJECT PROPERTY TO BOUQUET AND SOLEDAD CANYONS ROADS.
3. DEDICATE TO THE COUNTY THE RIGHT TO RESTRICT ERECTION OF BUILDINGS AND/OR OTHER STRUCTURES, BECAUSE THE PROPERTY AND/OR ITS ACCESS IS WITHIN A FLOOD-PRONE AND/OR OTHER HIGH-HAZARD AREA.
4. OFFER RIGHT OF WAY FOR A DRAINAGE CHANNEL OR CONDUIT TO THE SATISFACTION OF COUNTY FLOOD CONTROL ENGINEERS.

EFFECT OF . . . . (65) A CERTIFICATE OF COMPLIANCE FOR LOT LINE ADJUSTMENT EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY RECORDED JUNE 19, 1998 AS INSTRUMENT NO. 98-1039023, OFFICIAL RECORDS.

PROJECT SUMMARY:

GROSS AREA	695.4 ac.
TOTAL LOTS	545
TOTAL DU	1,183
EXISTING ZONING	RM, CO(PD), CC(PD), MHP, IC
PROPOSED ZONING	RM-PD, OS, CC
GENERAL PLAN LAND USE	IC(SEA), CO(SEA), CC(SEA), CC, RM, RM(SEA)
GRADING (SITE TO BALANCE)	5,200,000 CY

LOT SUMMARY - AREA A1:

LOTS 1-106	106 S.F.D. - 4,950 FEE LOTS (45' X 110') 106 DU
LOTS 107-220	114 S.F.D. - 5,500 FEE LOTS (50' X 110') 114 DU
LOTS 226	1 RECREATION LOT
LOTS 221-225, 227-246, 248	26 HOA LOTS
AREA A1 TOTAL:	**247 LOTS 220 DU 49.1 ac**

LOT SUMMARY - AREA A2:

LOTS 251-352	102 S.F.D. - 6,050 FEE LOTS (55' X 110') 102 DU
LOTS 353-366	14 HOA LOTS
AREA A2 TOTAL:	**116 LOTS 102 DU 25.1 ac**

LOT SUMMARY - AREA B:

LOTS 368-484	117 S.F.D. - 6,600 FEE LOTS (60' X 110') 117 DU
LOTS 485, 510	2 RECREATION LOTS
LOTS 486-497, 499-509, 511-513	26 HOA LOTS
AREA B TOTAL:	**145 LOTS 117 DU 42.5 ac**

LOT SUMMARY - AREA C:

LOTS 519-521	3 LOTS FOR APARTMENTS - 420 DU - 42.5 ac
LOTS 539	1 PRIVATE STREET LOT - 0.6 ac

LOT SUMMARY - AREA D:

LOT 524, 525	2 LOTS FOR APARTMENTS - 324 DU - 23.9 ac

LOT SUMMARY - COMMERCIAL:

LOT 527, 528	2 COMMERCIAL LOTS - 3.0 ac

LOTS DEDICATED TO CITY OF SANTA CLARITA:

LOTS 247	1 WATER QUALITY BASIN LOT
LOT 367	1 PARK LOT
LOTS 514-518, 522, 523	7 CITY MAINTAINED SLOPE LOTS ADJACENT TO PUBLIC RIGHT OF WAY
LOTS 529-538	10 RIVER TRAIL LOTS
LOTS 540, 541	2 BRIDGE LOTS
LOTS 249, 250, 498, 526	4 OPEN SPACE LOTS
LOTS 542-544	3 OPEN SPACE - SANTA CLARA RIVER LOTS
CITY TOTAL:	**28 LOTS 443.7 ac**
PUBLIC STREET RIGHT OF WAY:	**65 ac**

LEGEND:

10	LOT NO.
8,000 SF	LOT AREA (SQUARE FEET)
1200.0	PAD ELEVATION
"D" ST (650')	STREET NAME (LENGTH OF CUL DE SAC)
	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	FUTURE RIGHT OF WAY
	PROPOSED CURB FACE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	PROPOSED TRAIL
FEMA	FEMA (FLOOD ZONE A - FIRM PANEL 345)
X50	EXISTING CAPITOL FLOOD LIMITS
	404_1603 JURISDICTION
	EXISTING OAK TREE TO BE PROTECTED
	EXISTING OAK TREE TO BE REMOVED
	EXISTING OAK TREE TO BE RELOCATED
	EXISTING OAK TREE WITH DRIP LINE
	BURIED BANK STABILIZATION
SD	PROPOSED STORM DRAIN LINE
W	PROPOSED WATER LINE
W	EXISTING WATER LINE
SS	PROPOSED SEWER LINE
	PRIMARY RIDGE LINE
	SECONDARY RIDGE LINE

FEET 300 150 0 300 600
INCHES 1 1/2 0 1 2

DATUMS:

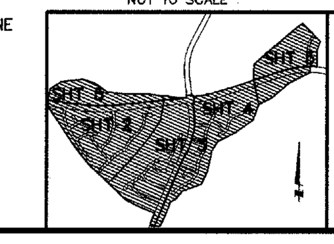
VERTICAL BENCHMARK: RDBM TAG IN E CB BOUQUET CANYON RD. 45 FT. E/O C/L LOS ANGELES COUNTY NO. L 2967 (NEWHALL QUAD)
& 1 FT. N/O BCR & 62 FT. N/O C/L ESPUELLA DR. NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
ELEV. 1183.075 FEET ADJUSTMENT 1995*

*DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

NOTE: NAVD 1988 MINUS APPROXIMATELY 700MM (2.3 FT) EQUALS PREVIOUS NGVD 1929 DATUMS. FOR MORE ACCURATE EQUATIONS AT INDIVIDUAL BENCH MARKS REFER TO PREVIOUS PUBLICATIONS.

KEY MAP

NOT TO SCALE



LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355
(661) 219-6000 (661) 775-2718 (FAX)
[signature] 11/13/03
MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

DESIGNED: MGH
DRAFTED: D.S.H./J.H/T.D.
CHECKED: JHF/JG

OWNER/DEVELOPER:
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES: GLENN ADAMICK & COREY HARPOLE

RIVER PARK VESTING TENTATIVE TRACT MAP NO. 53425

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DEIR Map #1

REV: ____
DATE: 11/13/03

PROJECT NO. 1VAL0215.06

SHEET 1 OF 5

RP013-01

DWG Name: M:\Northriv-mp\53425-mp\ENGR\MASTDES\VTTM\PL\RP013-01.dwg Updated By: MHeideman Jun 05, 2003 - 12:12:12

ption to parcel 1
nced Title Report

exception to parcel 1
ferenced Title Report

TRACT NO. 28882

CASTAIC LAKE WATER AGENCY
RS 121/44-48

NEWHALL RANCH ROAD

SOLEDAD CANYON ROAD

SANTA CLARA RIVER

BOUQUET CANYON ROAD

AREA A1

AREA A2

AREA B

AREA C

AREA D

P.M. NO. 21672
M.K. 175 PGS. 80 TO 82

P.M. NO. 21681
M.K. 175 PG. 99

TRACT NO. 53948
BK. 922 PGS. 7 TO 18

LEGEND:

10	LOT NO.
6,000 SF	LOT AREA (SQUARE FEET)
1200.0	PAD ELEVATION
"D" ST (650')	STREET NAME (LENGTH OF CUL DE SAC)
	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	FUTURE RIGHT OF WAY
	PROPOSED CURB FACE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	PROPOSED TRAIL
FEMA	FEMA (FLOOD ZONE X - FIRM PANEL 345)
	EXISTING CAPITOL FLOOD LIMITS
	404_1603 JURISDICTION
	EXISTING OAK TREE TO BE PROTECTED
	EXISTING OAK TREE TO BE REMOVED
	EXISTING OAK TREE TO BE RELOCATED
	EXISTING OAK TREE WITH DRIP LINE
	BURIED BANK STABILIZATION
SD	PROPOSED STORM DRAIN LINE
W	PROPOSED WATER LINE
W	EXISTING WATER LINE
SS	PROPOSED SEWER LINE
	PRIMARY RIDGE LINE
	SECONDARY RIDGE LINE

TYPICAL SECTION
PARK TRAIL AND DRAINAGE
NTS

SECTION C-C
EXTENDS 100 FEET
FROM WATER QUALITY BASIN
NTS

TYPICAL STREET SECTION (R/W = 120')
EXISTING BOUQUET CANYON ROAD

TYPICAL STREET SECTION (R/W = 120')
EXISTING SOLEDAD CANYON ROAD

TYPICAL STREET SECTION (R/W = 143.3')
NEWHALL RANCH ROAD
FROM BOUQUET CANYON ROAD TO 280' EAST OF BOUQUET CANYON ROAD

TYPICAL STREET SECTION (R/W = 139')
NEWHALL RANCH ROAD
FROM 280' EAST OF BOUQUET CANYON ROAD TO 660' EAST OF BOUQUET CANYON ROAD

TYPICAL STREET SECTION (R/W = 128')
NEWHALL RANCH ROAD
FROM 660' EAST OF BOUQUET CANYON ROAD TO FUTURE GOLDEN VALLEY ROAD

TYPICAL STREET SECTION (R/W = 74')
ENTRIES TO STREETS "A", "B" AND "Q"

TYPICAL STREET SECTION (R/W = 64')
STREETS "B", "Q", "R" AND PRIVATE STREET "H"

TYPICAL STREET SECTION (R/W = 60')
STREETS "A", "B", "D", "F", "G", "I", "J", "K", "L", "M", "N", "O", "S" AND "AA"

TYPICAL TRAIL SECTION
NOT TO SCALE

TYPICAL STREET SECTION (R/W = 58')
STREETS "A", "C", "D", "E", "F", "I", "J", "L", "O", "P", "S", "T", "U", "V", "W", "X", "Y", "Z", "AA" AND "BB"

SECTION B-B
NOT TO SCALE

KEY MAP
NOT TO SCALE

LEGAL DESCRIPTION:
THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER — No. 55639 — Exp. 12-31-04 — CIVIL — STATE OF CALIFORNIA

PSOMAS
29470 Avenue Stanford, Suite 200
Santa Clarita, CA 91355
(661) 219-9000 (661) 775-2778 (FAX)

MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE 11/13/03

DESIGNED : MGH
DRAFTED : D.S.H./J.H./T.D.
CHECKED : JHF/JG

OWNER/DEVELOPER :
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES : GLENN ADAMICK & COREY HARPOLE

RIVER PARK
VESTING TENTATIVE TRACT MAP
NO. 53425 - AREAS A1 & D

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

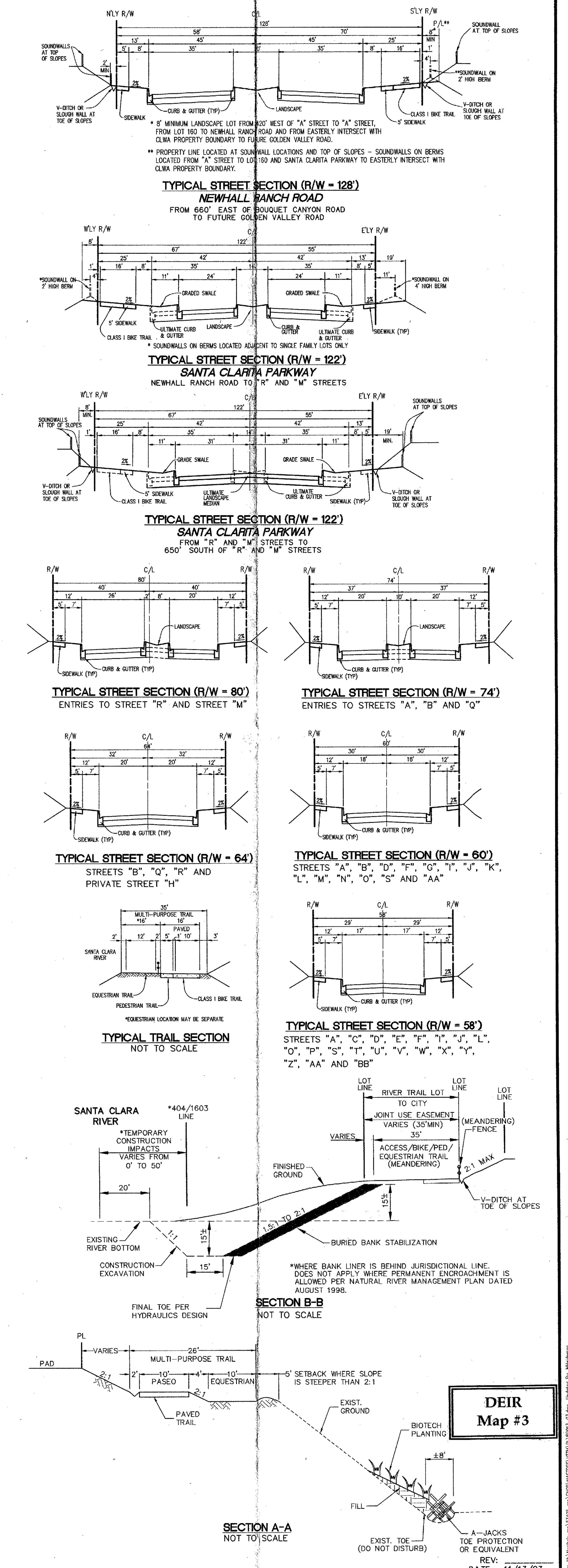
DEIR
Map #2

REV:
DATE: 11/13/03

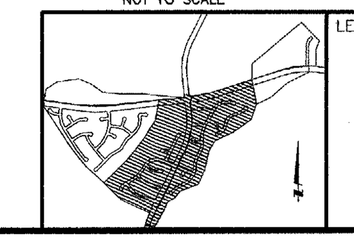
PROJECT NO.
1VAL0215.06

SHEET 2
OF 5

RP013-02



KEY MAP
NOT TO SCALE



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THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER
MATTHEW G. HEIDEMAN
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STATE OF CALIFORNIA

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11/13/03
MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

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CHECKED : JHF/JG

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RIVER PARK
VESTING TENTATIVE TRACT MAP
NO. 53425 - AREAS A2 & B

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV:
DATE: 11/13/03

PROJECT NO. 1VAL0215.06
SHEET 3 OF 5
RP013-03

KEY MAP
NOT TO SCALE

FEET 100 50 0 100 200
INCHES 1 1/2 0 1 2

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

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11/13/03
MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

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DRAFTED: D.S.H./J.H/T.D.
CHECKED: JHF/JG

OWNER/DEVELOPER:
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES: GLENN ADAMICK & COREY HARPOLE

REV:
DATE: 11/13/03

RIVER PARK
VESTING TENTATIVE TRACT MAP
NO. 53425 - AREA C

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

PROJECT NO. 1VAL0215.06
SHEET 4 OF 5
RP013-04

AREA D PARKING

REQUIRED:
34 Studio x 2.0 = 68 (1.5 Enc/DU)
154 1BR x 2.25 = 347 (1.75 Enc/DU) } 593 Enc or 1.83/DU
136 2/3 BR x 2.5 = 340 (2.0 Enc/DU)
324/DU 755 Spaces (2.3/DU)

PROVIDED:
170 Garages }
423 Carports } 593 Enc or 1.83/DU
162 Open Spaces (.5/DU)
755 Total Spaces Provided (2.3/DU)

AREA C PARKING - UPPER PAD

REQUIRED:
162 2/3 BR x 2.5 = 405 (2.0 Enc/DU) 324 Enc or 2.0/DU
162 DU 405 Spaces (2.5/DU)

PROVIDED:
76 One Car Garages }
172 Two Car Garages } 324 Enc or 2.0/DU
76 Carports }
81 Open spaces (.5/DU)
405 Total spaces provided (2.5/DU)

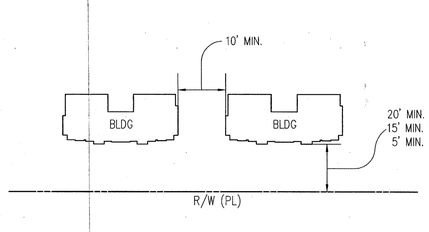
AREA C PARKING - LOWER PAD

REQUIRED:
26 STUDIO x 2.0 = 52 (1.5 Enc/DU)
288 1BR x 2.25 = 288 (1.75 Enc/DU) } 471 Enc or 1.83/DU
104 2/3 BR x 2.5 = 260 (2.0 Enc/DU)
252 DU 600 Spaces (2.3/DU)

PROVIDED:
130 Garages }
341 Carports } 471 Enc or 1.83/DU
99 Open spaces (.5/DU)
600 Total spaces provided (2.3/DU)

LEGEND:

10 / 6,000 SF / 1200.0	LOT NO. / LOT AREA (SQUARE FEET) / PAD ELEVATION
'D' ST (650)	STREET NAME (LENGTH OF CUL DE SAC)
	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	FUTURE RIGHT OF WAY
	PROPOSED CURB FACE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	PROPOSED TRAIL
FEMA	FEMA (FLOOD ZONE A - FIRM PANEL 345)
X50	EXISTING CAPITOL FLOOD LIMITS
404.1803 JURISDICTION	404.1803 JURISDICTION
	EXISTING OAK TREE TO BE PROTECTED
	EXISTING OAK TREE TO BE REMOVED
	EXISTING OAK TREE TO BE RELOCATED
	EXISTING OAK TREE WITH DRIP LINE
	BURIED BANK STABILIZATION
SD	PROPOSED STORM DRAIN LINE
W	PROPOSED WATER LINE
W	EXISTING WATER LINE
SS	PROPOSED SEWER LINE
	PRIMARY RIDGE LINE
	SECONDARY RIDGE LINE



MIN. BUILDING SETBACKS
TYPICAL DETAIL
NOT TO SCALE

FEET
80 40 0 80 160
1/2 0 1 2
INCHES

KEY MAP
NOT TO SCALE

LEGAL DESCRIPTION:
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No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

PSOMAS
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Westlake Village, CA 91361
(805) 230-0060 (805) 230-0061 (FAX)

11/13/03
MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

DESIGNED : MGH
DRAFTED : D.S.H./J.H./T.D.
CHECKED : JHF/JG

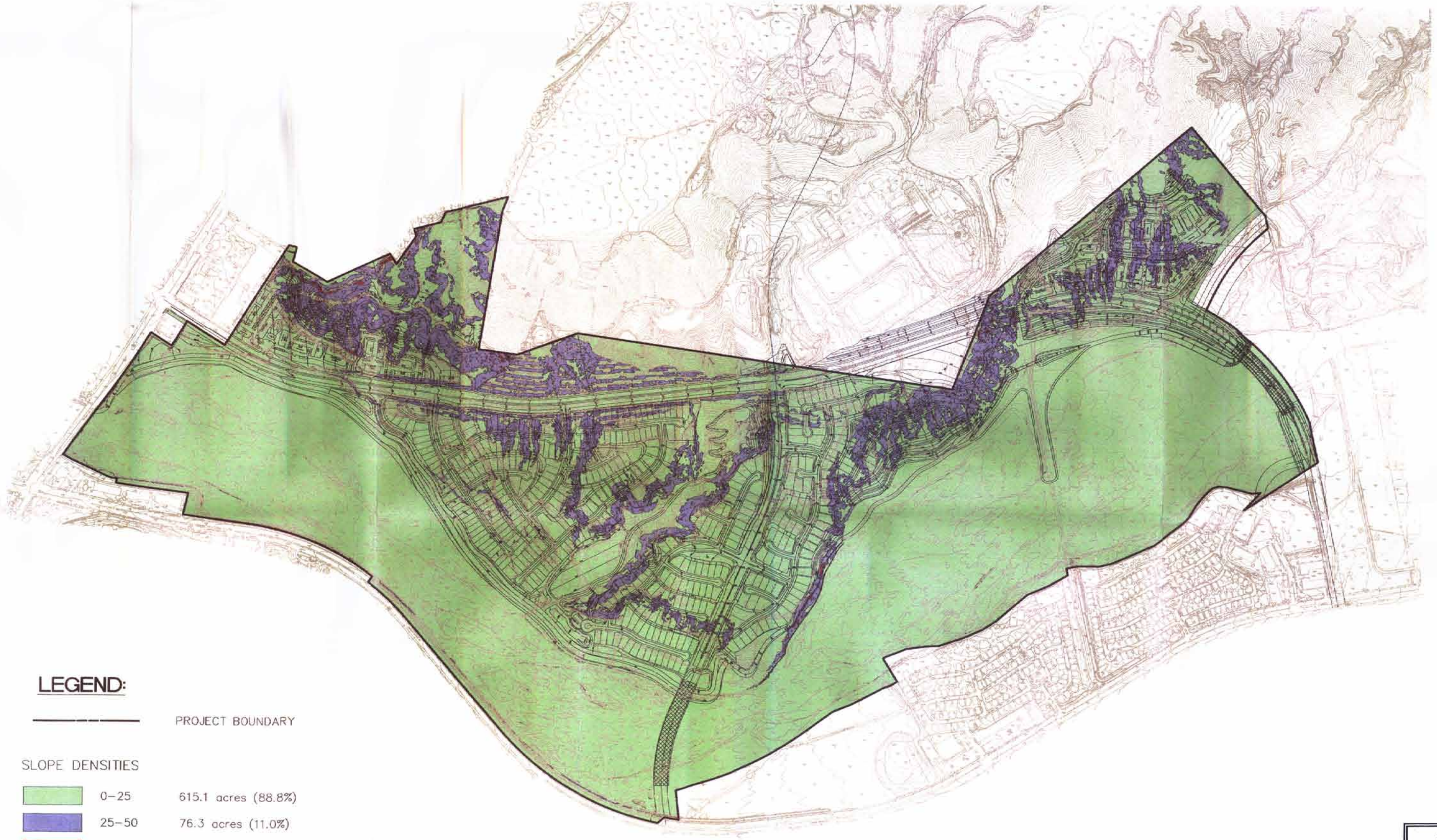
OWNER/DEVELOPER :
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES : GLENN ADAMICK & COREY HARPOLE

RIVER PARK
VESTING TENTATIVE TRACT MAP NO. 53425 - AREAS C & D

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

DEIR
Map #5
REV.
DATE: 11/13/03

PROJECT NO. 1VAL0215.06
SHEET 5 OF 5
RP013-05



LEGEND:

PROJECT BOUNDARY

SLOPE DENSITIES

0–25	615.1 acres (88.8%)
25–50	76.3 acres (11.0%)
50–90	1.1 acres (0.2%)
	692.5 acres (100%)

FEET
400 200 0 400 800
1 1/2 0 1 2
INCHES

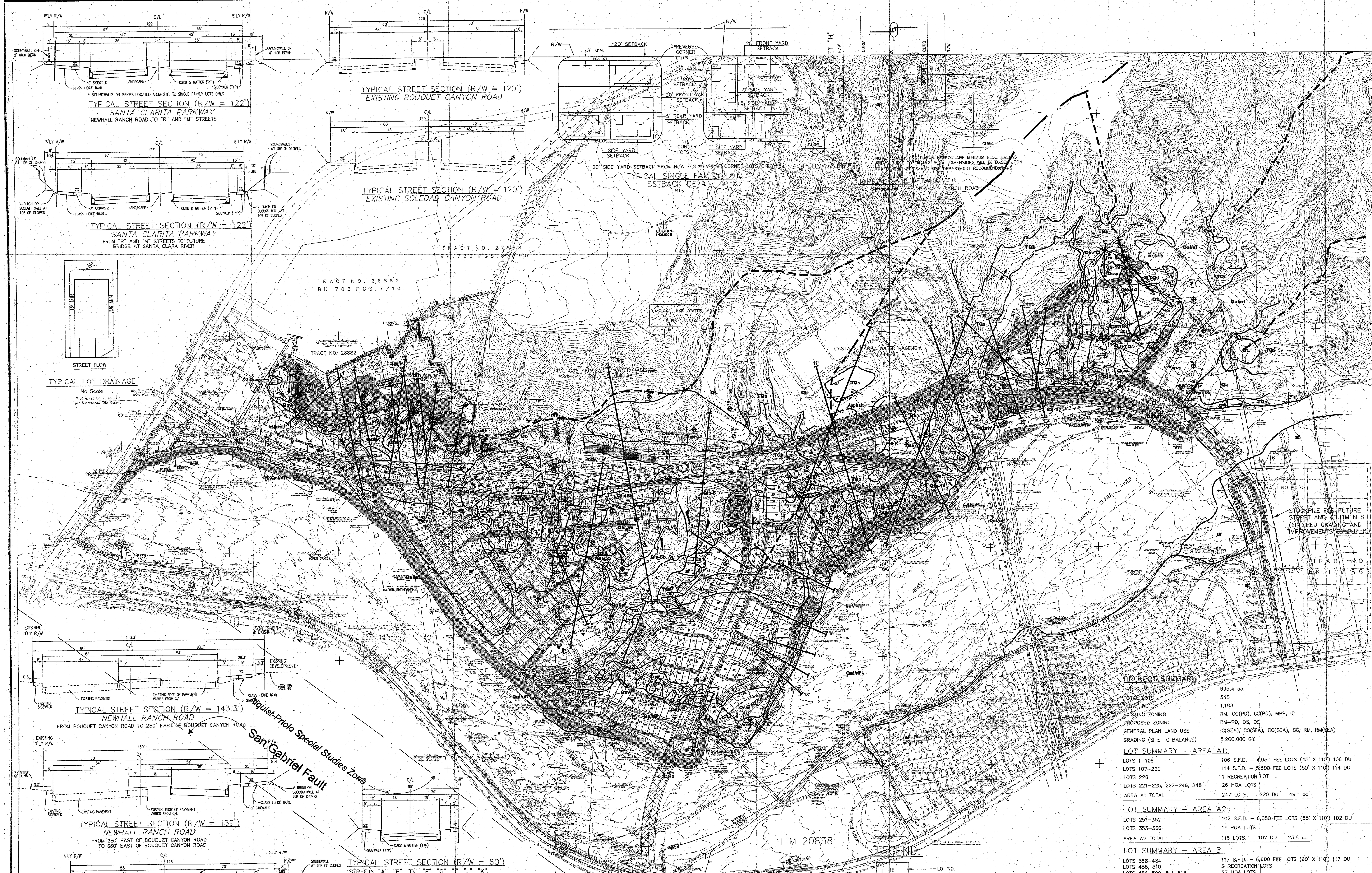
DEIR Map #6

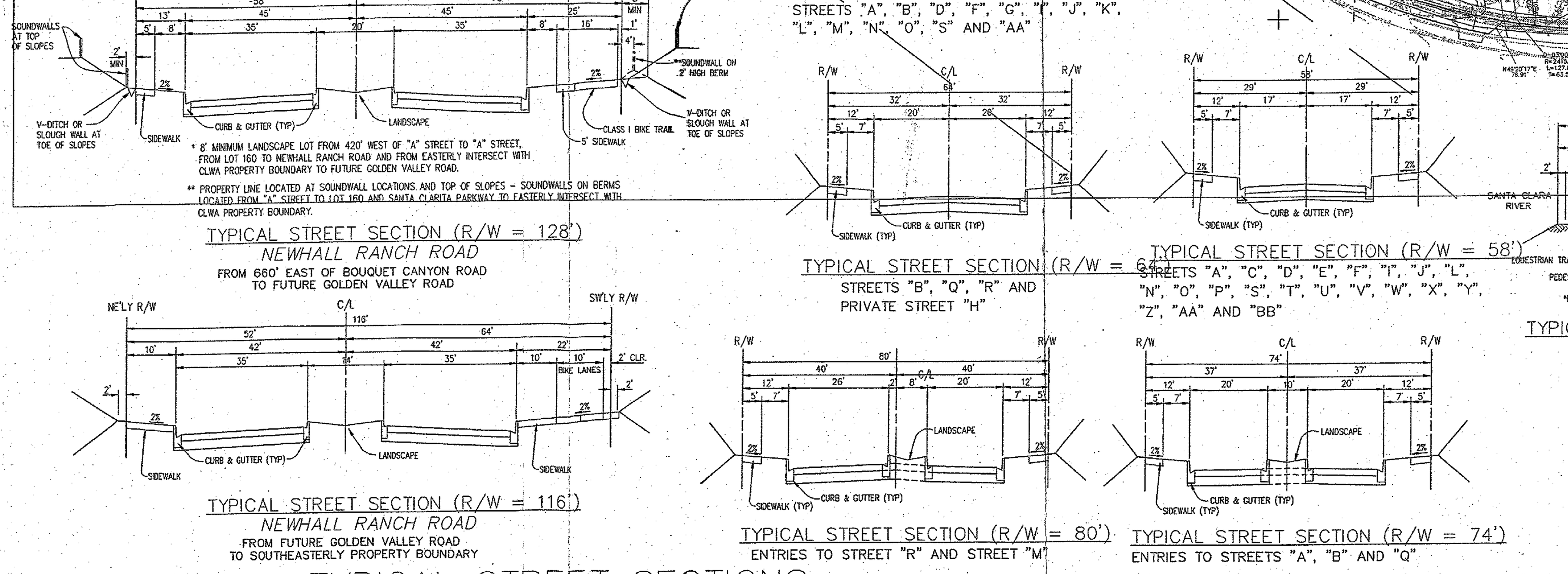
River Park Tract No. 53425
SLOPE EXHIBIT

DATE: 6/16/03 REVISED ON:
JOB No: 1VAL0215.04 T.3 SHEET 1 OF 1

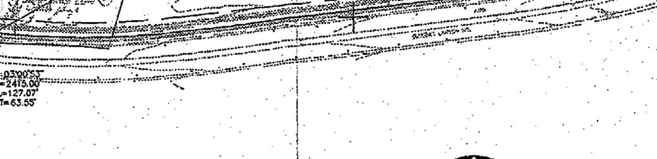
NEWHALL LAND

RP022–01A.dwg





TYPICAL STREET SECTIONS
NOT TO SCALE



TYPICAL TRAIL SECTION
NOT TO SCALE

FEET 300 150 0 300 600
INCHES 1 1/2 0 1 2

DATUMS:

VERTICAL BENCHMARK: RDBM TAG IN E CB BOUQUET CANYON RD. 45 FT. E/O C/L LOS ANGELES COUNTY NO. L 2967 (NEWHALL QUAD)
& 1 FT. N/O BCR & 62 FT. N/O C/L ESPUELLA DR. NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
ELEV. 1183.075 FEET ADJUSTMENT 1995*
*DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
NOTE: NAVD 1988 MINUS APPROXIMATELY 700MM (2.3 FT) EQUALS PREVIOUS NGVD 1929 DATUMS. FOR MORE ACCURATE EQUATIONS AT INDIVIDUAL BENCH MARKS REFER TO PREVIOUS PUBLICATIONS.

LEGEND:

- 10 — LOT NO.
- 8,000 SF — LOT AREA (SQUARE FEET)
- 1200.0 — PAD ELEVATION
- "D" ST(650') — STREET NAME (LENGTH OF CUL DE SAC)
- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- FUTURE RIGHT OF WAY
- PROPOSED CURB FACE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED TRAIL
- FEMA — FEMA (FLOOD ZONE A - FIRM PANEL 345)
- X50 — EXISTING CAPITOL FLOOD LIMITS
- 404_1603 JURISDICTION
- EXISTING OAK TREE TO BE PROTECTED
- EXISTING OAK TREE TO BE REMOVED
- EXISTING OAK TREE TO BE RELOCATED
- EXISTING OAK TREE WITH DRIP LINE
- BURIED BANK STABILIZATION
- SD — PROPOSED STORM DRAIN LINE
- W — PROPOSED WATER LINE
- W — EXISTING WATER LINE
- SS — PROPOSED SEWER LINE
- PRIMARY RIDGE LINE
- SECONDARY RIDGE LINE

PROJECT SUMMARY:

GROSS AREA	695.4 ac.
TOTAL LOTS	545
TOTAL DU	1,183
EXISTING ZONING	RM, CO(PD), CC(PD), MHP, IC
PROPOSED ZONING	RM-PD, OS, CC
GENERAL PLAN LAND USE	IC(SEA), CO(SEA), CC(SEA), CC, RM, RM(SEA)
GRADING (SITE TO BALANCE)	5,200,000 CY

LOT SUMMARY - AREA A1:

LOTS 1-106	106 S.F.D. - 4,950 FEE LOTS (45' X 110') 106 DU
LOTS 107-220	114 S.F.D. - 5,500 FEE LOTS (50' X 110') 114 DU
LOTS 226	1 RECREATION LOT
LOTS 221-225, 227-246, 248	26 HOA LOTS
AREA A1 TOTAL:	247 LOTS 220 DU 49.1 ac

LOT SUMMARY - AREA A2:

LOTS 251-352	102 S.F.D. - 6,050 FEE LOTS (55' X 110') 102 DU
LOTS 353-366	14 HOA LOTS
AREA A2 TOTAL:	116 LOTS 102 DU 23.8 ac

LOT SUMMARY - AREA B:

LOTS 368-484	117 S.F.D. - 6,600 FEE LOTS (60' X 110') 117 DU
LOTS 485, 510	2 RECREATION LOTS
LOTS 486-509, 511-513	27 HOA LOTS
AREA B TOTAL:	146 LOTS 117 DU 43.7 ac

LOT SUMMARY - AREA C:

LOTS 519-521	3 LOTS FOR APARTMENTS - 420 DU - 42.5 ac
LOTS 539	1 PRIVATE STREET LOT - 0.6 ac

LOT SUMMARY - AREA D:

LOT 524, 525	2 LOTS FOR APARTMENTS - 324 DU - 23.9 ac

LOT SUMMARY - COMMERCIAL:

LOT 527, 528	2 COMMERCIAL LOTS - 3.0 ac

LOTS DEDICATED TO CITY OF SANTA CLARITA:

LOTS 247	1 WATER QUALITY BASIN LOT
LOT 367	1 PARK LOT
LOTS 514-518, 522, 523, 545	8 CITY MAINTAINED SLOPE LOTS ADJACENT TO PUBLIC RIGHT OF WAY
LOTS 529-538	10 RIVER TRAIL LOTS
LOTS 540, 541	2 BRIDGE LOTS
LOTS 249, 250, 526	3 OPEN SPACE LOTS
LOTS 542-544	3 OPEN SPACE - SANTA CLARA RIVER LOTS
CITY TOTAL:	28 LOTS 444.6 ac
PUBLIC STREET RIGHT OF WAY:	64.2 ac

GENERAL NOTES:

1. REQUEST PERMISSION FOR UNIT PHASING.
2. REQUEST PERMISSION TO FILE PARCEL MAP (MIN. 20 ACRE PARCELS).
3. REQUEST PERMISSION TO ADJUST LOT LINES.
4. REQUEST PERMISSION TO COMBINE LOTS.
5. REQUEST PERMISSION TO RECORD ADDITIONAL OPEN SPACE LOTS.
6. ALL LOTS DEVELOPABLE DEDICATE THE RIGHT TO RESTRICT DRIVEWAY ACCESS TO MAJOR HIGHWAYS.
7. TOPOGRAPHY COMPILED FROM AERIAL TOPOGRAPHY DATED 11/20/98.
8. EASEMENT FOR ACCESS, UTILITIES AND PIPELINES TO WATER WELL SITES TO BE GRANTED TO VALENCIA WATER CO. PRIOR TO RECORDATION.
9. ANY STREET THAT WILL BE GATED SHALL BE DEDICATED AS A PRIVATE STREET. EXCEPT FOR PRIVATE DRIVEWAYS.
10. EXISTING EASEMENTS PER FIRST AMERICAN PRELIMINARY SUBDIVISION REPORT NO. 217627-58 DATED 8/29/02 WILL BE ADJUSTED WHERE NECESSARY TO ACCOMMODATE DEVELOPMENT.
11. ALL LOT LINE DIMENSIONS SHOWN ARE APPROXIMATE.
12. REQUEST PERMISSION TO MASS GRADE.
13. ALL LOCATIONS OF TRAILS AND TRAIL CROSS SECTIONS SHALL BE OF A DIMENSION, LOCATION AND MATERIAL TO THE SATISFACTION OF THE DIRECTOR OF PARKS, RECREATION AND COMMUNITY SERVICES.
14. PARKING RESTRICTIONS MAY APPLY IN LOCATIONS OF MINIMAL PAVING WIDTHS, PER FIRE DEPARTMENT REQUIREMENTS.
15. ALL GRADES SHOWN ON TENTATIVE TRACT MAP ARE APPROXIMATE. CHANGES IN GRADE SUBJECT TO PLANNING DEPARTMENT APPROVAL.

PLOTTED EASEMENTS:

(10) A ONE HUNDRED FOOT WIDE EASEMENT TO KERN RIVER COMPANY FOR POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED FEBRUARY 20, 1909 AS INSTRUMENT NO. 120 IN BOOK 3644 PAGE 41 OF DEEDS. LOCATION APPROXIMATE ONLY.

(11) A ONE HUNDRED FOOT WIDE EASEMENT TO CITY OF LOS ANGELES FOR CONVEYING WATER FROM THE OWENS RIVER VALLEY, KNOWN AS THE LOS ANGELES AQUADUCT, RECORDED MAY 8, 1911 AS INSTRUMENT NO. 9 IN BOOK 4555 PAGE 125 OF DEEDS.
- TO BE VACATED

(12) A ONE HUNDRED FOOT WIDE EASEMENT TO CITY OF LOS ANGELES FOR CONVEYING WATER FROM THE OWENS RIVER VALLEY, KNOWN AS THE LOS ANGELES AQUADUCT, RECORDED MAY 15, 1911 AS INSTRUMENT NO. 37 IN BOOK 4552 PAGE 178 OF DEEDS.

(13) A SIXTY FOOT WIDE EASEMENT TO CITY OF LOS ANGELS FOR POLE AND WIRE LINES FOR THE TRANSMISSION OF ELECTRICAL ENERGY AND TELEPHONE AND TELEGRAPH MESSAGES, RECORDED MAY 8, 1911 AS INSTRUMENT NO. 9 IN BOOK 4555 PAGE 125 OF DEEDS AND RECORDED MAY 15, 1911 AS INSTRUMENT NO. 37 IN BOOK 4552 PAGE 178 OF DEEDS.

(14) A FIFTEEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON FOR THE RIGHT TO CONSTRUCT, USE, MAINTAIN AND REPLACE POLES OR TOWERS UPON WHICH TO SUSPEND FROM CROSS-ARMS, BRACKETS, OR OTHER APPROPRIATE DEVICES TO BE ATTACHED TO SAID POLES, OR TOWERS, WIRES FOR CONVEYING ELECTRICAL ENERGY RECORDED NOVEMBER 15, 1911 AS INSTRUMENT NO. 224 IN BOOK 4790 PAGE 73 OF DEEDS.

(19) A 100' FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES AS RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

(23) A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED OCTOBER 15, 1943 AS INSTRUMENT NO. 1551 IN BOOK 20331 PAGE 245, OFFICIAL RECORDS.
- TO BE VACATED

(26) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED NOVEMBER 3, 1952 AS INSTRUMENT NO. 2461 IN BOOK 40222 PAGE 376, OFFICIAL RECORDS.
- TO BE VACATED

(27) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED DECEMBER 19, 1952 AS INSTRUMENT NO. 2079 IN BOOK 40559 PAGE 446, OFFICIAL RECORDS.
- TO BE VACATED

(28) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED APRIL 29, 1953 AS INSTRUMENT NO. 3135 IN BOOK 41597 PAGE 412, OFFICIAL RECORDS.
- TO BE VACATED

(29) A TEN FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED JULY 15, 1953 AS INSTRUMENT NO. 2843 IN BOOK 42220 PAGE 298, OFFICIAL RECORDS.
- TO BE VACATED

(30) A SIX FOOT WIDE AND A TWO FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED SEPTEMBER 4, 1953 AS INSTRUMENT NO. 3127 IN BOOK 42632 PAGE 211, OFFICIAL RECORDS.
- TO BE VACATED

(32) A 20' WIDE EASEMENT TO COUNTY SANITATION DISTRICT NO. 26 OF LOS ANGELES FOR SEWER PURPOSES AND THE RIGHT TO LAY, CONSTRUCT, MAINTAIN AND OPERATE A SEWER PIPE LINE RECORDED SEPTEMBER 17, 1962 AS INSTRUMENT NO. 4870 IN BOOK D-1758 PAGE 969, OFFICIAL RECORDS.

(33) TWO (2) TEN FOOT WIDE EASEMENTS TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 12, 1966 AS INSTRUMENT NO. 3407 IN BOOK D-3303 PAGE 10, OFFICIAL RECORDS.

(34) VARIABLE WIDTH EASEMENTS TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 31, 1966 AS INSTRUMENT NO. 2560 IN BOOK M-2236 PAGE 474, OFFICIAL RECORDS.

(36) A SIXTY THREE FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES RECORDED JUNE 13, 1966 AS INSTRUMENT NO. 1814 IN BOOK D-3333 PAGE 544, OFFICIAL RECORDS.

(38) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, SLOPES, DRAINS AND APPURTENANT STRUCTURES RECORDED JUNE 11, 1971 AS INSTRUMENT NO. 2621 IN BOOK D-5086 PAGE 478, OFFICIAL

(39) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY AS RECORDED AUGUST 2, 1972 AS INSTRUMENT NO. 3927 IN BOOK D-5554 PAGE 328, OFFICIAL RECORDS.

(40) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, SLOPES, DRAINS AND APPURTENANT STRUCTURES RECORDED OCTOBER 18, 1972 AS INSTRUMENT NO. 3265 IN BOOK D-5639 PAGE 106, OFFICIAL RECORDS.

(41) VARIABLE WIDTH EASEMENTS TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY, DRAINS AND APPURTENANT STRUCTURES RECORDED OCTOBER 18, 1972 AS INSTRUMENT NO. 3266 IN BOOK D-5639 PAGE 115, OFFICIAL RECORDS.

(42) A FIFTEEN FOOT WIDE AND NINETY FOOT WIDE EASEMENT TO LOS ANGELES COUNTY FOR STORM DRAIN AND PATROL ROAD PURPOSES RECORDED MARCH 8, 1974 AS INSTRUMENT NO. 3688 IN BOOK D-6194 PAGE 694, OFFICIAL RECORDS.

(43) A TEN FOOT WIDE AND THREE FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRIC LINE CONSISTING OF POLES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MARCH 10, 1976 AS INSTRUMENT NO. 2379 IN BOOK D-6997 PAGE 781, OFFICIAL RECORDS.

(44) REMAINDER OF A TWENTY FOOT WIDE, FIFTEEN FOOT WIDE AND ONE HUNDRED FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINES RECORDED NOVEMBER 26, 1976 AS INSTRUMENT NO. 2950 IN BOOK D-7333 PAGE 151, OFFICIAL RECORDS. SAID EASEMENTS WERE QUITCLAIMED TO THE NEWHALL LAND AND FARMING COMPANY RECORDED JULY 2, 1997 AS INSTRUMENT NO. 97-984038, OFFICIAL RECORDS.
- TO BE VACATED

(45) VARIABLE WIDTH EASEMENTS TO LACFCD FOR STORM DRAIN PURPOSES AND APPURTENANT STRUCTURES AS SHOWN ON PARCEL MAP NO. 8675 RECORDED IN BOOK 96, PAGES 92 THROUGH 96, INCLUSIVE OF PARCEL MAPS, SAID EASEMENT WAS QUITCLAIMED TO THE LA COUNTY FLOOD CONTROL DISTRICT AND RECORDED JANUARY 24, 1980 AS INSTRUMENT NO. 80-91107 OFFICIAL RECORDS.

(46) A FORTY FOOT WIDE EASEMENT TO CASTAIC LAKE WATER AGENCY FOR WATER TRANSMISSION CONDUIT PURPOSES INCLUDING THE RIGHT TO USE EXISTING PRIVATE ROADS FOR INGRESS TO AND EGRESS FROM SAID EASEMENT RECORDED OCTOBER 17, 1978 AS INSTRUMENT NO. 78-1153522, OFFICIAL RECORDS.
- VACATE OVER PORTION OF PIPE TO BE ABANDONED

(48) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES RECORDED OCTOBER 15, 1979 AS INSTRUMENT NO. 79-1153551, OFFICIAL RECORDS. SAID EASEMENT WAS QUITCLAIMED TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT BY QUITCLAIM DEED DATED JUNE 30, 1981 AND RECORDED JULY 6, 1981 AS INSTRUMENT NO. 81-673920, OFFICIAL RECORDS.

(49) A 36 FOOT WIDE EASEMENT TO COUNTY OF LOS ANGELES FOR STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES AS SHOWN ON PARCEL MAP NO. 15721 RECORDED IN BOOK 175, PAGES 80 THROUGH 82, INCLUSIVE OF PARCEL MAPS.

(50) A NINETY FOOT WIDE EASEMENT TO NEWHALL INVESTMENT PROPERTIES FOR PARKING OF VEHICLES, PARKING FACILITIES AND LANDSCAPING PURPOSES RECORDED MARCH 25, 1985 AS INSTRUMENT NO. 85-319020, OFFICIAL RECORDS.

(53) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES TO BE KNOWN AS NEWHALL RANCH ROAD (ROUTE 126), RIO VISTA ROAD AND GOLDEN VALLEY ROAD RECORDED MARCH 6, 1986 AS INSTRUMENT NO. 86-287610, OFFICIAL RECORDS.
- TO BE VACATED

(54) A VARIABLE WIDTH EASEMENT TO COUNTY OF LOS ANGELES FOR PUBLIC ROAD AND HIGHWAY PURPOSES TO BE KNOWN AS RIO VISTA ROAD AND GOLDEN VALLEY ROAD TOGETHER WITH SLOPE, CUTS AND/OR FILLS AND APPURTENANT STRUCTURES RECORDED MARCH 6, 1986 AS INSTRUMENT NO. 86-287611, OFFICIAL RECORDS.
- VACATE TO BE REPLACED BY FUTURE PUBLIC R/W

(57) VARIABLE WIDTH EASEMENTS TO CASTAIC LAKE WATER AGENCY FOR RAW AND TREATED WATER PIPELINES RECORDED JANUARY 5, 1993 AS INSTRUMENT NO. 93-141359, OFFICIAL RECORDS.
- TO BE VACATED

(59) A SIX FOOT WIDE EASEMENT TO PACIFIC BELL TO CONSTRUCT AND MAINTAIN AERIAL FACILITIES CONSISTING OF POLES, ANCHORS, GUYS, CABLES AND OTHER NECESSARY FIXTURES AND APPURTENANCES INCLUDING INGRESS THERETO AND EGRESS THEREFROM RECORDED MARCH 9, 1993 AS INSTRUMENT NO. 93-445282, OFFICIAL RECORDS.
- TO BE RELOCATED

(60) A FIFTEEN FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINES AND APPURTENANCES RECORDED JULY 27, 1995 AS INSTRUMENT NO. 95-1220108, OFFICIAL RECORDS.
- VACATE PORTION WITHIN PROPOSED PUBLIC R/W

(61) A VARIABLE WIDTH EASEMENT TO CITY OF SANTA CLARITA FOR COVERED STORM DRAIN PURPOSES, APPURTENANT STRUCTURES AND INGRESS AND EGRESS PURPOSES RECORDED NOVEMBER 9, 1995 AS INSTRUMENT NO. 95-1804649, OFFICIAL RECORDS.
- TO BE VACATE DUE TO REMOVAL OF INLET & OUTLET STRUCTURES

(62) A FIFTY FOOT WIDE, FORTY FOOT WIDE AND THIRTY FOOT WIDE EASEMENT (PARCELS A-D) TO CASTAIC LAKE WATER AGENCY FOR WATER PIPELINES AND THE RIGHT OF INGRESS AND EGRESS FOR SUCH PURPOSES RECORDED OCTOBER 2, 1996 AS INSTRUMENT NO. 96-1619209, OFFICIAL RECORDS.
- VACATE PORTION WITHIN PROPOSED PUBLIC R/W

(64) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR OVERHEAD AND UNDERGROUND ELECTRICAL SUPPLY SYSTEMS CONSISTING OF CABLES, VAULTS AND MANHOLES, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED FEBRUARY 3, 1997 AS INSTRUMENT NO. 97-181386, OFFICIAL RECORDS.

(A) A TWELVE FOOT AND TWENTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 84-599509, MODIFIED BY INSTRUMENT NO 98-2128583 AND A PORTION QUITCLAIMED BY INSTRUMENT NO 98-2271119

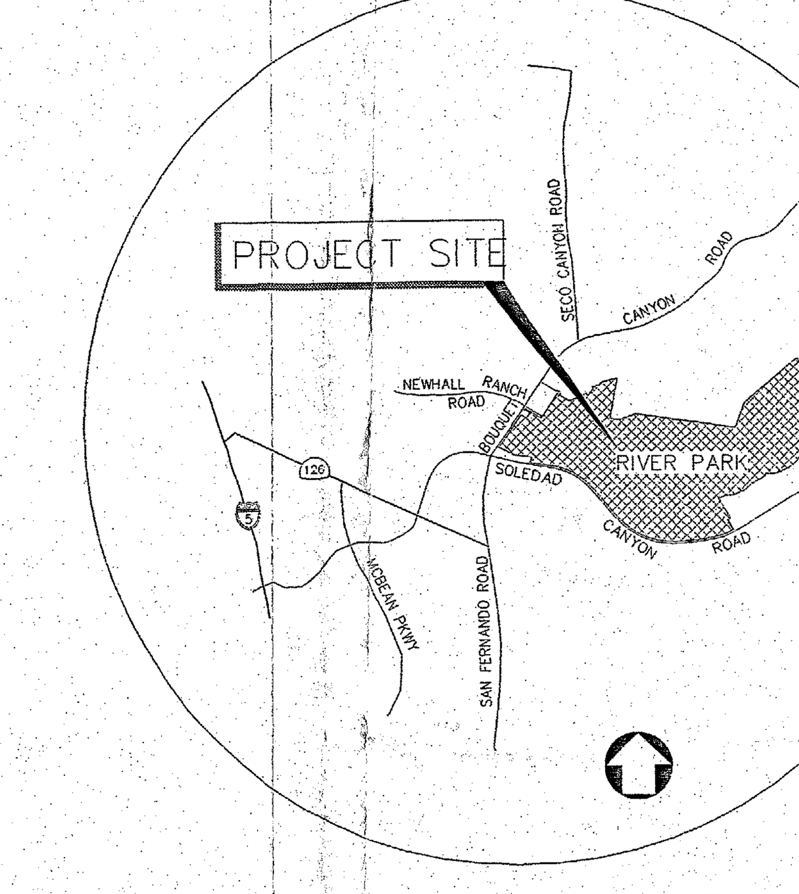
(B) A FIFTEEN FOOT AND FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE AND WATER WELL PURPOSES, PER INSTRUMENT NO 92-1433075, PORTION QUITCLAIMED BY INSTRUMENT NO 01-0410999 AND A PORTION QUITCLAIMED BY INSTRUMENT NO 01-0411000
- VACATE OVER PORTION OF PIPE TO BE ABANDONED

(C) A TWENTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 00-1185545
- TO BE VACATED

(D) A TWENTY FOOT AND FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE AND WATER WELL PURPOSES, PER INSTRUMENT NO 00-1185546

(E) A FIFTY FOOT WIDE EASEMENT TO VALENCIA WATER COMPANY FOR WATER PIPELINE PURPOSES, PER INSTRUMENT NO 01-1001061
- TO BE VACATED

(F) A SIX FOOT WIDE EASEMENT TO PACIFIC BELL FOR UNDERGROUND COMMUNICATION DEVICES, PER INSTRUMENT NO 85-56585
- TO BE RELOCATED



VICINITY MAP
NOT TO SCALE

SEE SHEET 4 of 5 FOR LEGEND

COMMENTS:

BOUNDARY LINES ...... WERE DEVELOPED BASED ON RECORD INFORMATION PROVIDED IN THE HEREIN REFERENCED TITLE REPORT. A FIELD SURVEY WAS NOT PERFORMED.

NUMBERED EASEMENTS .... PLOTTABLE EASEMENTS ARE SHOWN FROM AN OWNER SUPPLIED TITLE REPORT. NON-PLOTTABLE ONES ARE NOTED ON THE MAP AS HAVING "EFFECT OF". BECAUSE OUR SERVICE IS LIMITED TO REPORTING ON EASEMENT LOCATIONS, WE STRONGLY RECOMMEND LEGAL COUNSEL BE RETAINED TO REPORT ON TITLE PAPERS IN THEIR ENTIRETY.

LETTERED EASEMENTS ... ADDITIONAL PLOTTED EASEMENTS WERE TAKEN FROM THE PRELIMINARY SUBDIVISION REPORT, ORDER NUMBER 2217627-58 FOR TRACT NO 53425 DATED AUGUST 29, 2002 BY FIRST AMERICAN TITLE COMPANY.

TITLE REPORT .... CHICAGO TITLE COMPANY PRELIMINARY TITLE REPORT NO. 8128021 DATED NOVEMBER 12, 1998. (PANHANDLE)
( ) INDICATES TITLE REPORT EXCEPTION NO.

BASIS OF BEARINGS .... THE BEARING NORTH 76°52'13" WEST ALONG THE PROPOSED CENTERLINE OF SOLEDAD CANYON ROAD AS SHOWN ON CSB MAP NO. 2874-3 ON FILE IN THE OFFICE OF THE COUNTY SURVEYOR, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

AREA .... BASED UPON RECORD BEARINGS AND DISTANCES AS SHOWN HEREON. THE GROSS AREA IS: 32,389,038 SQ.FT. = 743.55 ACRES

AERIAL SURVEY ...... THIS SURVEY WAS PREPARED BY PHOTOGRAMMETRIC PROCESSES, UTILIZING AERIAL PHOTOGRAMMETRY DATED NOVEMBER 20, 1998. THE OUTLINE OF BUILDINGS AND OTHER ROOFED IMPROVEMENTS MAY INCLUDE EAVES, CANOPIES AND BALCONIES, SINCE BUILDINGS BELOW THESE ITEMS ARE NOT VISIBLE TO THE CAMERA.

TOPOGRAPHY .... BY PHOTOGRAMMETRIC PROCESSES FROM AERIAL PHOTOGRAPHY DATED NOVEMBER 20, 1998, AND COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR 40 SCALE MAPPING AND SMALLER.

ORTHOPHOTO .... PRODUCED FROM AERIAL PHOTOGRAPHY DATED NOVEMBER 20, 1998. PHOTOGRAPH RECTIFIED AT GROUND LEVEL ONLY SUITABLE FOR 40 SCALE AND SMALLER MAPPING PURPOSES.

CONTOUR INTERVAL .... TWO FOOT.

EFFECT OF .... (15) THE RIGHT TO EXTEND ANY PIPES, CULVERTS, BULKHEAD, PASSES OR WING-WALLS THAT MAY BE NECESSARY IN THE PROPER CONSTRUCTION AND DRAINAGE OF SOLEDAD CANYON ACROSS SAID LAND, AND TO EXTEND THE SLOPES OF CUT OR FILL OF SAID ROAD BEYOND THE LIMITS OF SAID ROADWAY WHENEVER IT MAY BE NECESSARY TO DO SO, AS CONVEYED TO THE COUNTY OF LOS ANGELES BY DEED RECORDED JULY 10, 1916 AS INSTRUMENT NO. 64 IN BOOK 6322 PAGE 19 OF DEEDS.

EFFECT OF .... (16) A TEN FOOT WIDE EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR AN ELECTRICAL LINE CONSISTING OF PLOES AND POLE STRUCTURES TOGETHER WITH GUYS AND ANCHORS, ETC. NECESSARY IN THE CONVEYANCE OF ELECTRICAL ENERGY RECORDED MAY 15, 1918 AS INSTRUMENT NO. 156 IN BOOK 6682 PAGE 77 OF DEEDS. SAID EASEMENT NORTH OF PIO.

EFFECT OF .... (17) THE PERMISSIVE LICENSE TO EMPTY OR SPILL WATER FROM THE LOS ANGELES AQUEDUCT INTO THE STREAMS OR WATER CHANNELS RUNNING THROUGH CERTAIN PORTIONS OF THE PREMISES HEREINAFTER DESCRIBED UPON CERTAIN CONDITIONS AND CONTAINED IN THE AGREEMENT BETWEEN THE NEWHALL LAND AND FARMING COMPANY AND THE CITY OF LOS ANGELES, RECORDED DECEMBER 14, 1920 AS INSTRUMENT NO. 825 IN BOOK 308 PAGE 82 OF MISCELLANEOUS RECORDS, OF SAID COUNTY.

EFFECT OF .... (20) THE RIGHT TO EXTEND DRAINAGE STRUCTURES AND EXCAVATION AND EMBANKMENT SLOPES BEYOND THE LIMITS OF THE 100 FOOT EASEMENT FOR SOLEDAD CANYON ROAD WHERE REQUIRED FOR CONSTRUCTION AND MAINTENANCE OF SAID HIGHWAY RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

EFFECT OF .... (21) A WAIVER OF ANY CLAIMS FOR DAMAGES BY REASON OF THE LOCATION, CONSTRUCTION, LANDSCAPING OR MAINTENANCE OF A HIGHWAY OR FREEWAY CONTIGUOUS THERETO, AS CONTAINED IN AN INSTRUMENT RECORDED OCTOBER 20, 1931 AS INSTRUMENT NO. 938 IN BOOK 11155 PAGE 307, OFFICIAL RECORDS.

EFFECT OF .... (22) AN AGREEMENT DATED DECEMBER 30, 1939, EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY AND AUGUST A. RUBEL AND MARY RUBEL RELATING TO THE RESPECTIVE RIGHTS OF THE SANTA CLARA RIVER AND THE UNDERGROUND WATERS UNDERLYING THE LANDS OF THE NEWHALL RANCH AND THE CAMULOS RANCH AND TO THE APPORTIONMENT AND DIVISION OF SUCH WATERS, AND TO THE METHODS OF DIVERTING AND TRANSPORTING SUCH WATERS, AND WHEREIN NEWHALL LAND AND FARMING GRANTS TO AUGUST AND MARY RUBEL, EASEMENTS OVER THE LAND FOR PIPE LINES, THE CONSTRUCTION AND MAINTENANCE OF DIVERSION WORKS, AND INCIDENTAL PURPOSES RECORDED JUNE 14, 1940 AS INSTRUMENT NO. 988 IN BOOK 17568 PAGE 237, OFFICIAL RECORDS. SAID EASEMENT IS INDETERMINATE IN NATURE.

EFFECT OF .... (24) A TWO FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED AUGUST 26, 1949 AS INSTRUMENT NO. 2120 IN BOOK 30870 PAGE 237, OFFICIAL RECORDS. SAID EASEMENT IS INDETERMINATE IN NATURE.

EFFECT OF .... (25) A TWO FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED APRIL 2, 1952 AS INSTRUMENT NO. 2552 IN BOOK 38621 PAGE 251, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD,120 FEET WIDE.

EFFECT OF .... (31) SLANT DRILLING RIGHTS AND ALL OTHER RIGHTS GRANTED IN CONNECTION WITH A LEASE RECORDED MARCH 6, 1958 AS INSTRUMENT NO. 3785 IN BOOK 56515 PAGE 445 AND LATER QUITCLAIMED BY DEEDS RECORDED AUGUST 30, 1960 AS INSTRUMENT NO. 4187 IN BOOK R719 PAGE 554 AND JUNE 6, 1961 AS INSTRUMENT NO. 4250 IN BOOK D-1244 PAGE 316, ALL OF OFFICIAL RECORDS.

EFFECT OF .... (35) A TWENTY FIVE FOOT WIDE EASEMENT FOR UTILITIES AND APPURTENANCES GRANTED TO SOUTHERN CALIFORNIA EDISON COMPANY, LTD. RECORDED MAY 31, 1966 AS INSTRUMENT NO. 2560 IN BOOK M-2236 PAGE 474, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD.

EFFECT OF .... (37) A VARIABLE WIDTH EASEMENT FOR WATER PIPE LINES GRANTED TO BOUQUET CANYON WATER COMPANY RECORDED DECEMBER 8, 1967 AS INSTRUMENT NO. 614 IN BOOK D-3852 PAGE 864, OFFICIAL RECORDS. SAID EASEMENT LIES WITHIN THE RIGHT OF WAY OF SOLEDAD CANYON ROAD, 120 FEET WIDE.

EFFECT OF .... (42) THE CITY OF LOS ANGELES, DEPARTMENT OF POWER AND WATER RIGHTS TO CONVEY TO THE COUNTY OF LOS ANGELES A JOINT USE EASEMENT FOR ACESS ROAD AS RECORDED MARCH 8, 1974 AS INSTRUMENT NO. 3688 IN BOOK D-6194 PAGE 694, OFFICIAL RECORDS.

EFFECT OF .... (47) A FORTY FOOT WIDE EASEMENT TO CASTAIC LAKE WATER AGENCY FOR WATER TRANSMISSION CONDUIT PURPOSES INCLUDING THE RIGHT TO USE EXISTING PRIVATE ROADS FOR INGRESS TO AND EGRESS FROM SAID EASEMENT RECORDED OCTOBER 17, 1978 AS INSTRUMENT NO. 78-1153522, OFFICIAL RECORDS.

EFFECT OF .... (52) A CONDITIONAL CERTIFICATE OF COMPLIANCE EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY RECORDED OCTOBER 31, 1985 AS INSTRUMENT NO. 85-1293150, OFFICIAL RECORDS. SAID DOCUMENT IS CONDITIONED UPON THE FOLLOWING:
1. OFFER FOR ROAD RIGHT OF WAY ANY PORTION OF THE SUBJECT PROPERTY WITHIN 60 FEET OF THE CENTERLINES FOR BOUQUET AND SOLEDAD CANYON ROADS AND SLOPE EASEMENTS ADJACENT THERETO.
2. DEDICATE TO THE COUNTY THE RIGHT TO RESTRICT ACCESS FROM THE SUBJECT PROPERTY TO BOUQUET AND SOLEDAD CANYONS ROADS.
3. DEDICATE TO THE COUNTY THE RIGHT TO RESTRICT ERECTION OF BUILDINGS AND/OR OTHER STRUCTURES, BECAUSE THE PROPERTY AND/OR ITS ACCESS IS WITHIN A FLOOD-PRONE AND/OR OTHER HIGH-HAZARD AREA.
4. OFFER RIGHT OF WAY FOR A DRAINAGE CHANNEL OR CONDUIT TO THE SATISFACTION OF COUNTY FLOOD CONTROL ENGINEERS.

EFFECT OF .... (58) A CERTIFICATE OF COMPLIANCE FOR LOT LINE ADJUSTMENT EXECUTED BY THE NEWHALL LAND AND FARMING COMPANY RECORDED JUNE 19, 1998 AS INSTRUMENT NO. 98-1039023, OFFICIAL RECORDS.

ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological and Geotechnical Consultants

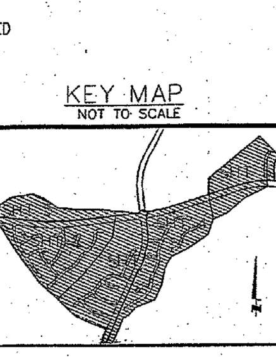
GEOLOGIC/GEOTECHNICAL MAP

Date: 06/30/03	Job No.: 03-1571-4
Scale: 1" = 300'	CAD File: SHEET 1
Sheet 1 of 5	Geology by: Staff / Drawn by: GSD/MBW / Revised:

DEIR Map #7

REV:
DATE: 6/11/03

KEY MAP
NOT TO SCALE



LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 Exp. 3-31-03 CIVIL STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355
(661) 219-6000 (661) 775-2718 (FAX)

JASON H. FUKUMITSU R.C.E. NO. 40695 DATE

DESIGNED: MGH
DRAFTED: D.S.H./J.H./T.D.
CHECKED: JHF/JG

OWNER/DEVELOPER:
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES : GLENN ADAMICK & COREY HARPOLE

RIVER PARK VESTING TENTATIVE TRACT MAP NO. 53425

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

PROJECT NO. 1VAL0215.06
SHEET 1 OF 5
RP013-01


TRACT NO. 28882
CASTAIC LAKE WATER AGENCY
RS 121/44-48
BOUQUET CANYON ROAD
NEWHALL RANCH ROAD
SOLEDAD CANYON RD.
SANTA CLARA RIVER
LOT NO. 542 (OPEN SPACE)
Recommended Restricted Use Area
Constructed Keyway
Top of Mint Canyon Formation @ 700 ft
Union Oil Co. of California-"Bonelli No. 1"
Edward Lustgarten-"Lucky Lusty No. 1"
Edward Lustgarten "Lucky Lusty No. 3"
Qsw
TQs
dfh
af
Qal
Qal/af
Cef
Qls-1
Qls-2
Qls-3
Qls-4
Qls-5b
Qls-7
Qt₂
Qt₃
Qt₆
CS-1
CS-2
CS-3
CS-4
CS-5
CS-6
CS-7
CS-8
BA-2
BA-3
BA-4
BA-5
BA-11
BA-12
LEGEND:
LOT NO.
LOT AREA (SQUARE FEET)
PAD ELEVATION
STREET NAME (LENGTH OF CUL DE SAC)
PROJECT BOUNDARY
EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY
FUTURE RIGHT OF WAY
PROPOSED CURB FACE
EXISTING EASEMENT
PROPOSED EASEMENT
PROPOSED TRAIL
FEMA (FLOOD ZONE A – FIRM PANEL 345)
EXISTING CAPITOL FLOOD LIMITS
404_1603 JURISDICTION
EXISTING OAK TREE TO BE PROTECTED
EXISTING OAK TREE TO BE REMOVED
EXISTING OAK TREE TO BE RELOCATED
EXISTING OAK TREE WITH DRIP LINE
BURIED BANK STABILIZATION
PROPOSED STORM DRAIN LINE
PROPOSED WATER LINE
EXISTING WATER LINE
PROPOSED SEWER LINE
PRIMARY RIDGE LINE
SECONDARY RIDGE LINE
TYPICAL SECTION
PARK TRAIL AND DRAINAGE
NTS
SECTION C-C
EXTENDS 130 FEET FROM WATER QUALITY BASIN
NTS
TYPICAL STREET SECTION (R/W = 120')
EXISTING BOUQUET CANYON ROAD
TYPICAL STREET SECTION (R/W = 120')
EXISTING SOLEDAD CANYON ROAD
TYPICAL STREET SECTION (R/W = 143.3')
NEWHALL RANCH ROAD
FROM BOUQUET CANYON ROAD TO 280' EAST OF BOUQUET CANYON ROAD
TYPICAL STREET SECTION (R/W = 139')
NEWHALL RANCH ROAD
FROM 280' EAST OF BOUQUET CANYON ROAD TO 660' EAST OF BOUQUET CANYON ROAD
* 8' MINIMUM LANDSCAPE LOT FROM 420' WEST OF "A" STREET TO "A" STREET, FROM LOT 160 TO NEWHALL RANCH ROAD AND FROM EASTERLY INTERSECT WITH CLWA PROPERTY BOUNDARY TO FUTURE GOLDEN VALLEY ROAD.
** PROPERTY LINE LOCATED AT SOUNDWALL LOCATIONS AND TOP OF SLOPES – SOUNDWALLS ON BERMS LOCATED FROM "A" STREET TO LOT 160 AND SANTA CLARITA PARKWAY TO EASTERLY INTERSECT WITH CLWA PROPERTY BOUNDARY.
TYPICAL STREET SECTION (R/W = 128')
NEWHALL RANCH ROAD
FROM 660' EAST OF BOUQUET CANYON ROAD TO FUTURE GOLDEN VALLEY ROAD
TYPICAL STREET SECTION (R/W = 74')
ENTRIES TO STREETS "A", "B" AND "Q"
TYPICAL STREET SECTION (R/W = 64')
STREETS "B", "Q", "R" AND PRIVATE STREET "H"
TYPICAL STREET SECTION (R/W = 60')
STREETS "A", "B", "D", "F", "G", "I", "J", "K", "L", "M", "N", "O", "S" AND "AA"
TYPICAL STREET SECTION (R/W = 58')
STREETS "A", "C", "D", "E", "F", "I", "J", "L", "N", "O", "P", "S", "T", "U", "V", "W", "X", "Y", "Z", "AA" AND "BB"
TYPICAL TRAIL SECTION
NOT TO SCALE
*EQUESTRIAN LOCATION MAY BE SEPARATE
SECTION B-B
NOT TO SCALE
*WHERE BANK LINER IS BEHIND JURISDICTIONAL LINE. DOES NOT APPLY WHERE PERMANENT ENCROACHMENT IS ALLOWED PER NATURAL RIVER MANAGEMENT PLAN DATED AUGUST 1998.
FEET
INCHES
SEE SHEET 4 of 5 FOR LEGEND
LEGAL DESCRIPTION:
THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
KEY MAP
NOT TO SCALE
ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological and Geotechnical Consultants
GEOLOGIC/GEOTECHNICAL MAP
Date: 06/30/03
Job No.: 03-1571-4
Scale: 1" = 100'
CAD File: SHEET 2
Sheet 2 of 5
Geology by: Staff
Drawn by: GSD/MBW
Revised:
PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355
(661) 219-6000 (661) 775-2718 (FAX)
JASON H. FUKUMITSU R.C.E. NO. 40695 DATE
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DRAFTED: D.S.H./J.H./T.D.
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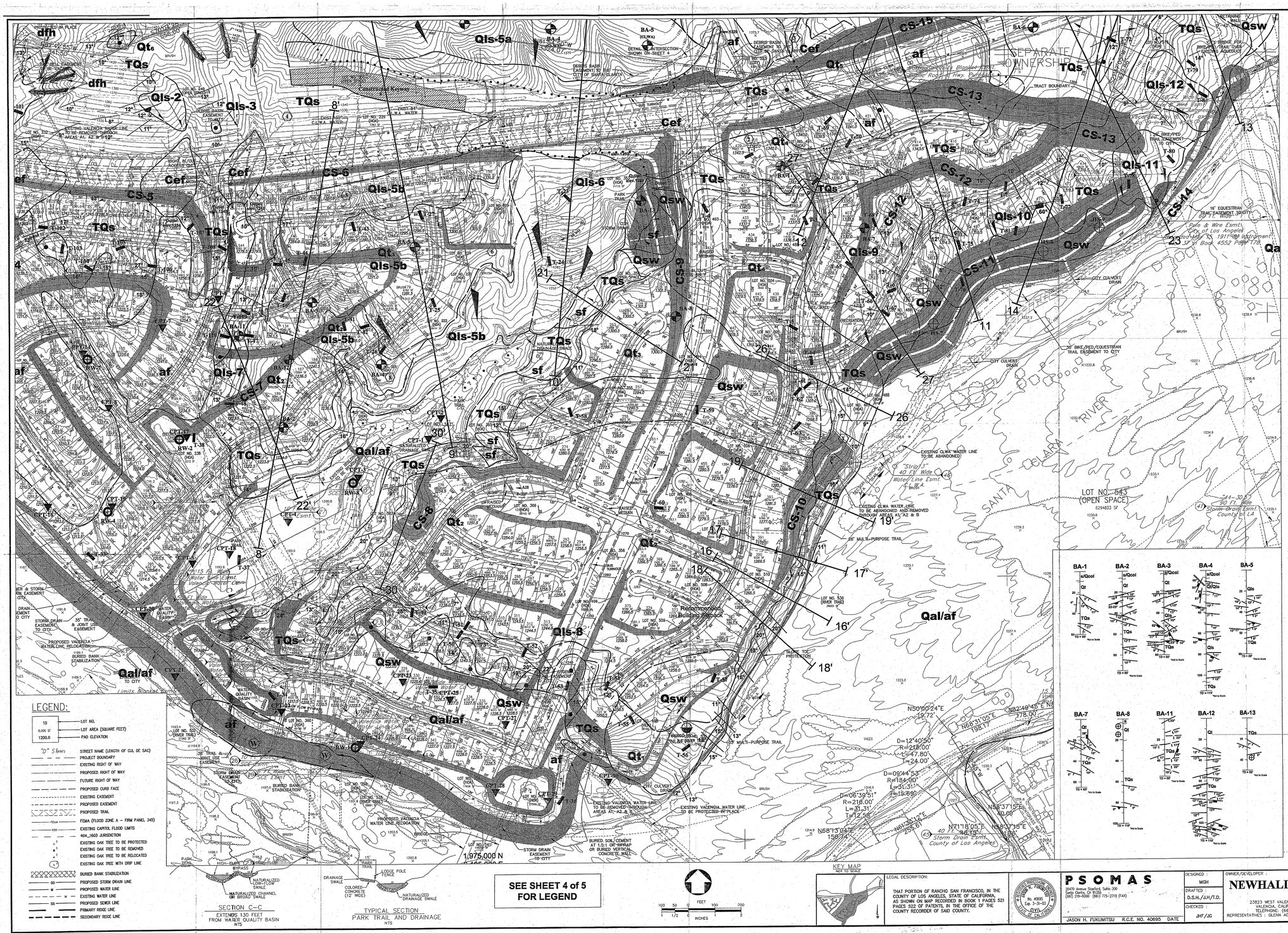
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES: GLENN ADAMICK & COREY HARPOLE
RIVER PARK
VESTING TENTATIVE TRACT MAP
NO. 53425 – AREAS A1 & D
LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA
DEIR
Map #8
REV:
DATE: 6/11/03
PROJECT NO. 1VAL0215.06
SHEET 2 OF 5
RP013-02



LEGEND:

10	LOT NO.
8,000 SF	LOT AREA (SQUARE FEET)
1200.0	PAD ELEVATION
"D" S (TYP.)	STREET NAME (LENGTH OF CUL DE SAC)
	PROJECT BOUNDARY
	EXISTING RIGHT OF WAY
	PROPOSED RIGHT OF WAY
	FUTURE RIGHT OF WAY
	PROPOSED CURB FACE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	PROPOSED TRAIL
FEMA	FEMA (FLOOD ZONE A – FIRM PANEL 345)
100	EXISTING CAPITOL FLOOD LIMITS
	404_1603 JURISDICTION
	EXISTING OAK TREE TO BE PROTECTED
	EXISTING OAK TREE TO BE REMOVED
	EXISTING OAK TREE TO BE RELOCATED
	EXISTING OAK TREE WITH DRIP LINE
	BURIED BANK STABILIZATION
SD	PROPOSED STORM DRAIN LINE
W	PROPOSED WATER LINE
W	EXISTING WATER LINE
SS	PROPOSED SEWER LINE
	PRIMARY RIDGE LINE
	SECONDARY RIDGE LINE

SEE SHEET 4 of 5 FOR LEGEND

SECTION C–C
EXTENDS 130 FEET FROM WATER QUALITY BASIN
NTS

TYPICAL SECTION
PARK TRAIL AND DRAINAGE
NTS

KEY MAP
NOT TO SCALE

LEGAL DESCRIPTION:
THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

JASON H. FUKUMITSU R.C.E. NO. 40695 DATE

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(805) 449-0171 (805) 449-0172 (FAX)

DESIGNED : MGH
DRAFTED : D.S.H./J.H./T.D.
CHECKED : JHF/JC

OWNER/DEVELOPER :
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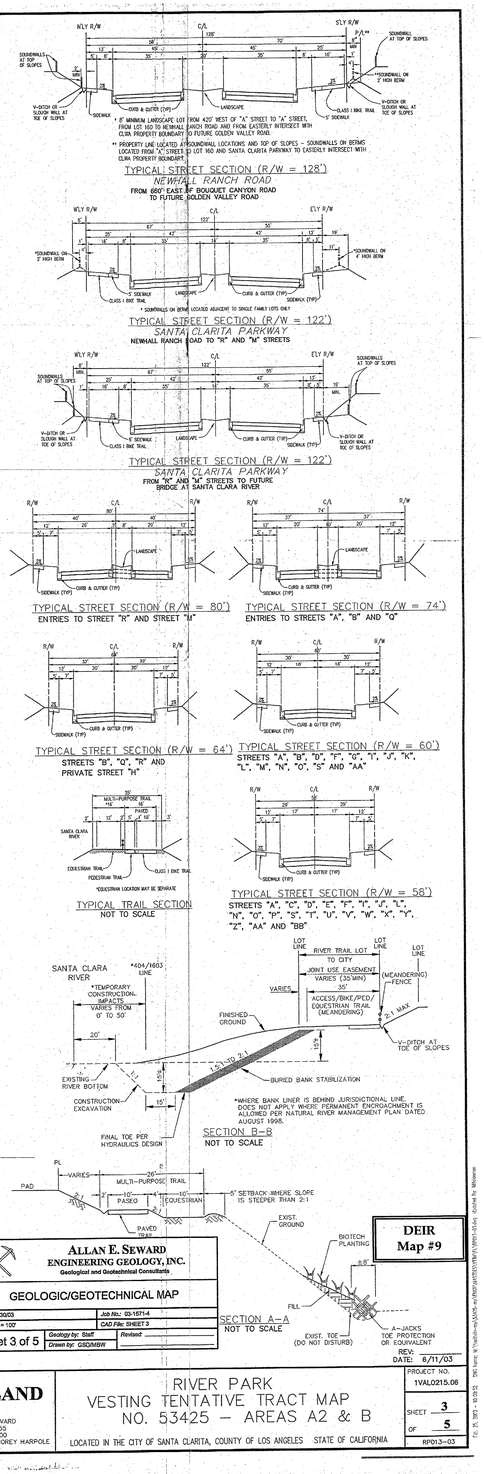
RIVER PARK
VESTING TENTATIVE TRACT MAP NO. 53425 – AREAS A2 & B

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

PROJECT NO. 1VAL0215.06
SHEET 3 OF 5
REV: DATE: 6/11/03
RP01.3–03

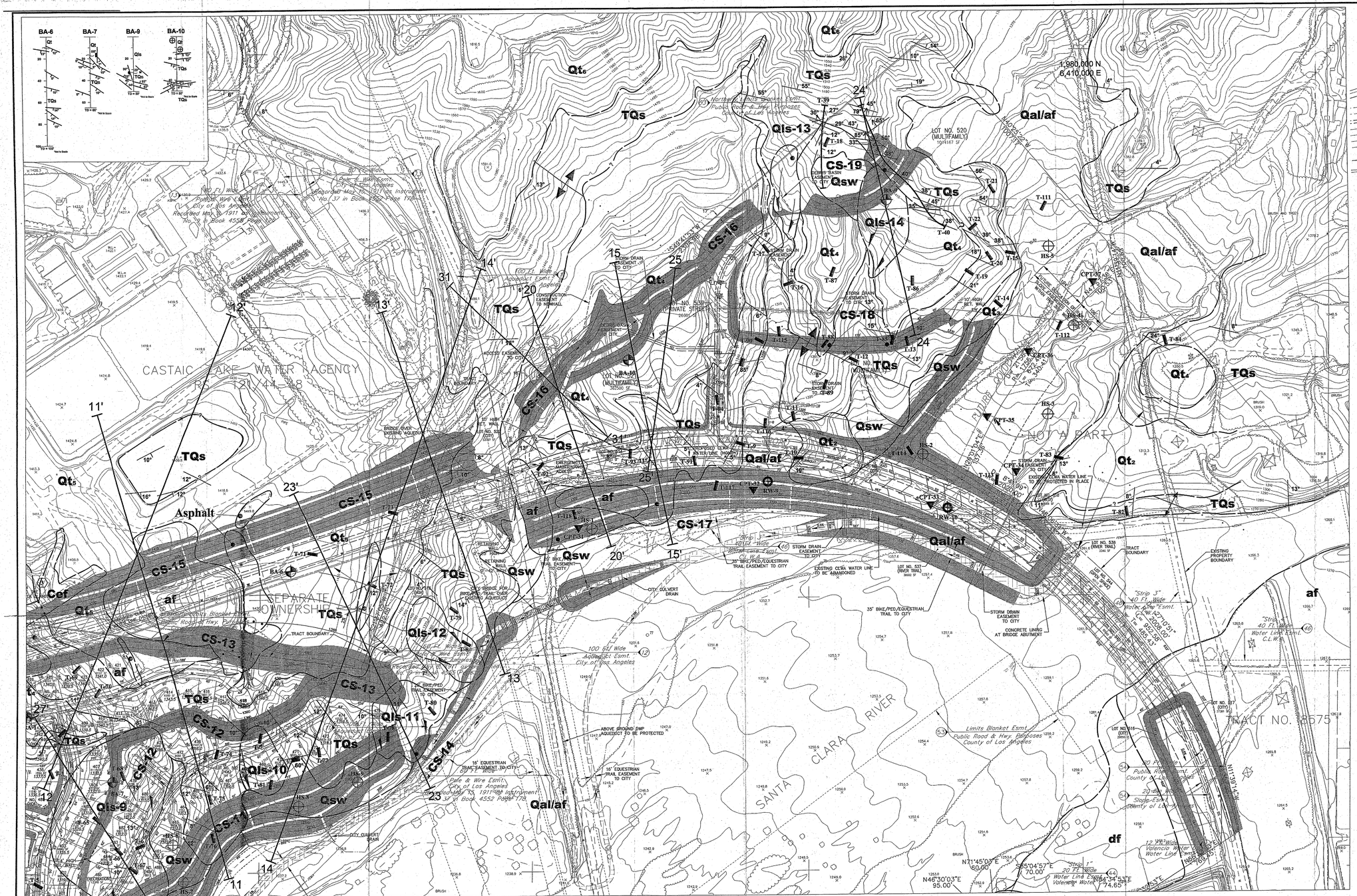


ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological and Geotechnical Consultants

GEOLOGIC/GEOTECHNICAL MAP

Date: 06/20/03 | Job No.: 03-15714
Scale: 1" = 100' | CAD File: SHEET 3
Sheet 3 of 5 | Geology by: Staff | Revised:
Drawn by: GSOMBW

DEIR Map #9



LEGEND

df	Dumped Fill
af	Artificial Fill
Cef	Certified Engineered Fill
Qsw	Quaternary Slopewash
Qal	Quaternary Alluvium
sf	Surficial Failure
Qls-14	Quaternary Landslide
Qt_6	Quaternary Terrace Deposits
TQs	Saugus Formation
...?	Geologic Contact; Dotted where concealed; Queried where inferred
	Trace of Anticline; Dotted where concealed
56° / 27°	Strike and Dip of Bedding
	Approximate Strike and Dip of Bedding
	Horizontal Bedding
58° / 16°	Strike and Dip of Contact
85° / 12°	Strike and Dip of Slide Plane; Arrow indicates trend of striations
25°	Strike and Dip of Fracture
10°	Strike and Dip of Polished Surface
9°	Strike and Dip of Parting Surface
A 85°	Strike and Dip of Bedding/Possible Slide Plane
	Strike and Dip of Shear
31 — 31'	Strike and Dip of Fault
	Geologic Cross Section
RW-10	Approximate Location of Rotary Wash Boring
HS-9	Approximate Location of Exploratory Hollow-Stem-Auger Boring
CPT-37	Approximate Location of Cone Penetration Test
BA-13	Approximate Location of Exploratory Bucket-Auger Boring
T-118	Approximate Location of Exploratory Backhoe Trench
BA-7 (CLWA)	Approximate Location of Exploratory Bucket-Auger Boring From CLWA report dated 2000
8	Approximate Location of Corrosion Test Sample
W	Existing Water Well
	Oil Well
dfh	Debris Flow Hazard
CS-19	Proposed Cut-Slope
	Recommended Building Setback (Generalized) YELLOW
	Recommended Restricted Use Area (Generalized) ORANGE

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

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ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological and Geotechnical Consultants

GEOLOGIC/GEOTECHNICAL MAP

Date: 06/30/03 | Job No.: 03-1671-4
Scale: 1" = 100' | CAD File: SHEET 4
Sheet 4 of 5 | Geology by: Staff | Revised: | Drawn by: GSD/MSW

DEIR Map #10
REV:
DATE: 6/11/03

RIVER PARK
VESTING TENTATIVE TRACT MAP
NO. 53425 – AREA C
LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

PROJECT NO. 1VAL0215.06
SHEET 4 OF 5
RP013-04

SUMMARY TABLE

SUB-AREA LOCATION	SUB-AREA Ac.	SUB-AREA Tc(min)	SUB-AREA AREA Q50 CLEAR (cfs)	SUB-AREA AREA Q50 BURNED (cfs)	TOTAL AREA AREA Ac.	TOTAL AREA Q50 CLEAR (cfs)	TOTAL AREA Q50 BURNED (cfs)	Q50 BURNED + BULKED (cfs)	DEBRIS (CY)	DEBRIS CONTROL TYPE	SEE REPORT FOR CALC. Qm (cfs)	SEE REPORT FOR CALC. Vm (cfs)
601A	46.8	10	110	125	46.8	110	125	170	220			
602A	37.3	9	93	106	84.1	182	209	284	330			
603A	48	15	91	104	132.1	269	309	420	165			
604A	37.9	10	89	101	170	342	395	537	220			
605A	45.1	10	106	120	215.1	353	422	574	330			
606A	26.3	11	58	67	241.4	348	423	575	165			
607B	24.1	9	60	68	24.1	60	68	93	165			
608B	36.3	12	77	88	60.4	128	147	200	395			
609B	40.3	11	90	102	100.7	179	211	287	595			
611A	14.5	9	36	41	356.6	511	619	842	9985	ELEVATED INLET		

TOTAL ACREAGE OF DRAINAGE CONCEPT FOR PROPOSED CONDITION=834Ac

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

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DEIR
Map #11

RIVER PARK
DRAINAGE CONCEPT FOR TR 53425
PROPOSED CONDITION

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV:
DATE: 11/20/03
PROJECT NO. 1VAL0215.06
SHEET 1 OF 5


NOTE:
FLOOD MAINTENANCE DIVISION APPROVAL OF ALL DRAINAGE DEVICES IS REQUIRED PRIOR TO DRAINAGE CONCEPT APPROVAL. (PER TIM CHEN'S REQUEST ON 10/8/03)
BOUQUET CANYON ROAD
NEWHALL RANCH ROAD
SOLEDAD CANYON
SANTA CLARA RIVER
(NOT A PART OF MTD)
DESILTING INLET 'A1'
DPV=82.5cy
ΣA=1.5Ac
(PART OF MTD)
ΣQc=22cfs
ΣQb=25cfs
DESILTING INLET 'A2'
DPV=82.5cy
ΣA=1.5Ac
(PART OF MTD)
DESILTING INLET 'B'
(PART OF MTD)
DPV=198cy
ΣA=3.6Ac
ΣQc=13cfs
ΣQb=14cfs
TRACT BOUNDARY
DESILTING INLET 'C'
DPV=815cy
ΣA=16.4Ac.
ΣQc=64cfs
ΣQb=72cfs
(PART OF MTD)
SWALE
(NOT A PART OF MTD)
NATURALIZED SWALE
(NOT A PART OF MTD)
MATCHLINE SEE SHEET 3
Q=108 cfs (clear)
Q=111 cfs (burned)
ΣA=34.8 Ac
CDS UNIT OR EQUIVALENT
Qpm=3.4cfs
(PART OF MTD)
WATER QUALITY BASIN 'A'
Qpm=5.1 cfs
(NOT A PART OF MTD)
CDS UNIT OR EQUIVALENT
Qpm=3.3cfs
(PART OF MTD)
Q=85 cfs (clear)
ΣA=22.2 Ac
BASIN OUTLET
(NOT A PART OF MTD)
PIPE OR SWALE DIVERTS FIRST FLUSH TO BASIN "A"
(NOT A PART OF MTD)
BANK LINING
(PART OF MTD)
ENERGY DISSIPATOR
(PART OF MTD)
PROJECT TOTALS:
(DOES NOT INCLUDE RIVER)
Proposed ΣA=834ac.
ΣQc=1,687cfs
ΣQbb=2,112cfs
Existing ΣA=834ac.
ΣQc=1,396cfs
ΣQbb=2,225cfs
Q=180 cfs (clear)
Q=187 cfs (burned)
ΣA=79.6 Ac
CAPITAL FLOOD WATER SURFACE CONTOURS CUMULATIVE (n=0.085)
PER: FLOOD PLAIN IMPACT REPORT PREPARED BY PSOMAS FOR RIVERPARK NOV 13, 2003
BANK LINING
(PART OF MTD)
Q=34 cfs (clear)
A=17.7ac.
FIRST FLUSH DIVERSION PIPE
(NOT A PART OF MTD)
Qpm=1.5 cfs
DEVELOPED PARK AREA
LEGEND
AREA No.
ACREAGE
MODIFIED RATIONAL METHOD NODE
RATIONAL METHOD Tc NODE
FLOW PATH
LIMITS OF GRADING
WATERSHED BOUNDARY
SUB-AREA BOUNDARY
PROJECT BOUNDARY
STORM DRAIN LINE - (Part of MTD)
STORM DRAIN LINE - (Not A Part of MTD)
DEBRIS CONE
FEMA LINE
EXISTING Qcap LIMIT
BURIED BANK LINING
Q=100cfs-(Clear) — CLEAR SUB-AREA FLOW
Q=105cfs-(Burned) — BURNED SUB-AREA FLOW
FLOW ARROW
55 Cy/Ac. — DEBRIS PRODUCTION RATE
1.36 — BULKING RATE
-SOIL 97
-DPA ZONE 8 & 9
-RAINFALL ZONE K
SECTION A-A
SANTA CLARA RIVER
FINISHED GROUND
OPEN SPACE LOT
TRAIL EASEMENT
BURIED BANK STABILIZATION
EXISTING RIVER BOTTOM
CONSTRUCTION EXCAVATION
NTS

SUMMARY TABLE

SUB-AREA			SUB-AREA AREA		TOTAL AREA			Q50 BURNED + BULKED (cfs)	DEBRIS (CY)	DEBRIS CONTROL TYPE	Qpm (cfs)	Vm (sq.ft)
LOC.	Ac.	Tc(min)	Q50 CLEAR (cfs)	Q50 BURNED (cfs)	AREA Ac.	Q50 CLEAR (cfs)	Q50 BURNED (cfs)					
100A	1.6	5	6	6	1.6	6	6	8	88			
101A	2.0	5	7	8	3.6	13	14	19	198	DESILTING INLET B		
102A	3.0	5	11	12	6.6	22	25	34	165	DESILTING INLETS A1, A2		
103A	8.0	18	18	18	14.6	39	42	42				
104A	2.1	5	7	8	16.7	43	46	46				
105A	12.6	5	56	56	29.3	85	88	88				
106A	5.5	5	25	25	34.8	108	111	111			3.4	48,025
200A	12.3	9	31	35	12.3	31	35	48	400			
201A	4.0	5	14	16	16.3	43	49	67	600			
202A	2.3	5	8	9	18.6	49	56	76	685			
203A	3.5	5	12	12	22.1	57	65	76	685			
204A	2.7	5	10	11	24.8	64	72	91	815	DESILTING INLET C		
205B	20.6	17	42	42	20.6	42	42	42				
206B	34.2	12	84	84	54.8	123	123	123			WQ BASIN 'A'	
208A					79.6	180	187				5.1	71,765
400A	17.7	18	34	34	17.7	34	34	34			1.5	20,364
899A	14.9	5	66	66	14.9	66	66	66				
900A	3.5	12	10	10	18.4	74	74	74				
901A	2.2	12	6	6	20.6	80	80	80				
902A	1.6	9	5	5	22.2	85	85	85			3.3	45,901

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

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MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

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DEIR
Map #12

RIVER PARK
DRAINAGE CONCEPT FOR TR 53425
PROPOSED CONDITION

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV: 12/10/03
DATE: 11/20/03
PROJECT NO. 1VAL0215.06
SHEET 2 OF 5

RP032-02

DWG Name: M:\Northriv-mp\53425-mp\ENGR\MASTDES\Hydr\RP032-01_pl02.dwg Updated By: JHernandez


PARK WATER QUALITY SCHEMATIC
NOT A PART OF MTD
NTS
DEVELOPED PARK PAD
(SEE SHEET 2 FOR LIMITS)
HIGH FLOW CHANNEL
HIGH FLOW SPILLS OVER
SWALE
LOW FLOW
SECTION B-B
NOT A PART OF MTD
NTS
FILL
EXIST. TOE (DO NOT DISTURB)
NOTE:
FLOOD MAINTENANCE DIVISION APPROVAL OF ALL DRAINAGE DEVICES IS REQUIRED PRIOR TO DRAINAGE CONCEPT APPROVAL. (PER TIM CHEN'S REQUEST ON 10/8/03)
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 4
NEWHALL RANCH ROAD
SANTA CLARITA PARKWAY
SANTA CLARA RIVER
(NOT A PART OF MTD)
PROPERTY BOUNDARY
DESILTING INLET 'E'
(NOT A PART OF MTD)
DPV=2055cy
ΣA=84.7Ac
ΣQc=85cfs
ΣQb=97cfs
DESILTING INLET 'F'
(NOT A PART OF MTD)
DPV=613cy
ΣA=121.4Ac
ΣQc=270cfs
ΣQb=293cfs
ΣQbb=340cfs
Q=270 cfs (clear)
Q=293 cfs (burned)
Q=340 cfs (burned and bulked)
ΣA=121.4Ac
FIRST FLUSH DIVERSION PIPE
(NOT A PART OF MTD)
Qpm=1.5 cfs
SEE WATER QUALITY SCHEMATIC HEREON
ENERGY DISSIPATOR
(NOT A PART OF MTD)
NATURALIZED SWALE
(NOT A PART OF MTD)
Q=249 cfs (clear)
CDS UNITS OR EQUIVALENT
Qpm=0.62cfs
(PART OF MTD)
CDS UNITS OR EQUIVALENT
Qpm=0.46cfs
(PART OF MTD)
STORM DRAIN
(NOT A PART OF MTD)
WATER QUALITY BASIN 'B'
Qpm=6.7 cfs(FROM 352A)
Qpm=1.5 cfs(FROM 400A)
Qpm=0.1 cfs(FROM PARK)
ΣQpm=8.3cfs
(NOT A PART OF MTD)
FIRST FLUSH DIVERSION PIPE
Qpm=6.7 cfs
ENERGY DISSIPATOR
Q=170 cfs (clear)
ΣA=79.6 Ac
BANK LINING
Q=14 cfs (clear)
Q=16 cfs (burned)
Q=22 cfs (burned and bulked)
ΣA=4.0 Ac
DEBRIS CARRYING CULVERT
(NOT A PART OF MTD)
ΣV=103cy
SLOPE TOE PROTECTION
(NOT A PART OF MTD)
CAPITAL FLOOD WATER SURFACE CONTOURS
CUMULATIVE (n=0.085)
PER: FLOOD PLAIN IMPACT REPORT
PREPARED BY PSOMAS FOR RIVERPARK
NOV 13, 2003
BRIDGE OVER AQUEDUCT
RETAINING WALLS
BIKE/PED BRIDGE
BIKE/PED TRAIL
EQUESTRIAN TRAIL
200A 12.3 AC.
302B 6.5 AC.
304B 11.2 AC.
303B 23.0 AC.
301A 34.0 AC.
300A 12.0 AC.
308A 28.0 Ac.
400A 17.7 Ac.
306A 6.7 AC.
506A 16.5 AC.
700A 21 AC.
350A 9.5 Ac.
352A 31.0 Ac.
351A 39.3 Ac.
800A 4.0 Ac.
LEGEND
AREA No.
ACREAGE
MODIFIED RATIONAL METHOD NODE
RATIONAL METHOD Tc NODE
LIMITS OF GRADING
FLOW PATH
WATERSHED BOUNDARY
SUB-AREA BOUNDARY
PROJECT BOUNDARY
STORM DRAIN LINE - (Part of MTD)
STORM DRAIN LINE - (Not A Part of MTD)
DEBRIS CONE
FEMA LINE
EXISTING Qcap LIMIT
BURIED BANK LINING
CLEAR SUB-AREA FLOW
BURNED SUB-AREA FLOW
FLOW ARROW
DEBRIS PRODUCTION RATE
BULKING RATE
-SOIL 97
-DPA ZONE 8 & 9
-RAINFALL ZONE K

SUMMARY TABLE

SUB-AREA			SUB-AREA AREA		TOTAL AREA			Q50 BURNED + BULKED (cfs)	DEBRIS (CY)	DEBRIS CONTROL TYPE	Qpm (cfs)	Vm (cfs)
LOCATION	Ac.	Tc(min)	Q50 CLEAR (cfs)	Q50 BURNED (cfs)	AREA Ac.	Q50 CLEAR (cfs)	Q50 BURNED (cfs)					
300A	12.0	11	27	30	12.0	27	30	41	468			
301A	34.0	6	137	137	46.0	148	150	150	468			
302B	6.5	10	15	17	6.5	15	17	23	722			
303B	23.0	11	51	58	29.5	59	68	93	1619			
304B	11.2	10	26	30	40.7	85	97	132	2055	DESILTING INLET 'E'		
306A	6.7	7	25	25	93.4	249	265	265		ENERGY DISSIPATOR	1.0	14,892
308A	28.0	18	48	55	121.4	270	293	340	613	DESILTING INLET 'F'/WQ BASIN	WQ BASIN 'B'	
										SWALE/ENERGY DISSIPATOR	5.0	70,104
350A	9.3	16	20	20	9.3	20	20	20				
351A	39.3	17	81	81	48.6	96	96	96				
352A	31.0	10	83	83	79.6	170	170	170		ENERGY DISSIPATOR	6.7	94,416
800A	4.0	5	14	16	4.0	14	16	22	103	DEBRIS CARRYING CULVERT		

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

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DEIR
Map #13

RIVER PARK
DRAINAGE CONCEPT FOR TR 53425
PROPOSED CONDITION

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV: 12/10/03
DATE: 11/20/03
PROJECT NO. 1VAL0215.06
SHEET 3 OF 5

RP032-03


NOTE:
FLOOD MAINTENANCE DIVISION APPROVAL OF ALL DRAINAGE DEVICES IS REQUIRED PRIOR TO DRAINAGE CONCEPT APPROVAL (PER TIM CHEN'S REQUEST ON 10/8/03)
LEGEND
AREA No.
ACREAGE
MODIFIED RATIONAL METHOD NODE
RATIONAL METHOD Tc NODE
FLOW PATH
LIMITS OF GRADING
WATERSHED BOUNDARY
SUB-AREA BOUNDARY
PROJECT BOUNDARY
STORM DRAIN LINE - (Part of MTD)
STORM DRAIN LINE - (Not A Part of MTD)
DEBRIS CONE
FEMA LINE
EXISTING Qcap LIMIT
Q=100cfs-(Clear) — CLEAR SUB-AREA FLOW
Q=105cfs-(Burned) — BURNED SUB-AREA FLOW
FLOW ARROW
55 Cy/Ac. — DEBRIS PRODUCTION RATE
1.36 — BULKING RATE
-SOIL 97
-DPA ZONE 8 & 9
-RAINFALL ZONE K
BURIED BANK LINING
MATCHLINE SEE SHEET 3
OFF-SITE SUB-AREAS MATCHLINE SEE SHEET 1
MATCHLINE SEE BELOW LEFT
MATCHLINE SEE ABOVE RIGHT
301A 34.0 AC.
300A 12.0 AC.
502B 5.3 AC.
500A 33.2 AC.
503B 18.5 AC.
501A 18.0 AC.
306A 6.7 AC.
506A 16.5 AC.
700A 2.1 AC.
505A 25.0 AC.
AG
DESILTING INLET 'G'
DPV=722cy
ΣA=23.8Ac
ΣQc=61cfs
ΣQb=68cfs
(PART OF MTD)
DESILTING INLET 'H'
DPV=702cy
ΣA=51.2Ac
ΣQc=121cfs
ΣQb=127cfs
(PART OF MTD)
OFF-SITE DRAINAGE SEE SHEET 1
BRIDGE OVER AQUEDUCT (NOT A PART OF MTD)
PROPERTY BOUNDARY
15' ACCESS ROAD
RETAINING WALLS
Q=7 cfs (clear)
Q=8 cfs (burned)
ΣA=2.1 Ac
BIKE/PED BRIDGE
(NOT A PART OF MTD)
SANTA CLARA RIVER
(NOT A PART OF MTD)
EQUESTRIAN TRAIL
BIKE/ PED TRAIL
CDS UNIT OR EQUIVALENT
Qpm = 6.6 cfs
(PART OF MTD)
Q=281 cfs (clear)
Q=295 cfs (burned)
ΣA=116.5 Ac
CAPITAL FLOOD WATER SURFACE CONTOURS CUMULATIVE (n=0.085)
PER: FLOOD PLAIN IMPACT REPORT PREPARED BY PSOMAS FOR RIVERPARK NOV 13, 2003
EXIST. DIRT ROAD
ENERGY DISSIPATOR (PART OF MTD)
BANK LINING (PART OF MTD)
BANK LINING (PART OF MTD)
CONCRETE LINING AT BRIDGE ABUTMENT (NOT A PART OF MTD)
BRIDGE
PROJECT BOUNDARY
BRIDGE SPAN~800' CLEARANCE~12'MIN.
CONCRETE AND RIPRAP BANK LINING (NOT A PART OF MTD)
FUTURE VALLEY CENTER DRIVE
STORM DRAIN IMPROVEMENTS PER MTD 1713

SUMMARY TABLE

SUB-AREA			SUB-AREA AREA		TOTAL AREA			Q50 BURNED + BULKED (cfs)	DEBRIS (CY)	DEBRIS CONTROL TYPE	Qpm (cfs)	Vm (cfs)
LOCATION	Ac.	Tc(min)	Q50 CLEAR (cfs)	Q50 BURNED (cfs)	AREA Ac.	Q50 CLEAR (cfs)	Q50 BURNED (cfs)					
500A	33.2	9	85	85	33.2	85	85	85				
501A	18.0	8	48	54	51.2	121	127	173	702	DESILTING INLET 'H'		
502B	5.3	12	12	12	5.3	12	12	12				
503B	18.5	6	58	66	23.8	61	68	93	722	DESILTING INLET 'G'		
505A	25.0	5	109	109	100.0	240	254	254				
506A	16.5	13	46	46	116.5	281	295	295				
507A										ENERGY DISSIPATOR	6.6	92,674
700A	2.1	5	7	8	2.1	7	8	11	116	BRIDGE		

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

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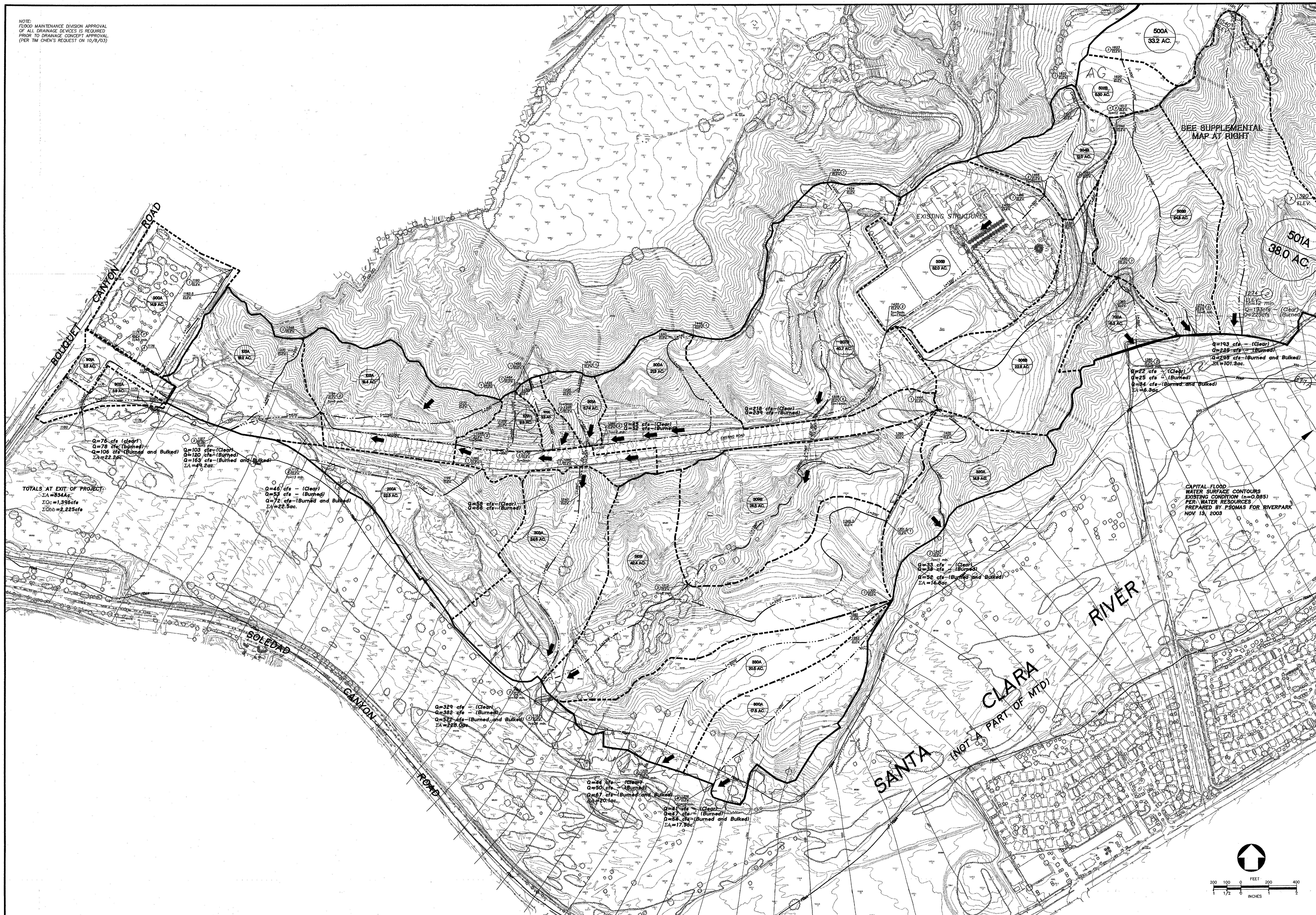
DESIGNED : MGH
DRAFTED : J.H.
CHECKED : MGH

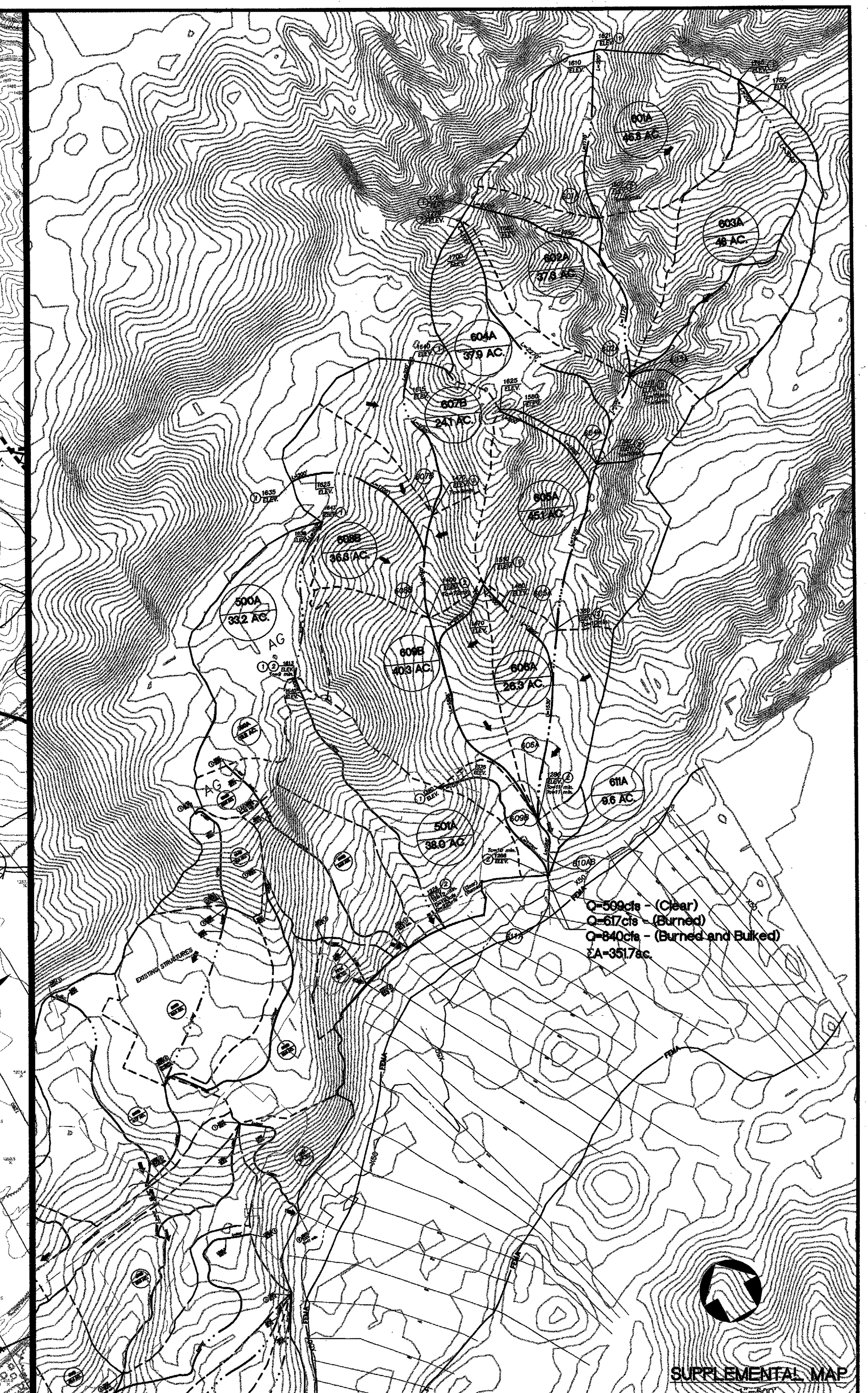
OWNER/DEVELOPER :
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES : GLENN ADAMICK & CORY HARPOLE

DEIR
Map #14

RIVER PARK
DRAINAGE CONCEPT FOR TR 53425
PROPOSED CONDITION
LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV: 12/10/03
DATE: 11/20/03
PROJECT NO. 1VAL0215.06
SHEET 4 OF 5





SUMMARY TABLE

SUB-AREA			SUB-AREA AREA		TOTAL AREA			SUB- AREA Q50 BURNED + BULKED (cfs)	Σ SUB- AREA Q50 BURNED + BULKED (cfs)	Σ DEBRIS (CY)
LOCATION	Ac.	Tc(min)	Q50 CLEAR (cfs)	Q50 BURNED (cfs)	AREA Ac.	Q50 CLEAR (cfs)	Q50 BURNED (cfs)			
100A	2.3	5	8	9	2.3	8	9	13	13	127
101A	9.3	12	20	23	11.6	23	27	32	36	638
102A	19.4	8	52	58	31.0	61	70	79	95	1705
103A	18.2	5	65	72	49.2	103	120	98	163	2706
200A	22.5	13	46	53	22.5	46	53	72	72	1238
300A	21.3	12	45	52	21.3	45	52	71	71	1172
301A	3.7	5	13	15	25.0	58	66	21	90	1375
303A	24.6	15	46	53	49.6	83	97	72	132	2728
304B	12.0	11	27	30	12.0	27	30	41	41	3388
305B	32.0	5	129	129	44.0	135	137	137	178	3388
306B	22.8	17	40	46	66.8	174	183	55	249	4642
307B	40.7	14	80	92	107.5	218	239	125	325	6880
309B	28.5	8	76	86	136.0	215	244	117	332	8448
310B	42.4	26	57	67	228.0	329	382	91	520	10780
320A	14.8	11	33	38	14.8	33	38	52	52	814
330A	20.5	12	44	50	20.5	44	50	68	68	1128
500A	33.2	9	83	94	33.2	83	94	128	128	1826
501A	38.0	12	81	92	71.2	137	159	125	216	3916
502B	5.3	12	11	13	5.3	11	13	18	18	4208
503B	24.8	8	66	80	101.3	193	225	109	306	5572
601A	46.8	10	110	125	46.8	110	125	170	170	1310
602A	37.3	9	93	106	84.1	182	209	144	284	2355
603A	48	15	91	104	132.1	269	309	141	420	3699
604A	37.9	10	89	101	170	342	395	138	537	4760
605A	45.1	10	106	120	215.1	353	422	163	574	6023
606A	26.3	11	58	67	241.4	348	423	91	575	6759
607B	24.1	9	60	68	24.1	60	68	92	93	7434
608B	36.3	12	77	88	60.4	128	147	120	200	8450
609B	40.3	11	90	102	100.7	179	211	139	287	9579
611A	9.6	10	23	26	351.7	509	617	39	840	10107
700A	6.3	5	22	25	6.3	22	25	34	34	347
800A	17.5	10	41	47	17.5	41	47	64	64	962
899A	14.9	5	66	66	14.9	66	66			
901A	3.5	12	7	9	18.4	72	73	12	99	
902A	3.8	22	6	7	22.2	76	78	10	106	209
					Σ=834Ac					

LEGEND

- 01-02 — AREA No.
- 14.5 Ac. — ACREAGE
- (1) — RATIONAL METHOD Tc NODE
- FLOW PATH
- WATERSHED BOUNDARY
- FEMA — FEMA LINE
- SUB-AREA BOUNDARY
- PROJECT BOUNDARY
- X50 — EXISTING Qcap LIMIT
- Q=100cfs-(Clear) — CLEAR SUB-AREA FLOW
- Q=105cfs-(Burned) — BURNED SUB-AREA FLOW
- FLOW ARROW
- 55 cy/Ac. — DEBRIS PRODUCTION RATE
- 1.36 — BULKING RATE

FEET: 200 100 0 200 400
INCHES: 1 1/2 0 1 2

LEGAL DESCRIPTION:

THAT PORTION OF RANCHO SAN FRANCISCO, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 1 PAGES 521 PAGES 522 OF PATENTS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

REGISTERED PROFESSIONAL ENGINEER MATTHEW G. HEIDEMAN No. 55639 Exp. 12-31-04 CIVIL STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355
(661) 219-6000 (661) 775-2718 (FAX)

MATTHEW G. HEIDEMAN R.C.E. NO. 55639 DATE

DESIGNED :	MGH
DRAFTED :	J.H.
CHECKED :	MGH

OWNER/DEVELOPER :

NEWHALL LAND

23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVES : GLENN ADAMICK & CORY HARPOLE

DEIR
Map #15

RIVER PARK
DRAINAGE CONCEPT FOR TR 53425
EXISTING HYDROLOGY

LOCATED IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES STATE OF CALIFORNIA

REV: ______
DATE: 11/20/03

PROJECT NO. 1VAL0215.06

SHEET 5 OF 5

DWG Name: M:\Northriv-mp\53425-mp\ENGR\MASTDES\Hydr\RP032-02.dwg Updated By: JHernandez

RP032-05


LEGEND:
PROPERTY PROJECT BOUNDARY
PROPOSED MAJOR ARTERIALS
PROPOSED FUTURE MAJOR ARTERIALS
GRADING DAYLIGHT LINE
PROPOSED GRADING LIMITS
RESOURCE LINE
UPLAND PRESERVATION ZONE (100' FROM RESOURCE)
BUFFER ZONE (150' FROM RESOURCE)
FEMA/SEA LINE
404/1603 JURISDICTION LINE
OAK TREE
PLANT COMMUNITIES:
DF – DISKED FIELD
NNG – NON-NATIVE GRASSLAND
NNG W/SHRUBS – NON-NATIVE GRASSLAND WITH SHRUBS
PS – PLANTED SAGE SCRUB
RSS – RIVERSIDIAN SAGE SCRUB
CHC – CHAMISE CHAPARRAL
SCS – COASTAL SAGE CHAPARRAL SCRUB
HLCS – HOLLY-LEAF CHERRY SCRUB
MFS – MULEFAT SCRUB
SWS – SOUTHERN WILLOW SCRUB
SRS – SOUTHER RIPARIAN SCRUB
RW – RIVERWASH
OW – MIXED OAK/GRASS
MT – DEVELOPED AREA WITH MIXED TREES
SENSITIVE PLANT SPECIES:
Cc – CALOCHORTUS CLAVATUS VAR. GRACILIS
Cp – CALYSTEGIA PEIRSONII
Cpl – CALOCHORTUS PLUMMERAE
Dp – DELPHINIUM PARRYI
Hp – HARPOGONELLA
Jc – JUGLANS CALIFORNIA
River Park
Tentative Tract No. 53425
VEGETATION IMPACTS
DEIR
Map #16
PSOMAS
DATE: 5/20/03
REVISED ON: 12/24/03
JOB No: 1VAL0215.06
NEWHALL LAND
AREA A1
AREA A2
AREA B
AREA C
AREA D
SANTA CLARA RIVER
CASTAIC LAKE WATER AGENCY
RS 121/44-46
SEPARATE OWNERSHIP
TRACT NO. 5575
TTM 20888
RW 175.6 AC
DF 5.3 AC
DF 4.2 AC
DF 3.4 AC
RSS 3.0 AC
PS 34.4 AC
SECTION B-B
NOT TO SCALE
SECTION A-A
NOT TO SCALE
TYPICAL GRADING LIMITS
NOT TO SCALE
RP057-01.dwg

NOTICE OF AVAILABILITY

TO:

FROM: City of Santa Clarita
Department of Planning
and Building Services
23920 Valencia Boulevard
Santa Clarita, CA 91355

SUBJECT: **Notice of Completion/Notice of Availability**
REVISED BIOLOGY SECTION OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE RIVERPARK PROJECT
Master Case Nos. 02-175
Vesting Tentative Tract Map 53425, General Plan Amendment 02-002, Zone Change 02-002, Conditional Use Permit 02-009, Hillside Review 02-003, Oak Tree Permit 02-025, and Adjustment 02-010.
State Clearinghouse No. 2002091081

Introduction: The Revised Biological Resources Section of the Draft EIR for the Riverpark project was prepared and is being re-circulated for additional public review and comment based upon the presence of Western Spadefoot Toad on the project site during focused surveys conducted on March 5 and 6, 2004. These focused surveys were conducted at the request of the California Department of Fish and Game. During these focused surveys, a biologist found western spadefoot toads in three seasonal rainpools located in the central and western portions of the project site. A previous focused survey for this species, conducted on a portion of the property in March 2003, as well as general amphibian surveys conducted in spring 2002, did not detect the presence of the species. This document has been revised to include the results of these additional focused surveys and addresses potential impacts to and mitigation for the western spadefoot toad.

Project Location: The proposed project site is located at the terminus of Newhall Ranch Road, east of Bouquet Canyon Road between the Castaic Lake Water Agency property and Soledad Canyon Road.

Project Background & Description: On March 3, 2004, the City of Santa Clarita completed and circulated the Draft Environmental Impact Report for the Riverpark project for a 60 day review period that will end on May 3, 2004. At the request of the California Department of Fish and Game, the applicant retained a biologist to complete additional focused western spadefoot toad surveys on the project site. These focused surveys were completed on March 4- 6, 2004. General amphibian surveys and a focused western spadefoot toad survey were conducted in spring 2002 and March 2003 respectively. Western Spadefoot Toad was not detected during the previous surveys conducted on the project site. t During the March 2004 focused surveys, this species was observed in three of the six seasonal rainpools located on the project site. These seasonal rainpools were located on the western end, western central and central sections of the project site. As a result of this new information, the City of Santa Clarita initiated the preparation of a Revised Biological Resources Section for the Riverpark Draft EIR. This section has been revised to include the results of these additional focused surveys, and addresses the potential impacts to and mitigation for the western spadefoot toad. The completed Revised Riverpark Biological Resources Section is being re-circulated pursuant to CEQA for 45 days from March 24, 2004 to May 7, 2004.

The applicant of the Riverpark project proposes to develop six parcels of land totaling 695.4 acres of land for single and multi-family uses. A tentative tract map is required to subdivide the six lots into 439 single-family lots, 5 lots for 744 multi-family units, two commercial lots, HOA lots, a private street lot, recreation lots, a water quality basin lot, a park lot, maintained slope lots adjacent to public right of way, river trail lots, bridge lots, open space lots, and Santa Clara River lots totaling 545 lots. A General Plan Amendment will change the land use designations of the project site to Residential Medium and Community Commercial with SEA and VCC overlays and will define the specific alignments for Santa Clarita Parkway and Newhall

Ranch Road. A zone change will change the zoning designations of the site to Residential Medium and Community Commercial with a Planned Development overlay (RMPD and CCPD). Residential Medium will permit a density up to 11 dwelling s per acre and the Community Commercial allows a 37.5 percent floor area ratio. A conditional use permit is required to implement the Planned Development Overlay, to allow building heights in excess of two stories and 35', approval of the Hillside Innovative Application, and vehicular gating of Planning Area C. A hillside development review is required for development on slopes with an average cross slope of greater than 10%. The oak tree permit is required for the removal of 15 of the 87 oak trees on site and 3 oak tree encroachments. An adjustment is required to allow for a maximum 20% reduction in the minimum lot size and lot width for lots within Planning Area A1, a 16 foot front yard setback on a traditional garage facing street design, and 7 foot high property line walls facing public streets.

Public Review: Copies of the Revised Biology Section of the Riverpark Draft Environmental Impact Report are available for review at the following locations:

- City of Santa Clarita City Hall - Department of Planning and Building Services,
  23920 Valencia Boulevard, Suite 302
  Santa Clarita, CA 91355

- Los Angeles County Library – Valencia Branch
  23743 W. Valencia Boulevard
  Santa Clarita, CA 91355

- Los Angeles County Library - Canyon Country Branch
  18536 Soledad Canyon Road
  Santa Clarita, CA 91351

The next public hearing for the project will be held on April 20, 2004, to provide the Planning Commission with a focused presentation on specific sections (Land Use, Geotechnical Hazards, Solid Waste Disposal, Education, Library Services, Fire Services, Sheriff Services, Human Made Hazards, Population/Housing/Employment, Cultural Resources, Agricultural Resources, and Wastewater Disposal) of the Draft EIR. The public hearing will start at 7:00 p.m. at the following location:

City Council Chambers
Santa Clarita City Hall - First Floor
23920 Valencia Boulevard
Santa Clarita, CA 91355

The public comment period on the Revised Biological Resources Section of the Riverpark Draft EIR will run from March 24, 2004 to May 7, 2004. Due to the time limits mandated by State law, your comments must be received by the City no later than 5:00 p.m. on May 7, 2004. Please send your comments to:

Mr. Jeff Hogan, Associate Planner
City of Santa Clarita
23920 Valencia Boulevard, Suite 300
Santa Clarita, CA 91355-2196
(661) 255-4330

Date: 3/22/04

Signature: _____
Jeff Hogan, Associate Planner
Project Manager

s:\Pbs\current\2002\02-175\noa2

Form A: Notice of Completion

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

See NOTE below

SCH# 2002091081

Project Title: Vesting Tentative Tract Map 53425 – Riverpark Project

Lead Agency: City of Santa Clarita – Dept. of Planning & Bldg. Services Contact Person: Jeff Hogan, Associate Planner

Street Address: 23920 Valencia Blvd., Suite 300 Phone: 661-255-4330

City: Santa Clarita Zip: 91355 County: Los Angeles

Project Location

County: Los Angeles City/Nearest Community: City of Santa Clarita

Cross Streets: Newhall Ranch Road/Bouquet Canyon Road/Soledad Canyon Road Zip Code: 91355 Total Acres: 695.4

Assessor's Parcel No: Section: Twp. Range:

Within 2 miles: State Hwy #: Waterways: Santa Clara River Airports: n/a

Railways: Schools: Bridgeport Elementary is located to the west; Emblem Elementary is located to the northwest,

Document Type

CEQA: ❑ NOP ❑ Supplement/Subsequent EIR **NEPA:** ❑ NOI **OTHER:** ❑ Joint Document

❑ Early Cons ❑ EIR (Prior SCH No.) ❑ EA ❑ Final Document

❑ Neg Dec ❑ Other: ❑ Draft EIS ❑ Other

XDraft EIR ❑ FONSI

Local Action Type

❑ General Plan Update	❑ Specific Plan	X Rezone	❑ Annexation
X General Plan Amendment	❑ Master Plan	❑ Prezone	❑ Redevelopment
❑ General Plan Element	❑ Planned Unit Development	X Use Permit	❑ Coastal Permit
❑ Community Plan	X Site Plan	❑ Land Division	X Other Oak Tree Permit, Hillside Review, Adjustment

Development Type

❑ Residential:	*Units 1183 Acres695.4*	❑ Water Facilities:	*Type Water Tanks MGD*
❑ Office:	*Sq.ft. Acres Employees*	❑ Transportation:	*Type* Roadway improvements
❑ Commercial:	*Sq.ft.40,000 Acres3 Employees*	❑ Mining:	*Mineral*
❑ Industrial:	*Sq.ft Employees*	❑ Power:	*Type Watts*
❑ Educational		❑ Waste Treatment:	*Type*
❑ Recreational	240-acres ❑ Hazardous Waste: *Type*	❑ Other:	Drainage and water quality facilities

Project Issues Discussed in Document

X Aesthetic/Visual	X Flood Plain/Flooding	X Schools/Universities	X Water Quality
X Agricultural Land	X Forest Land/Fire Hazard	X Septic Systems	X Water Supply/Groundwater
X Air Quality	X Geologic/Seismic	X Sewer Capacity	X Wetland/Riparian
X Archaeological/Historical	X Minerals	X Soil Erosion/Compaction/Grading	X Wildlife
X Coastal Zone	X Noise	X Solid Waste	X Growth Inducing
X Drainage/Absorption	X Population/Housing Balance	X Toxic/Hazardous	X Land use
X Economic/Jobs	X Public Services/Facilities	X Traffic/Circulation	X Cumulative Effects
X Fiscal	X Recreation/Parks	X Vegetation	❑ Other:

Present Land Use/Zoning/General Plan Use: The General Plan Use of the project site is Residential Moderate, Industrial Commercial Community Commercial, and Commercial Office. The current zoning of the project site is Residential Medium, Industrial Commercial, Commercial Office Planned Development, Community Commercial Planned Development, Community Commercial, and Mobile Home Park. The project site consists primarily of vacant land.

Project Description: On March 3, 2004, the City of Santa Clarita completed and circulated the Draft Environmental Impact Report for the Riverpark project for a 60 day review period that will end on May 3, 2004. At the request of the California Department of Fish and Game, the applicant retained a biologist to conduct additional focused western spadefoot toad surveys on the property. These focused surveys were completed on March 4 - 6, 2004. General amphibian surveys and a focused western spadefoot toad survey were conducted in spring 2002 and March 2003 respectively. Western Spadefoot Toad was not detected at either of the previous surveys. During the March 2004 focused surveys , this species was observed in three of the six seasonal rainpools located on the project site. These pools were located on the western end, western central and central sections of the project site. As a result of this new information, the City of Santa Clarita initiated the preparation of a Revised Biological Resources Section for the Riverpark Draft EIR. This section has been revised to include the results of the 2004 focused surveys, and addresses the potential impacts to and mitigation for the western spadefoot toad. The completed Revised Riverpark Biological Resources Section is being re-circulated pursuant to CEQA for 45 days from March 24, 2004 to May 7, 2004.

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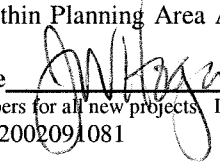
Signature of Lead Agency Representative  **Date** 3/22/04

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation or previous draft document) please fill it in. SCH# 2002091081

Revised October 1989

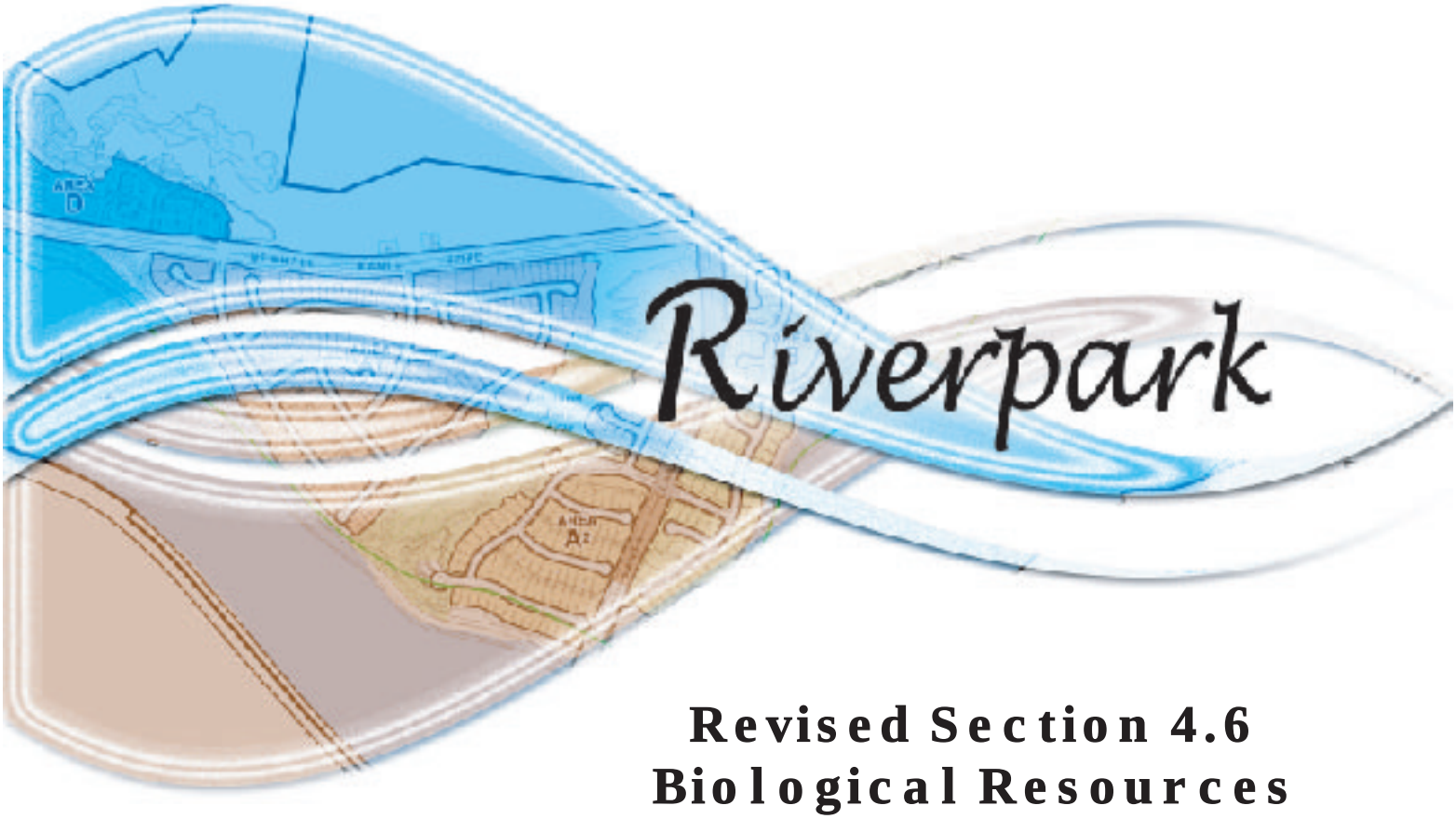
Reviewing Agencies

- ❑ Resources Agency
- ❑ Boating / Waterways
- ❑ Conservation
- ❑ Fish and Game
- ❑ Forestry
- ❑ Colorado River Board
- ❑ Dept. Water Resources
- ❑ Reclamation
- ❑ Parks and Recreation
- ❑ Office of Historic Preservation
- ❑ Native American Heritage Commission
- ❑ S.F. Bay Cons. and Dev't. Commission
- ❑ Coastal Commission
- ❑ Energy Commission
- ❑ State Lands Commission
- ❑ Air Resources Board
- ❑ Solid Waste Management Board
- ❑ SWRCB: Sacramento
- ❑ RWQCB: Region # 4
- ❑ Water Rights
- ❑ Water Quality
- ❑ MTA
- ❑ Southern California Railroad Authority
- ❑ Caltrans District 7
- ❑ Dept. of Transportation Planning
- ❑ Aeronautics
- ❑ California Highway Patrol
- ❑ Housing and Community Development
- ❑ Statewide Health Planning
- ❑ Health
- ❑ Food and Agriculture
- ❑ Public Utilities Commission
- ❑ Public Works
- ❑ Corrections
- ❑ General Services
- ❑ OLA
- ❑ Santa Monica Mountains
- ❑ TRPA
- ❑ OPR—OLGA
- ❑ OPR—Coastal
- ❑ Bureau of Land Management
- ❑ Forest Service
- ❑ SCAQMD
- ❑ Other: U.S. Army Corps of Engineers
- ❑ Other: SCAG
- ❑ Other:

For SCH Use Only:

Date Received at SCH_____
Date Review Starts_____
Date to Agencies_____
Date to SCH_____
Clearance Date_____
Notes: _____

Catalog Number_____
Applicant_____
Consultant_____
Contact_____Phone_____
Address_____



Revised Section 4.6
Biological Resources

Draft
Environmental Impact Report

SCH No. 2002091081

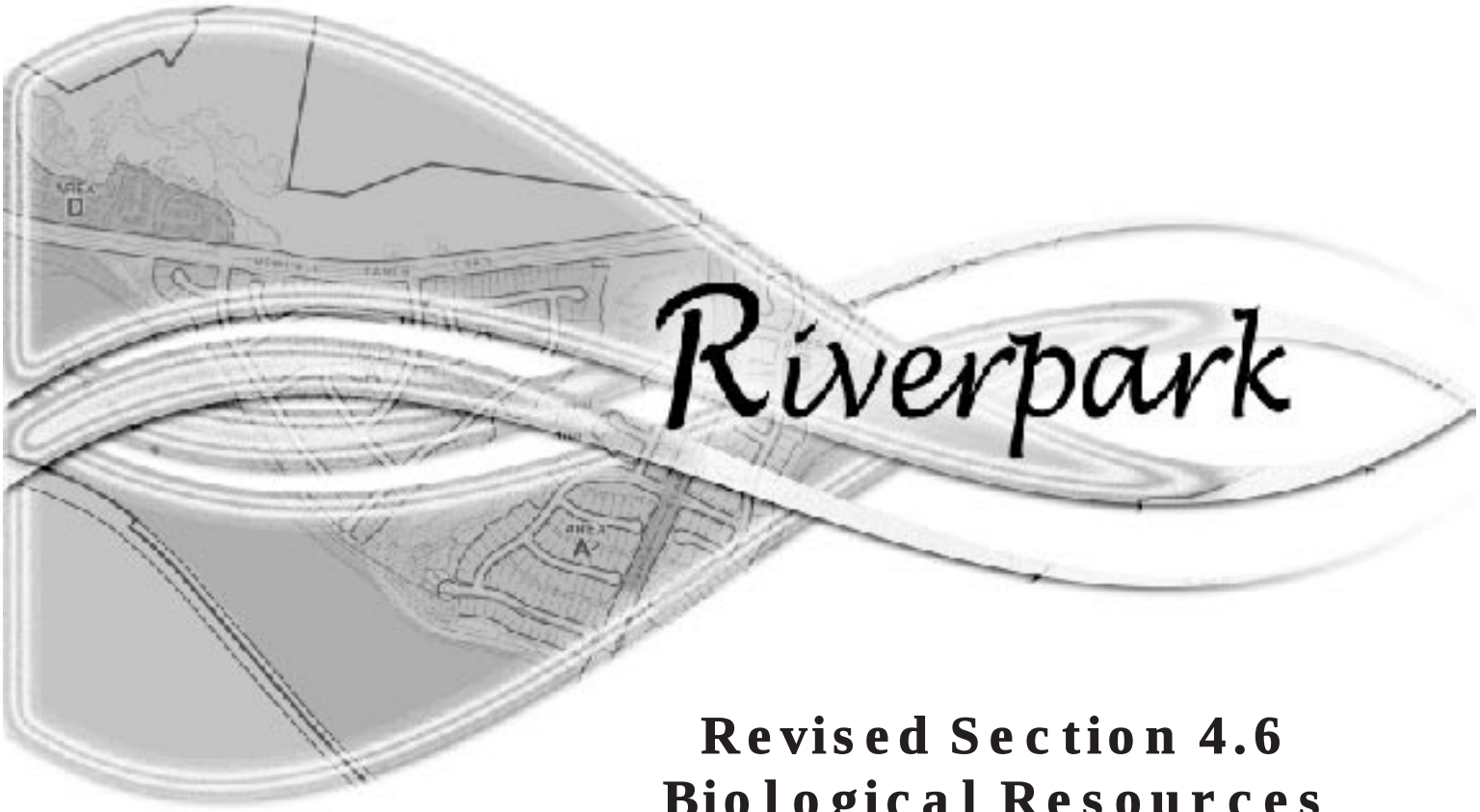
Prepared for:

City of Santa Clarita
Department of Planning & Building Services
23920 Valencia Boulevard, Suite 302
Santa Clarita, California 91355

Prepared by:

Impact Sciences, Inc.
30343 Canwood Street, Suite 210
Agoura Hills, California 91301

March 2004



Revised Section 4.6
Biological Resources

Draft
Environmental Impact Report

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Prepared for:

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Department of Planning & Building Services
23920 Valencia Boulevard, Suite 302
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Prepared by:

Impact Sciences, Inc.
30343 Canwood Street, Suite 210
Agoura Hills, California 91301

March 2004

Table of Contents

Volume I: Environmental Impact Report

Section			Page
		Introduction	I-1
		Executive Summary	ES-1
1.0		Project Description	1.0-1
2.0		Environmental and Regulatory Setting	2.0-1
3.0		Cumulative Impact Analysis Methodology	3.0-1
4.0		Environmental Impact Analyses	4.0-1
	4.1	Geotechnical Hazards	4.1-1
	4.2	Flood	4.2-1
	4.3	Traffic/Access	4.3-1
	4.4	Air Quality	4.4-1
	4.5	Noise	4.5-1
	4.6	Biological Resources	4.6-1
	4.7	Land Use	4.7-1
	4.8	Water Services	4.8-1
		4.8.1 Water Quality	4.8.1-1
	4.9	Solid Waste Disposal	4.9-1
	4.10	Education	4.10-1
	4.11	Library Services	4.11-1
	4.12	Parks and Recreation	4.12-1
	4.13	Fire Services	4.13-1
	4.14	Sheriff Services	4.14-1
	4.15	Human Made Hazards	4.15-1
	4.16	Visual Resources	4.16-1
	4.17	Population/Housing/Employment	4.17-1
	4.18	Cultural Resources	4.18-1
	4.19	Agricultural Resources	4.19-1
	4.20	Floodplain Modifications	4.20-1
	4.21	Wastewater Disposal	4.21-1
5.0		Unavoidable Significant Impacts	5.0-1
6.0		Project Alternatives	6.0-1
7.0		Growth-Inducing Impacts	7.0-1
8.0		Any Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Actions Should They be Implemented	8.0-1
9.0		Effects Not Found to Be Significant	9.0-1
10.0		Organizations/Persons Consulted	10.0-1
11.0		References	11.0-1

Please note that the shaded items are not included in this document.

Table of Contents (continued)

Volumes II through IV: Appendices

Appendix I – Notice of Preparation and Initial Study; Responses to Notice of Preparation
Appendix 1.0 – Resolution
Appendix 3.0 – Development Monitoring System Database
Appendix 4.1 – Geotechnical Report(s)
Appendix 4.2 – Flood
Appendix 4.3 – Traffic and Circulation Report
Appendix 4.4 – Air Quality Data
Appendix 4.5 – Noise Data
Appendix 4.6 – Biological Data and Reports (This is not included in its entirety. Soley the new information has been included.)
Appendix 4.8 – Water Service Data
Appendix 4.9 – Solid Waste Disposal Data
Appendix 4.10 – Student Generation Calculations
Appendix 4.11 – Libraries Data and Correspondence
Appendix 4.13 – Fire Data and Correspondence
Appendix 4.14 – Sheriff's Data and Correspondence
Appendix 4.15 – Phase I Site Assessment
Appendix 4.18 – Cultural Resources Report
Appendix 4.19 – Agricultural Resources Storie Index
Appendix 4.20 – Floodplain Modifications
Appendix 4.21 – Wastewater Data
Appendix 6.0 – Alternatives Data

List of Figures

Figure		Page
1.0-1	Regional Location	1.0-5
1.0-2	Project Vicinity	1.0-6
1.0-3	Surrounding Land Uses	1.0-7
1.0-4	Area A^1 Single Family Residential Detail	1.0-20
1.0-5	Area A^2 Single Family Residential Detail	1.0-21
1.0-6	Area B Single Family Residential Detail	1.0-22
1.0-7	Area C Multi-Family Residential Detail	1.0-23
1.0-8	Area D Multi-Family Residential Detail	1.0-24
1.0-9	Area E Commercial Detail	1.0-25
1.0-10	Vesting Tentative Tract Map	(Map Box, Map #s 1–5) 1.0-26
1.0-11	Analyzed Roadway Improvements on Major Thoroughfares	1.0-32
1.0-12	Bank Stabilization	1.0-35
1.0-13	Examples of Bank Stabilization Techniques	1.0-36
1.0-14	Potential Water Tank Locations	1.0-37
2.0-1	Surrounding Land Uses	2.0-7
2.0-2	City of Santa Clarita Significant Ecological Area (SEA)	2.0-8
2.0-3	Disturbed Areas of the Site	2.0-9
2.0-4	Site Characteristics	2.0-12
2.0-5	Slope Analysis for TTM 53425	(Map Box, Map # 6) 2.0-13
2.0-6	Approximate Oak Tree Locations	2.0-15
2.0-7	Major On-Site Encumbrances	2.0-18
2.0-8	City of Santa Clarita General Plan Land Use Designations	2.0-19
3.0-1	Cumulative Impact Analysis Methodology	3.0-9
4.1-1	Geologic/Geotechnical Map	(Map Box, Map #s 7–10) 4.1-3
4.1-2	Regional Fault Locations	4.1-13
4.2-1	Drainage Locations	4.21
4.2-2	Santa Clara River Existing Conditions 2-Year Flood Event	4.2-24
4.2-3	Santa Clara River Existing Conditions 5-Year Flood Event	4.2-25
4.2-4	Santa Clara River Existing Conditions 10-Year Flood Event	4.2-26
4.2-5	Santa Clara River Existing Conditions 20-Year Flood Event	4.2-27
4.2-6	Santa Clara River Existing Conditions 50-Year Flood Event	4.2-28
4.2-7	Santa Clara River Existing Conditions 100-Year Flood Event	4.2-29
4.2-8	Santa Clara River Existing Conditions 50-Year Capital Flood Event	4.2-30
4.2-9	Drainage Concept Map	(Map Box, Map #s 11–15) 4.2-31
4.2-10	Riverpark Bank Lining	4.2-35
4.3-1	Project Study Area	4.3-5
4.3-2	Existing Roadway Network	4.3-12
4.3-3	Existing Average Daily Traffic	4.3-13
4.3-4	AM Peak Hour Turning Movement Volumes – Existing Conditions	4.3-14
4.3-5	PM Peak Hour Turning Movement Volumes – Existing Conditions	4.3-15
4.3-6	Future Transportation System – Interim Year and Long-Range	4.3-20
4.3-7	Average Daily Traffic Volumes – Project Residential Trips Only	4.3-27
4.3-8	Average Daily Traffic Volumes – Project Commercial Trips Only	4.3-30
4.3-9	Average Daily Traffic Volumes – Interim Year without Project	4.3-35
4.3-10	Average Daily Traffic Volumes – Interim Year with Project	4.3-36
4.3-11	Average Daily Traffic Volumes – Alternative Interim Year without Project	4.3-41
4.3-12	Average Daily Traffic Volumes – Alternative Interim Year with Project	4.3-44
4.3-13	Average Daily Traffic Volumes – Santa Clarita Valley Buildout without Project	4.3-59

List of Figures (continued)

Figure		Page
4.3-14	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario without Project and without Santa Clarita Parkway	4.3-60
4.3-15	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario with Project	4.3-63
4.3-16	Average Daily Traffic Volumes – Santa Clarita Valley Buildout Scenario with Project and without Santa Clarita Parkway	4.3-64
4.4-1	South Coast Air Basin	4.4-3
4.4-2	Dominant Wind Patterns in the Basin	4.4-43
4.5-1	Noise Attenuation by Barriers	4.5-5
4.5-2	Noise and Land Use Compatibility Guidelines	4.5-12
4.5-3	Noise Levels of Typical Construction Equipment	4.5-21
4.5-4	Proposed Sound Walls	4.5-24
4.6-1	Regional Location	4.6-7
4.6-2	Project Vicinity	4.6-8
4.6-3	VTTM 52325 (Please see the electronic version of this file on the CD, and it is also located in the Map Box, Map # 16)	4.6-11
4.6-4	Drainage Locations	4.6-43
4.6-5	Wildlife Movement Corridors	4.6-46
4.6-6	City of Santa Clarita Ecological Area (SEA)	4.6-49
4.6-7	Riverpark Bank Lining	4.6-82
4.7-1	Existing General Plan Land Use	4.7-5
4.7-2	Surrounding Land Uses	4.7-10
4.7-3	Proposed General Plan Land Use	4.7-13
4.7-4	Existing Zoning	4.7-125
4.7-5	Proposed Zoning	4.7-126
4.8-1	Existing Water Reclamation Plants and Sanitation Districts	4.8-3
4.8-2	Rainfall in the Santa Clarita Valley	4.8-4
4.8-3	Historical and Projected Number of Service Connections	4.8-4
4.8-4	Location of the Alluvial and Saugus Formation	4.8-6
4.8-5	Geological and Hydrologic Cycle – Santa Clarita Valley	4.8-9
4.8-6	Groundwater Basins in the Santa Clara River Drainage	4.8-10
4.8-7	Groundwater Production Well Locations – Santa Clarita Valley	4.8-11
4.8-8	Castaic Lake Water Agency Service Area	4.8-18
4.8-9	Castaic Lake Water Agency Water Delivery System	4.8-21
4.8-10	Valencia Water Company Service Area	4.8-24
4.8-11	Groundwater Basins in the Santa Clarita River Drainage	4.8-25
4.8-12	Existing Water Reclamation Plants and Sanitation Districts	4.8-30
4.8-13	Typical Well Configuration	4.8-34
4.8-14	Historical Groundwater Production – Alluvial Aquifer	4.8-36
4.8-15	Cross Section of the Groundwater Basin	4.8-39
4.8-16	Historical Groundwater Production from the Saugus Formation from 1947 to 2002	4.8-41
4.8-17	Active and Inactive Groundwater Well Locations – Santa Clarita Valley	4.8-45
4.8-18	Principal State Water Program Facilities	4.8-68
4.8-19	State Water Program Contractor Service Areas	4.8-69
4.8-20	Projected State Water Deliveries	4.8-74
4.8-21	Historical and Projected Number of Service Locations	4.8-98
4.8-22	Proposed On-Site Potable Water System	4.8-101
4.8.1-1	Surrounding Site Conditions	4.8.1-15
4.8.1-2	Drainage Concept Map	4.8.1-32

List of Figures (continued)

Figure		Page
4.9-1	Locations of Major Los Angeles County Landfill Sites	4.9-11
4.11-1	Library Locations	4.11-3
4.12-1	Existing and Proposed City of Santa Clarita Parks	4.12-5
4.12-2	County and State Park Facilities	4.12-6
4.12-3	City of Santa Clarita Trails	4.12-13
4.12-4	Recreation and Trails Plan	4.12-18
4.12-5	Active/Passive Park	4.12-19
4.12-6	Proposed Trails in Relation to the City of Santa Clarita SEA Boundaries	4.12-22
4.12-7	Typical Trail Sections	4.12-23
4.12-8	Bicycle Trail Rights-of-Way	4.12-24
4.13-1	Fire Station Locations	4.13-3
4.14-1	Sheriff Station Location	4.14-3
4.15-1	Oil Well Locations	4.15-7
4.16-1A	Disturbed Areas of the Site	4.16-5
4.16-1B	Viewing Locations	4.16-8
4.16-2	Viewing Location No. 1 – Looking Northwest into the Project Site	4.16-9
4.16-3	Viewing Location No. 2 – Looking Northeast into the Project Site	4.16-10
4.16-4	Viewing Location No. 3 – From Soledad Canyon Road Looking Northeast	4.16-13
4.16-5	Viewing Location No. 4 – From Soledad Canyon Road Looking Northeast into the Project Site	4.16-14
4.16-6	Viewing Location No. 5 – Junction of Soledad Canyon and the Terminus of Newhall Ranch Road	4.16-15
4.16-7	Viewing Location No. 6 – Looking South into the Project Site from the Emblem Tract	4.16-18
4.16-8	Typical Building Elevations – Planning Area C-Upper Pad	4.16-23
4.16-9	Typical Building Elevations – Planning Area C-Lower Pad	4.16-24
4.16-10	Typical Building Elevations – Planning Area D	4.16-25
4.16-11	Typical Water Tank Elevations	4.16-26
4.19-1	Soil Types on the Project Site	4.19-9
4.19-2	Site Suitability for Farming	4.19-12
4.19-3	Farmlands of Importance on the Project Site	4.19-13
4.20-1	Project Study Area	4.20-5
4.20-2	Standing Water Locations	4.20-8
4.20-3a	Santa Clara River Existing Conditions – 2 Year Flood Event	4.20-11
4.20-3b	Santa Clara River Existing Conditions – 5 Year Flood Event	4.20-12
4.20-3c	Santa Clara River Existing Conditions – 10 Year Flood Event	4.20-13
4.20-3d	Santa Clara River Existing Conditions – 20 Year Flood Event	4.20-14
4.20-3e	Santa Clara River Existing Conditions – 50 Year Flood Event	4.20-15
4.20-3f	Santa Clara River Existing Conditions – 100 Year Flood Event	4.20-16
4.20-3g	Santa Clara River Existing Conditions – Capital Flood Event	4.20-17
4.20-4a	Santa Clara River Existing Velocities – 2 Year Flood Event	4.20-20
4.20-4b	Santa Clara River Existing Velocities – 5 Year Flood Event	4.20-21
4.20-4c	Santa Clara River Existing Velocities – 10 Year Flood Event	4.20-22
4.20-4d	Santa Clara River Existing Velocities – 20 Year Flood Event	4.20-23
4.20-4e	Santa Clara River Existing Velocities – 50 Year Flood Event	4.20-24
4.20-4f	Santa Clara River Existing Velocities – 100 Year Flood Event	4.20-25
4.20-5	River Habitat	4.20-28
4.20-6	Typical Cross-Section for Buried Bank Stabilization	4.20-39
4.20-7	Bank Stabilization and Bridge Locations	4.20-40
4.20-8a	Santa Clara River Proposed Conditions – 2 Year Flood Event	4.20-43

List of Figures (continued)

Figure		Page
4.20-8b	Santa Clara River Proposed Conditions – 5 Year Flood Event	4.20-44
4.20-8c	Santa Clara River Proposed Conditions – 10 Year Flood Event	4.20-45
4.20-8d	Santa Clara River Proposed Conditions – 20 Year Flood Event	4.20-46
4.20-8e	Santa Clara River Proposed Conditions – 50 Year Flood Event	4.20-47
4.20-8f	Santa Clara River Proposed Conditions – 100 Year Flood Event	4.20-48
4.20-8g	Santa Clara River Proposed Conditions – Capital Flood Event	4.20-49
4.20-9	Key Locations	4.20-50
4.20-10a	Santa Clara River Proposed Velocities – 2 Year Flood Event	4.20-53
4.20-10b	Santa Clara River Proposed Velocities – 5 Year Flood Event	4.20-54
4.20-10c	Santa Clara River Proposed Velocities – 10 Year Flood Event	4.20-55
4.20-10d	Santa Clara River Proposed Velocities – 20 Year Flood Event	4.20-56
4.20-10e	Santa Clara River Proposed Velocities – 50 Year Flood Event	4.20-57
4.20-10f	Santa Clara River Proposed Velocities – 100 Year Flood Event	4.20-58
4.20-11a	Santa Clara River Cumulative Velocities – 2 Year Flood Event	4.20-71
4.20-11b	Santa Clara River Cumulative Velocities – 5 Year Flood Event	4.20-72
4.20-11c	Santa Clara River Cumulative Velocities – 10 Year Flood Event	4.20-73
4.20-11d	Santa Clara River Cumulative Velocities – 20 Year Flood Event	4.20-74
4.20-11e	Santa Clara River Cumulative Velocities – 50 Year Flood Event	4.20-75
4.20-11f	Santa Clara River Cumulative Velocities – 100 Year Flood Event	4.20-76
4.20-12a	Santa Clara River Cumulative Conditions – 2 Year Flood Event	4.20-77
4.20-12b	Santa Clara River Cumulative Conditions – 5 Year Flood Event	4.20-78
4.20-12c	Santa Clara River Cumulative Conditions – 10 Year Flood Event	4.20-79
4.20-12d	Santa Clara River Cumulative Conditions – 20 Year Flood Event	4.20-80
4.20-12e	Santa Clara River Cumulative Conditions – 50 Year Flood Event	4.20-81
4.20-12f	Santa Clara River Cumulative Conditions – 100 Year Flood Event	4.20-82
4.20-12g	Santa Clara River Cumulative Conditions – Capital Flood Event	4.20-83
4.21-1	Existing Water Reclamation Plants and Sanitation Districts	4.21-3
6.0-1	No Project, Buildout According to City of Santa Clarita General Plan	6.0-5
6.0-2	Santa Clara River Reduced Bank Stabilization Alternative	6.0-6
6.0-3	Ridgeline Protection Alternative	6.0-15
6.0-4	Alternative 4 – Noise/Development Standards	6.0-22
6.0-5	Deletion of Santa Clarita Parkway Alternative	6.0-31

List of Tables

Table		Page
ES-1	Summary of Project Impacts and Recommended Mitigation Measures	ES-11
1.0-1	Riverpark Development Statistical Summary	1.0-4
1.0-2	Current Zoning at the Riverpark Project Site	1.0-9
1.0-3	Riverpark Project Detailed Land Use Summary	1.0-17
1.0-4	Known Responsible Agency Actions	1.0-39
3.0-1	DMS Build-Out Scenario - Santa Clarita Valley Planning Area with Project	3.0-3
3.0-2	DMS Implementation	3.0-4
3.0-3	Cumulative Development Activity - Santa Clarita Valley Cumulative Build-Out Scenario with Project	3.0-7
4.1-1	Shrinkage, Bulking and Subsidence Factors	4.1-18
4.2-1	Percent Imperviousness for Selected Land Uses	4.2-10
4.2-2	Existing Drainages and Runoff Quantities	4.2-19
4.2-3	Existing River Flows at Bouquet Canyon	4.2-19
4.2-4	Existing Floodplain/Stream Area Within the Project Tributary Watershed	4.2-22
4.2-5	Summary of Water Surface Elevations	4.2-39
4.2-6	Post-Development Runoff Quantities	4.2-40
4.2-7	Pre- and Post-Development Floodplain/Stream Area	4.2-42
4.2-8	Pre- and Post-Development River Velocities	4.2-44
4.2-9	Pre-, Post-Development, and Cumulative Floodplain/Stream Area	4.2-51
4.2-10	Water Surface Elevation at Selected River Locations from Upstream to Downstream	4.2-52
4.2-11	Cumulative Impacts on Erosion	4.2-53
4.3-1	Level of Service of Urban Streets	4.3-7
4.3-2	Level of Service of Signalized Intersections	4.3-8
4.3-3	Level of Service Descriptions – Freeways	4.3-9
4.3-4	ICU Summary – Existing (2002) Condition	4.3-11
4.3-5	Volume/Capacity Ratio Level of Service Ranges	4.3-21
4.3-6	Freeway Mainline Performance Criteria	4.3-23
4.3-7	Arterial Intersection Performance Criteria	4.3-24
4.3-8	Freeway Ramp Performance Criteria	4.3-25
4.3-9	Project Land Use and Trip Generation Summary	4.3-26
4.3-10	Trip Generation Summary for 500 Dwelling Units	4.3-28
4.3-11	ICU and LOS Summary – Pre-Interim Year Conditions	4.3-29
4.3-12	Proposed Mitigation – Pre-Interim Year With Project Conditions	4.3-32
4.3-13	ICU and LOS Summary – Existing and Interim Year Without Project	4.3-33
4.3-14	ICU and LOS Summary – Interim Year With and Without Project	4.3-37
4.3-15	Proposed Mitigation – Interim Year With Project Conditions	4.3-38
4.3-16	ICU and LOS Summary – Existing and Alternative Interim Year Without Project	4.3-42
4.3-17	ICU and LOS Summary – Alternative Interim Year With and Without Project	4.3-43
4.3-18	Proposed Mitigation – Alternative Interim Year With Project Conditions	4.3-45
4.3-19	Freeway Level of Service Summary – Interim Year Conditions	4.3-48
4.3-20	Freeway Level of Service Summary – Alternative Interim Year Conditions	4.3-49
4.3-21	ICU and LOS Summary – CMP Monitoring Intersections	4.3-51
4.3-22	CMP Debit and Credit Summary	4.3-53
4.3-23	Trip Generation Comparison – General Plan vs. Proposed Project	4.3-58
4.3-24	Trip Generation Comparison – Long-Range Cumulative vs. Proposed Project	4.3-58

List of Tables (continued)

Table		Page
4.4-1	Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961-1990	4.4-15
4.4-2	Ambient Air Quality Standards	4.4-19
4.4-3	2001 Maximum 1-Hour Ozone Concentrations by Basin and County	4.4-22
4.4-4	2001 Maximum 8-Hour Ozone Concentrations by Basin and County	4.4-23
4.4-5	2001 Maximum Carbon Monoxide Concentrations by Basin and County	4.4-24
4.4-6	2001 Maximum 24-hour Average PM_{10} Concentrations by Basin and County	4.4-26
4.4-7	2001 Maximum Annual Average PM_{10} Concentrations by Basin and County	4.4-27
4.4-8	2001 Maximum 24-hour Average $PM_{2.5}$ Concentrations by Basin and County	4.4-27
4.4-9	2001 Maximum Annual Average $PM_{2.5}$ Concentrations by Basin and County	4.4-28
4.4-10	2001 Maximum Nitrogen Dioxide Concentrations by Basin and County	4.4-29
4.4-11	2001 Maximum Sulfur Dioxide Concentrations by Basin and County	4.4-31
4.4-12	2001 Maximum Sulfate Concentrations by Basin and County	4.4-32
4.4-13	2001 Maximum Lead Concentrations by Basin and County	4.4-34
4.4-14	Annual Average Emissions by Major Source Type for Baseline Year 1997	4.4-37
4.4-15	1998 Annual Average Day Toxic Emissions for the South Coast Air Basin	4.4-40
4.4-16	Ambient Pollutant Concentrations Registered in SRA 13	4.4-44
4.4-17	Existing Carbon Monoxide Concentrations at Nearby Sensitive Receptors	4.4-46
4.4-18	Construction Subphases	4.4-50
4.4-19	Estimated Unmitigated Construction Emissions	4.4-54
4.4-20	Estimated Operational Emissions Without Mitigation	4.4-59
4.4-21	Carbon Monoxide Concentrations with Project Traffic	4.4-63
4.4-22	Estimated Mitigated Construction Emissions	4.4-68
4.4-23	Operational Emissions Reductions	4.4-73
4.5-1	Outside to Inside Noise Attenuation	4.5-4
4.5-2	City Ordinance Noise Limits	4.5-13
4.5-3	Existing Off-Site Roadway Noise Levels at Noise Sensitive Locations	4.5-16
4.5-4	On-Site Noise Levels Under Proposed Plan with Roadways Operating at LOS C and at Realistic Speeds	4.5-25
4.5-5	Predicted Off-Site Roadway Noise Levels at Noise Sensitive Locations at Project Buildout	4.5-29
4.5-6	Predicted Cumulative Roadway Noise Levels at Noise Sensitive Locations	4.5-37
4.6-1	Special-Status Plant Species Known to Occur in the Riverpark Area	4.6-21
4.6-2	Special-Status Wildlife Species Known to Occur or Potentially Occur in the Riverpark Area	4.6-27
4.6-3	Riverpark Habitat Acreages and Impacts	4.6-61
4.6-4	Riverpark Habitat Acreages and Impacts of the Project Plus Santa Clarita Parkway Bridge to Soledad Canyon Road	4.6-111
4.7-1	Industrial Commercial (IC) Development Standards	4.7-4
4.7-2	Commercial Office (CO) Development Standards	4.7-4
4.7-3	Community Commercial (CC) Development Standards	4.7-4
4.7-4	Residential Medium (RM) Development Standards	4.7-6
4.7-5	Mobile Home Park (MHP) Development Standards	4.7-7
4.7-6	Comparison of Project Development Standards to Residential Medium (RM) Standards	4.7-127
4.8-1	Historical Number of Service Connections	4.8-2
4.8-2	Santa Clarita Valley Retail Water Purveyors	4.8-23
4.8-3	Existing and Planned Groundwater Supplies	4.8-53
4.8-4	Reclaimed Water Demand	4.8-55
4.8-5	Reclaimed Water Supplies	4.8-56

List of Tables (continued)

Table		Page
4.8-6	Castaic Lake Water Agency Annual SWP Water Supply Information from Department of Water Resources	4.8-64
4.8-7	Major SWP Reservoirs	4.8-67
4.8-8	Examples of SWP Transportation System Capacity	4.8-71
4.8-9	Projected State Water Project Supplies	4.8-74
4.8-10	Large-Scale Conveyance Facilities Constructed Since the Last Drought	4.8-77
4.8-11	Examples of Groundwater Storage Projects	4.8-78
4.8-12	Projected Groundwater Banking and Conjunctive-Use Supplies – CLWA (2020)	4.8-81
4.8-13	Planned Local Supplies	4.8-90
4.8-14	Planned Imported Supplies	4.8-91
4.8-15	Total Supplies	4.8-91
4.8-16	Historical Number of Service Connections	4.8-92
4.8-17	Cumulative Development Activity - DMS Build-Out Scenario – Santa Clarita Valley Planning Area	4.8-94
4.8-18	Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley – 2015	4.8-94
4.8-19	Projected Normal/Average Year Water Demand	4.8-95
4.8-20	Projected Dry Year and Multi-Dry Year Demand	4.8-96
4.8-21	Projected Dry-Year Water Demand	4.8-97
4.8-22	Estimated Water Demand	4.8-100
4.8-23	Existing Plus Project Demand for the Santa Clarita Valley	4.8-103
4.8-24	Scenario 1: DMS Build-Out Scenario Demand for the Santa Clarita Valley – 2015	4.8-105
4.8-25	Scenario 3: Santa Clarita Valley 2025 Build-Out Scenario Water Demand	4.8-107
4.8-26	Existing Plus Project Demand and Supply for the Santa Clarita Valley	4.8-109
4.8-27	Average/Normal Water Year Supply and Demand Assessment	4.8-111
4.8-28	Dry-Year and Multi-Dry Year Water Supply and Demand Assessment	4.8-113
4.8-29	Scenario 1: DMS Build-Out Scenario Demand and Supply for the Santa Clarita Valley	4.8-115
4.8-30	Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Supplies	4.8-118
4.8-31	Scenario 2: Santa Clarita Valley 2025 Build-Out Scenario Water Demand and Supply	4.8-118
4.8.1-1	2002 CWA Section 303(d) Listing and TMDL Priority Scheduling1 For EPA Reach 9	4.8.1-17
4.8.1-2	2002 CWA Section 303(d) Listing and TMDL Priority Scheduling1 For EPA Reaches 7 and 8	4.8.1-18
4.8.1-3	Hydrologic and Surface Water Quality Objectives (Basin Plan and CTR Objectives)	4.8.1-20
4.8.1-4	CRT Criteria and Associated Trace Metal Water Quality Parameters	4.8.1-23
4.8.1-5	Dominant Land Uses Under Existing Conditions	4.8.1-36
4.8.1-6	Basin Plan Surface Water Quality Standards and Beneficial Uses and CTR Criteria for Reach 7 of the Santa Clara River Between Lang Gauging Station and Bouquet Canyon Road Bridge	4.8.1-37
4.8.1-7	Land Use Representative Event Mean Concentrations (EMCs) Used to Characterize Existing and Developed Storm Water Quality Conditions	4.8.1-49
4.8.1-8	Dominant Land Uses Under Existing and Proposed Conditions	4.8.1-51
4.8.1-9	Pollutant Concentration Results for Riverpark Development Based On Assumption of Existing Land Uses	4.8.1-52
4.8.1-10	Pollutant Concentration Results for Riverpark Development Based On Assumption of Existing Land Uses	4.8.1-52
4.8.1-11	Average Storm Runoff Volumes for Water Quality Modeling	4.8.1-71

List of Tables (continued)

Table		Page
4.8.1-12	Annual Average Storm Water TSS, Nutrient & Mineral/Salt Loads Comparison to Existing Scenario (lbs/yr)	4.8.1-72
4.8.1-13	Annual Average Storm Water TSS, Nutrient & Mineral/Salt Loads Comparison to Existing Scenario (mg/L)	4.8.1-72
4.8.1-14	Average Annual Storm Water Trace Metal Comparison to Existing Scenario (lbs/yr)	4.8.1-74
4.8.1-15	Average Annual Storm Water Trace Metal Comparison to Existing Scenario (mg/L)	4.8.1-74
4.8.1-16	Comparison with CTR Acute Criteria for Copper, Lead, and Zinc	4.8.1-75
4.8.1-17	Basin Plan Standards for Nutrients	4.8.1-78
4.9-1	Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County	4.9-12
4.9-2	Proposed Major Landfill Expansion Plans in Los Angeles County	4.9-13
4.9-3	Daily Project Solid Waste Generation for Project (No Recycling)	4.9-15
4.9-4	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.9-18
4.10-1	Student Generation Rates	4.10-7
4.10-2	Summary of Cumulative Projects by School District – DMS Build-Out Scenario A (Pending, Approved, and Recorded Projects)	4.10-10
4.10-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.10-12
4.10-4	Student Generation as a Result of Cumulative Projects – Cumulative Build-Out Scenario B	4.10-13
4.11-1	DMS Build-Out Scenario – Santa Clarita Valley Planning Area with Project	4.11-8
4.11-2	Cumulative Library Impacts – DMS Build-Out Scenario	4.11-9
4.11-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario with Project	4.11-10
4.12-1	Existing and Proposed City of Santa Clarita Parks	4.12-7
4.12-2	Existing and Proposed County Parks and Recreation Facilities in the City of Santa Clarita Planning Area	4.12-8
4.12-3	Existing and Proposed City Trails	4.12-11
4.12-4	Existing and Proposed County Trails	4.12-14
4.12-5	Parkland Dedication Requirements for the Riverpark Project	4.12-25
4.12-6	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.12-30
4.14-1	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.14-14
4.15-1	Magnetic Field Levels for Common Household Appliances	4.15-9
4.15-2	Typical Magnetic Field Levels for Electrical Power Lines	4.15-10
4.15-3	Pesticides Used on the Project Site	4.15-13
4.17-1	Population Forecasts – 2000 to 2020	4.17-2
4.17-2	Citywide Housing Needs – Year 2000 to 2005	4.17-4
4.17-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario	4.17-9
4.17-4	Employment Generation Profile – Santa Clarita Valley Cumulative Build-Out Scenario	4.17-10
4.17-5	Comparison of Adopted Santa Clarita Valley Growth Projections	4.17-11
4.19-1	Soil Capability Classification	4.19-2
4.19-2	Storie Index Rating System	4.19-3
4.19-3	Los Angeles County Agricultural Production 1965 through 2001	4.19-6

List of Tables (continued)

Table		Page
4.19-4	On-Site USDA Soil Suitability	4.19-10
4.19-5	Storie Index Rating for Soils on the Project Site	4.19-10
4.19-6	Conversion of Important Farmlands – Los Angeles County (1998 to 2000)	4.19-11
4.20-1	Existing Discharges, Santa Clara River at the Project Site	4.20-10
4.20-2	Floodplain Area for Different Discharges – Existing Conditions	4.20-10
4.20-3	Example of Increasing Depth and Velocity with Discharge – Existing Conditions at Bouquet Canyon Road Bridge	4.20-18
4.20-4	Summary of Dominant Wetland and Riparian Habitat Types in the River at the Project Site	4.20-26
4.20-5	Summary of Flood Disturbance Frequencies for Dominant Wetland and Riparian Habitat Types in the River	4.20-27
4.20-6	Summary of Aquatic Habitats in the Santa Clara River at the Project Site	4.20-29
4.20-7	Flows at Bouquet Canyon Santa Clara River (Downstream of the Project)	4.20-38
4.20-8	Floodplain Area for Different Discharges – Existing and Proposed Conditions	4.20-41
4.20-9	Acreage Inundated by Habitat Type During Different Return Events	4.20-42
4.21-1	Project Wastewater Generation	4.21-6
4.21-2	Scenario 1: DMS Build-Out Scenario Wastewater Generation for Districts 26 and 32	4.21-9
4.21-3	Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario (Project Option)	4.21-10
4.21-4	Wastewater Generation Impact Analysis – SCV Cumulative Build-Out Scenario	4.21-11
6.0-1	Estimated Alternative 2 Operational Emissions	6.0-7
6.0-2	Estimated Alternative 3 Operational Emissions	6.0-14
6.0-3	Estimated Alternative 4 Operational Emissions	6.0-24
6.0-4	Estimated Alternative 5 Operational Emissions	6.0-30
6.0-5	Alternatives Impact Comparison Matrix	6.0-38

List of Charts

Chart		Page
4.20-1a	Comparison of Average Channel Velocities at Key Locations 2 Year Storm	4.20-51
4.20-1b	Comparison of Average Channel Velocities at Key Locations 5 Year Storm	4.20-51
4.20-1c	Comparison of Average Channel Velocities at Key Locations 10 Year Storm	4.20-51
4.20-1d	Comparison of Average Channel Velocities at Key Locations 20 Year Storm	4.20-52
4.20-1e	Comparison of Average Channel Velocities at Key Locations 50 Year Storm	4.20-52
4.20-1f	Comparison of Average Channel Velocities at Key Locations 100 Year Storm	4.20-52
4.20-2a	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 2 Year Storm	4.20-61
4.20-2b	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 5 Year Storm	4.20-61
4.20-2c	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 10 Year Storm	4.20-61
4.20-2d	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 20 Year Storm	4.20-62
4.20-2e	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 50 Year Storm	4.20-62
4.20-2f	Distribution of Flows in Different Habitats, Riverpark Specific Plan Site 100 Year Storm	4.20-62
4.20-3a	Comparison of Velocity Distribution, Riverpark Specific Plan Site 2 Year Storm	4.20-65
4.20-3b	Comparison of Velocity Distribution, Riverpark Specific Plan Site 5 Year Storm	4.20-65
4.20-3c	Comparison of Velocity Distribution, Riverpark Specific Plan Site 10 Year Storm	4.20-65
4.20-3d	Comparison of Velocity Distribution, Riverpark Specific Plan Site 20 Year Storm	4.20-66
4.20-3e	Comparison of Velocity Distribution, Riverpark Specific Plan Site 50 Year Storm	4.20-66
4.20-3f	Comparison of Velocity Distribution, Riverpark Specific Plan Site 100 Year Storm	4.20-66