

CITY of BREA



DRAFT EIR No. 06-01 **(SCH # 2005121093)**

La Floresta Development Proposal

Lead Agency

City of Brea
Development Services Department
1 Civic Center Circle
Brea, CA 92821-5732
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Consultant Assistance

CONEXUS
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Contents

1. Executive Summary.....	1-1
1.1 Introduction	1-1
1.2 Project Description	1-1
1.3 Project Objectives	1-2
1.3.1 Objectives of the Project Applicant	1-2
1.3.2 Objectives of the City of Brea	1-3
1.4 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance after Mitigation	1-3
1.5 Significant Unavoidable Impacts.....	1-3
1.6 Project Alternatives	1-39
1.6.1 Alternative “A” – No Project/No Development	1-39
1.6.2 Alternative “B” — No Project/Development According to the General Plan.....	1-39
1.6.3 Alternative “C” – Reduced Development	1-39
1.7 Issues to be Resolved	1-39
1.8 Areas of Controversy	1-40
2. Introduction.....	2-1
2.1 Purpose of the Environmental Impact Report	2-1
2.2 Notice of Preparation and Initial Study.....	2-2
2.3 Issues Found to Have “No Impact” or Not to Be Applicable to the Project	2-2
2.4 Issues Found to Be Less than Significant.....	2-4
2.5 Scope and Format of this EIR	2-5
2.5.1 EIR Scope	2-5
2.5.2 EIR Format	2-8
2.6 Intended Uses of This EIR.....	2-11
2.7 Incorporation by Reference	2-12
2.8 Final EIR Certification.....	2-13
2.9 Mitigation Monitoring.....	2-13
2.10 Important Terms	2-14
3. Environmental Setting	3-1
3.1 Introduction	3-1
3.2 Regional Environmental Setting	3-1
3.3 Local Environmental Setting	3-2
3.4 Project Setting	3-7
3.4.1 La Floresta Village Site	3-7
3.4.2 Birch Hills Site	3-7
3.5 Project History	3-17
3.5.1 La Floresta Village Site	3-17
3.5.2 Birch Hills Site	3-17
4. Project Description	4-1
4.1 Project Location.....	4-1
4.1.1 La Floresta Village Site	4-1
4.1.2 Birch Hills Site	4-1
4.2 Project Characteristics.....	4-2
4.2.1 Project Objectives.....	4-2
4.2.2 Description of the Project.....	4-3
4.2.3 Project Approvals	4-111

5. Environmental Analysis 5-1

5.1	Aesthetics.....	5.1-1
5.1.1	Methodology.....	5.1-1
5.1.2	Setting.....	5.1-2
5.1.3	Thresholds of Significance	5.1-27
5.1.4	Project Impacts and Mitigation Measures	5.1-28
5.1.5	Cumulative Impacts.....	5.1-49
5.1.6	Significant Unavoidable Impacts	5.1-52
5.2	Agricultural Resources	5.2-1
5.2.1	Methodology.....	5.2-1
5.2.2	Setting.....	5.2-1
5.2.3	Thresholds of Significance	5.2-2
5.2.4	Project Impacts and Mitigation Measures	5.2-3
5.2.5	Cumulative Impacts.....	5.2-4
5.2.6	Significant Unavoidable Impacts	5.2-4
5.3	Air Quality	5.3-1
5.3.1	Methodology.....	5.3-1
5.3.2	Setting.....	5.3-1
5.3.3	Thresholds of Significance	5.3-10
5.3.4	Project Impacts and Mitigation Measures	5.3-12
5.3.5	Cumulative Impacts.....	5.3-25
5.3.6	Significant Unavoidable Impacts	5.3-26
5.4	Cultural Resources.....	5.4-1
5.4.1	Methodology.....	5.4-1
5.4.2	Setting.....	5.4-1
5.4.3	Thresholds of Significance	5.4-5
5.4.4	Project Impacts and Mitigation Measures	5.4-6
5.4.5	Cumulative Impacts.....	5.4-10
5.4.6	Significant Unavoidable Impacts	5.4-13
5.5	Geology and Soils.....	5.5-1
5.5.1	Methodology.....	5.5-1
5.5.2	Setting.....	5.5-1
5.5.3	Thresholds of Significance	5.5-11
5.5.4	Project Impacts and Mitigation Measures	5.5-12
5.5.5	Cumulative Impacts.....	5.5-17
5.5.6	Significant Unavoidable Impacts	5.5-17
5.6	Hazards and Hazardous Materials	5.6-1
5.6.1	Methodology.....	5.6-1
5.6.2	Setting.....	5.6-1
5.6.3	Thresholds of Significance	5.6-13
5.6.4	Project Impacts and Mitigation Measures	5.6-14
5.6.5	Cumulative Impacts.....	5.6-31
5.6.6	Significant Unavoidable Impacts	5.6-32
5.7	Hydrology and Water Quality.....	5.7-1
5.7.1	Methodology.....	5.7-1
5.7.2	Setting.....	5.7-1
5.7.3	Thresholds of Significance	5.7-15
5.7.4	Project Impacts and Mitigation Measures	5.7-17
5.7.5	Cumulative Impacts.....	5.7-29
5.7.6	Significant Unavoidable Impacts	5.7-30
5.8	Land Use and Planning.....	5.8-1
5.8.1	Methodology.....	5.8-1
5.8.2	Setting.....	5.8-1
5.8.3	Thresholds of Significance	5.8-6

5.8.4	Project Impacts and Mitigation Measures.....	5.8-7
5.8.5	Cumulative Impacts	5.8-10
5.8.6	Significant Unavoidable Impacts.....	5.8-14
5.9	Noise	5.9-1
5.9.1	Methodology	5.9-1
5.9.2	Setting	5.9-1
5.9.3	Thresholds of Significance	5.9-9
5.9.4	Project Impacts and Mitigation Measures.....	5.9-11
5.9.5	Cumulative Impacts	5.9-27
5.9.6	Significant Unavoidable Impacts.....	5.9-30
5.10	Population and Housing	5.10-1
5.10.1	Methodology	5.10-1
5.10.2	Setting	5.10-1
5.10.3	Thresholds of Significance	5.10-2
5.10.4	Project Impacts and Mitigation Measures.....	5.10-3
5.10.5	Cumulative Impacts	5.10-4
5.10.6	Significant Unavoidable Impacts.....	5.10-4
5.11	Public Services and Utilities	5.11-1
5.11.1	Methodology	5.11-1
5.11.2	Setting	5.11-1
5.11.3	Thresholds of Significance	5.11-20
5.11.4	Project Impacts and Mitigation Measures.....	5.11-21
5.11.5	Cumulative Impacts	5.11-34
5.11.6	Significant Unavoidable Impacts.....	5.11-35
5.12	Traffic and Circulation	5.12-1
5.12.1	Methodology	5.12-1
5.12.2	Setting	5.12-3
5.12.3	Thresholds of Significance	5.12-15
5.12.4	Project Impacts and Mitigation Measures.....	5.12-17
5.12.5	Cumulative Impacts	5.12-39
5.12.6	Significant Unavoidable Impacts.....	5.12-48
6. Long-Term Implications of the Proposed Project		6-1
6.1	Growth-Inducing Impacts of the Proposed Project.....	6-1
6.1.1	Introduction	6-1
6.1.2	Regional Impacts	6-1
6.1.3	Local Area Impacts.....	6-2
6.2	Unavoidable and Irreversible Commitment of Resources.....	6-2
6.3	Summary of Significant Cumulative Impacts.....	6-3
6.4	Unavoidable Significant Impacts of the Proposed Project.....	6-3
7. Project Alternatives		7-1
7.1	Introduction	7-1
7.2	Alternative A: No Project/No Development	7-3
7.2.1	Aesthetics	7-3
7.2.2	Agricultural Resources	7-3
7.2.3	Air Quality	7-3
7.2.4	Cultural Resources.....	7-4
7.2.5	Geology and Soils	7-4
7.2.6	Hazards and Hazardous Materials	7-4
7.2.7	Hydrology and Water Quality.....	7-4
7.2.8	Land use and Planning.....	7-5
7.2.9	Noise.....	7-5
7.2.10	Population and Housing.....	7-6

7.2.11	Public Services and Utilities.....	7-6
7.2.12	Traffic and Circulation.....	7-6
7.3	Alternative B: No Project/Existing General Plan Entitlements	7-7
7.3.1	Aesthetics.....	7-7
7.3.2	Agricultural Resources.....	7-7
7.3.3	Air Quality.....	7-8
7.3.4	Cultural Resources	7-8
7.3.5	Geology and Soils.....	7-8
7.3.6	Hazards and Hazardous Materials	7-8
7.3.7	Hydrology and Water Quality	7-9
7.3.8	Land Use and Planning.....	7-9
7.3.9	Noise	7-9
7.3.10	Population and Housing	7-10
7.3.11	Public Services and Utilities.....	7-10
7.3.12	Traffic and Circulation.....	7-10
7.4	Alternative C: Reduced Development.....	7-12
7.4.2	Aesthetics.....	7-13
7.4.3	Agricultural Resources.....	7-13
7.4.4	Air Quality.....	7-13
7.4.5	Cultural Resources	7-14
7.4.6	Geology and Soils.....	7-14
7.4.7	Hazards and Hazardous Materials	7-14
7.4.8	Hydrology and Water Quality	7-14
7.4.9	Land Use and Planning.....	7-15
7.4.10	Noise	7-15
7.4.11	Population and Housing	7-15
7.4.12	Public Services and Utilities.....	7-16
7.4.13	Traffic and Circulation.....	7-16
7.5	Environmentally Superior Alternative.....	7-17
8. Organizations and Individuals Contacted		8-1
9. Report Preparation Personnel		9-1
10. Bibliography		10-1
10.1	General EIR References.....	10-1
10.2	Section 5.1 – Aesthetics	10-1
10.3	Section 5.2 – Agricultural Resources.....	10-2
10.4	Section 5.3 – Air Quality	10-2
10.5	Section 5.4 - Cultural Resources	10-2
10.6	Section 5.5 – Geology and Soils	10-3
10.7	Section 5.6 - Hazards & Hazardous Materials.....	10-3
10.8	Section 5.7 – Hydrology and Water Quality	10-4
10.9	Section 5.9 – Noise.....	10-5
10.10	Section 5.10 – Population and Housing.....	10-5
10.11	Section 5.11 – Services and Utilities.....	10-5
10.12	Section 5.12 – Traffic and Circulation.....	10-6
11. Acronyms and Abbreviations.....		11-1

Appendices

- Appendix A: Initial Study/Notice of Preparation and Responses to Notice of Preparation
- Appendix B: Tree Inventories - La Floresta Village and Birch Hills Sites
- Appendix C: Air Quality Impact Analysis – La Floresta Development Proposal
- Appendix D: Cultural Resources Studies – La Floresta Village and Birch Hills Sites
- Appendix E: Geotechnical and Soils Studies – La Floresta and Birch Hills Sites
- Appendix F: Hydrology Studies - La Floresta Village and Birch Hills Sites
- Appendix G: Noise Study – La Floresta Development Proposal
- Appendix H: Public Services Questionnaires and Responses – La Floresta Development Proposal
- Appendix I: Water Supply Assessment – La Floresta Development Proposal
- Appendix J: Traffic Study – La Floresta Development Proposal

List of Exhibits

Exhibit 3-2.1	Regional Location.....	3-3
Exhibit 3-3.1	Local Vicinity Map	3-5
Exhibit 3.4-1	La Floresta Village: Existing On-site and Surrounding Land Uses	3-9
Exhibit 3.4-2	La Floresta Village: Existing On-Site Planning Considerations	3-11
Exhibit 3.4-3	Birch Hills: Existing On-Site and Surrounding Land Uses	3-13
Exhibit 3.4-4	Birch Hills: Existing On-Site Planning Considerations.....	3-15
Exhibit 4.2-1	La Floresta Village: Planning Area Key Map	4-5
Exhibit 4.2-2	La Floresta Village: Illustrative Site Plan	4-7
Exhibit 4.2-3	La Floresta Village: Planning Area 5 – Conceptual Site Plan.....	4-9
Exhibit 4.2-4a	La Floresta Village: Building Elevations, Planning Area 1 – Active Adult Condos	4-11
Exhibit 4.2-4b	La Floresta Village: Conceptual Building Elevations, Planning Area 2 – Active Adult Single-Family Dwellings	4-13
Exhibit 4.2-4c	La Floresta Village: Conceptual Building Elevations, Planning Area 3 – Cluster Single-Family Dwellings	4-15
Exhibit 4.2-4d	La Floresta Village: Conceptual Building Elevations, Planning Areas 4a, 4b, and 7 – Townhomes	4-17
Exhibit 4.2-4e	La Floresta Village, Retail and Office Buildings, Conceptual South and West Elevations – Planning Area 5	4-19
Exhibit 4.2-4f	La Floresta Village: Retail Buildings, Conceptual South, East and West Elevations – Planning Area 5	4-21
Exhibit 4.2-4g	La Floresta Village: Conceptual Street “A” Perspective – Planning Area 5	4-23
Exhibit 4.2-4h	La Floresta Village: Conceptual Residential Building Elevation, Planning Area 5	4-25
Exhibit 4-2-4i	La Floresta Village: Conceptual Building Elevations, Planning Area 6 – Live/Work Single-Family Dwellings	4-27
Exhibit 4.2-4j	La Floresta Village: Conceptual Building Elevations, Planning Area 8 – Zero Lot Line Single-Family Dwellings	4-29
Exhibit 4.2-4k	La Floresta Village: Conceptual Building Elevations, Planning Area 8 – Recreation Facility	4-31
Exhibit 4.2-4l	La Floresta Village: Conceptual Building Elevations, Planning Area 9 – Senior Living Facility	4-33
Exhibit 4.2-4m	La Floresta Village: Conceptual Building Elevations, Planning Area 10 – Active Adult Single-Family Dwellings	4-35
Exhibit 4.2-4n	La Floresta Village: Conceptual Building Elevations, Planning Area 11 – Active Adult Recreation Facility	4-37
Exhibit 4.2.5	La Floresta Village: Conceptual Circulation Plan.....	4-41
Exhibit 4.2-6a	La Floresta Village: Typical Street Cross-Sections.....	4-43
Exhibit 4.2-6b	La Floresta Village: Typical Street Cross-Sections.....	4-45
Exhibit 4.2-6c	La Floresta Village: Typical Street Cross-Sections.....	4-47
Exhibit 4.2-6d	La Floresta Village: Typical Street Cross-Sections.....	4-49
Exhibit 4.2-7	La Floresta Village: Conceptual Pedestrian Circulation Plan.....	4-51
Exhibit 4.2.8	La Floresta Village: Conceptual Bicycle Circulation Plan	4-53
Exhibit 4.2-9	La Floresta Village: Conceptual Wall and Fence Plan	4-55
Exhibit 4.2-10a	La Floresta Village: Typical Landscape Conditions – Imperial Highway and Valencia Avenue	4-57
Exhibit 4.2-10b	La Floresta Village: Typical Landscape Conditions – Rose Drive, North and South.....	4-59
Exhibit 4.2-11a	La Floresta Village: Conceptual Open Space Plan	4-61

Exhibit 4.2-11b	La Floresta Village: Typical Linear Park Edge Conditions	4-63
Exhibit 4.2-12	La Floresta Village: Conceptual Sewer Plan	4-65
Exhibit 4.2-13	La Floresta Village: Conceptual Water Plan	4-67
Exhibit 4.2-14	La Floresta Village: Conceptual Storm Drainage Plan	4-69
Exhibit 4.2-15a	La Floresta Village: Tentative Tract Map 16934 (Sheet 1)	4-71
Exhibit 4.2-15b	La Floresta Village: Tentative Tract Map 16934 (Sheet 2)	4-73
Exhibit 4.2-16	Birch Hills: Planning Area Key Map	4-77
Exhibit 4.2-17	Birch Hills: Illustrative Site Plan	4-79
Exhibit 4.2-18a	Birch Hills: Conceptual Building Elevations, Planning Area 12a, Apartments	4-81
Exhibit 4.2-18b	Birch Hills: Conceptual Building Elevations, Planning Area 12b, Townhomes	4-83
Exhibit 4.2-18c	Birch Hills: Conceptual Building Elevations, Planning Area 12b, Recreation Facility	4-85
Exhibit 4.2-19	Birch Hills: Conceptual Circulation Plan	4-87
Exhibit 4.2-20a	Birch Hills: Typical Street Cross-Sections	4-89
Exhibit 4.2-20b	Birch Hills: Typical Street Cross-Sections	4-91
Exhibit 4.2-21	Birch Hills: Conceptual Pedestrian Circulation Plan	4-93
Exhibit 4.2-22	Birch Hills: Conceptual Bicycle Circulation	4-95
Exhibit 4.2-23	Birch Hills: Conceptual Wall and Fence Plan	4-97
Exhibit 4.2-24	Birch Hills: Typical Landscape Conditions – Kraemer Boulevard and On- site Community Trails	4-99
Exhibit 4.2-25	Birch Hills: Conceptual Open Space Plan.....	4-101
Exhibit 4.2-26	Birch Hills: Conceptual Sewer Plan.....	4-103
Exhibit 4.2-27	Birch Hills: Conceptual Water Plan.....	4-105
Exhibit 4.2-28	Birch Hills: Conceptual Storm Drainage Plan.....	4-107
Exhibit 4.2-29	Birch Hills: Tentative Tract Map 16933	4-109
Exhibit 5.1-1a	La Floresta Village Site Photograph Index	5.1-3
Exhibit 5.1-1b	La Floresta Village Site Photographs.....	5.1-5
Exhibit 5.1-1c	La Floresta Village Site Photographs.....	5.1-7
Exhibit 5.1-1d	La Floresta Village Site Photographs.....	5.1-9
Exhibit 5.1-2a	La Floresta Village: Tree Survey Index, Map One	5.1-13
Exhibit 5.1-2b	La Floresta Village: Tree Survey, List of Species	5.1-15
Exhibit 5.1-2c	La Floresta Village: Tree Survey, Map Two	5.1-17
Exhibit 5.1-3a	Birch Hills: Site Photograph Index.....	5.1-19
Exhibit 5.1-3b	Birch Hills: Site Photographs	5.1-21
Exhibit 5.1-3c	Birch Hills: Site Photographs	5.1-23
Exhibit 5.1-4	General Plan – Urban Design Plan Map.....	5.1-25
Exhibit 5.1.5a	Visual Simulation Key Map	5.1-33
Exhibit 5.1.5b	La Floresta Village: Viewpoint One, Looking East.....	5.1-35
Exhibit 5.1.5c	La Floresta Village: Viewpoint Two, Looking Northeast	5.1-37
Exhibit 5.1.5d	La Floresta Village: Viewpoint Three, Looking South	5.1-39
Exhibit 5.1.5e	La Floresta Village: Viewpoint Four, Looking Southwest	5.1-41
Exhibit 5.1.5f	La Floresta Village: Viewpoint Five, Looking West	5.1-43
Exhibit 5.1.5g	Birch Hills: Viewpoint Six, Looking Northwest	5.1-45
Exhibit 5.5-1	City of Brea: Geologic and Seismic Hazards.....	5.5-3
Exhibit 5.5-2	La Floresta Village: Local Geologic Setting.....	5.5-7
Exhibit 5.5-3	Birch Hills: Local Geologic Setting	5.5-9
Exhibit 5.6-1	La Floresta Village: Areas of Potential Environmental Concern (APECs).....	5.6-3
Exhibit 5.6-2	Birch Hills: Areas of Potential Environmental Concern (APECs)	5.6-9
Exhibit 5.7-1	La Floresta: Existing Hydrological Conditions.....	5.7-3
Exhibit 5.7-2	Flooding Hazards	5.7-5

Exhibit 5.7-3	Dam Inundation Map.....	5.7-7
Exhibit 5.7-4	Birch Hills: Existing Hydrological Conditions.....	5.7-11
Exhibit 5.7-5	La Floresta Village: Proposed Hydrological Conditions.....	5.7-23
Exhibit 5.7-6	Birch Hills: Proposed Hydrological Conditions.....	5.7-25
Exhibit 5.9-1	Noise Monitoring Locations – La Floresta Village.....	5.9-3
Exhibit 5.9-2	Noise Monitoring Locations – Birch Hills.....	5.9-5
Exhibit 5.9-3	Typical Construction Equipment - Noise Generation Levels.....	5.9-13
Exhibit 5.11-1	General Plan: Parks and Open Space Plan.....	5.11-5
Exhibit 5.11-2	General Plan: Trails Plan.....	5.11-9
Exhibit 5.11-3	General Plan: Bike Plan.....	5.11-11
Exhibit 5.11-4	General Plan: Sewer System Improvements.....	5.11-13
Exhibit 5.12-1	La Floresta Village: Trip Distribution Patterns.....	5.12-7
Exhibit 5.12-2	Birch Hills: Trip Distribution Patterns.....	5.12-9
Exhibit 5.12-3	Existing 2005 Average Daily Traffic (ADT) Volumes.....	5.12-11
Exhibit 5.12-4	Intersection Location Map.....	5.12-13
Exhibit 5.12-5	2012 Projected Average Daily Traffic (ADT) Volumes - No Project Condition.....	5.12-21
Exhibit 5.12-6	2012 Projected Average Daily Traffic Volumes (ADT) With Full Project.....	5.12-23
Exhibit 5.12-7	2025 Average Daily Traffic Volumes (ADT) – No Project Condition.....	5.12-27
Exhibit 5.12-8	2025 Average Daily Traffic Volumes (ADT) with Birch Hills Project.....	5.12-29
Exhibit 5.12-9	2025 Average Daily Traffic Volumes (ADT) with La Floresta Village.....	5.12-31
Exhibit 5.12-10	2025 Average Daily Traffic Volumes (ADT) with Full Project.....	5.12-33
Exhibit 5.12-11	Location of Intersections Requiring Additional Rights-of-Way.....	5.12-43
Exhibit 5.12-12	La Floresta Village: Proposed Lane Configurations.....	5.12-45

List of Tables

Table 1-1	Summary of Impacts and Mitigation Measures - La Floresta Development Proposal	1-4
Table 1-2	Proposed Traffic Mitigation – Year 2025 (Intersections with Significant Project Impacts) - La Floresta Development Proposal	1-38
Table 4.2-1	Statistical Overview of Proposed Development – La Floresta Village	4-3
Table 4.2-2	Statistical Overview of Proposed Development - Birch Hills Site	4-75
Table 5.3-1	Ambient Air Quality Standards	5.3-4
Table 5.3-2	Health Effects of Criteria Pollutants	5.3-5
Table 5.3-3	Air Quality Monitoring Summary – (Number of Days Standards Were Exceeded and Maximum Levels during Such Violations)	5.3-7
Table 5.3-4	South Coast Air Basin Attainment Plan (Emissions in Tons/Day)	5.3-8
Table 5.3-5	SCAQMD Emissions Significance Thresholds (lbs/day)	5.3-11
Table 5.3-6	Construction Activity Emissions (pounds/day) - La Floresta Development Proposal	5.3-16
Table 5.3-7	Estimated Emissions from Hauling Activities - La Floresta Development Proposal.....	5.3-20
Table 5.3-8	Average Daily Project Mobile Source Air Pollution Emissions* - La Floresta Development Proposal	5.3-22
Table 5.3-9	One-Hour CO Concentrations (ppm) - La Floresta Development Proposal.....	5.3-24
Table 5.6-1	Hazardous Materials Remediation Summary - La Floresta Village/Hartley Research Center	5.6-22
Table 5.6-2	Hazardous Materials Remediation Summary - Birch Hills Golf Course	5.6-30
Table 5.9-1	Short-Term Noise Measurements (dB[A]).....	5.9-2
Table 5.9-2	Brea Land Use Compatibility Guidelines for Exterior Community Noise.....	5.9-8
Table 5.9-3	City of Brea Noise Ordinance Exterior Standards (dBA)	5.9-9
Table 5.9-4	City of Brea Noise Ordinance Interior Standards (dBA)	5.9-9
Table 5.9-5	La Floresta Traffic Noise Impact Analysis (dBA CNEL at 50 feet from centerline)	5.9-17
Table 5.9-6	La Floresta Traffic Noise Analysis Distance to 65 dBA CNEL Contour in feet	5.9-22
Table 5.9-7	La Floresta Noise Wall Analysis	5.9-24
Table 5.9-8	Interior Noise Attenuation Options	5.9-25
Table 5.10-1	General Plan Land Use Projections	5.10-2
Table 5.11-1	Brea Olinda Unified School District – School Impact Assessment with Project Development - La Floresta Development Proposal	5.11-25
Table 5.11-2	Estimated Student Generation – Placentia-Yorba Linda Unified School District - La Floresta Village Development	5.11-26
Table 5.11-3	Placentia-Yorba Linda Unified School District School Impact Assessment with Project Development Located in PYLUSD.....	5.11-27
Table 5.11-4	Open Space and Recreation Acreage - La Floresta Village	5.11-28
Table 5.11-5	Open Space and Recreation Acreage - Birch Hills.....	5.11-29
Table 5.12-1	Existing Conditions – Trip Generation Summary – La Floresta Development Proposal	5.12-3
Table 5.12-2	Existing Conditions – ICU and Level of Service Summary – La Floresta Development Proposal	5.12-4
Table 5.12-3	Circulation System Performance Criteria – La Floresta Development Proposal.....	5.12-16
Table 5.12-4	Project Trip Generation Summary – La Floresta Development Proposal	5.12-20

Table 5.12-5	ICU and LOS Summary – Interim Year (2012) (Existing/No Project with Full Project Comparison)	5.12-25
Table 5.12-6	ICU and LOS Summary 2025 (No Project, with Birch Hills, with La Floresta Village, and with Full Project Comparison) – La Floresta Development Proposal.....	5.12-35
Table 5.12-7	Intersections with Significant Project Impacts – 2025 – La Floresta Development Proposal	5.12-36
Table 5.12-8	ICU Summary – La Floresta Village Entryways – La Floresta Development Proposal	5.12-37
Table 5.12-9	Recommended Turn Pocket Lengths – La Floresta Village - La Floresta Development Proposal	5.12-37
Table 5.12-10	Proposed Mitigation – 2012 (Intersections with Significant Project Impacts) – La Floresta Development Proposal	5.12-40
Table 5.12-11	Proposed Mitigation – 2025 (Intersections with Significant Project Impacts) – La Floresta Development Proposal	5.12-41
Table 5.12-12	ICU Summary – Before and After Mitigation – La Floresta Development Proposal.....	5.12-42
Table 5.12-13	Summary of Carbon Canyon Road Traffic – La Floresta Development Proposal.....	5.12-47
Table 5.12-14	Comparison of One-Way Peak Hour Volumes Carbon Canyon Road Analysis – La Floresta Development Proposal	5.12-48
Table 7.3-1	Project Alternatives – Land Use and Trip Generation Summary – La Floresta Development Proposal	7-11
Table 7.4-1	Alternative C: Reduced Density Assumptions – La Floresta Village Site	7-12
Table 7.5-1	Comparison of Impacts of Project Alternatives – La Floresta Development Proposal	7-18

1. Executive Summary

1.1 Introduction

The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An Environmental Impact Report (EIR) is a public disclosure document designed to provide local and state governmental agency decision makers with an objective analysis of potential environmental consequences to support informed decision-making. This EIR (State of California Clearinghouse #2005121093) has been prepared by the City of Brea in accordance with CEQA Guidelines §15120 through §15131 and §15161 regulating EIRs to evaluate the environmental consequences of the proposed La Floresta Development Proposal, to discuss alternatives to the proposed project, and to propose mitigation measures that will offset, minimize or avoid identified significant environmental impacts.

This document focuses on issues determined to be potentially significant as discussed in the Initial Study and the public scoping process completed for this project, as well as comments received on the Notice of Preparation (NOP) circulated by the City of Brea in December 2005. Section 2.2 – Notice of Preparation and Initial Study, describes this process. See appendix A for these documents.

1.2 Project Description

La Floresta LLC has submitted applications to the City of Brea to permit development on two non-contiguous sites. Those sites are referred to in this Environmental Impact Report as the La Floresta Village Site, which is 119.0 acres in size, and the Birch Hills Site, which is 91.3 acres in size. The La Floresta Village Site is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the north and east. The La Floresta site is the former location of the UNOCAL Hartley Research Center. The Birch Hills Site is located on the south side of Birch Street at the intersection of Kraemer Boulevard. It is currently occupied by the Birch Hills Golf Course, which contains 18 holes on rolling topography and is operated by Birch/Kraemer LLC which is leased to Imperial Golf Course. Exhibit 3.2-1 (page 3-3) Exhibit 3.3-1 (page 3-5) in Section 3.0 – Environmental Setting, illustrate the project location.

Proposed development on the La Floresta Village site totals 1,088 residential units, including portions devoted to senior housing and live/work housing over commercial use; 156,800 square feet of mixed-use commercial; and 53.27 acres devoted to an active adult recreation center for project residents. The Birch Hills Site is proposed for 75.60 acres

of open space, a community facility with a clubhouse located in the open space portion of the site and 247 high-density residential dwellings, including a portion devoted exclusively to “workforce” housing. The proposed project also includes construction of regional recreational trails on both sites. Section 4.0 – Project Description, provides an expanded discussion of the proposed project characteristics, statistical information, and graphic illustrations of all aspects of the development proposals.

1.3 Project Objectives

1.3.1 Objectives of the Project Applicant

The following objectives have been proposed by the project developer, as presented in the “Project Overview” booklet dated November 22, 2005.

- To build a community where residents can live, work, shop, play and relax within an intimate, “small town” setting that is rich in architectural and landscape forms reflective of Brea's heritage and to provide a community-wide amenity for all residents of the City to enjoy.
- To provide further housing opportunities in the central portion of the City near employment and retail centers.
- To redevelop the former Unocal Research and Development site and transform it into an aesthetically pleasing multi-generational living, working, and shopping environment.
- To intensify the Birch Hills Golf Course site by introducing multi-unit residential uses and a community facility to create a unique recreational and living environment.
- To create a community that embraces aspects of good urban design, including considerations for functionality, social needs, economic viability, respect for the environment, and aesthetic qualities.
- To provide for a range of housing opportunities responsive to local needs, including the increasing demand for high-quality, active adult and senior residential products.
- To provide a planning framework that responds to the physical and market-driven aspects of future development opportunities.
- To implement a cohesive landscape and architectural design program unique to each site.
- To establish a sensitive pedestrian and bikeway system that provides public access to regional and community trail connections, together with other on-site recreational amenities.

- To establish a compatible interface and harmonious relationships with surrounding uses through sound planning principles and attention to sensitive design choices.

1.3.2 Objectives of the City of Brea

The primary objective of the City of Brea is implementation of a development project that is not only consistent with all policies, plans and regulations but that also benefits the community at large and enhances the quality of life by providing well planned and designed housing that meets the needs of broad segments of the community along with convenient and appropriate supportive commercial uses and recreational amenities, while minimizing impacts to the physical environment.

Relevant policies and objectives pertinent to the proposed project have been extracted from all Elements of the General Plan, the recently approved Mixed Use II Zone (MU-II), and the Birch Hills Specific Plan. These are highlighted in each corresponding topical section of the environmental analysis (Section 5.0).

1.4 Summary of Environmental Impacts, Mitigation Measures, and Levels of Significance after Mitigation

Table 1-1 summarizes the conclusions of the environmental analysis contained in this EIR. Impacts are identified as significant or less than significant and for all significant impacts mitigation measures are identified. The level of significance after imposition of the mitigation measures is also presented.

1.5 Significant Unavoidable Impacts

The following impact areas would have unavoidable and significant effects with full implementation of the La Floresta Development Proposal: Project-specific construction related and long-term air pollutant emissions from mobile sources as well as cumulatively significant air quality impacts from the same activities.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.1 Aesthetics			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations			
La Floresta Village Site City of Brea General Plan - Community Development Element, Urban Design Policies Birch Hills Site	Less than significant.	Adherence to the relevant planning policies and development standards would ensure that no significant urban design policy conflicts occur.	Not applicable
City of Brea General Plan - Community Development Element, Urban Design Policies	No Urban Design policies applicable to the Birch Hills site	Not applicable	Not applicable
Damage to a Scenic Resource			
La Floresta Village Site	Less than significant.	None are required.	Not applicable.
Birch Hills Site	Less than significant.	None are required.	Not applicable.
Degradation of the Existing Visual Character or Quality of the Site and Its Surroundings			
La Floresta Village Site	Less than significant.	None are required.	Not applicable.
Birch Hills Site	Less than significant.	None are required.	Not applicable.
Creation of a New Source of Light and Glare			
La Floresta Village Site	Less than significant.	None are required.	Not applicable.
Birch Hills Site	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Construction-Related Aesthetics Both Sites	Potentially significant.	AES-1 Construction Lighting Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area. AES-2 Construction Screening Temporary perimeter screening shall be utilized throughout the construction period in all areas where a solid visual barrier does not exist between adjacent uses or roadways on both the La Floresta Village and Birch Hills sites.	Less than significant.
Cumulative Impacts			
Consistency with Applicable Plans and Regulations: City of Brea General Plan, Community Development Element – Urban Design Both Sites	Less than significant.	None are required.	Not applicable.
Damage to a Scenic Resource Both Sites	Less than significant.	None are required.	Not applicable.
Degradation of the Existing Visual Character or Quality of the Site and Its Surroundings Both Sites	Less than significant.	None are required.	Not applicable.
Creation of a New Source of Light and Glare Both Sites	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.2 Agricultural Resources			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations Both Sites	Less than significant.	None are required.	Not applicable.
Loss of Unique Farmland Both Sites	Less than significant.	None are required.	Not applicable.
Cumulative Impacts			
Consistency with Applicable Plans and Regulations Both Sites	Less than significant.	None are required.	Not applicable.
Loss of Unique Farmland Both Sites	Less than significant.	None are required.	Not applicable.
5.3 Air Quality			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations Both Sites Federal Clean Air Act City of Brea General Plan, Community Resources Element	Less than significant. Less than significant.	None are required. None are required.	Not applicable. Not applicable.
Construction Air Quality Impacts Both Sites	Potentially significant	AQ-1 Construction Air Pollution Control a. Prior to the issuance of any grading permits, the Applicant shall prepare and submit for the approval of the Director of	Even with the mitigation, construction related impacts would remain

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Development Services (or his designee) a Fugitive Dust Emission Control Plan in compliance with SCAQMD Rule 403. The Plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line of the proposed facility. Provisions of the plan shall include the stipulation that all areas of active grading shall be watered at least twice daily. The plan shall also stipulate that disturbed areas at the construction site shall be treated with dust suppressants when activities have ceased for 30 days as well as control techniques listed below as determined appropriate.</p> <p>The Building Official shall ensure that the applicant adheres to the following requirements during construction activities, which shall also be placed as conditions on any grading or building permit.</p> <ol style="list-style-type: none"> (1) Application of chemical stabilizers to unpaved roads and vehicle parking areas; (2) Application of sufficient water prior to initiating any earth movement; (3) Sweeping and/or cleaning streets where vehicles exit construction sites; (4) Installation of wheel washers where vehicles exit disturbed surface areas onto paved roads; (5) Paving of construction access roads; (6) Paving of all roads on a construction site once final elevations have been reached or at the earliest feasible time; (7) All stockpiles for material export shall be watered twice daily. Stockpiles that may be used for long-term on-site soil storage shall be planted and watered twice daily until such plants take root. (8) Any other measures as approved by the Planning Department. <p>b. All heavy equipment shall be maintained in a proper state</p>	<p>significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>of tune as per the manufacturer's specifications.</p> <ul style="list-style-type: none"> c. Heavy equipment shall not be allowed to remain idling for more than five minutes duration. d. Trucks equipment shall not be allowed to remain idling for more than two minutes duration. e. Electric power shall be used to the exclusion of gasoline or diesel generators whenever feasible. f. The Applicant shall specify that the contractor use only paints and coatings low in Reactive Organic Gas (ROG) content in order to minimize such emissions and vapors. g. All paints and coatings shall be applied either using high volume, low pressure (HVLV) spray equipment or by hand application in order to minimize dispersion of vapors and spray. h. All known and observed hazardous materials shall be remediated in accordance with the recommendations included in Section 5.6 of this document. If locations where spillage of fluids from prior activities or hazardous materials are discovered during construction activities, these construction activities shall be curtailed until the area is evaluated and remediated as determined appropriate by all regulatory agencies. Removal of petroleum contamination will also alleviate the generation of hydrogen sulfide and its attendant odor. These activities would fall under the direction of both local and State agencies that would "sign off" on the remediation effort upon completion. 	
<p>Fill Hauling Impacts Both Sites</p>	<p>Less than significant</p>	<p>None are required.</p>	<p>Not applicable.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Regional Mobile Source Emissions after Project Completion Both Sites	Potentially significant.	AQ-2 Trip Reduction Measures The applicant shall incorporate the following trip reduction measures into the final design of the non-residential portions of the Project to reduce vehicular traffic, energy consumption, and air emissions. <ul style="list-style-type: none"> ▪ Preferential carpool and vanpool parking ▪ Bicycle storage facilities ▪ Electric vehicle charging stations AQ-3 Transit Coordination The applicant shall coordinate with the Orange County Transportation Authority and the City Engineering Department to provide bus turnouts and shelters where appropriate.	Even with the mitigation, regional mobile source air quality impacts would remain significant.
Microscale Air Quality Impacts Both Sites	Less than significant	None are required.	Not applicable.
Cumulative Impacts Both Sites	Potentially significant.	See Mitigation Measures AQ-1 through AQ-3.	Even with the mitigation, impacts would remain significant.
5.4 Cultural Resources			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations La Floresta Village Site City of Brea General Plan- Community Resources Element, Historical Resources	Not applicable to site because no structures remain.	Not applicable.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Birch Hills Site</p> <p>City of Brea General Plan-Community Resources Element, Historical Resources</p> <ul style="list-style-type: none"> • Remaining remnants of the former Pacific Electric Railway. 	<p>Potentially significant</p>	<p>CR-1 Design Plans Final design plans shall maintain the former Pacific Electric Railroad roadbed as a straight sightline axis through the Birch Hills development project unless determined physically infeasible by the City of Brea.</p> <p>CR-2 Retention of Historical Age Features Portions of rails embedded in the existing golf cart path and other historic age features such as the roadbed profile and drainage pipes shall be retained in final Birch Hills project design to the extent feasible and consistent with any new drainage or other essential improvements that may be required for physical safety purposes by the City of Brea or other public agencies.</p> <p>CR-3 Public Viewing Facilities Appropriate facilities for public viewing with identifying plaques shall be incorporated into final Birch Hills project design at locations to be determined by the City of Brea Development Services Department.</p>	<p>Less than significant.</p>
<p>Substantial Adverse Change in the Significance of a Historical Resource</p> <p>La Floresta Village Site</p> <p>Birch Hills Site</p> <p>Remaining remnants of the former Pacific Electric Railway.</p>	<p>Not applicable to site because no structures remain.</p> <p>Potentially significant</p>	<p>Not applicable.</p> <p>See Mitigation Measures CR-1 through CR-3.</p>	<p>Not applicable.</p> <p>Less than significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Substantial Adverse Change in the Significance of an Archaeological Resource</p> <p>Both Sites</p>	<p>Potentially significant.</p>	<p>CR-4 Archaeological Monitor An Orange County certified archaeologist monitor shall be present during all ground-disturbing construction activities occurring in native sediments/ soils. In the event that cultural resources are exposed during construction, the monitor shall be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archeologist determines that they are unique archeological resources as defined by §21083.2 of CEQA, then the archeologist shall conduct additional excavations to avoid impacts to these resources by the development. If they are not "unique," then no further mitigation would be required. Unique cultural resources shall be determined based on the criteria set forth in §21083.2 of CEQA.</p> <p>CR-5 Disposition of Any Human Remains If previous human remains are uncovered during site preparation, grading, or excavation, the archeologist monitor shall have the authority to temporarily halt or divert grading in the immediate area of the discovery, and shall notify the County Coroner within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner shall notify the Native American Heritage Commission. The project applicant shall comply with the procedures set forth in §5097.98 of the California Public Resources Code and shall consult with the most likely descendant designated by the Native American Heritage Commission to obtain recommendations on the treatment and disposition with appropriate dignity of the human remains and associated grave goods.</p>	<p>Less than significant.</p>

Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature</p> <p>Both Sites</p>	<p>Potentially significant.</p>	<p>CR-6 Paleontological Monitor All construction-related ground disturbance related to the Hartley Center-La Floresta Village development project that could potentially impact the paleontologically sensitive Quaternary Older Alluvium will be monitored by a qualified paleontological monitor on a full-time basis. Ground disturbances in Holocene-age alluvium will be monitored on a part-time basis to ensure that underlying paleontologically sensitive sediments are not impacted.</p> <p>CR-7 Paleontological Mitigation Plan An Orange County Certified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed La Floresta Village development project. Paleontological monitoring will include inspection of exposed rock units during active excavations. The monitor will have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data.</p> <p>CR-8 Progress Reports The Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agency.</p> <p>CR-9 Recordation of Fossil Localities At each fossil locality, pertinent geologic data will be recorded on field data forms, stratigraphic sections will be measured, and appropriate sediment samples will be collected and submitted for analysis.</p> <p>CR-10 Recovery of Fossils Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Disturb any Human Remains, including those Interred Outside Formal Cemeteries Both Sites</p>	Potentially significant.	<p>analysis, and repositied in a designated paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum. CR-11 Final Monitoring and Mitigation Report The Certified Paleontologist will prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.</p>	
Cumulative Impacts			
<p>Consistency with Applicable Plans and Regulations La Floresta Village Site City of Brea General Plan-Community Resources Element, Historical Resources Birch Hills Site City of Brea General Plan-Community Resources Element, Historical Resources <ul style="list-style-type: none"> Remaining remnants of the former Pacific Electric Railway. </p>	<p>Not applicable to site because no structures remain. Potentially significant.</p>	<p>Not applicable. See Mitigation Measures CR-1 through CR-3.</p>	<p>Not applicable Less than significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Substantial Adverse Change in the Significance of a Historical Resource			
La Floresta Village Site City of Brea General Plan-Community Resources Element, Historical Resources Birch Hills Site City of Brea General Plan-Community Resources Element, Historical Resources <ul style="list-style-type: none"> • Remaining remnants of the former Pacific Electric Railway. 	Not applicable to site because no structures remain. Potentially significant.	Not applicable. See Mitigation Measures CR-1 through CR-3.	Not applicable Less than significant.
Substantial Adverse Change in the Significance of an Archaeological Resource			
Both Sites	Potentially significant.	See Mitigation Measures CR-4 and CR-5.	Less than significant.
Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature			
Both Sites	Potentially significant.	See Mitigation Measures CR-6 through CR-11.	Less than significant.
Disturb any Human Remains, including those Interred Outside Formal Cemeteries			
Both Sites	Potentially significant.	See Mitigation Measures CR-4 and CR-5.	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.5 Geology and Soils			
Project Specific Impacts			
<p>Consistency with Applicable Plans and Regulations</p> <p>Both Sites</p> <p>City of Brea General Plan- Public Safety Element</p>	<p>Potentially significant.</p>	<p>GEO-1 Geotechnical Investigation</p> <p>Prior to approval of a final subdivision map or issuance of a grading permit the applicant shall submit a site-specific geotechnical investigation report prepared by a licensed engineering geologist in conformance with the City Grading and Excavation Code and meeting the approval of the City Engineer. All recommendations of the report shall be based on surface and subsurface mapping, laboratory testing, and analysis, and shall be incorporated into the final grading plans. The report shall address the following issues:</p> <ul style="list-style-type: none"> ▪ Site clearing and preparation ▪ Identification of faults and traces ▪ Full characterization of on-site soils ▪ Mitigation options for removal of in-ground improvement (or structure design mitigation) of uncompacted fill, compressible soils, expansive soils, corrosive soils, and liquefiable soils ▪ Foundation design ▪ Slope stability ▪ Subdrains <p>None are required.</p>	<p>Less than significant.</p>
<p>Alquist-Priolo Earthquake Fault Zoning Act</p>	<p>Less than significant.</p>		<p>Not applicable.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impacts related to Seismic Activity, Slope Stability, Soils and Groundwater Conditions Both Sites Ground Rupture Groundshaking Landsliding Slope Stability Settlement Groundwater Liquefaction Soil Expansion and Foundations	Potentially significant. Potentially significant. Potentially significant. Potentially significant. Potentially significant. Potentially significant. Potentially significant. Potentially significant.	See Mitigation Measure GEO-1. See GEO-1. See GEO-1. See GEO-1. See GEO-1. See GEO-1. See GEO-1. See GEO-1.	Less than significant. Less than significant.
Cumulative Impacts			
Both Sites	Less than significant.	None are required.	Not applicable.
5.6 Hazards and Hazardous Materials			
Project Specific Impacts			
Consistency with Applicable Regulations and Plans			
Both Sites City of Brea General Plan: Public Safety Element	Potentially significant.	Specific requirements and mitigation measures related to each issue area are discussed separately under each topic in the following sections.	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Other Applicable Regulations</p> <p>La Floresta Village Site California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR)</p>	Potentially significant.	See discussion under Oil Wells.	Less than significant.
Impacts Related to Previous Oil Production and Industrial Use			
<p>La Floresta Village Site</p> <p>Underground Storage Tanks (USTs)</p>	Potentially significant.	<p>HAZ-1 Underground Storage Tanks Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>	Less than significant.
<p>Above-Ground Storage Tanks (ASTs)</p>	Potentially significant.	<p>HAZ-2 Above-Ground Storage Tanks Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by ASTs, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>	Less than significant.
<p>Drum Storage Areas</p> <p>Acid Treatment Area</p>	Potentially significant. Less than significant.	<p>HAZ-3 Drum Storage Areas Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by former drum storage areas, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p> <p>None are required.</p>	Less than significant. Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Wastewater Sump	Potentially significant.	<p>HAZ-4 Wastewater Sump Area Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former wastewater sump, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.</p>	Less than significant.
Pesticides	Less than significant.	None are required.	Not applicable.
Oil Wells and Methane Gas	Potentially significant.	<p>HAZ-5 Oil Wells and Methane Gas</p> <p>a. <u>Oil Well Abandonment</u>. Prior to final certification of grading or issuance of any building permit, the applicant shall submit evidence acceptable to the Brea Fire Chief demonstrating that the locations of all known wells on site have been reviewed by the California Division of Oil, Gas and Geothermal Resources (DOGGR) and that all well abandonment requirements, including gas leakage testing, have been completed according to DOGGR specifications. All abandoned wells shall be vented according to Brea Fire Department guidelines.</p> <p>b. <u>Soil Gas Survey</u>. Prior to final certification of grading or issuance of any building permit, a soil gas survey shall be conducted in accordance with the Brea Fire Department guidelines to determine whether or not there is methane and/or other combustible soil gases at concentrations of concern at the site. The survey shall evaluate the areas around the old, abandoned wells as well as any and all locations identified by the City's combustible soil gas consultant.</p> <p>Samples shall also be collected at depth below final design grades as determined by a registered professional engineer with experience in the field of combustible soil gas control and mitigation systems. Said survey is subject to third party review by the City's combustible soil gas consultant. A workplan and appropriate mitigation measures will be required if methane gas at concentrations</p>	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>over 5,000 parts per million is detected at the site, in accordance with the guidelines established by the City of Brea Fire Department, as appropriate.</p> <p>c. Soil Gas Mitigation. Prior to issuance of a grading permit, site development plans must comply with the Brea Fire Department's requirements for the investigation, mitigation, and remediation of combustible soil gases. These requirements are outlined in the City of Brea Fire Department "Combustible Soil Gas Mitigation System Installation and Inspection Requirements." In addition, if hydrocarbon concentrations in excess of 20,000 parts per million are left in place below 10 feet below grade surface, the City Fire Department will require documentation that shows that the contamination will not create a methane gas problem.</p> <p>Mitigation measures regarding combustible soil gases shall be provided in accordance with City of Brea Fire Department's requirements. They may include but may not be limited to: sub-slab passive venting systems, sub-slab membranes, bottoms mitigation measures and venting of abandoned wells. This program shall be submitted to the Director or designee, Development Services Department within 60 days of completion of grading for review/approval.</p> <p>d. Grading Protocol. Prior to issuance of a grading permit, the applicant shall submit a description of the oil well protocols to be followed during grading operations. The protocols shall describe the methods for searching for unknown oil wells and the procedures to be followed in the event that a well is discovered, in compliance with Fire Department and DOGGR regulations. The Grading Protocol shall be subject to review and approval by the Fire Marshall and the Building Official.</p> <p>e. Grading Monitor. Prior to issuance of a grading permit, the applicant shall retain a grading monitor to observe all grading operations to ensure that the approved Grading Protocol is implemented. The monitor shall be selected by</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Nursery Area	Potentially significant.	<p>the City Fire Marshall and shall have the authority to halt grading operations and immediately notify the Fire Marshall if an oil well is discovered.</p> <p>f. Residential Structure Setbacks. Prior to issuance of any building permit for residential structures, the applicant shall provide evidence acceptable to the Building Official that a setback of at least 10 feet from an abandoned well or 100 feet from an operating well shall be maintained.</p> <p>HAZ-6 Nursery Area Arsenic Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former nursery area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCCB.</p>	Less than significant.
Electrical Transformer Area	Potentially significant.	<p>HAZ-7 Electrical Transformer Area Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former electrical transformer area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>	Less than significant.
Asbestos	Potentially significant.	<p>HAZ-8 Asbestos Pipe Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that asbestos remediation has been completed in accordance with EPA and SCAQMD protocols.</p>	Less than significant.
Lead-Based Paint	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Hydrogen Sulfide	Potentially significant.	<p>HAZ-9 Hydrogen Sulfide Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation for H2S has been completed and approved by OCHCA.</p> <p>See Mitigation Measures HAZ-1 through 9, above</p>	Less than significant.
Hazardous Materials within One-Quarter Mile of a School Birch Hills Site	Potentially significant.		Less than significant.
Soil and Groundwater Nitrate	Potentially significant.	<p>HAZ-10 Groundwater Remediation a. <u>Groundwater Monitoring Reports.</u> All groundwater monitoring reports for the Birch Hills property shall be submitted to the City Fire Marshall at the same time they are submitted to the RWQCB. b. <u>Groundwater Remediation.</u> Prior to issuance of a building permit, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall demonstrating that neither groundwater contamination nor remediation activities present any significant health risk to construction workers or project occupants.</p> <p>None are required. None are required.</p>	Less than significant.
Fuel ASTs/USTs Pesticides, Herbicides, Paints and Motor Oils	Less than significant. Less than significant.		Not applicable. Not applicable.
Union Pacific Railroad Right-of-Way	Potentially significant.	<p>HAZ-11 Railroad Right-of-Way Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas containing railroad ROW, the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation (if necessary) has been completed and approved by OCHCA.</p>	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts			
Both Sites			
City of Brea General Plan: Public Safety Element	Less than significant.	None are required.	Not applicable.
Impacts Related to Previous Oil Production and Industrial Use of the Sites	Less than significant.	None are required.	Not applicable.
La Floresta Site			
California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR)	Less than significant.	None are required.	Not applicable.
5.7 Hydrology & Water Quality			
Project Specific Impacts			
Consistency with Applicable Regulations and Plans			
Both Sites			
City of Brea General Plan: Community Resources Element	Potentially significant.	Please see HYD-1 and HYD-2, discussed below. These mitigation measures would ensure compliance with General Plan policies and reduce potential impacts to a level that is less than significant.	Less than significant.
City of Brea General Plan: Safety Element	Potentially significant.	Mitigation measures HYD-3 through HYD-8, discussed below, would ensure compliance with applicable General Plan policies and reduce potential impacts to a level that is less than significant.	Less than significant.
Other Applicable Regulations			
Both Sites			
Clean Water Act/NPDES	Potentially significant.	See Mitigation Measures HYD-1 and HYD-2.	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>FEMA – National Flood Insurance Program</p> <p>Violation of Water Quality Standards</p>	<p>Potentially significant.</p> <p>Potentially significant.</p>	<p>See Mitigation Measures HYD-3 through HYD-8.</p> <p>HYD-1 NPDES Compliance Prior to issuance of a grading permit for each site, the project proponent shall apply for coverage for discharge under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a Storm water Pollution Prevention Plan (SWPPP) and implementing Best Management Practices (BMPs) to address construction site pollutants. Separate coverage shall be obtained for each site. The Storm Water Pollution Prevention Plan (SWPPP) shall: 1) require implementation of BMPs so as to prevent a net increase in sediment load in storm water discharges relative to preconstruction levels; 2) prohibit discharges of storm water or non-storm water at levels that would cause or contribute to an exceedance of any applicable water quality standard contained in the regional basin plan; 3) discuss in detail the BMPs for the project related to control of sediment and erosion, non-sediment pollutants, and potential pollutants in non-storm water discharges; 4) describe post-construction BMPs for the project; 5) explain the monitoring and maintenance program for the project BMPs; 6) require reporting of violations to the RWQCB; and 7) list the parties responsible for SWPPP implementation and BMP maintenance both during and after construction. Upon acceptance of the NOI by the State Board, the project proponent shall implement the SWPPP and will modify the SWPPP as directed by the Storm Water Permit.</p> <p>HYD-2 Water Quality Management Plan Prior to issuance of building permits for each site, the project proponent shall prepare a Water Quality Management Plan (WQMP) meeting the approval of the City Engineer. The WQMP shall: 1) describe the routine and special post-construction BMPs to be used at the proposed development site (including both structural and non-structural measures); 2) describe responsibility of the initial implementation and long-</p>	<p>Less than significant.</p> <p>Less than significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Alteration of Drainage Patterns in a Manner that Would Result in Substantial Erosion or Siltation On-Site or Off-Site La Floresta Village Site</p>	<p>Potentially significant.</p>	<p>term maintenance of the BMPs; 3) provide narrative with the graphic materials as necessary to specify the locations of the structural BMPs; and 4) describe effective means to ensure that the WQMP is carried out by all future successors or assigns to the property. See HYD-1 and HYD-2, above.</p>	<p>Less than significant.</p>
<p>Potential Flooding-Dam Inundation Act</p>	<p>Potentially significant.</p>	<p>See Mitigation Measure HYD-9.</p>	<p>Less than significant.</p>
<p>Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-Site or Off-Site</p>	<p>Potentially significant.</p>	<p>HYD-3 Hydrology Study and Drainage Improvements a. Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit a detailed hydrology study for review and approval by the City Engineer. The study shall demonstrate that the backbone mainline drainage system shall be designed to convey the 100-year design flow. The on-site non-mainline drainage system shall be designed to pick up and convey the 25-year storm flow. b. Prior to issuance of any occupancy permit, all drainage improvements shall be completed in a manner meeting the approval of the City Engineer. HYD-4 Runoff Management Plan a. Prior to approval of any final subdivision map for the La Floresta Village development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Birch Hills Site</p> <p>Alteration of Drainage Patterns in a Manner that Would Exceed Drainage Capacity or Result in Flooding On-Site or Off-Site</p>	<p>Potentially significant.</p>	<p>measures.</p> <p>b. Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.</p> <p>HYD-5 Drainage System Maintenance The City shall maintain the underground mainline storm drain. Prior to recordation of any subdivision map for the La Floresta Village development the applicant shall, in a manner meeting the approval of the City Engineer, form a Community Service Area covering the same area as the Master Homeowners Association for the purpose of maintaining the detention basins and non-mainline storm drain facilities.</p> <p>HYD-6 Hydrology Study and Drainage Improvements a. Prior to any grading permit issuance or final map approval in the Birch Hills development, whichever occurs first, the final hydrology and hydraulic study and the final hydraulic analysis of the Loftus Diversion Channel shall be submitted to the City and County of Orange for review and comment, and the detailed drainage studies shall confirm that the project runoff is adequately accommodated. Drainage systems shall be engineered and designed so that post-development site runoff is conveyed to pre-development surface water conveyance features. Design and engineering must ensure that post-development peak flows from the site will not exceed peak flow currently exiting the site, or otherwise negatively impact the Loftus Channel. The studies shall demonstrate that the project shall be protected from the Q100 High Confidence Storm Event. b. Project plans shall incorporate detention basin(s) and storm drain facilities sufficient to maintain project flows to the channel at or below existing conditions to the satisfaction of</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>the City Engineer, prior to issuance of grading permits for the Birch Hills development.</p> <p>c. Prior to any final map approval for the Birch Hills development, the applicant/owner shall consult with the Orange County Flood Control District (OCFCD) to identify requirements for any facility or property improvements planned for construction within the OCFCD channel easement to ensure that such improvements shall be constructed to the satisfaction of the OCFCD and the City Engineer.</p> <p>d. Prior to issuance of any occupancy permit, all drainage improvements required to serve the completed structures shall be installed in a manner meeting the approval of the City Engineer.</p> <p>HYD-7 Runoff Management Plan</p> <p>a. Prior to approval of any final subdivision map in the Birch Hills development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation measures.</p> <p>b. Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.</p> <p>HYD-8 Drainage System Maintenance</p> <p>The City shall maintain the underground storm drain and detention basin within the golf course. The Developer shall be responsible for maintaining all other on-site drainage infrastructure.</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Significant Risk Due to Failure of a Levee or Dam La Floresta Village Site – Carbon Canyon Dam Inundation</p>	Potentially significant.	<p>HYD-9 Potential Dam Failure Emergency Response Plan Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit an Emergency Response Plan meeting the approval of the Brea Fire Department. The Plan shall provide emergency response protocols and shall also demonstrate compliance with the dam failure inundation buyer notification provisions of state law.</p>	Less than significant.
Cumulative Impacts			
<p>Consistency with Applicable Regulations and Plans Both Sites</p>	Less than significant.	None are required.	Not applicable.
<p>Cumulative Impacts to Water Quality Both Sites</p>	No significant project-specific impacts relative to water quality have been identified. The Project's contribution to cumulative impacts is less than considerable and, therefore, not cumulatively significant.	None are required.	Not applicable.
<p>Cumulative Impacts to Flood Hazards Both Sites</p>	No significant project-specific impacts relative to potential flooding have been identified. The Project's contribution to cumulative impacts is less than considerable and, therefore, not cumulatively significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
La Floresta Village Site – Carbon Canyon Dam Inundation	Less than significant.	None are required.	Not applicable.
5.8 Land Use and Planning			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations			
Both Sites			
City of Brea General Plan-Community Development Element: Land Use Housing Element	Less than significant.	None are required.	Not applicable.
Birch Hills Site	Less than significant.	None are required.	Not applicable.
Birch Hills Specific Plan	Less than significant.	None are required.	Not applicable.
Both Sites			
Zoning	Less than significant.	None are required.	Not applicable.
Cumulative Impacts			
Both Sites			
City of Brea General Plan-Community Development Element: Land Use Housing Element	Less than significant.	None are required.	Not applicable.
Birch Hills Site	Less than significant.	None are required.	Not applicable.
Birch Hills Specific Plan	Less than significant.	None are required.	Not applicable.
Both Sites			
Zoning	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Both Sites Land Use Impacts at Intersections affected by Traffic Mitigation <ul style="list-style-type: none"> ▪ Bastanchury Road/ Placentia Avenue ▪ Imperial Highway/ Kraemer Blvd. 	Less than significant. Less than significant.	None are required. None are required.	Not applicable. Not applicable.
5.9 Noise			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations Both Sites City of Brea General Plan - Public Safety Element	Less than significant	None are required.	Not applicable.
Construction Noise Impacts			
Both Sites	Potentially significant.	N-1 Construction Noise Mitigation In addition to compliance with the limits on construction hours set forth in the Municipal Code, the applicant shall adhere to the following requirements, which shall also be placed as conditions on any grading or building permit: a. All construction staging areas shall be located as far as feasible from existing residences or other noise-sensitive uses. b. All construction equipment shall be fitted with properly operating mufflers.	Less than significant.
Fill Hauling Noise Impacts	Less than significant.	None are required.	Not applicable.
Long-term Project-Generated Noise Impacts on Surrounding Areas	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Long-term Vehicular Noise Impacts on the Project Sites</p> <p>Both Sites</p> <p>Exterior Noise Levels</p>	<p>Potentially significant</p>	<p>N-2 Exterior Noise Mitigation Prior to approval of any final map for property adjacent to a perimeter arterial roadway (except maps for financing purposes only) the applicant shall submit an acoustical analysis demonstrating that noise levels in all outdoor living areas will conform to the City standard of 65 dBA CNEL. If sound attenuation walls are required to satisfy this requirement, the location and design of the walls shall be shown on the map and a note shall be placed on the map stating that an interior acoustical analysis will be required prior to issuance of a building permit for dwellings adjacent to perimeter walls. The analysis shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official.</p>	<p>Less than significant.</p>
<p>Interior Noise Levels</p>	<p>Potentially significant</p>	<p>N-3 Interior Noise Mitigation</p> <p>a. Prior to issuance of a building permit for any residential structure adjacent to a perimeter roadway, the applicant shall submit an acoustical analysis demonstrating that interior noise levels will conform to the standard of 45 dBA CNEL. The analysis shall describe the structural measures necessary to meet the standard and shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official. All required structural noise reduction measures shall be incorporated into building plans and permits in a manner meeting the approval of the Building Official.</p> <p>b. If determined necessary by the Building Official, prior to issuance of a certificate of occupancy for any structure for which an acoustical analysis was required, field testing shall be conducted by a qualified acoustical consultant to confirm that the required level of noise attenuation has</p>	<p>Less than significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>On-site Noise Generation Impacts</p> <p>Both Sites</p>	<p>Potentially significant.</p>	<p>been achieved. If the testing finds that noise levels exceed allowable standards, additional mitigation shall be required prior to issuance of the occupancy certificate, in a manner meeting the approval of the Building Official.</p> <p>N-4 On-Site Noise Mitigation</p> <p>a. Prior to approval of any final tract map, conditional use permit or site plan in La Floresta Village that includes non-residential use, the City shall retain an acoustical consultant at the applicant's expense to review the proposed final map or site plan and identify any potential noise conflicts, and provide recommendations for mitigating those conflicts. The analysis and recommendations shall be reviewed and approved by the Building Official and the City Planner, and shall be adopted as conditions of approval. A note shall be placed on the final map or site plan listing all noise mitigation conditions that will be required, as determined by the Building Official and City Planner.</p> <p>b. Prior to issuance of any building permit for a non-residential structure in La Floresta Village that is adjacent to an existing or planned residential use, the Building Official and the City Planner shall ensure that all feasible noise mitigation measures that were adopted as conditions of approval on the tentative map or site plan have been incorporated into the building plans.</p>	<p>Less than significant</p>
<p>Cumulative Impacts</p>			
<p>Consistency with Applicable Plans and Regulations</p> <p>Both Sites</p> <p>City of Brea General Plan - Public Safety Element</p>	<p>Less than significant.</p>	<p>None are required.</p>	<p>Not applicable.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Construction Noise Impacts Both Sites	Less than significant.	None are required.	Not applicable.
Fill Hauling Noise Impacts	Less than significant.	None are required.	Not applicable.
Long-term Project-Generated Noise Impacts on Surrounding Areas	Less than significant.	None are required.	Not applicable.
Long-term Vehicular Noise Impacts on the Project Sites Both Sites Exterior and Interior Noise Levels			
On-site Noise Generation Impacts Both Sites	Potentially significant.	See Mitigation Measures N-2 and N-3.	Less than significant.
5.10 Population & Housing	Potentially significant.	See Mitigation Measure N-4	Less than significant.
Project Specific Impacts			
Consistency with Applicable Plans and Regulations Both Sites City of Brea General Plan – Community Development Element	Less than significant.	None are required.	Not applicable.
Growth Inducement Both Sites	Less than significant.	None are required.	Not applicable.
Cumulative Impacts Both Sites	Less than significant.	None are required.	Not applicable.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
5.11 Public Services and Utilities			
Project Specific Impacts			
<p>Consistency with Applicable Plans and Regulations</p> <p>Both Sites</p> <p>City of Brea General Plan- Public Safety Element</p> <p>Community Services Element</p> <p>Community Development Element</p>	Potentially significant.	See Mitigation Measures PS –1 through PS-8.	Less than significant.
<p>Fire Protection</p> <p>Both Sites</p>	Potentially significant.	<p>PS-1 Fire Protection</p> <p>Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Fire Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.</p>	Less than significant.
<p>Police Protection</p> <p>Both Sites</p>	Potentially significant.	<p>PS-2 Police Protection</p> <p>Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Police Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.</p>	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>School Services Both Sites Brea Olinda Unified School District</p>	<p>Potentially significant.</p>	<p>PS-3 School Fees Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Brea Olinda Unified School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Development Proposal located within BOUSD boundaries.</p>	<p>Less than significant.</p>
<p>La Floresta Village Site Placentia Yorba Linda Unified School District</p>	<p>Potentially significant.</p>	<p>PS-4 School Fees Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Placentia Yorba Linda School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Village Development located within the PYLUSD boundaries.</p>	<p>Less than significant.</p>
<p>Park Facilities and Recreation Services Both sites</p>	<p>Less than significant.</p>	<p>None are required.</p>	<p>Not applicable.</p>
<p>Library Services Both Sites</p>	<p>Potentially significant.</p>	<p>PS-5 Library Fees Prior to issuance of each Certificate of Occupancy, the applicant shall pay library impact fees to offset its fair-share of the City's cost of providing additional resources to Project residents.</p>	<p>Less than significant.</p>

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Wastewater Treatment La Floresta Village Site</p>	<p>Potentially significant.</p>	<p>PS-6 Sewer Facilities a. Prior to approval of the first final subdivision map for La Floresta Village (except maps for financing purposes only, the applicant shall submit a sewer system improvement phasing plan for the La Floresta Village development project meeting the approval of the City Engineer and the Orange County Sanitation District. b. Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the City Engineer and the Orange County Sanitation District.</p>	<p>Less than significant.</p>
<p>Birch Hills Site</p>	<p>Potentially significant.</p>	<p>PS-7 Sewer Facilities a. Prior to approval of the first final subdivision map for Birch Hills (except maps for financing purposes only, the applicant shall submit a sewer system improvement phasing plan for the Birch Hills development project meeting the approval of the City Engineer and the Orange County Sanitation District. b. Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the City Engineer and the Orange County Sanitation District.</p>	<p>Less than significant.</p>
<p>Water Supply Both Sites</p>	<p>Potentially significant.</p>	<p>PS-8 Water Facilities a. Prior to approval of the first final subdivision map for either the La Floresta Village or Birch Hills site (except maps for financing purposes only) the applicant shall submit a water system improvement phasing plan for the development involved meeting the approval of the City Engineer. b. Prior to issuance of a certificate of occupancy, water system improvements shall be installed in a manner meeting the approval of the City Engineer.</p>	

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Solid Waste Disposal Both Sites	Less than significant.	None are required.	Not applicable.
Cumulative Impacts Both Sites	Less than significant.	None are required.	Not applicable.
5.12 Traffic and Circulation			
Project Specific Impacts			
Consistency with Applicable Plans and Regulations Both Sites City of Brea General Plan - Circulation Element	Less than significant.	None are required.	Not applicable.
Access and On-Site Circulation Both Sites	Less than significant	None are required.	Not applicable.
Parking Both Sites	Less than significant.	None are required.	Not applicable.
Traffic Generation Both Sites Interim Year 2012	Potentially Significant Impact- Kraemer Blvd/Bastanchury Road (Placentia) in the PM Peak Hour.	The La Floresta Development Proposal will be responsible for the payment to the City of Placentia of a fair share of costs of improvements to add a second eastbound left turn lane and a second northbound left-turn lane at the intersection of Placentia Ave./Bastanchury Rd.	Less than significant.

**Table 1-1
Summary of Impacts and Mitigation Measures -
La Floresta Development Proposal**

Statement of Impacts	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impacts Both Sites Year 2025	Potentially Significant Impacts- <ul style="list-style-type: none"> ▪ Associated Road & Lambert Road (Brea)- AM Peak Hour ▪ Valencia Avenue & Birch St/Rose Ave (Brea) – PM Peak Hour. ▪ Kraemer Avenue & Imperial Hwy (Brea) – PM Peak Hour ▪ Placentia Ave & Bastanchury Road (Placentia) – PM Peak Hour ▪ Kraemer Avenue & Bastanchury Road (Placentia) – PM Peak Hour 	For Intersections in the City of Brea, the La Floresta Development Proposal will be responsible for the payment of NEXUS fees to address a fair share of costs for improvements to impacted intersections listed. For intersections in the City of Placentia, the La Floresta Development Proposal will be responsible for the payment to the City of Placentia of a fair share of costs for improvements to impacted intersections listed. Please see Table 1.5-2 - Traffic Mitigation Improvements for specific street improvements determined necessary.	Less than significant.
Carbon Canyon Road Impacts Both Sites	Less than significant	None are required.	Not applicable.

Table 1-2 outlines specific street improvements that have been determined necessary to mitigate Year 2025 cumulative traffic impacts and indicates the project responsibility of the La Floresta Development Proposal.

**Table 1-2
Proposed Traffic Mitigation – Year 2025
(Intersections with Significant Project Impacts) -
La Floresta Development Proposal**

Intersection	With Birch Hills	With La Floresta Village	With Full Project	Project Responsibility
City of Brea				
Associated Road & Lambert Road	None required.	None required.	Add westbound de facto right turn lane.	Nexus Fees
Valencia Avenue & Birch St/Rose Ave	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Nexus Fees
Kraemer Blvd. & Imperial Hwy	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Nexus Fees
City of Placentia				
Placentia Avenue & Bastanchury Road	None required	Add separate northbound right turn lane.	Add separate northbound right turn lane.	Share
Kraemer Blvd. & Bastanchury Road	None required	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Share
Note: A de facto right turn lane is an unstriped right-turn (typically with a width of 19 feet from curb to outside of through lane) that is wide enough to separately serve both through and right-turn traffic. Source: Austin-Foust Associates, November 2006				

1.6 Project Alternatives

Three alternative scenarios to the proposed project have been considered. These include:

1.6.1 Alternative “A” – No Project/No Development

This alternative would leave both sites involved in the proposed project in their current state. No new development and no new environmental impacts would occur. Consideration of this alternative is required by CEQA.

1.6.2 Alternative “B” — No Project/Development According to the General Plan

This alternative assumes build-out under existing land use designations on each site. The La Floresta Village Site is designated Mixed Use II, and the Birch Hills Site is designated under the land use policies of the Birch Hills Specific Plan. This EIR utilizes the same development assumptions considered in the EIR for the General Plan update completed in February 2003 for this Alternative.

1.6.3 Alternative “C” – Reduced Development

This Alternative would change 16 acres (Planning Area 5) of the La Floresta Village Site located at the corner of Valencia Avenue and Imperial Highway from Mixed Use Commercial/Live-Work Residential to Open Space/Park. In addition, the Birch Hills Site would not contain any “workforce” housing and a portion of the proposed high-density housing is assumed to be built as single- family dwellings.

1.7 Issues to be Resolved

No specific unresolved issues that could generate significant impacts are known to remain at this time. Table 1-1 illustrates that all potential project impacts have been found to either be less than significant, and therefore not requiring mitigation, or capable of mitigation to less than significant levels of impact, with the exception significant unavoidable air quality impacts that would occur with any development of similar scale.

1.8 Areas of Controversy

There are no specific areas of known controversy concerning the proposed project at this time. This Draft EIR has taken into consideration the comments received from the public, various agencies and jurisdictions received in response to the Notice of Preparation. The City held a public scoping meeting in December 2005. No adverse written comments were received at the scoping meeting or during the public review period. Written comments received during the NOP and scoping period are contained in Appendix A.

2. Introduction

2.1 Purpose of the Environmental Impact Report

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority prior to taking action on those projects. This Draft EIR has been prepared to satisfy CEQA, as set forth in the *Public Resources Code* §21000, et seq., and the CEQA Guidelines, 14 *California Code of Regulations*, §15000, et seq. The EIR is the public document designed to provide decision makers and the public with an objective analysis of the environmental effects of the proposed Project, to indicate possible ways to reduce or avoid potential environmental impacts and to identify alternatives to the Project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The City of Brea is the Lead Agency under CEQA and has the principal responsibility for approval of the La Floresta Development Proposal. Pursuant to CEQA §21067, the Lead Agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment. The intent of the EIR is to provide sufficient information on the potential environmental impacts of the proposed La Floresta Development Proposal to allow the City of Brea to make an informed decision regarding approval of the Project. Specific discretionary actions to be considered by the City are described later in Section 2.4 - Intended Uses of this EIR.

This EIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended October 6, 2005 (*Public Resources Code* §21000, et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (herein referenced as CEQA Guidelines), as amended October 6, 2005 (*California Code of Regulations* §15000, et seq.) and
- City of Brea Guidelines for the implementation of CEQA.

The overall purpose of this EIR is to inform the lead agency, responsible agencies, decision makers and the general public of the environmental effects of the development and operation of the proposed La Floresta Development Proposal. This EIR addresses the potential environmental effects of the Project, including effects that may be significant and adverse, evaluates a number of alternatives to the Project and identifies mitigation measures to reduce or avoid adverse effects.

2.2 Notice of Preparation and Initial Study

The City of Brea determined that an EIR would be required and issued a Notice of Preparation (NOP) and Initial Study on December 19, 2005. Comments were received during the public review period, which extended from December 19, 2005 to January 18, 2006. Copies of this NOP and Initial Study are contained in Appendix A.

The NOP process is used to help determine the scope of the environmental issues to be addressed in the EIR. Based on this process and the Initial Study for the Project, certain environmental categories were identified as having the potential to result in significant impacts. Issues considered potentially significant are addressed in this EIR. Most issues identified as having a less than significant impact are not addressed beyond the discussion contained in the Initial Study. A few issues have, however, been further investigated during EIR preparation in cases where additional information suggested potentially significant impacts might occur. Issues screened out in the Initial Study are listed below. Please refer to the revised Initial Study in Appendix A for discussion of how these determinations have been made.

2.3 Issues Found to Have “No Impact” or Not to Be Applicable to the Project

- Conflicts with or obstructions of zoning for agricultural use or a Williamson Act Contract;
- Changes in the existing environment which could result in the conversion of farmland to non-agricultural use;
- Substantial adverse effects on a federally protected wetland;
- Substantial interference with the movement of a native resident, migratory fish or wildlife species or migratory corridor;
- Conflicts with any local policies or ordinances protecting biological resources;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site included on a list of hazardous materials sites compiled pursuant to *Government Code* §65962.5 and, as a result, create a significant hazard to the public or the environment;
- Be 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, and as such, result in a safety hazard for people residing or working in the project area;
- Be within the vicinity of a private airstrip, and as such, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are subject to urbanized areas or where residences are intermixed with wildlands;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Physically divide an established community;
- Conflict with any applicable habitat conservation plan or natural community conservation plan;
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels;
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels;

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

2.4 Issues Found to Be Less than Significant

- Have a substantial effect on a scenic vista;
- Create objectionable odors affecting a substantial number of people;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Otherwise substantially degrade water quality;
- Inundation by seiche, tsunami or mudflow;
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks);

2.5 Scope and Format of this EIR

2.5.1 EIR Scope

Based on the results of the Initial Study and consideration of the comments received during the scoping process, a number of environmental issues were found to have Potentially Significant Impacts requiring more detailed review in this EIR. The following is a list of broad categories and specific topical issues addressed in Section 5.0 - Environmental Analysis. In addition, consistency with applicable plans and regulations is addressed under each impact topic.

- Aesthetics
 1. Substantially degrade the existing visual character or quality of the site and its surroundings;
 2. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
 3. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area;
 4. Construction-related aesthetics impacts.
- Agricultural Resources
 1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Air Quality
 1. Conflict with or obstruct implementation of the applicable air quality plan;
 2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
 3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
 4. Expose sensitive receptors to substantial pollutant concentrations.
- Cultural Resources
 1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;

2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5;
 3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
 4. Disturb any human remains, including those interred outside of formal cemeteries.
- Geology and Soils
 1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Strong seismic ground shaking;
 - Ground rupture;
 - Groundwater;
 - Soil erosion; and
 - Seismic-related ground failure, including liquefaction.
 2. 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;
 3. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property;
 - Hazards and Hazardous Materials
 1. Impacts due to previous oil production and industrial uses.
 - Hydrology and Water Quality
 1. 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;
 2. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
 3. 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.
 - Land Use and Planning
 1. 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.
2. Cumulative land use impacts at intersections affected by traffic mitigation measures.
- Noise
 1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
 2. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
 3. Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
 - Population and Housing
 1. 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).
 - Public Services
 1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire protection;
 - Police protection;
 - Schools;
 - Parks and recreation services
 - Library services;
 - Other public facilities
 - Recreation
 1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
 2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
 - Transportation/Traffic

1. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
 2. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
 3. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
 4. Result in inadequate emergency access;
 5. Result in inadequate parking capacity.
- Utilities and Service Systems
 1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
 2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
 3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
 4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
 5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
 6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs;
 7. Comply with federal, state, and local statutes and regulations related to solid waste.

2.5.2 EIR Format

This Draft EIR has been formatted as described below.

Section 1.0 – Executive Summary

This section summarizes the characteristics of the proposed La Floresta Development Proposal, project objectives, and summarizes the potential environmental impacts and mitigation measures for the Project. It also lists significant unavoidable impacts identified in the EIR, project alternatives considered, issues to be resolved, and any areas of known controversy at the time of publication of the Draft EIR.

Section 2.0 – Introduction

This section describes the purpose of the EIR; the Notice of Preparation/Initial Study process; the scope and format of the Draft EIR; the intended uses for this EIR; identifies those documents incorporated by reference; the Final EIR certification process; the mitigation monitoring program to be prepared, and defines terms used throughout the EIR to refer to the La Floresta Development Proposal and its components.

Section 3.0 – Environmental Setting

The purpose of this section is to provide a description of the physical environmental conditions in the vicinity of the Project, as they exist at the time the Notice of Preparation was published, from both local and regional perspectives. The environmental setting provides a general baseline of physical conditions from which the lead agency determines the significance of environmental impacts resulting from the proposed Project. Each impact section of the EIR identifies a more specific baseline setting pertinent to the individual topics as well. This section also provides an overview of the Project history.

Section 4.0 – Project Description

This section provides a detailed description of the project location; the objectives of the Project from both the applicant's and Lead Agency's perspective; and approvals anticipated to be included as part of the Project EIR.

Section 5.0 – Environmental Analysis

This section provides a description of the methodology to identify and evaluate the potential impacts of the Project; a description of the existing physical and regulatory setting for each topical issue; thresholds used to determine if a significant impact would occur; an evaluation of the potential adverse and beneficial effects of the Project; cumulative impacts; the level of impact significance before mitigation; the mitigation measures for the proposed Project; and the level of significance of the adverse impacts of the Project after mitigation for each environmental issue analyzed.

Section 6.0 – Long-Term Implications of the Proposed Project

This section describes the potential growth inducing impacts associated with the proposed Project; provides a summary of potential cumulative impacts; and lists unavoidable and irreversible significant impacts associated with the long-term operation of the proposed Project.

Section 7.0 - Alternatives

This section describes a range of reasonable alternatives to the proposed Project, including No Project Alternatives and a Reduced Development Alternative along with a more general discussion of the environmental impacts associated with each alternative as compared to the proposed Project.

Section 8.0 – Organizations and Individuals Contacted

This section lists the people and organizations who were contacted during the preparation of the Draft EIR for the proposed La Floresta Development Proposal.

Section 9.0 – Report Preparation Personnel

This section lists the people who contributed to the preparation of the Draft EIR for the proposed Project.

Section 10.0 – Bibliography

This section is a bibliography of the technical reports and other documentation used in the preparation of the Draft EIR for the proposed Project. (These documents are available for review through the City of Brea Planning Department.)

Section 11.0 – List of Acronyms and Abbreviations

This section provides a list of commonly used acronyms and abbreviations used in the field of environmental planning and in associated technical disciplines, and which may appear in this EIR.

Appendices

The appendices in this document contain supporting documents and other material too detailed and voluminous to be included in the body of the EIR. The appendices are listed in the Table of Contents to this EIR.

2.6 Intended Uses of This EIR

Development of the site as proposed would involve a number of both discretionary and ministerial approvals by the City of Brea. La Floresta LLC is the project applicant and proponent. This EIR will be used by the City and responsible agencies, in connection with their consideration of the following actions and approvals for the proposed Project.

- Certification of Environmental Impact Report # 06-01 (State Clearinghouse # 2005121093).
- General Plan Amendment: A General Plan Amendment is necessary to amend the current designation on the site from the Birch Hills Specific Plan to the appropriate land use designations.
- Specific Plan Amendment: A Specific Plan Amendment may be necessary to amend the Birch Hills Specific Plan to remove the site from the document.
- Approval of Development Agreement: A Development Agreement is proposed to implement transfer of the Birch Hills Golf Course to the City and to implement design guidelines and development standards on both sites.
- Approval of Zone Changes: New High Density Residential (R3) and Public Facility (PF) zoning designations for the Birch Hills site to reflect the appropriate zoning for the proposed Project.
- Tentative Tract Maps #16933 and #16934: Tentative Tract Maps or parcel maps to be approved concurrent with the Development Agreement and Zone Change actions for both sites.
- Precise Development Plans: Precise Development Plans will require additional discretionary action by either the City Development Services Department or the Planning Commission for each of the 12 Planning Areas in the La Floresta Development Proposal.
- Conditional Use Permit: A Conditional Use Permit is required for the Assisted Living Facility proposed for Planning Area 9 on the La Floresta Village Site.
- Final Tract Maps;
- Grading permits;
- Building permits.

Additional approvals may be required by other agencies for Project implementation include, but may not be limited to:

- Regional Water Quality Control Board-Santa Ana Region - National Pollutant Discharge Elimination System (NPDES) Permits, Stormwater Pollution Prevention Plan (SWPPP) and Monitoring Program Plan (MPP), both sites.
- Brea-Olinda Unified School District – Potential annexation of a portion of the La Floresta Village site.

- Placentia-Yorba Linda Unified School District – Potential de-annexation of a portion of the La Floresta Village site.
- Caltrans / District 12 – Improvements on Imperial Highway and Valencia Avenue (La Floresta Village site).
- California Division of Oil, Gas and Geothermal Resources (DOGGR); La Floresta Village site - oil well abandonment.
- Army Corp. of Engineers – Connection to storm drain channel at Imperial Highway (La Floresta Village site).
- Orange County Flood Control District – Connection to storm drain channel at Imperial Highway (La Floresta Village site), and to the Loftus Channel (Birch Hills site).
- Orange County Sanitation District – Connection to Rose Drive trunk sewer (La Floresta Village site).
- Metropolitan Water District – Grading within an MWD easement (La Floresta Village site).
- Southern California Edison – approval of utility connections and proposed undergrounding of an existing 66KV overhead transmission line on the La Floresta Village site.
- Southern California Gas – approval of utility connections.

This EIR is intended to allow the decision-makers and the public to understand what, if any, significant environmental impacts would be associated with the proposed Project. This EIR may also serve as the environmental documentation for approvals by other responsible agencies noted above.

2.7 Incorporation by Reference

The following documents are incorporated by reference in this EIR, consistent with Section 15150 of the State CEQA Guidelines, and are available for review at the City of Brea. Where appropriate, these plans are also discussed in the relevant sections of this EIR.

City of Brea General Plan (August 2003)

- Community Development Element
- Circulation Element
- Housing Element
- Community Resources Element

- Public Safety Element
- Community Services Element
- Implementation Guide
- Urban Design Principles
- EIR for the Update of the City of Brea General Plan (February 2003)
- Birch Hills Specific Plan (September 19,1995)
- EIR for the Birch Hills Specific Plan, (September 19,1995)

2.8 Final EIR Certification

This Draft EIR is being circulated for public review for a period of 45 days. Interested agencies and members of the public are invited to provide written comments on the accuracy of the analysis contained in the Draft EIR to the City at the address shown on the title page. Upon completion of the 45-day review period, the City of Brea will review all written comments received and prepare written responses for each comment on the EIR. A Final EIR will then be prepared incorporating all of the comments received, responses to the comments, and any changes to the Draft EIR that result from the comments received. This Final EIR will then be presented to the City of Brea for certification. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearings to be held by the Planning Commission and City Council.

2.9 Mitigation Monitoring

Public Resources Code Section 21081.6 requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to *Public Resources Code* §21081 or adopted a Negative Declaration pursuant to §21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Mitigated Negative Declaration.

The Mitigation Monitoring Program for the La Floresta Development Proposal will be completed as part of the Final EIR prior to a final decision on the Project by the City Council.

2.10 Important Terms

Throughout this EIR a variety of terms are used to refer to the La Floresta Development Proposal and its components, as well as the project applicant. These key terms are defined below:

1. "La Floresta Development Proposal": the development of the Birch Hills Site and the La Floresta Village Site as illustrated and described in Section 4.0 – Project Description."
2. "Project": The development of the Birch Hills Site and The La Floresta Village Site as illustrated and described in Section 4.0 – Project Description"
3. "Birch Hills Site": The approximately 91-acre site located on the south side of Birch Street at the intersection of Kraemer Boulevard in the City of Brea, currently known as the Birch Hills Golf Course.
4. "La Floresta Village Site": The approximately 119-acre site bounded by Imperial Highway, Valencia Avenue, and Rose Drive in the City of Brea, formerly the headquarters of Union Oil of California.
5. "Birch Hills Development": the reconfiguration of the Birch Hills Golf Course and the development of a public community facility (including a clubhouse) and 247 high density residential dwellings, including a portion devoted to "workforce" housing.
6. "La Floresta Village Development": the development of 1,088 residential units, 156,800 square feet of mixed use commercial space and 3.27 acres devoted to an active adult recreation center for residents of the La Floresta Village Development.
7. "La Floresta, LLC": Also referred to as the Project Proponent or the Project Applicant throughout the EIR. The limited liability corporation (LLC) composed of Union Oil of California and Standard Pacific Development of Orange County to develop the La Floresta Village Development.
8. "Birch/Kraemer LLC": A limited liability corporation of the Chevron Land and Development Company created to develop the Birch Hills Development.

3. Environmental Setting

3.1 Introduction

The purpose of this section is to provide, pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines, 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, from both a local and a regional perspective.” The environmental setting will provide a general description of baseline physical conditions that will serve as a tool from which the lead agency will determine the significance of environmental impacts resulting from the proposed Project. Each topical section of the impact analysis also provides further, in depth description of existing conditions pertinent to specific issues.

3.2 Regional Environmental Setting

The Project sites lie in eastern Orange County in the City of Brea (Exhibit 3.2-1 – Regional Location). Orange County is bordered by the Pacific Ocean to the west, Los Angeles County to the north and northwest, San Bernardino County to the northeast, Riverside County to the east, and San Diego County to the southeast. Orange County is comprised of approximately 798 square miles, while stretching approximately 40 miles along the coast and extending inland approximately 20 miles.

The natural setting of Orange County provides a combination of mountains, hills, flatlands, and shorelines. Orange County lies predominantly on an alluvial plain, which is generally less than 300 feet in elevation in the west and central section. The western portion of the County is made up of a series of broad sloping plains (Downey and Tustin Plains) formed from alluvium transported from the mountains by the Santa Ana River, Santiago Creek, and other local streams. Several low-lying mesas interrupt the plain along the northern coast. Orange County is semi-enclosed by the Puente and Chino Hills to the north, the San Joaquin Hills to the south, and the Santiago Foothills and the Santa Ana Mountains to the east. The Puente and Chino Hills, which identify the northern limit of the plain, extend for 22 miles and reach a peak height of 1,780 feet. To the east and southeast of the plain are the Santa Ana Mountains, which have a peak height of 5,691 feet.

The climate of Orange County is typified by warm temperatures and light winds. The average monthly temperatures range from about 52 degrees Fahrenheit in the coastal areas in January, to 72 degrees Fahrenheit in the inland areas of the coastal plain in August. The average annual rainfall across the County is 14 inches, typically occurring in

the winter months. The County's rainfall also exhibits characteristically wide variations annually, from a low 3.6 inches in 1961 to a high over 35 inches in 2004.

According to the State Department of Finance (DOF), in January 2006 Orange County had a total population of over 3 million residents and was comprised of 33 cities. An expanded description of the socioeconomic setting is provided in Section 5.10 of this EIR.

Orange County incorporates about 798 square miles and is comprised of approximately 50% residential, 9% commercial, 6% industrial, and 35% open space. The County has 42 miles of beaches, over 125 miles of bikeways and over 200 miles of riding and hiking trails. Regional attractions include Disneyland, Knott's Berry Farm, Wild Rivers, Honda Center of Anaheim, Angel Stadium, and the Orange County Performing Arts Center.

3.3 Local Environmental Setting

The proposed Project sites are located in the City of Brea, in eastern Orange County, approximately 30 miles southeast of Downtown Los Angeles (Exhibit 3.2-1 – Regional Location). The La Floresta Village Site is located in the low foothills on the western edge of the Santa Ana Mountains, in proximity to the Carbon Canyon Dam and the Santa Ana River. The Birch Hills Site is located within the central developed portion of the City of Brea. John Wayne Airport is approximately 20 miles to the south of the project area and the Pacific Ocean is approximately 20 miles to the southwest. Riverside and San Bernardino Counties lie approximately 15 miles east of the project area, as illustrated in Exhibit 3-3.1 – Local Vicinity Map.

The City of Brea's land area is approximately 11.0 square miles with a "sphere of influence" of 9.25 square miles. Brea is bounded by the City of Yorba Linda and the Chino Hills State Park in an easterly direction, the unincorporated Chino Hills area to the north, the City of Placentia to the south, and the Cities of Fullerton and La Habra toward the west. The Orange Freeway (SR-57) and the Imperial Highway (SR-90) transect the City. These major roadways and freeways link the city to other Southern California cities in Los Angeles and Orange Counties.

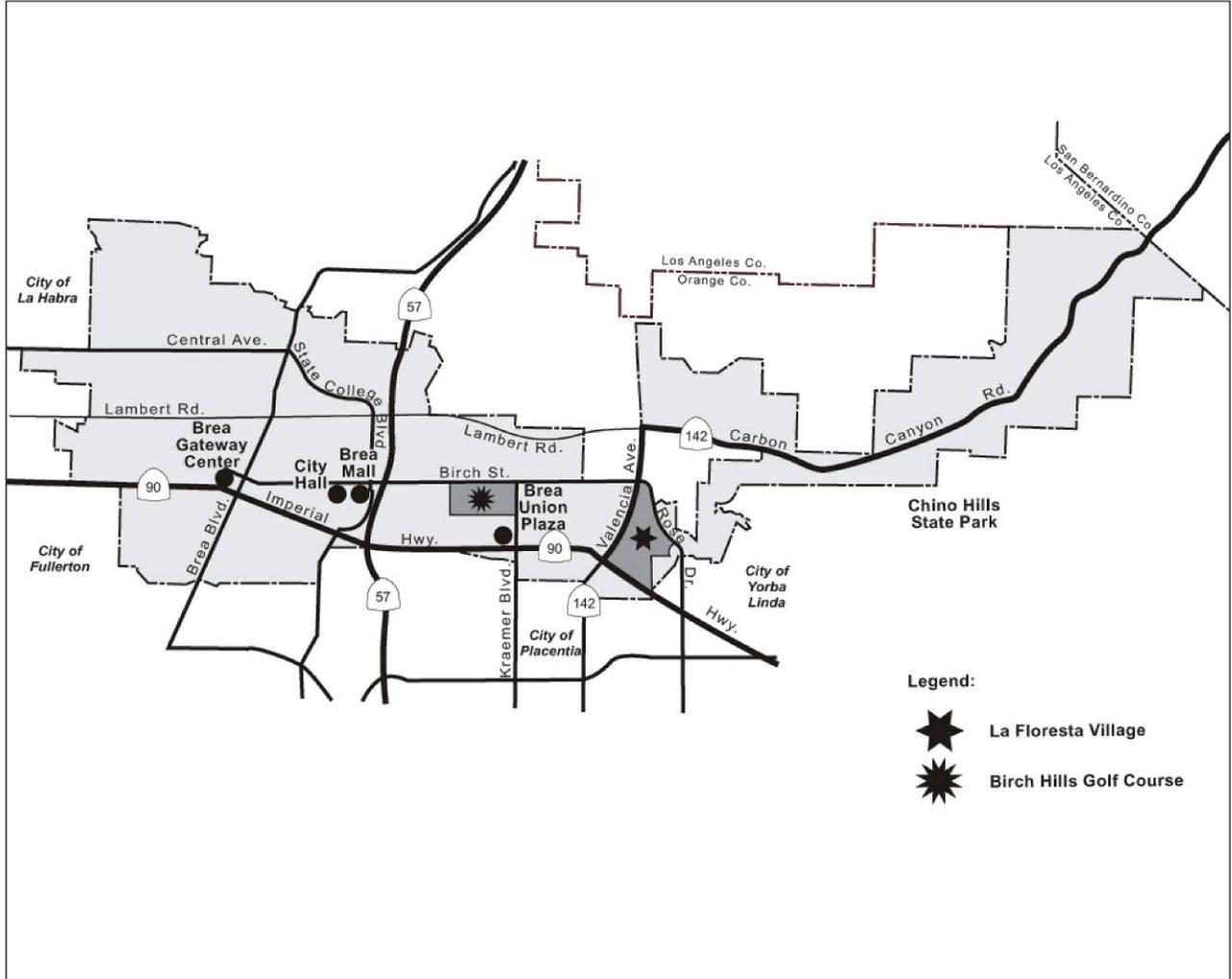
Regional Location



Source: EDAW, December 2005

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Local Vicinity Map



Source: EDAW, December 2005

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3.4 Project Setting

3.4.1 La Floresta Village Site

The proposed La Floresta Village site is approximately 119 acres in size and is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the east, and is the former location of the UNOCAL Hartley Research Center, as illustrated in Exhibit 3.4-1 – La Floresta Village: Existing On-site and Surrounding Land Uses. The structures and improvements on the La Floresta site were removed under a ministerial permit issued by the City of Brea in March 2005. Demolition was completed in April 2006.

The northern portion of the La Floresta site has been undeveloped and is characterized by rolling topography. As illustrated in Exhibit 3.4-2 – La Floresta Village: Existing On-Site Planning Considerations, the site contains two easements of the Metropolitan Water District (40 feet and 50 feet in size) as well as the Southern California Gas Company (16.5 feet and 10 feet in size) and Southern California Edison easements (15 feet and 25 feet in size). Three regional trail connections are located on the site, two on Valencia Avenue, and one on Rose Drive. The southern portion of the La Floresta site has been previously developed as noted, and has relatively flat topography. A 21-acre strawberry field also remains on the eastern portion of the La Floresta site, and is considered an interim use.

Single-family residential areas, agricultural and industrial uses adjoin the La Floresta site to the south, north, and east. Commercial and office uses are located along the westerly boundary across Valencia Avenue. The La Floresta Village site is situated approximately 1 mile downstream of the Carbon Canyon Dam and the Carbon Canyon Regional Park, which links to the Chino Hills State Park. The Brea–Olinda Landfill is located approximately 1.8 miles to the north of the site. A 40-acre site planned for a new K-6 elementary school and active sports park is located immediately to the northwest of the La Floresta site at the intersection of Valencia Avenue and Birch Street.

3.4.2 Birch Hills Site

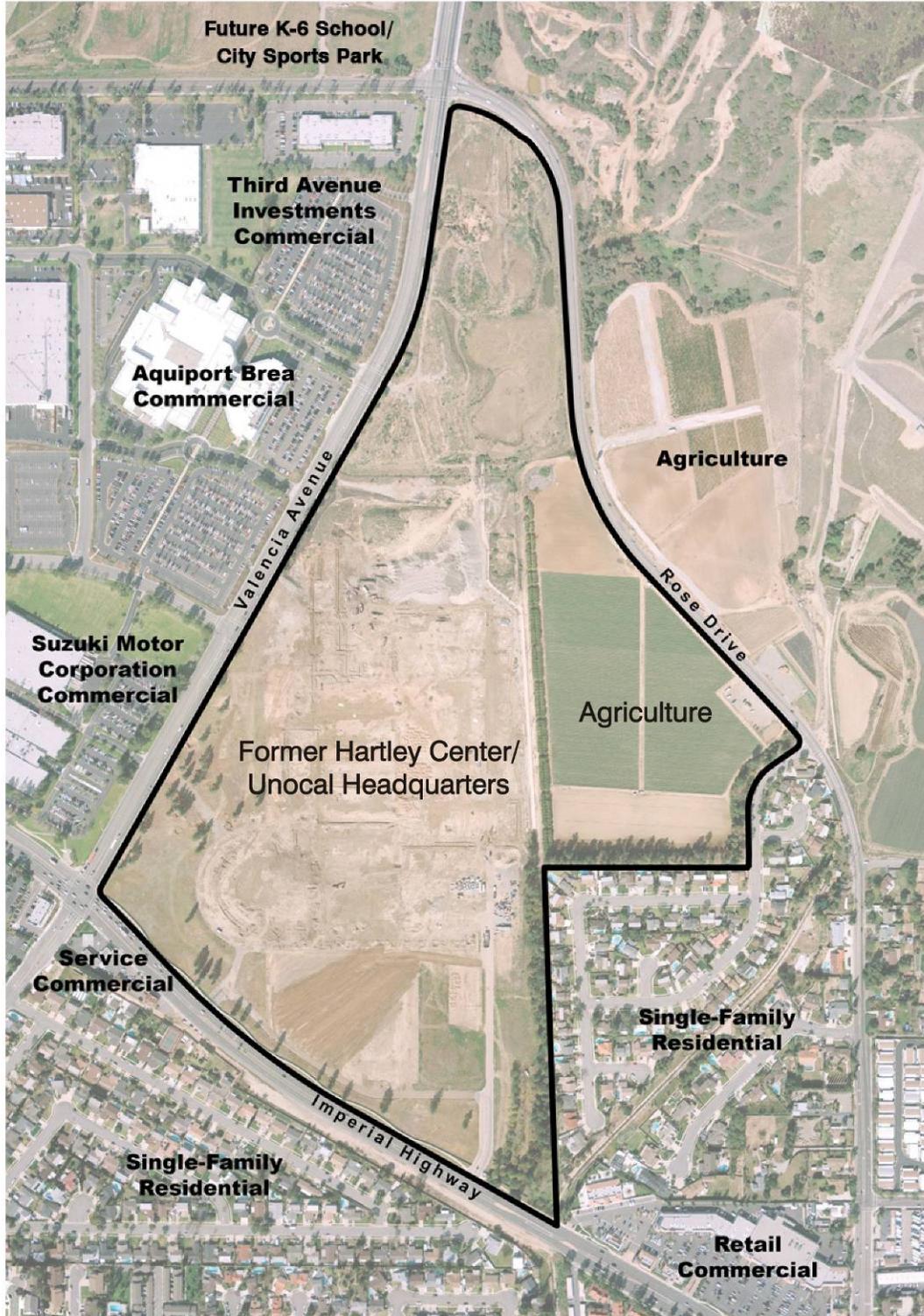
The Birch Hills site is approximately 91.3 acres in size and is located on Birch Street at the intersection of Kraemer Boulevard. It is presently occupied by the Birch Hills Golf Course, owned by the Birch/Kraemer LLC, which contains 18 holes on rolling topography and is leased to the Imperial Golf Course. Single-family and multi-family residential neighborhoods abut the Birch Hills site to the west and north, as illustrated on Exhibit 3.4-3 – Birch Hills: Existing On-Site and Surrounding Land Uses. A 40.0-acre retail commercial center (Brea Union Plaza) abuts the Birch Hills site to the south, and light industrial uses are located east of the site.

The southern portion of the Birch Hills Golf Course was a part of the former Collier Chemical Plant site, which operated for 37 years between 1954 and 1991. The Loftus Flood Control Channel (110 feet in width), owned and operated by the Orange County Flood Control District traverses the site in a west to east direction. Two Southern California Gas Company easements (15 to 16.5 feet, and 25 feet in width) are also located on the Birch Hills site. A 50-foot wide recreational trail and pipeline easement runs along the west

3. Environmental Setting

site boundary. Two regional trail connections are located on-site, at the northwest corner of the site on Birch Street and at the southeast corner on Kraemer Boulevard as shown on Exhibit 3.4-4 – Birch Hills: Existing On-Site Planning Considerations.

La Floresta Village: Existing On-site and Surrounding Land Uses



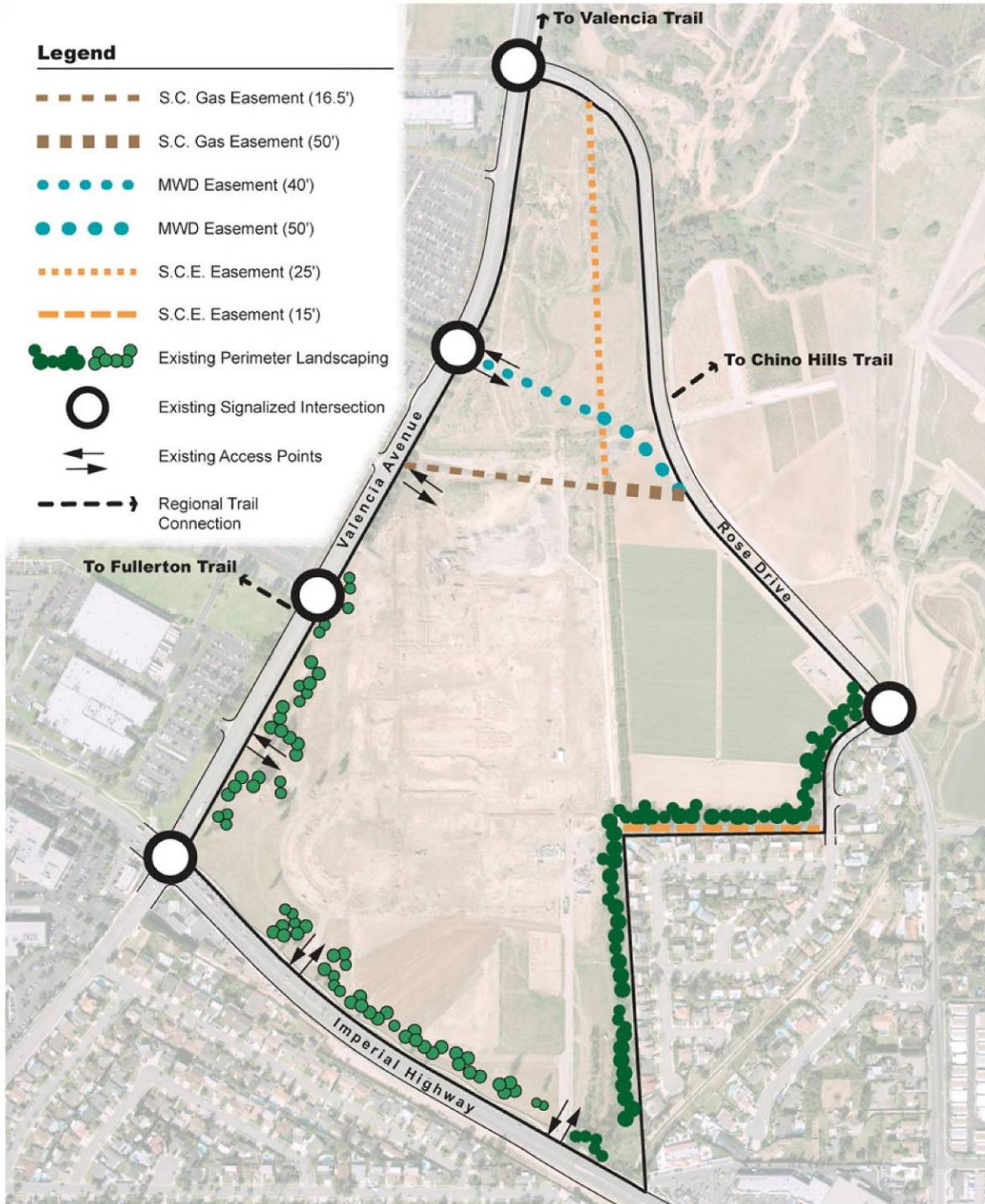
Source: EDAW, February 2006

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Exhibit 3.4-1



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La Floresta Village: On-site Planning Considerations



Source: EDAW, October 2006

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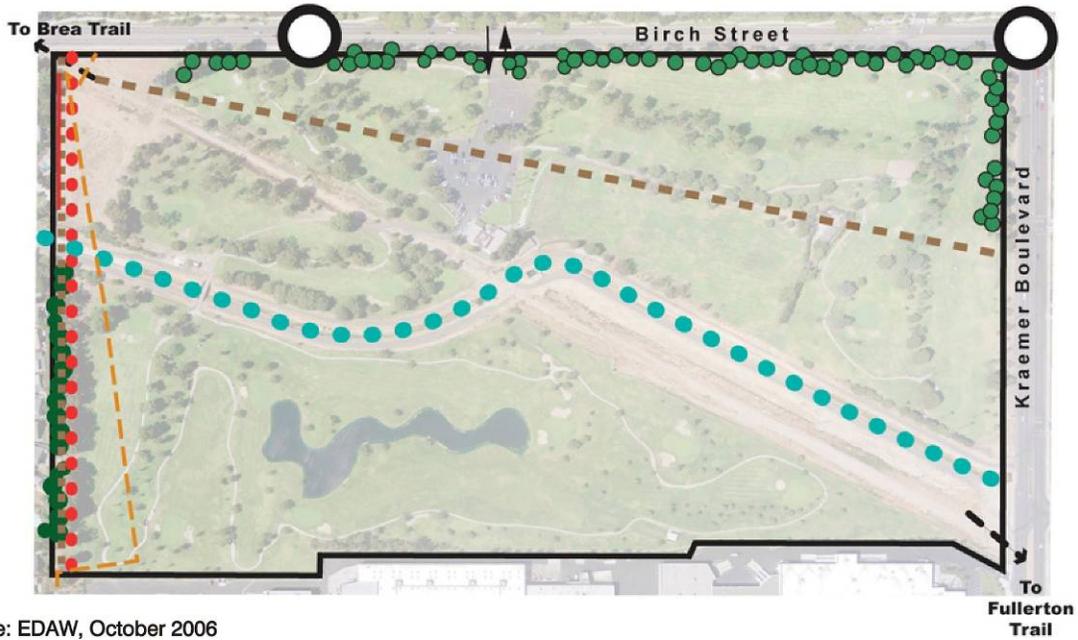
Birch Hills: Existing On-site and Surrounding Land Uses



Source: EDAW, October 2006

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Birch Hills: On-site Planning Considerations



Source: EDAW, October 2006

Legend

- S.C. Gas Easement (5'-16.5')
- Recreational Trail & Pipeline Easement (50')
- OC Flood Control District - Loftus Channel (110')
- S.C. Gas Easement (25')
- ConocoPhillips 6" Pipeline
- Black Sands Energy 6" Pipeline
- Existing Perimeter Landscaping
- Existing Signalized Intersection
- Existing Access Points
- Regional Trail Connection

Not to Scale
 Exhibit 3.4-4



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3.5 Project History

3.5.1 La Floresta Village Site

The site is currently owned by the La Floresta LLC, a partnership between Standard Pacific of Orange County and the Union Oil Company of California. The La Floresta Village site has historically been used as Unocal's Fred L. Hartley Research Center, which was constructed during the 1950s. Prior to the research center's construction, the land was primarily undeveloped. Subsequent actions on the site include approval of a cogeneration facility in 1999 to produce electricity for on-site use. Later, Unocal intended to redevelop the Hartley Center site under a Specific Plan they developed for the property; however, on March 14, 2005 Unocal officially withdrew this application. Subsequent to this action, Unocal authorized a demolition contractor to submit the required application to obtain a City of Brea permit to demolish all structures located on the Hartley Center site, including the Hartley building, auditorium, cafeteria, and other ancillary structures on site. A Demolition Permit was approved by the City in March 2005, and demolition activities were completed in April 2006.

On August 18, 2005, La Floresta LLC completed a formal application for the La Floresta Development. In October 2005, the City retained an environmental consultant (CONEXUS) to prepare the environmental clearance documents in compliance with the California Environmental Quality Act for the Project. An Initial Study/Notice of Preparation (NOP) was distributed on December 19, 2005, which started the mandatory 30-day NOP public review period, ending January 19, 2006. The City of Brea held a public scoping meeting for the EIR on December 19, 2006. The applicant's representatives have also held numerous community meetings about the Project over the last year.

3.5.2 Birch Hills Site

The site is currently owned by the Birch/Kraemer LLC and is occupied by the Birch Hills Golf Course. The Birch Hills site has historically been undeveloped land except for a portion which was used as the former Collier Chemical Corporation plant. Collier Chemical plant was constructed in the early 1950s and was operated until December 1991. At the time of the plant's construction, adjacent properties were primarily undeveloped land.

Although no oil production was conducted on this site, it is located between two major oil fields (Brea Olinda and East Coyote). Historical maps indicate that several oil company pipelines once crossed the Birch Hills site. Two pipelines remain on-site, but are not located in areas planned for development. On April 13, 1993, Unocal submitted an application for the Birch Hills Specific Plan. The Birch Hills site was approved for low density residential (363 dwelling units) and a 7.5-acre park. To date, the final phase of the previously approved Birch Hills Specific Plan has not been constructed. On August 18, 2005, the Birch/Kraemer LLC submitted a formal application for the La Floresta Development Proposal. The applicant's representatives have held numerous community meetings prior to submittal of the Project.

3. Environmental Setting

In October 2005, the City retained an environmental consultant (CONEXUS) to prepare the environmental clearance documents in compliance with the California Environmental Quality Act for the Project. An Initial Study/Notice of Preparation (NOP) was distributed on December 19, 2005, which started the mandatory 30-day NOP public review period, ending January 19, 2006. The City of Brea also held a public scoping meeting for the EIR on December 19, 2005.

4. Project Description

4.1 Project Location

The Project under consideration involves two separate sites located in the central portion of the City of Brea, as illustrated in Exhibit 3.2-1 – Regional Location (page 3-3) and Exhibit 3.3-1: –Local Vicinity Map (page 3-5). The City, located approximately 20 miles northwest of John Wayne Airport, occupies 11 square miles of land, surrounded by gentle, rolling hills. The Orange Freeway (State Route 57), which traverses the City in a north-south direction, provides the primary regional access.

4.1.1 La Floresta Village Site

The proposed La Floresta Village site is approximately 119 acres in size and is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the east, and is the former location of the UNOCAL Hartley Research Center, as illustrated in Exhibit 3.4-2 – La Floresta Village: Existing On-Site Planning Considerations (page 3-11). The structures and improvements on the La Floresta Village site were removed under a ministerial permit issued by the City of Brea in March 2005.

4.1.2 Birch Hills Site

The Birch Hills site is approximately 91.3 acres in size and is located on Birch Street southwest of its intersection with Kraemer Boulevard. It is currently occupied by the Birch Hills, which contains 18 holes on rolling topography and is owned by the Birch Kraemer LLC, which is leased to Imperial Golf Course. Single-family and multi-family residential neighborhoods abut the Birch Hills site to the west and north, as illustrated on Exhibit 3.4-3 – Birch Hills: Existing On-Site and Surrounding Land Uses (page 3-13). A 40.0-acre retail commercial center (Brea Union Plaza) abuts the Birch Hills site to the south, and light industrial uses are located across Kraemer Boulevard to the east.

4.2 Project Characteristics

4.2.1 Project Objectives

Objectives of the Project Applicant

The following objectives have been proposed by the project developer, La Floresta LLC, as presented in the "Project Overview" booklet:

- To build a community where residents can live, work, shop, play and relax within an intimate, "small town" setting that is rich in architectural and landscape forms reflective of Brea's heritage and to provide a community-wide amenity for all residents of the City to enjoy.
- To provide further housing opportunities in the central portion of the City near employment and retail centers.
- To redevelop the former Unocal Research and Development site and transform it into an aesthetically pleasing multi-generational living, working, and shopping environment.
- To intensify the Birch Hills site by introducing multi-unit residential uses and a community center to create a unique recreational and living environment.
- To create a community that embraces aspects of good urban design, including considerations for functionality, social needs, economic viability, respect for the environment, and aesthetic qualities.
- To provide for a range of housing opportunities responsive to local needs, including the increasing demand for high-quality, active adult and senior residential products.
- To provide a planning framework that responds to the physical and market-driven aspects of future development opportunities.
- To implement a cohesive landscape and architectural design program unique to each site.
- To establish a sensitive pedestrian and bikeway system that provides public access to regional and community trail connections, together with other on-site recreational amenities.
- To establish a compatible interface and harmonious relationships with surrounding uses through sound planning principles and attention to sensitive design choices.

Objectives of the City of Brea

The primary objective of the City of Brea is implementation of a development project that is not only consistent with all policies, plans and regulations but that also benefits the community at large and enhances the quality of life by providing well planned and

designed housing that meets the needs of broad segments of the community along with convenient and appropriate support commercial uses and recreational amenities, while minimizing impacts to the physical environment.

Relevant policies and objectives pertinent to the proposed Project have been extracted from the various Elements of the General Plan, the recently approved Mixed Use II Zone (MU-II), and the Birch Hills Specific Plan. These are highlighted in each corresponding topical section of Section 5 – Environmental Analysis.

4.2.2 Description of the Project

La Floresta Village Site

The La Floresta Village site is approximately 119 acres in size and is proposed to be developed in a range of residential product types varying from 5.0 to 8.5 net dwelling units per acre to 28.5 net dwelling units per acre with a “Village Core” incorporating both residential and non-residential components, as shown in Table 4.2-1. For planning purposes, the site has been broken down into a series of 11 Planning Areas, as illustrated in Exhibit 4.2-1 – La Floresta Village: Planning Area Key Map. Planning Area 5 (PA-5), located at the corner of Valencia Avenue and Imperial Highway is devoted to primarily to non-residential uses. One hundred fifty residential are, however, incorporated in this mixed use area. The remainder of the La Floresta Village plan is devoted to residential uses in attached and detached configurations.

**Table 4.2-1
Statistical Overview of Proposed Development –
La Floresta Village**

Planning Area	Land Use	Acreage (acres)	Proposed Net Density (du/ac)	Total Dwelling Units (du)	Maximum Floor Area Ratio	Total Square Footage (Building)
1	Residential - Medium Density	6.8	14.5	99		--
2	Residential - Low Density	13.0	5.0	65	--	--
3	Residential - Medium Density	12.1	8.5	107	--	--
4a	Residential - Medium Density	4.3	13.0	56	--	--
4b	Residential - Medium Density	2.7	13.0	35	--	--
5	Village Core	16.0	--		2.0	386,800
	Residential	--	--	150	--	(230,000)
	Non-Residential	--	--	--	2.0	(156,800)
6	Residential - Low Density	4.6	5.0	23	--	--
7	Residential - Medium Density	10.0	15.0	150	--	--
8	Residential - Low Density	16.2	6.0	98	--	--
9	Residential- High Density	7.0	28.5	200	--	--
10	Residential- Low Density	21.0	5.0	105	--	--
11	Open Space/Private Recreation	3.27	--	--	--	--
La Floresta Village Total		119.0	--	1,088	--	--

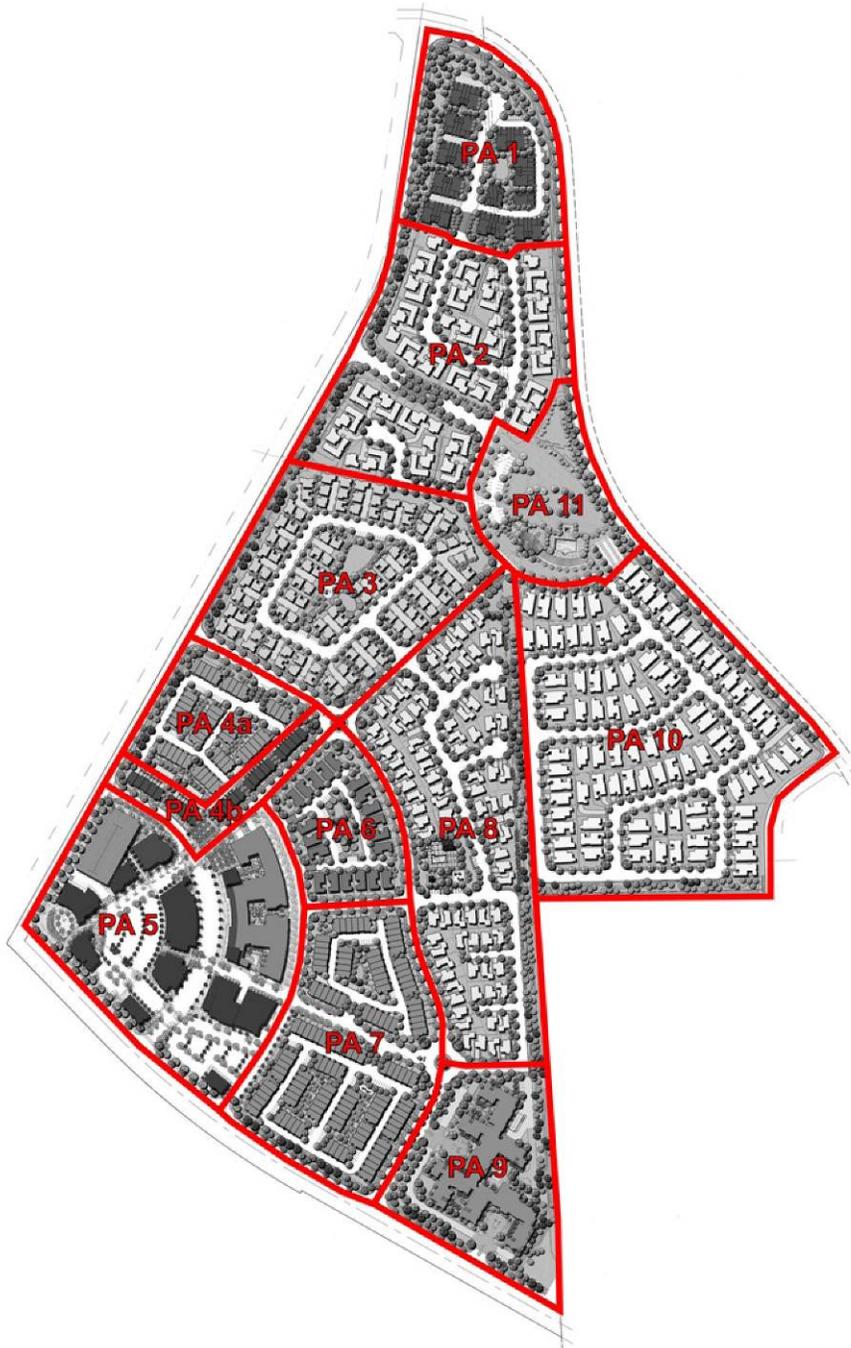
Source: EDAW and RHA, March 6, 2006

Exhibit 4.2-2 – La Floresta Village: Illustrative Site Plan, shows that a range of dwelling types are proposed, including “Active Adult Condos and Single-family Dwellings,” “Cluster Single-family Dwellings,” “Townhomes,” “Live-work Townhomes and Single-family Dwellings”, “Zero Lot Line Single-family Dwellings,” and “Senior Living Units.” A 3.27-acre “active adult” recreation center is also planned. Areas planned for these uses, and more detailed information by Planning Area, are illustrated on Exhibit 4.2-2. It should be noted that plans and figures shown are conceptual in nature and are provided for illustrative purposes only. Final Plans may vary somewhat and will be submitted by the project proponents as part of the Precise Development Plan process. They may also be altered during the public review process. More detailed information on the proposed Project is available at the City of Brea Development Services Department.

Exhibit 4.2-3 – La Floresta Village: Planning Area 5 – Conceptual Site Plan, illustrates the planned mixed-use “Village Core,” where a total of approximately 111,300 square feet of retail commercial uses, including food and beverage, grocery, and specialty retail establishments; 45,500 square feet of office uses; and 150 residential dwelling units (10 “live/work” units and 140 condos) are planned. A variety of contemporary and traditional architectural styles are proposed throughout the La Floresta Village development project for residential areas, as illustrated in Exhibit 4.2-4a through Exhibit 4.2-4d; Exhibit 4.2-4i through Exhibit 4.2-4k, Exhibit 4.2-4m, and Exhibit 4.2-4n – Residential Building Elevations. Exhibit 4.2-4e and Exhibit 4.2-4f – Retail Building Elevations, show the architectural style anticipated in the “Village Core” (PA-5). Exhibit 4.2-4g and Exhibit 4.2-4h conceptually illustrate the general character of the anticipated streetscape along roadways within Planning Area 5 as well. A prominent public art feature is also planned within PA-5. The nature of this feature, however, has not been determined at this point in time.

The La Floresta Village plan also incorporates a 3.27-acre “Active Adult Recreation Center” to be located in Planning Area 11. A second smaller Recreation Center is also to be located within Planning Area 8 that would serve PA 1 through 8 and 10. There may also be private recreation facilities included in PA5 and PA 9 for residents of those areas. The proposed architectural treatments for planned community and recreation facilities are illustrated in Exhibit 4.2-4k and Exhibit 4.2-4n.

La Floresta Village: Planning Area Key Map



Source: EDAW, October 2006

▲ Not to Scale
Exhibit 4.2-1



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La Floresta Village: Illustrative Site Plan



Note: This Illustrative Site Plan is provided for Illustrative Purposes only. Precise building and/or lot layouts are subject to change. Final plans will be submitted as part of the Precise Development Plan Process.

Source: ima+design, robinson hill architecture inc., Village Partners Inc., wpi, Thomas P. Cox: Architects Inc., Sunrise Senior Living, hpi, Hunsaker & Associates, Land Concern, and EDAW, October 6, 2006

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La Floresta Village: Planning Area 5 - Conceptual Site Plan



Building Pad	Area (Sq.ft.)
Restaurant "A"	9,500 s.f.
Mezzanine "B"	4,000 s.f.
Restaurant "B"	6,000 s.f.
Mezzanine "C"	2,000 s.f.
Bank "D"	5,000 s.f.
Drug Store "E"	4,000 s.f.
Grocery "F"	14,000 s.f.
Coffee Shop "G"	12,000 s.f.
Retail/Food "H"	1,800 s.f.
Restaurant "I"	35,358 s.f.
Office "J"	4,500 s.f.
Live/Work "K"	30,000 s.f.
Restaurant "K"	26,000 s.f.
Restaurant "L"	4,000 s.f.
Total:	200,000 s.f.

Residential Building	462 Stalls
Parallel Parking on "E" Street	20 Stalls
Angled Parking on "A" Street	90 Stalls
Buildings "D", "E", "F", "G"	140 Stalls
Buildings "A", "B", "C", "H"	178 Stalls
Parking Garage	263 Stalls

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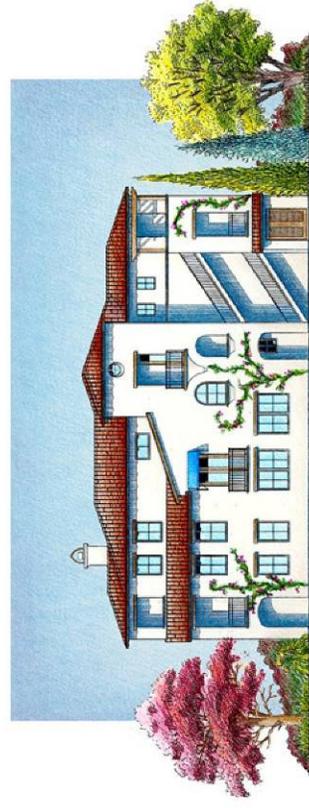
La Floresta Village: Conceptual Building Elevations,
Planning Area 1 - Active Adult Condos



Front Elevation



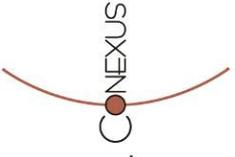
Rear Elevation



Side Elevation

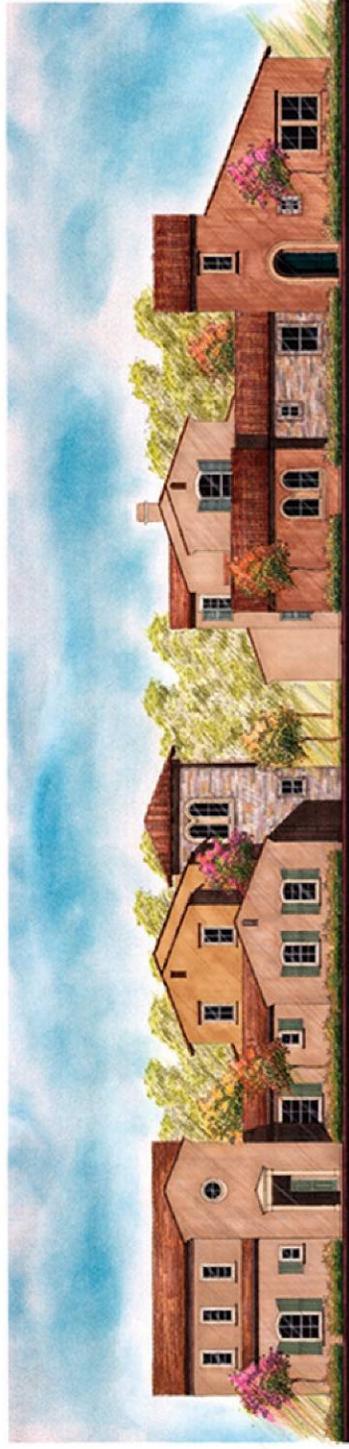
Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
Source: JZMK Partners and EDAAW, August 2006

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Exhibit 4.2-4a



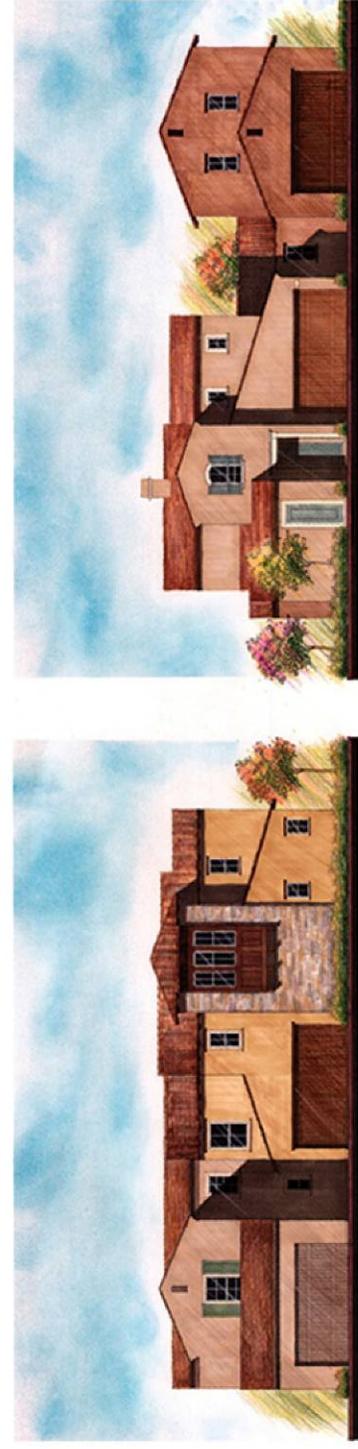
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**La Floresta Village: Conceptual Building Elevations,
 Planning Area 2 - Active Adult Single Family Dwellings**



Plan 3 French Plan 4 Beyond Tuscan Plan 1 Beyond French

Front Elevations



Plan 3 French Plan 4 Tuscan Plan 2 Tuscan

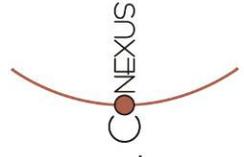
Motorcourt Elevations



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

Source: Bassettian Lagoni and EDAAW, August 2006

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 Exhibit 4.2-4b



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La Floresta Village: Conceptual Building Elevations, Planning Area 3 - Cluster Single Family Dwellings

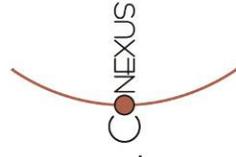


Front Elevations

Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

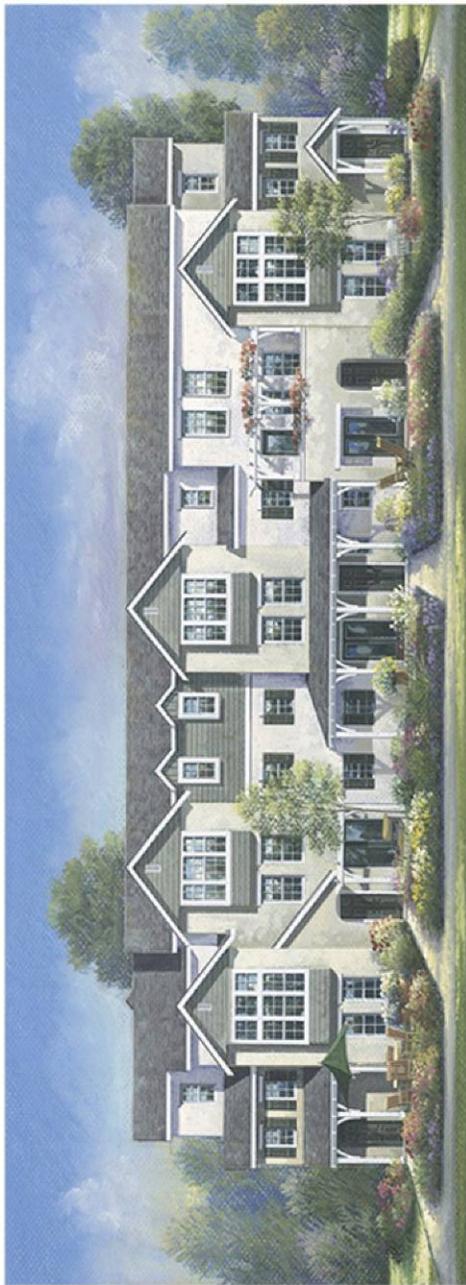
Source: Robert Hidey Architects and EDAW, August 2006

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Exhibit 4.2-4c



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La Floresta Village: Conceptual Building Elevations,
Planning Areas 4a, 4b and 7 - Townhomes



Live/Work Townhomes Elevation



Townhomes Front Elevation



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

Source: Bassettian Lagoni and EDAAW, August 2006

▲ Not to Scale
Exhibit 4.2-4d

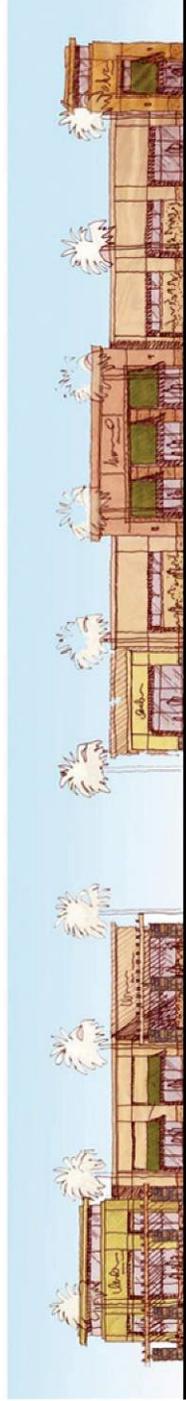


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La Floresta Village: Retail and Office Buildings, Conceptual South and West Elevations, Planning Area 5

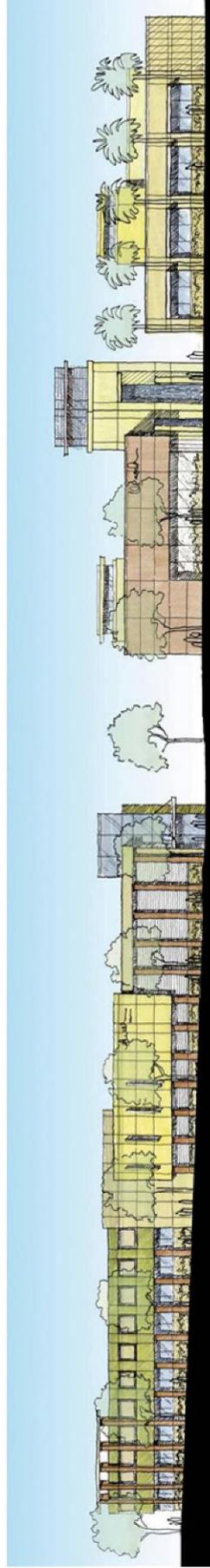


Planning Area 5



B Grocery Retail - South Elevation

B Grocery Retail - South Elevation



A Office - West Elevation

A Restaurant - West Elevation

Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
Source: robinson hill architecture inc., Village Partners Inc., wpi, and Thomas P Cox: Architects Inc.

▲ Not to Scale
Exhibit 4.2-4e

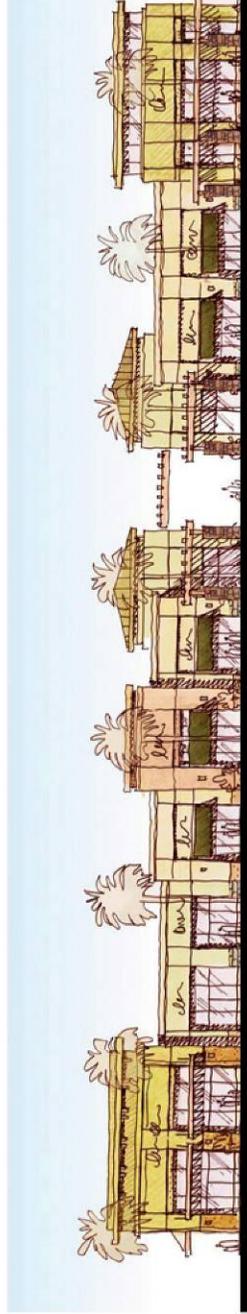


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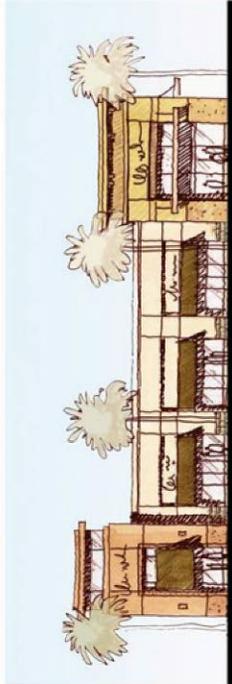
La Floresta Village: Retail Buildings, Conceptual South, East & West Elevations, Planning Area 5



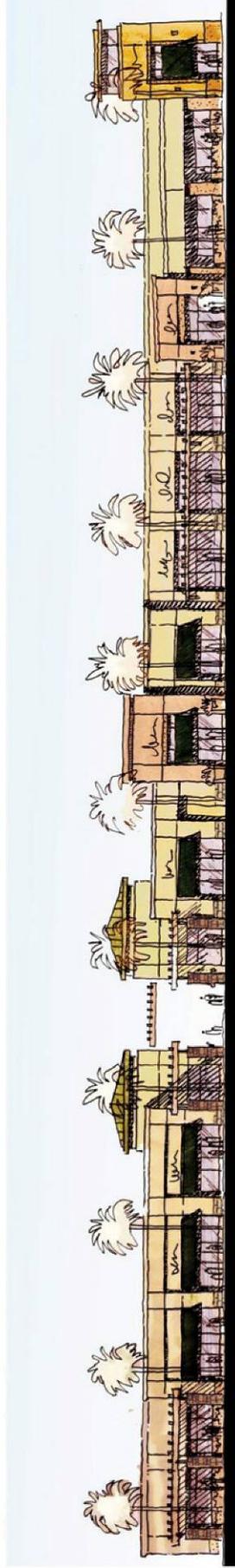
Planning Area 5



B Crescent Retail - West Elevation



C Crescent Retail - South Elevation



A Crescent Retail - East Elevation

Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
 Source: robinson hill architecture inc., Village Partners Inc., wpi, and Thomas P Cox: Architects Inc.

▲ Not to Scale
 Exhibit 4.2-4f



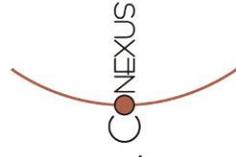
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La Floresta Village: Conceptual Street "A" Perspective - Planning Area 5



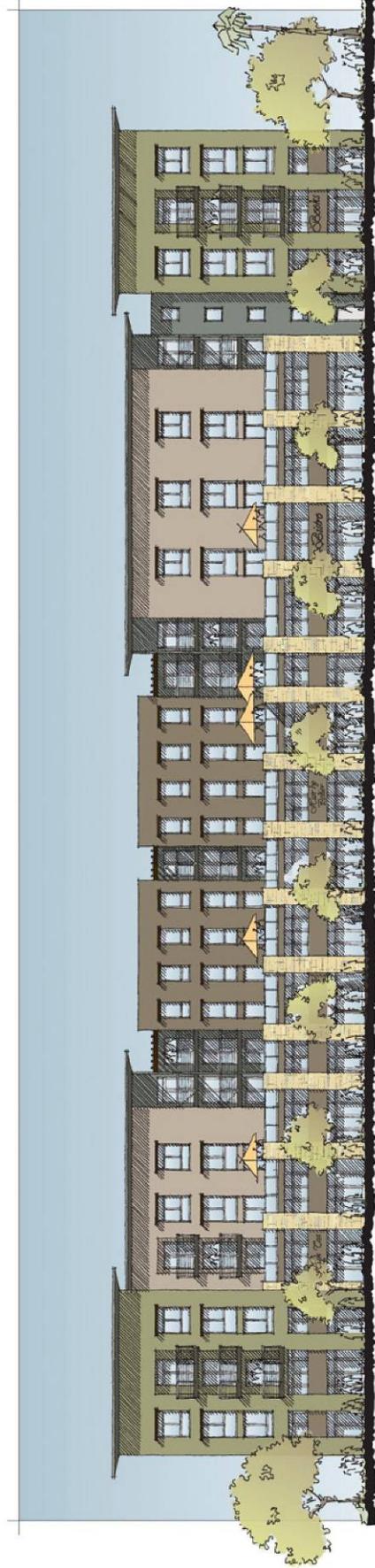
Note: The perspective shown is conceptual in nature and is provided for illustrative purposes only.
Source: robinson hill architecture inc., Village Partners Inc., wpi, and Thomas P. Cox: Architects Inc.

Not to Scale
Exhibit 4.2-4g



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La Floresta Village: Conceptual Residential Building Elevation,
Planning Area 5

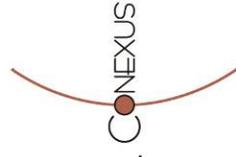


"L" - Condo Elevation

Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

Source: robinson hill architecture inc., Village Partners Inc., wpi, and Thomas P. Cox: Architects Inc.

▲ Not to Scale
Exhibit 4.2-4h



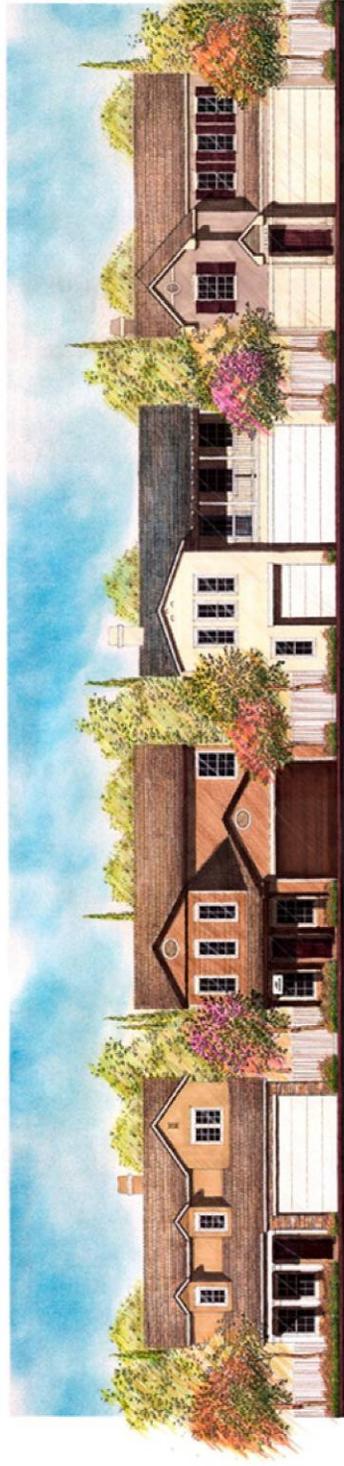
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**La Floresta Village: Conceptual Building Elevations,
 Planning Area 6 - Live/Work Single Family Dwellings**



Plan 4 Colonial
 Plan 1 Monterey
 Plan 2 Colonial
 Plan 3 Cape Cod

Front Elevations



Plan 4 Colonial
 Plan 1 Monterey
 Plan 2 Colonial
 Plan 3 Cape Cod

Rear Elevations



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

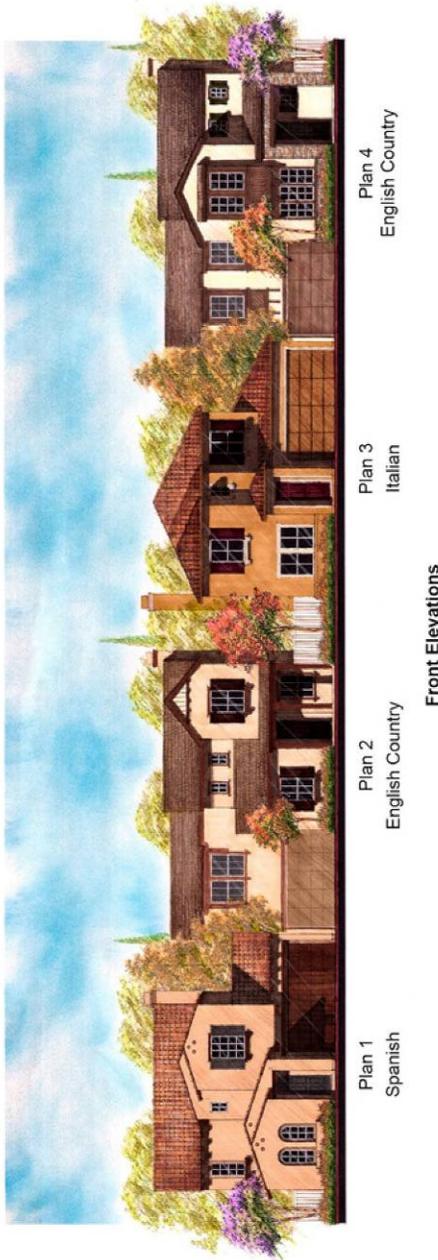
Source: Bassettian Lagoni and EDAAW, August 2006

▲ Not to Scale
 Exhibit 4.2-4i



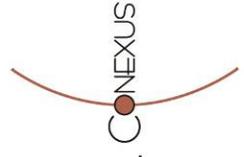
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La Floresta Village: Conceptual Building Elevations, Planning Area 8 - Zero Lot Line Single Family Dwellings



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
Source: Bassettian Lagoni and EDAW, August 2006

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Exhibit 4.2-4j



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**La Floresta Village: Conceptual Building Elevations,
 Planning Area 8 - Recreation Facility**



Front Elevation



Left Elevation



Right Elevation

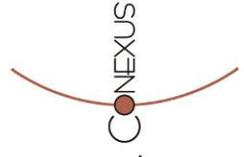


Rear Elevation



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
 Source: William Hezmalchal Architects and EDAAW, August 2006

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 Exhibit 4.2-4k



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La Floresta Village: Conceptual Building Elevations,
Planning Area 9 - Senior Living Facility



IMPERIAL HIGHWAY ELEVATION



"F" STREET ELEVATION - A

Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

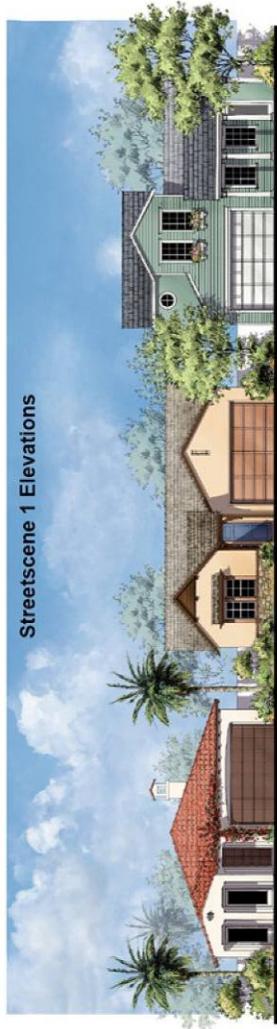
Source: Hill Partnership Inc., October 2006

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Exhibit 4.2-4f

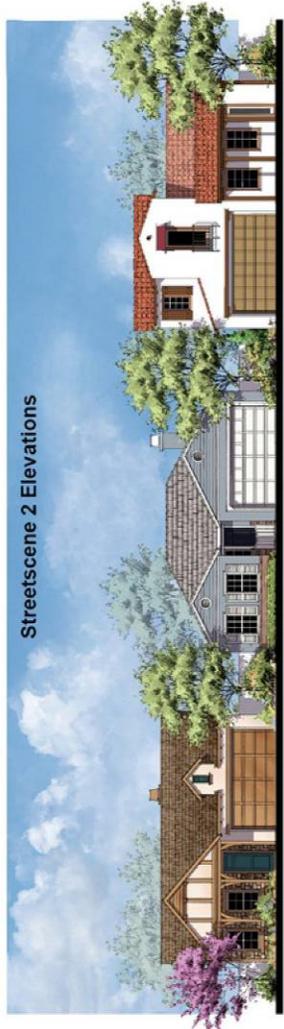


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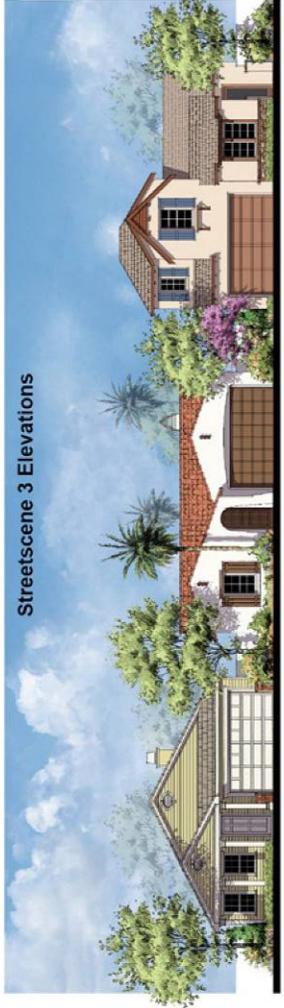
La Floresta Village: Conceptual Building Elevations,
 Planning Area 10 - Active Adult Single Family Dwellings



Plan 1 Spanish
 Plan 2 Cottage
 Plan 3 Colonial



Plan 1 Cottage
 Plan 2 Colonial
 Plan 3 Spanish



Plan 1 Colonial
 Plan 2 Spanish
 Plan 3 Cottage



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
 Source: William Hezmalchal Architects and EDAW, August 2006

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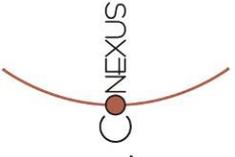
La Floresta Village: Conceptual Building Elevations,
Planning Area 11 - Active Adult Recreation Facility



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

Source: William Hezmalchal Architects and EDAW, August 2006

▲ Not to Scale
Exhibit 4.2-4n



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Circulation

The proposed Circulation Plan for La Floresta Village incorporates a hierarchy of collector and local streets ranging from 52 feet to 72 feet in right-of way width, with access points to the La Floresta Village development project located along Imperial Highway and Valencia Avenue as illustrated in Exhibit 4.2.5 – La Floresta Village: Conceptual Circulation Plan. No access is proposed to Rose Drive. Proposed street cross-sections are shown in Exhibit 4.2-6a through Exhibit 4.2-6d – La Floresta Village: Typical Street Cross-Sections. Gated entry points are proposed to control access to Planning Areas 1, 2, 10 and 11, which are planned for “Active Adult” residential and recreational uses.

Trails

Community multi-use trails and Class I bike paths, as shown on Exhibit 4.2-7 – La Floresta Village: Conceptual Pedestrian Circulation Plan, and Exhibit 4.2.8 – La Floresta Village: Conceptual Bicycle Circulation Plan, are proposed along the Imperial Highway and Valencia Avenue edges to connect with the regional Fullerton, Valencia, Chino Hills and El Cajon trails, as well as additional pedestrian and Class III bicycle trails for circulation within the La Floresta Village community.

Landscaping, Fences and Walls

Perimeter block walls ranging from five to eight feet are proposed around all residentially planned areas, as shown in Exhibit 4.2-9 – La Floresta Village: Conceptual Wall and Fence Plan. Block walls existing along the boundary with the residential neighborhood located to the east of the La Floresta Village site will remain. Perimeter trails are planned along Imperial Highway, Valencia Avenue, and Rose Drive. Exhibit 4.2-10a and Exhibit 4.2-10b illustrate typical landscape conditions along the site perimeter, including Imperial Highway, Valencia Avenue and Rose Drive. A ten-foot-wide dual purpose walking/bike trail is proposed along Imperial Highway, in addition to a five-foot meandering decomposed granite (D.G.) trail all within a 30-foot landscape setback area. Along Valencia Avenue, the La Floresta Village development plan proposes a five-foot meandering D.G. trail and a ten-foot wide dual purpose walkway/bike trail within the 30-foot landscape setback area. The trail proposed along Rose Drive would also provide a five-foot meandering D.G. trail and a six-foot sidewalk within a 30-foot landscape setback area. A five-foot-wide Class II Bike Lane also currently runs along Rose Drive.

Linear Parks

Linear parks 50 feet in width are proposed along the La Floresta Village site boundaries abutting the existing residential neighborhood located to the east of the La Floresta Village Site, as illustrated in Exhibit 4.2-11a – La Floresta Village: Conceptual Open Space Plan. As noted previously, existing block walls would remain in these areas. The linear parks are proposed to contain a five-foot meandering paved trail to accommodate hiking, walking, and biking circulation, as shown in Exhibit 4.2-11b – La Floresta Village: Typical Linear Park Edge Conditions. Many of the existing trees are planned to remain along the meandering trail to provide a buffer to the existing Vesuvius neighborhood on

the east. (Please see Section 5.1 - Aesthetics for detailed discussion of tree removal.) Additional tree and shrub planting are planned to provide shaded areas along these walks. Benches and shade structures are also planned within the linear park areas.

A total of approximately 4.13 acres (Planning Areas 8 and 11) of private recreational facilities are planned within the La Floresta Village community. Linear park areas and other open space/landscape areas, as shown on the Illustrative Plan (Exhibit 4.2-2 – La Floresta Village: Illustrative Site Plan on page 4-7), total approximately 9.8 acres. Planned trails and linear park areas would be open to public use.

Utilities and Services

The conceptual sewer system proposed for La Floresta Village is illustrated in Exhibit 4.2-12. The planned system would gravity flow by way of the proposed street system to a sewer lift station and emergency overflow line at the southeast corner of the site. From the lift station, the sewage would be conveyed by force main to the existing Orange County Sanitation District interceptor sewer main in Rose Drive.

The proposed La Floresta Village water system would connect to the City of Brea domestic water system at several locations illustrated on Exhibit 4.2-13 – La Floresta Village: Conceptual Water Plan. City water lines presently exist in Imperial Highway, Valencia Avenue, Rose Drive, and in the Vesuvius neighborhood.

The Conceptual Storm Drainage Plan for La Floresta Village is illustrated in Exhibit 4.2-14. Storm drains owned by the City of Brea exist in Imperial Highway and Valencia Avenue. Storm drains to be constructed on-site with the proposed La Floresta Village development will follow the proposed street system, as illustrated in Exhibit 4.2-14. In addition, a detention basin (0.4 acre surface area; 2.1 acre-feet in volume) is proposed adjacent to the Active Adult Recreation Center in Planning Area 11. Tentative Tract Map (TTM) 16934 for La Floresta Village is illustrated in Exhibit 4.2-15a and Exhibit 4.2-15b. The Tentative Tract Map provides more detailed illustration of the proposed La Floresta Village development characteristics down to the lot level. Preliminary grade elevations and contours are shown on the TTM. The Tentative Tract Map (TTM) as well as accompanying Preliminary Improvement Plans are available for review at the City of Brea Development Services Department.

The La Floresta Village site is currently encumbered by a Southern California Edison easement for the overhead transmission of 66KV electric power and two individual 12KV distribution systems, as illustrated on Exhibits 3.4-2 and 4.2-15a and b. As part of the La Floresta development, the project applicant is proposing to remove the North to South run of overhead power lines (approximately 3070 feet) and to extend an underground 12KV distribution system from Valencia Avenue to serve the site. In addition, the 66KV transmission component would be placed underground within a new 15 foot easement provided to Southern California Edison. The additional 12KV distribution system which was dedicated to the former Hartley Research Center would be eliminated. Additional approvals from Southern California Edison would be required for this proposed construction, including a CEQA compliance review.

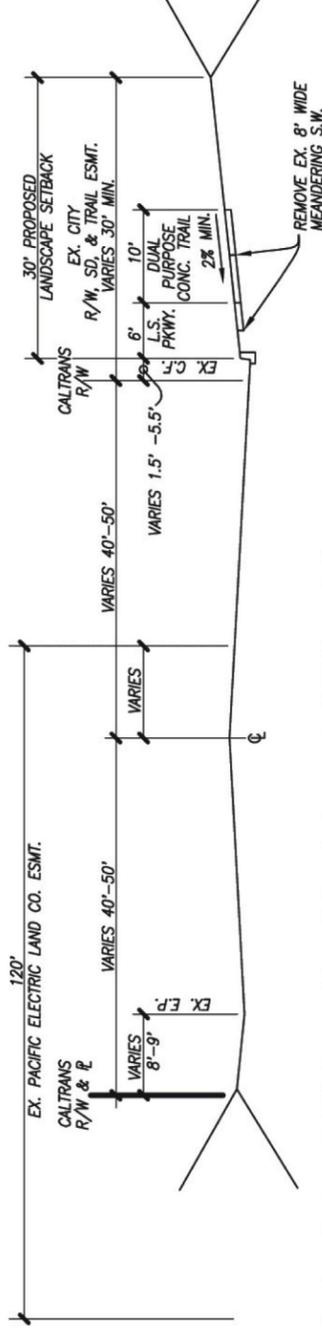
La Floresta Village: Conceptual Circulation Plan



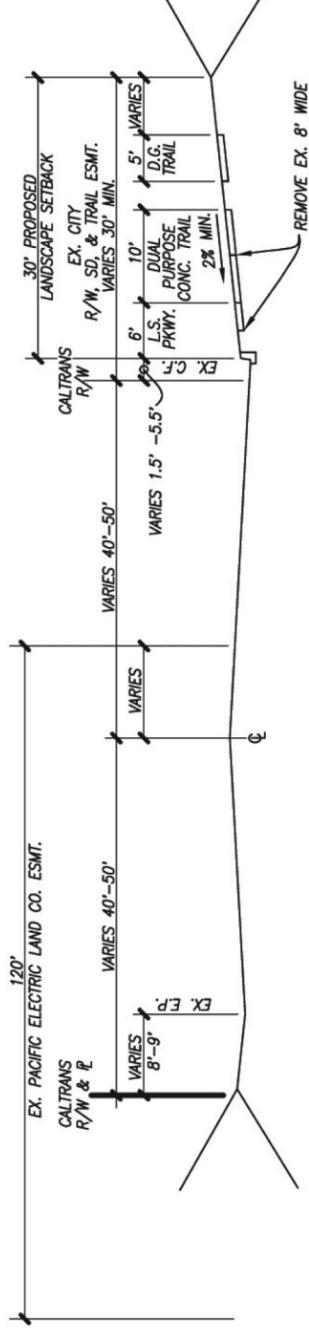
Source: Hunsaker & Associates and EDAA, October 2006

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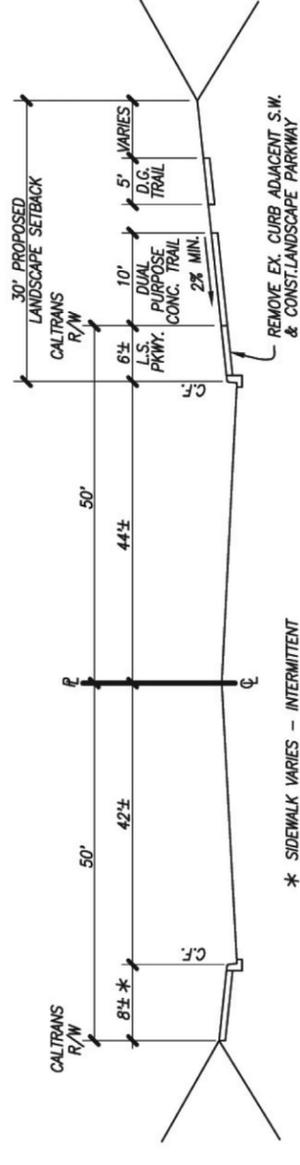
La Floresta Village: Typical Street Cross-Sections



Section A: Imperial Highway - From Valencia Avenue to 1000'± easterly



Section B: Imperial Highway - From 1000'± easterly of Valencia Avenue to Project Boundary



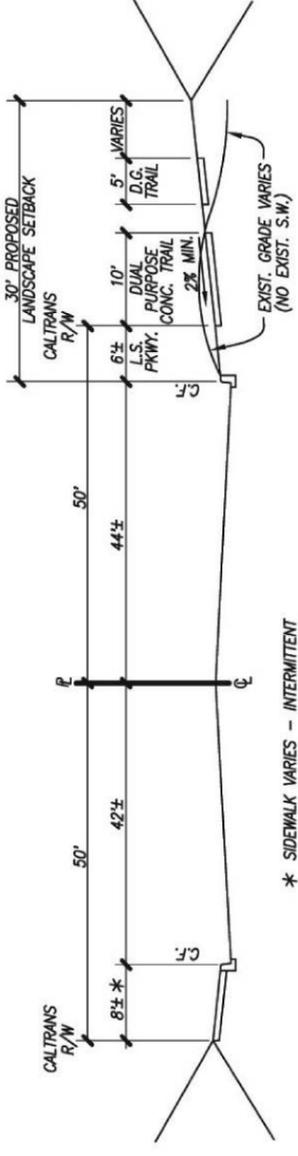
Section C: Valencia Avenue - 100'± southerly of "R" Street to Rose Drive



Street Cross Section Locations

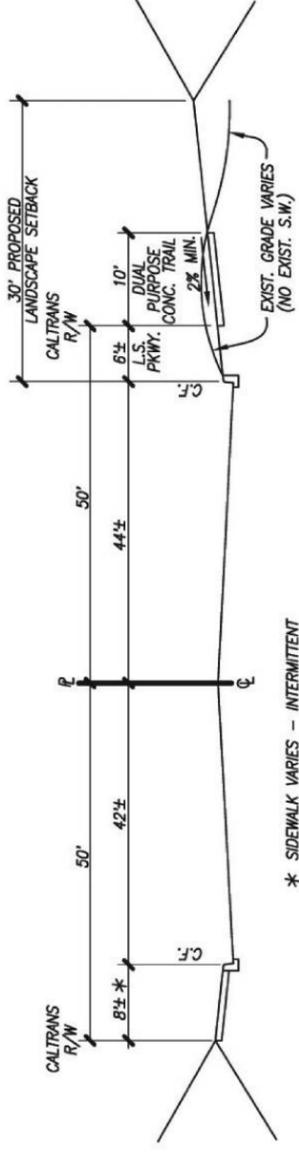
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La Floresta Village: Typical Street Cross-Sections



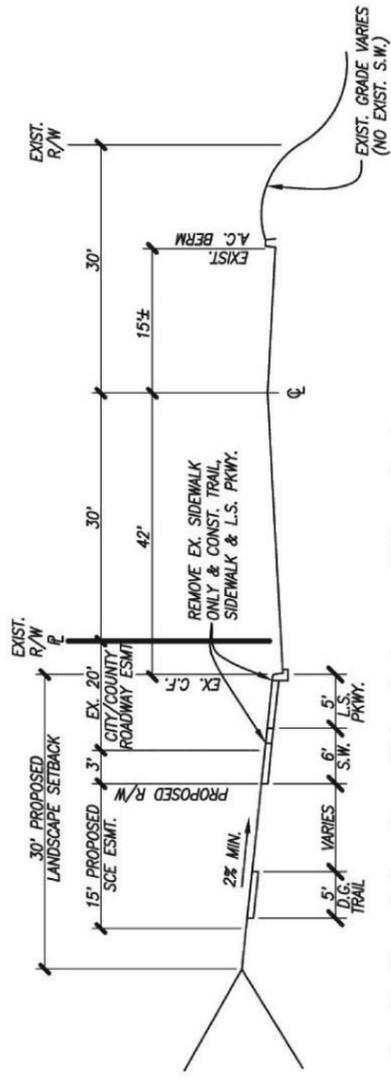
* SIDEWALK VARIES - INTERMITTENT

Section D: Valencia Avenue - From 100'± southerly of "R" Street to "A" Street



* SIDEWALK VARIES - INTERMITTENT

Section E: Valencia Avenue - From "A" Street to Imperial Highway



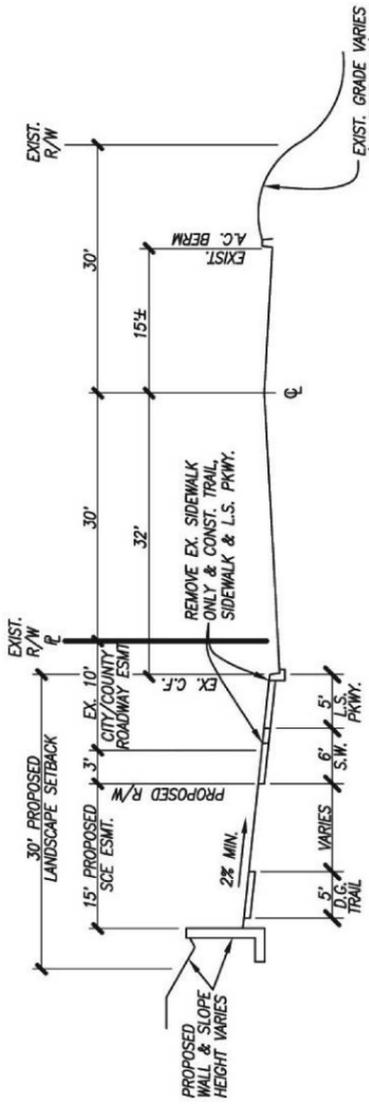
Section F: Rose Drive - From Valencia Avenue 600' southerly



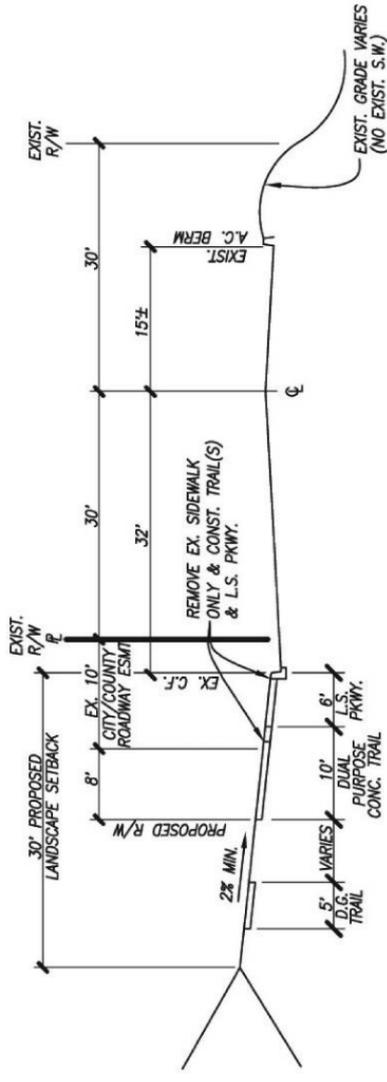
Street Cross Section Locations

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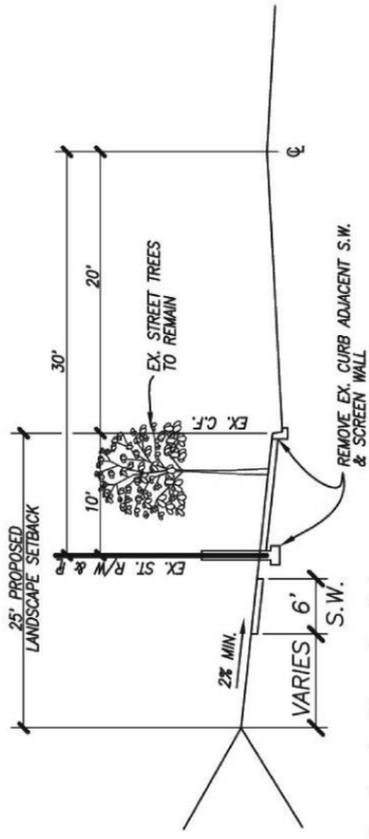
La Floresta Village: Typical Street Cross-Sections



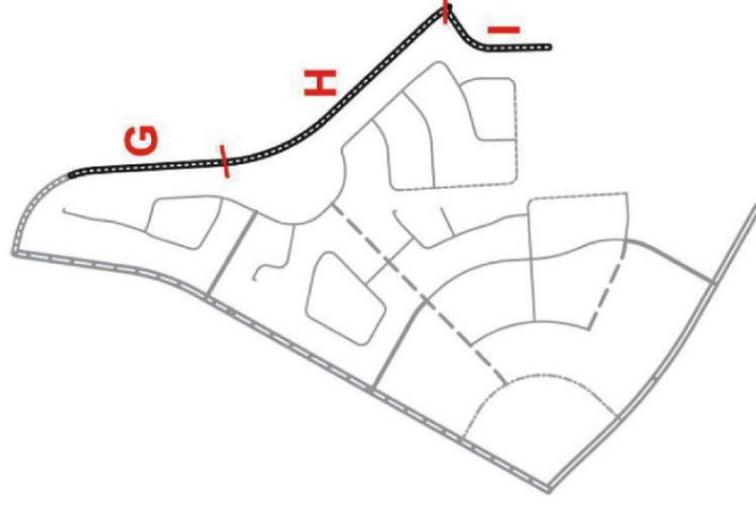
Section G: Rose Drive - From 600' southerly of Valencia Avenue to 1500' southerly of Valencia Avenue



Section H: Rose Drive - From 1500' southerly of Valencia Avenue to Vesuvius Drive



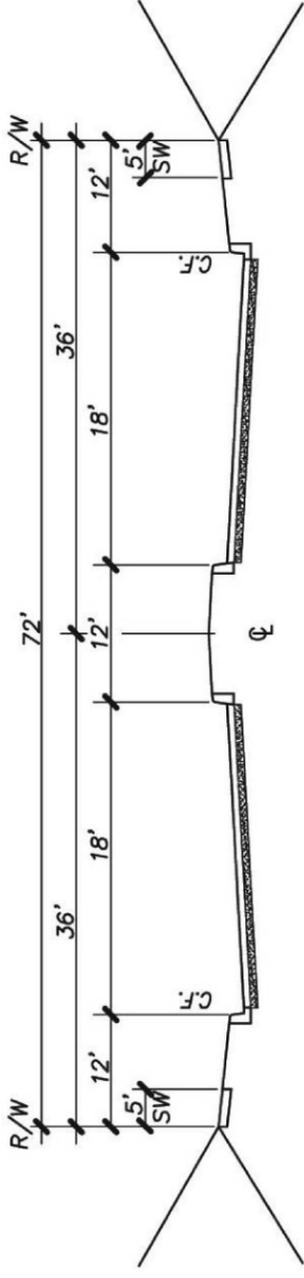
Section I: Vesuvius Drive



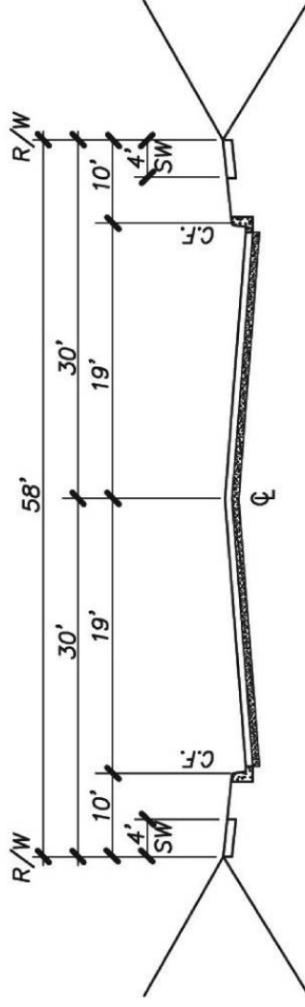
Street Cross Section Locations

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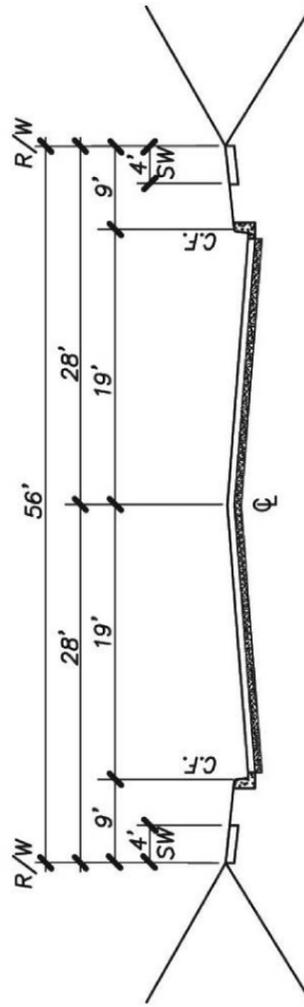
La Floresta Village: Typical Street Cross-Sections



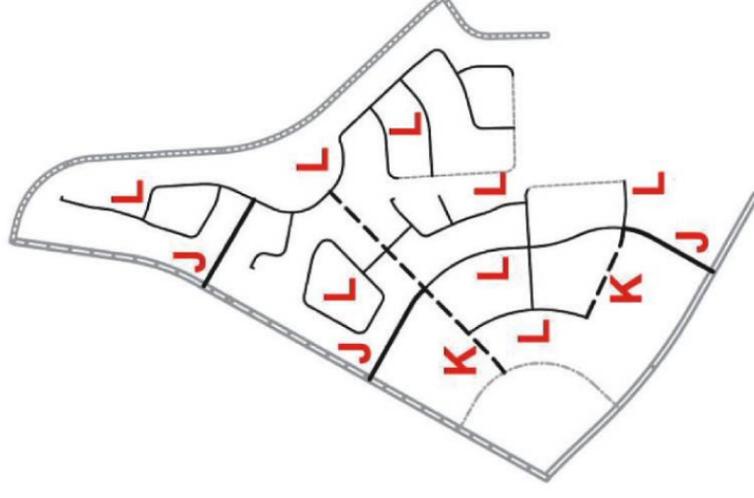
Section J: Private Local Streets (72' Right of Way) - "F" and "R" Streets



Section K: Private Local Streets (58' Right of Way) - "B", "D", and "F" Streets



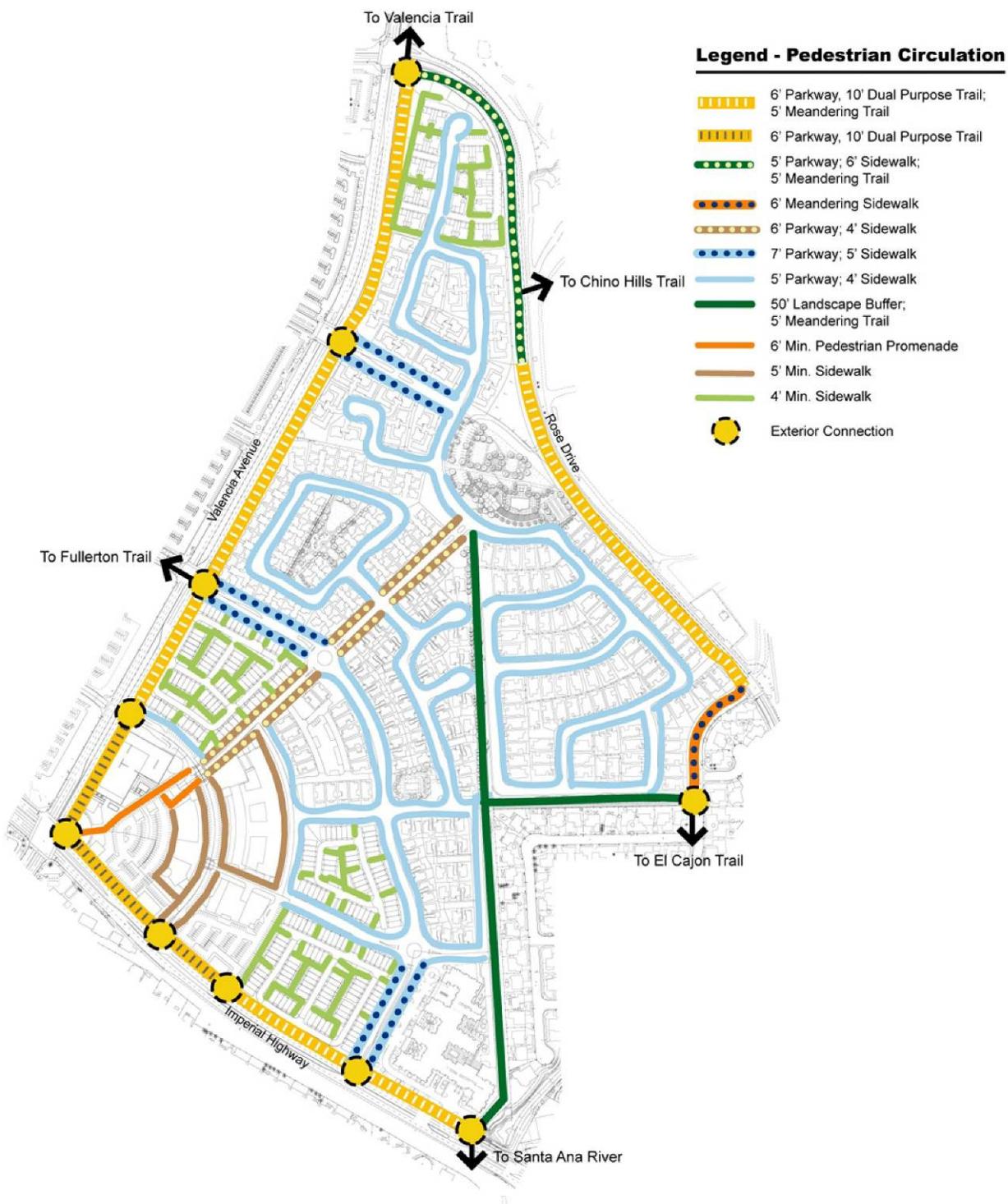
Section L: Private Local Streets (56' Right of Way) - "B", "C", "E", "F", "G", "H", "I", "J", "K", "L", "M", "O", "P", "Q", "S", "T", "U", "W", "X", and "Y" Streets



Street Cross Section Locations

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La Floresta Village: Conceptual Pedestrian Circulation Plan



Source: Land Concern and EDAW, October 2006

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La Floresta Village: Conceptual Bicycle Circulation Plan



Source: Land Concern and EDAW, October 2006

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La Floresta Village: Conceptual Wall and Fence Plan



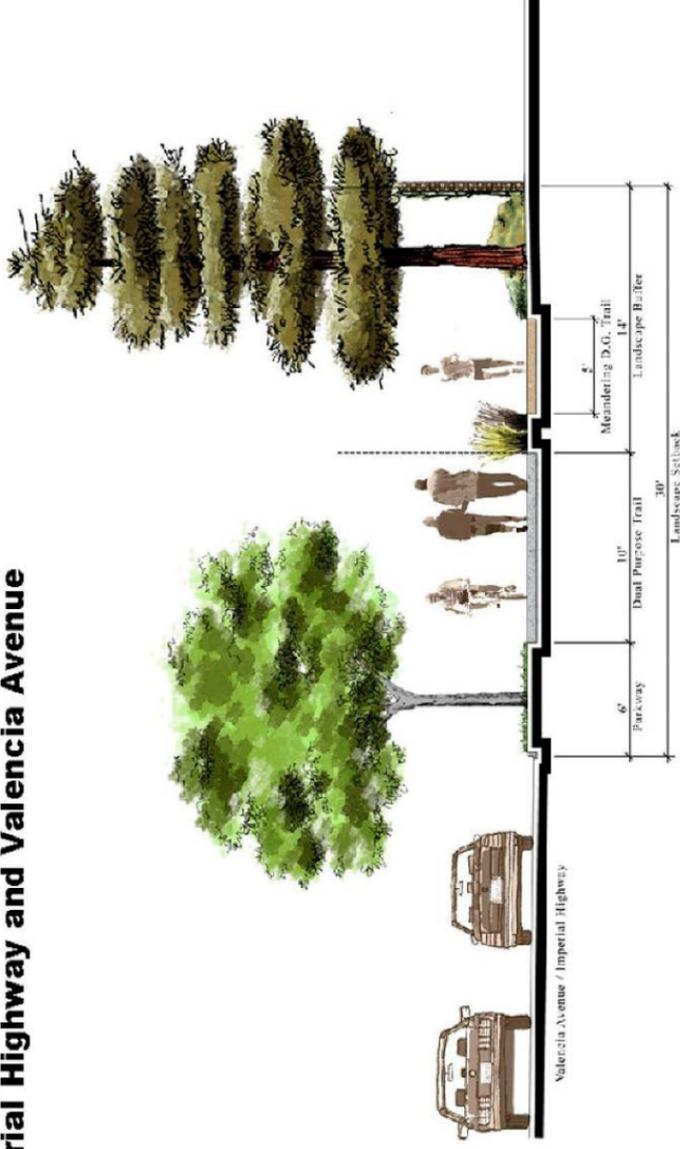
Note: Plans shown are conceptual in nature and are provided for illustrative purposes only. Final plans will be submitted as part of the Precise Development Plan process.

Source: Land Concern and EDAW, October 2006

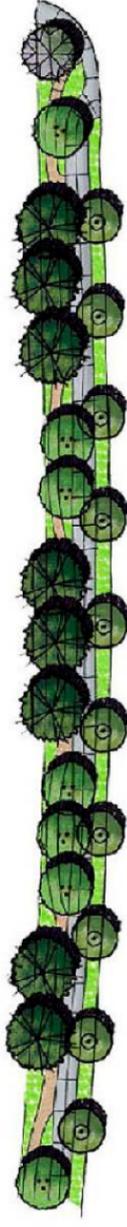
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La Floresta Village: Typical Landscape Conditions - Imperial Highway and Valencia Avenue

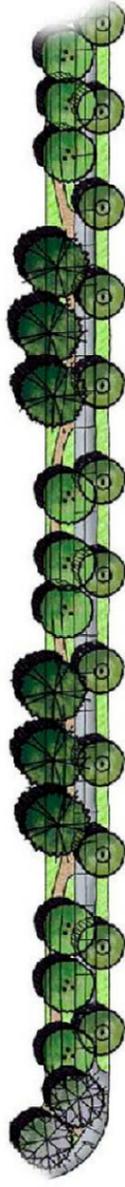
Imperial Highway and Valencia Avenue



Section View - Imperial Highway and Valencia Avenue

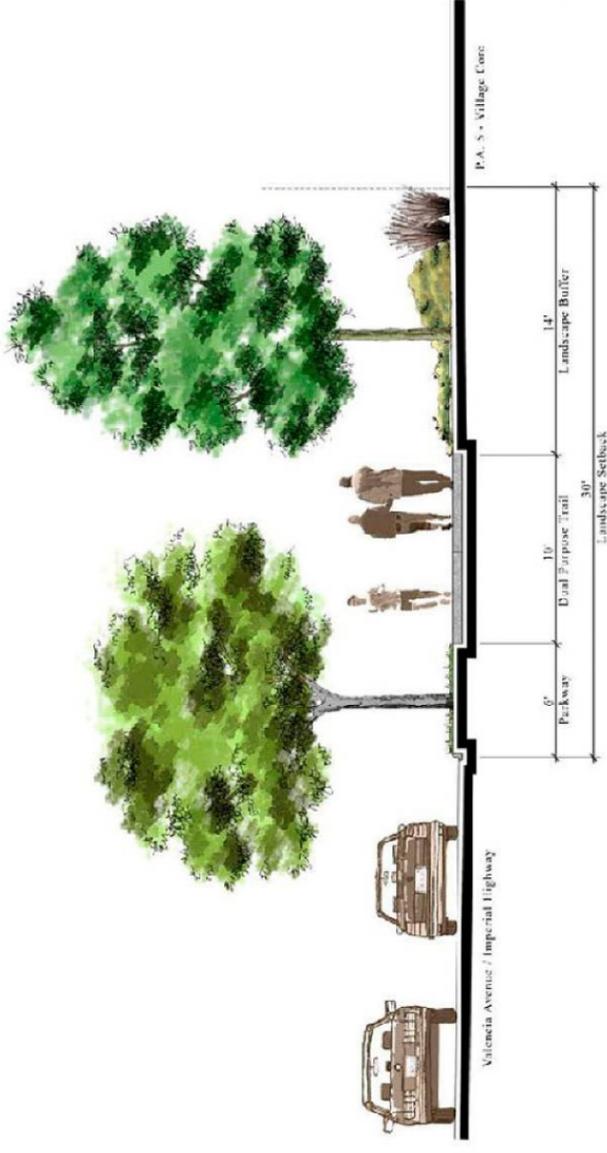


Plan View - Imperial Highway

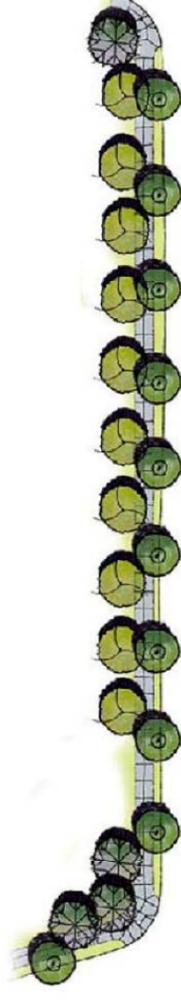


Plan View - Valencia Avenue

Imperial Highway and Valencia Avenue at Village Core



Section View



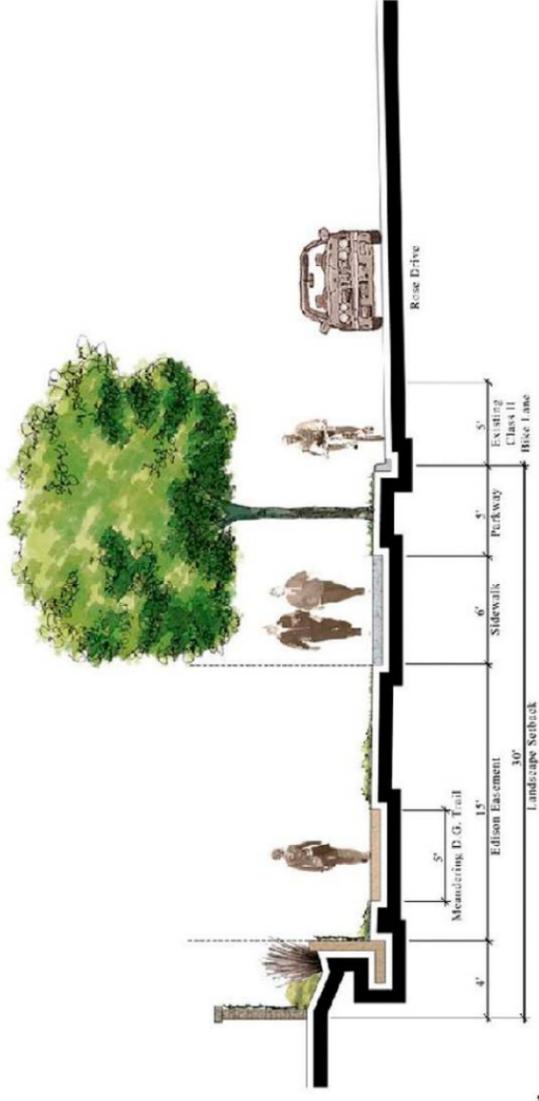
Plan View

Source: Land Concern and EDAW, July 20, 2006

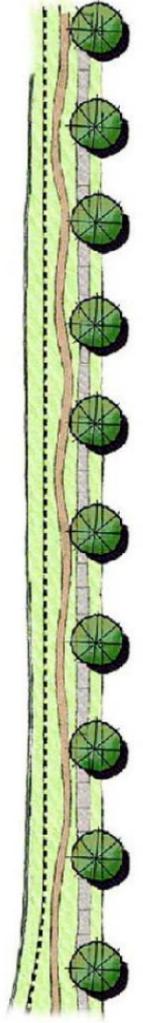
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La Floresta Village: Typical Landscape Conditions - Rose Drive, North and South

Rose Drive - North

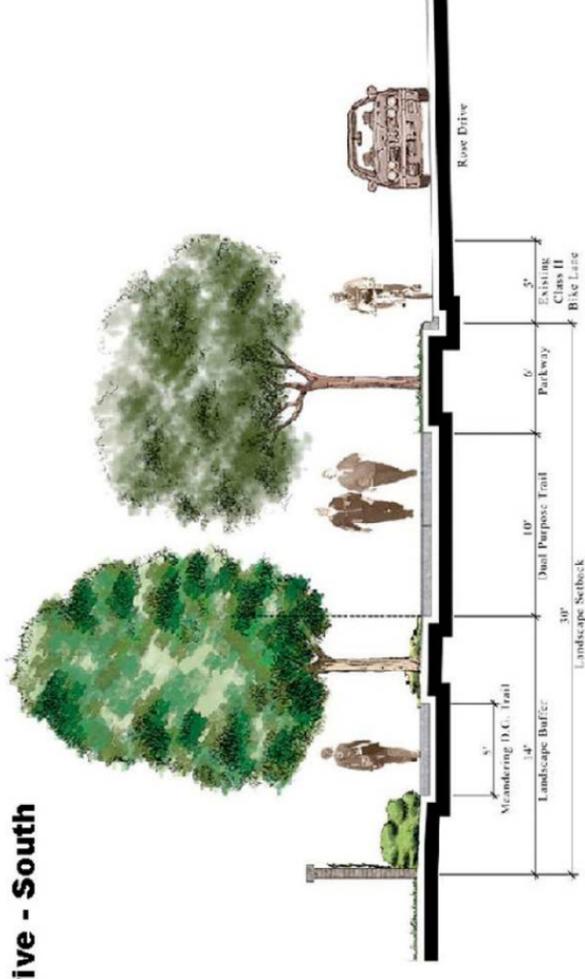


Section View

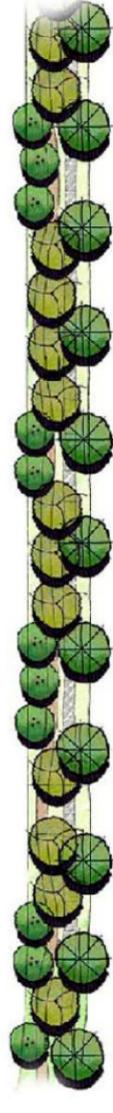


Plan View

Rose Drive - South



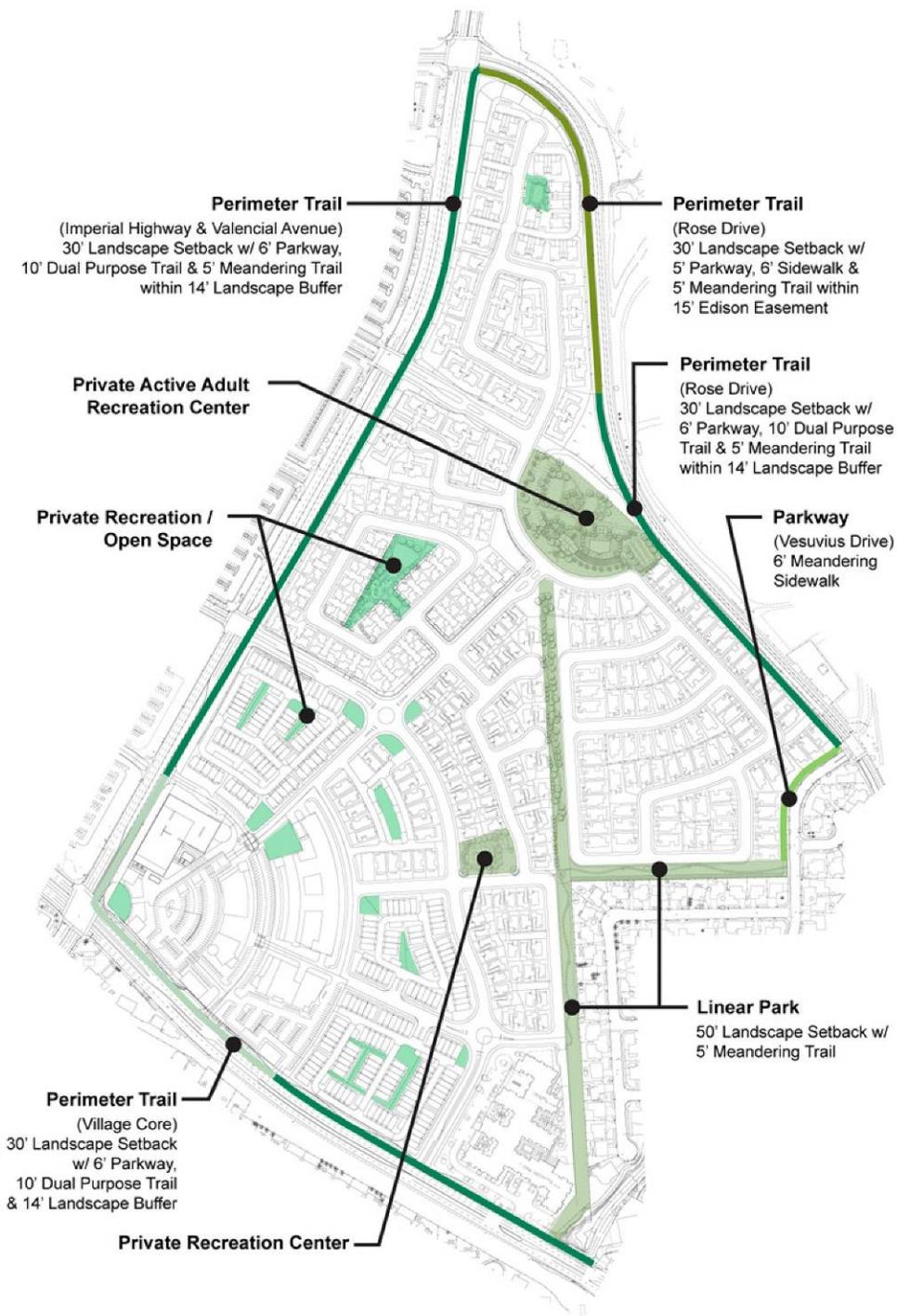
Section View



Plan View

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La Floresta Village: Conceptual Open Space Plan



Source: Land Concern and EDAW

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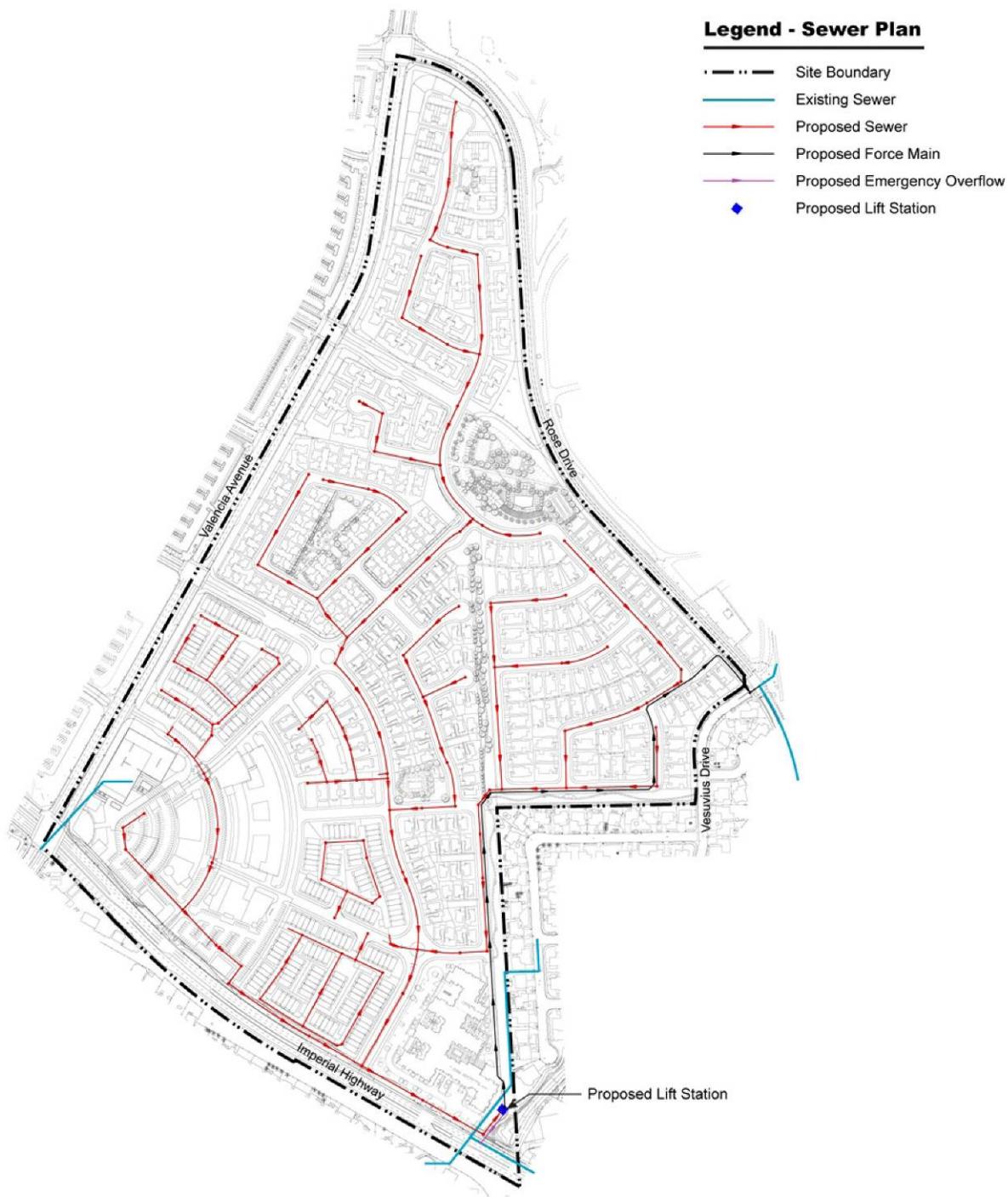
La Floresta Village: Typical Linear Park Edge Conditions



Source: Land Concern and EDAW, July 20, 2006

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La Floresta Village: Conceptual Sewer Plan



Note: Plans shown are conceptual in nature and are provided for illustrative purposes only. Final layout and design will depend on final engineering.

Source: Hunsaker & Associates and EDAW, July 20, 2006

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La Floresta Village: Conceptual Water Plan

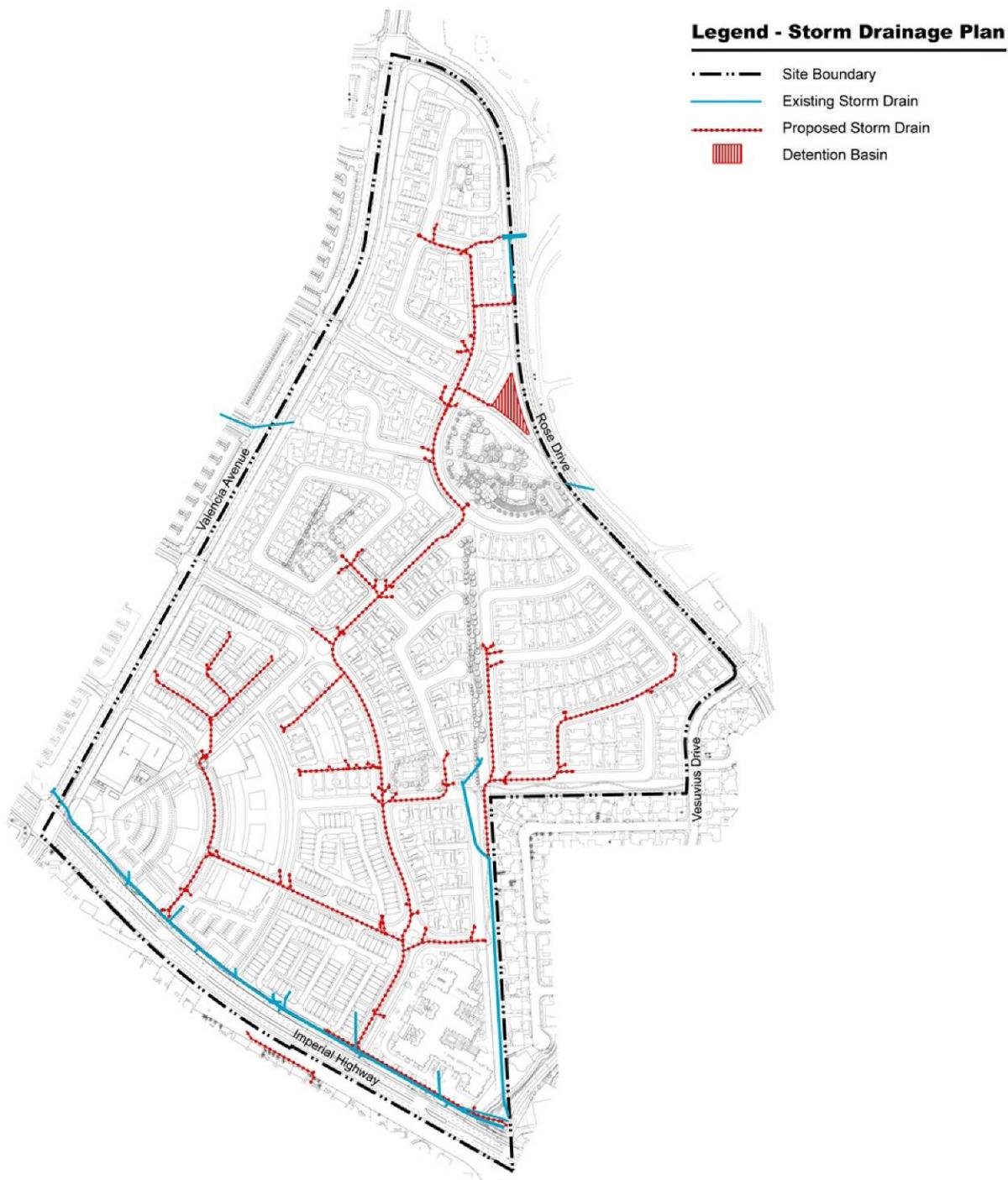


Note: Plans shown are conceptual in nature and are provided for illustrative purposes only.
Final layout and design will depend on final engineering.

Source: Hunsaker & Associates and EDAW, July 20, 2006

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La Floresta Village: Conceptual Storm Drainage Plan



Note: Plans shown are conceptual in nature and are provided for illustrative purposes only. Final layout and design will depend on final engineering.

Source: Hunsaker & Associates and EDAW, July 20, 2006

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La Floresta Village: Tentative Tract Map 16934 (Sheet 1)



LAND USE SUMMARY

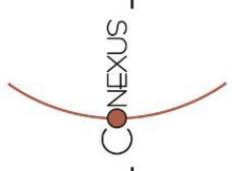
PLANNING AREA (LOT NO.)	LAND USE	ACREAGE	TOTAL LOTS
1 (LOTS 1-12)	RESIDENTIAL-HIGH DENSITY	6.4	12
2 (LOTS 13-31)	RESIDENTIAL-MEDIUM DENSITY	13.0	19
3 (LOTS 32-53)	RESIDENTIAL-MEDIUM DENSITY	11.3	22
4a (LOTS 54-63)	RESIDENTIAL-HIGH DENSITY	3.8	10
4b (LOTS 64-68)	RESIDENTIAL-HIGH DENSITY	2.1	5
5 (LOTS 69-82)	RETAIL LOTS	14.7	14
6 (LOTS 83-103)	RESIDENTIAL-MEDIUM DENSITY	4.0	21
7 (LOTS 104-126)	RESIDENTIAL-HIGH DENSITY	9.4	23
8 (LOTS 127-216)	RESIDENTIAL-MEDIUM DENSITY	12.6	90
9 (LOT 312)	RESIDENTIAL-VERY HIGH DENSITY	6.7	1
10 (LOTS 217-311)	RESIDENTIAL-MEDIUM DENSITY	19.1	96
11 (LOTS 314-315)	RECREATIONAL FACILITY	4.6	2
		TOTAL ACREAGE = 107.7	

LOT SUMMARY

LOT NO.	LAND USE
1-68, 83-312	RESIDENTIAL LOTS
A-AJ	PRIVILE STREETS
AE-CP	OPEN SPACE - SLOPES, LANDSCAPE BUFFERS, PARKS, AND TRAILS
313-315	RECREATION FACILITIES
69-82	RETAIL LOTS
CO	DETENTION BASIN

Source: Hunsaker & Associates, September 2006

Not to Scale
 Exhibit 4.2-15a



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La Floresta Village: Tentative Tract Map 16934 (Sheet 2)

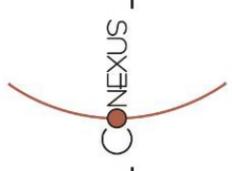


LAND USE SUMMARY

PLANNING AREA (LOT NO.)	LAND USE	ACREAGE	TOTAL LOTS
1 (LOTS 1-12)	RESIDENTIAL-HIGH DENSITY	6.4	12
2 (LOTS 13-31)	RESIDENTIAL-MEDIUM DENSITY	13.0	19
3 (LOTS 32-53)	RESIDENTIAL-MEDIUM DENSITY	11.3	22
4a (LOTS 54-63)	RESIDENTIAL-HIGH DENSITY	3.8	10
4b (LOTS 64-68)	RESIDENTIAL-HIGH DENSITY	2.1	5
5 (LOTS 69-82)	RETAIL LOTS	14.7	14
6 (LOTS 83-103)	RESIDENTIAL-MEDIUM DENSITY	4.0	21
7 (LOTS 104-126)	RESIDENTIAL-HIGH DENSITY	9.4	23
8 (LOTS 127-176)	RESIDENTIAL-MEDIUM DENSITY	12.6	90
9 (LOT 177)	RESIDENTIAL-VERY HIGH DENSITY	6.7	1
10 (LOTS 217-311)	RESIDENTIAL-MEDIUM DENSITY	19.1	96
11 (LOTS 314-315)	RECREATIONAL FACILITY	4.6	2
		TOTAL ACREAGE = 107.7	

LOT SUMMARY

LOT NO.	LAND USE
1-68, 83-312	RESIDENTIAL LOTS
A-AJ	PRIVILE STREETS
AE-CP	OPEN SPACE - SLOPES, LANDSCAPE BUFFERS, PARKS, AND TRAILS
313-315	RECREATION FACILITIES
69-82	RETAIL LOTS
CO	DETENTION BASIN



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Birch Hills Site

The Birch Hills site is approximately 91.3 acres and is proposed for a newly reconfigured 18-hole golf course, and a total of 247 dwelling units. Residential dwelling units are proposed at densities ranging from 12.0 units/acre to 24.5 units/acre on a total of approximately 15.7 acres, with the remaining 75.6 acres devoted to golf course and a 20,000 to 25,000 -square-foot community facility with clubhouse as illustrated in Table 4.2-2 below. For planning purposes, the site has been broken down into two residential Planning Areas (PAs 12a and 12b), as illustrated in Exhibit 4.2-16 – Birch Hills: Planning Area Key Map. Exhibit 4.2-17 – Birch Hills: Illustrative Site Plan, shows that all attached dwelling units types are proposed on this site. Planning Area 12a is proposed for the construction of 115 apartment units for “workforce housing,” which would be constructed and managed by a non-profit organization. Planning Area 12b is proposed for 132 for-sale townhomes. Exhibit 4.2-18a through Exhibit 4.2-18c illustrate building elevations for planned residential and recreational structures.

**Table 4.2-2
Statistical Overview of Proposed Development -
Birch Hills Site**

Planning Area	Land Use	Acreage (acres)	Net Density (du/ac)	Total Dwelling Units (du)	Total Square Footage (Building)
12a	Residential- High Density	4.7	24.0	115	--
12b	Residential- Medium Density	11.0	12.0	132	--
13	Open Space	75.6	--	--	--
	Community Facility & clubhouse	--	--	--	20,000-25,000
Birch Hills Total		91.3	--	247	25,000
Source: EDAW, March 6, 2006					

Circulation

Exhibit 4.2-19 illustrates the Birch Hills Circulation Plan. All streets on the Birch Hills site are proposed to be private drives. Proposed street cross-sections are illustrated in Exhibits Exhibit 4.2-20a and Exhibit 4.2-20b. Planned pedestrian circulation and bicycle are illustrated on Exhibit 4.2-21 and Exhibit 4.2-22, respectively.

Landscaping, Walls and Fences

The proposed location and height of walls and fences for the Birch Hills site are shown on Exhibit 4.2-23. Typical landscape conditions planned along Kraemer Boulevard and Birch Street re shown in Exhibit 4.2-24.

Trails

A community multi-use trail is planned to connect with the regional Fullerton trail through the Birch Hills site along the Loftus Flood Control Channel, which traverses the site, as shown in Exhibit 3.4-4 – Birch Hills: Existing On-Site Planning Considerations (page 3-15). In addition, the project proponents propose to connect this property with the regional Brea Trail system. Exhibit 4.2-25 illustrates the Birch Hills Open Space Plan. Recreation facilities for Birch Hills residents are planned in Planning Areas 12a and b, in addition to the previously mentioned community facility with a clubhouse and golf course.

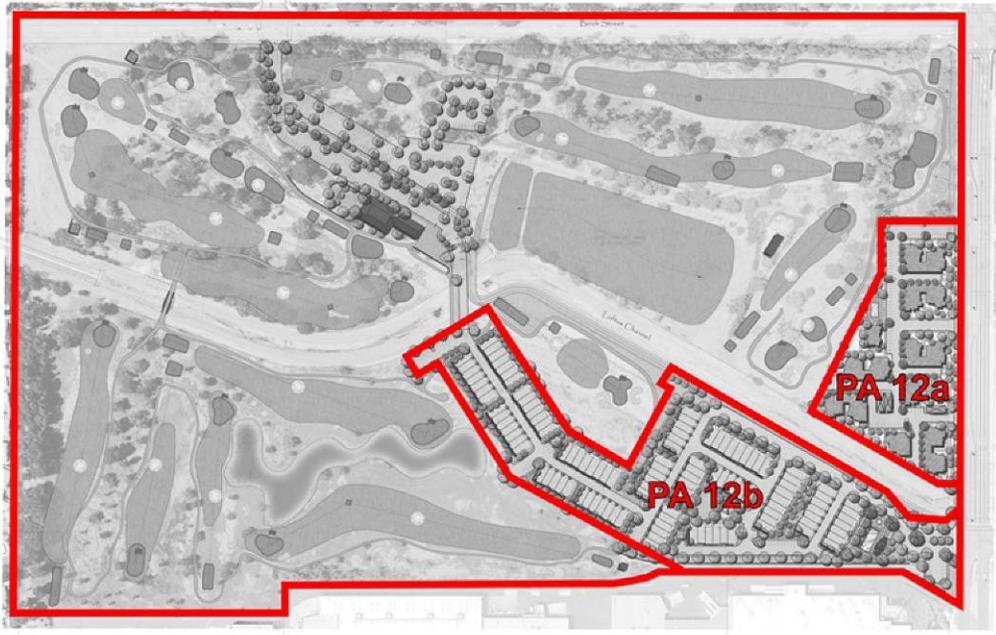
Utilities and Services

The Conceptual Sewer Plan for Birch Hills is shown in Exhibit 4.2-26. Proposed sewer lines would connect to one of the existing lines located in Birch Street, Kraemer Boulevard, and to lines within the commercial center to the south. The proposed Water Plan for Birch Hills is illustrated in Exhibit 4.2-27. Proposed water lines would connect to existing lines located in Birch Street and Kraemer Boulevard.

Exhibit 4.2-28 shows the proposed Conceptual Storm Drainage Plan for the Birch Hills site. The conceptual storm drainage plan for Birch Hills incorporates a retention basin within the golf course area on the north side of the Loftus Channel. The purpose of the retention basin is to intercept on-site flows and reduce flows into the Loftus Channel. Additional description of this facility and other drainage improvements and discussion of hydrology and drainage impacts is located in Section 5.7 of this EIR.

Tentative Tract Map 16933 for the Birch Hills site is illustrated in Exhibit 4.2-9. The Tentative Tract Map (TTM) provides a more detailed illustration of proposed Birch Hills development characteristics. Preliminary grade elevations and contours are also shown on the TTM. The Tentative Tract Map as well as accompanying Preliminary Improvement Plans are available for review at the City of Brea Development Services Department.

Birch Hills: Planning Area Key Map



Source: EDAW, October 2006

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Birch Hills: Illustrative Site Plan

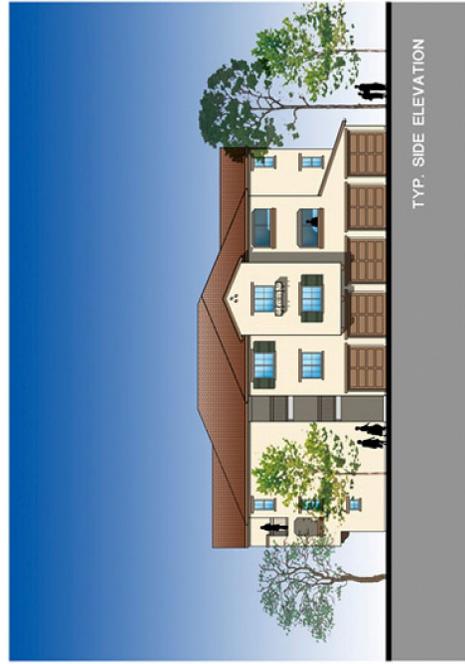


Note:
This Illustrative Site Plan is provided for illustrative purposes only. Precise building and/or lot layouts are subject to change. Final plans will be submitted as part of the Precise Development Plan Process.

Source: John A. Michler, Jamboree Planning Corporation, KTGy Group, Hunsaker & Associates, Land Concern, and EDaw, July 19, 2006

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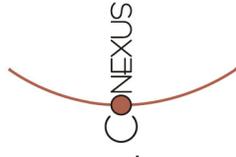
**Birch Hills: Conceptual Building Elevations,
 Planning Area 12a - Apartments**



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

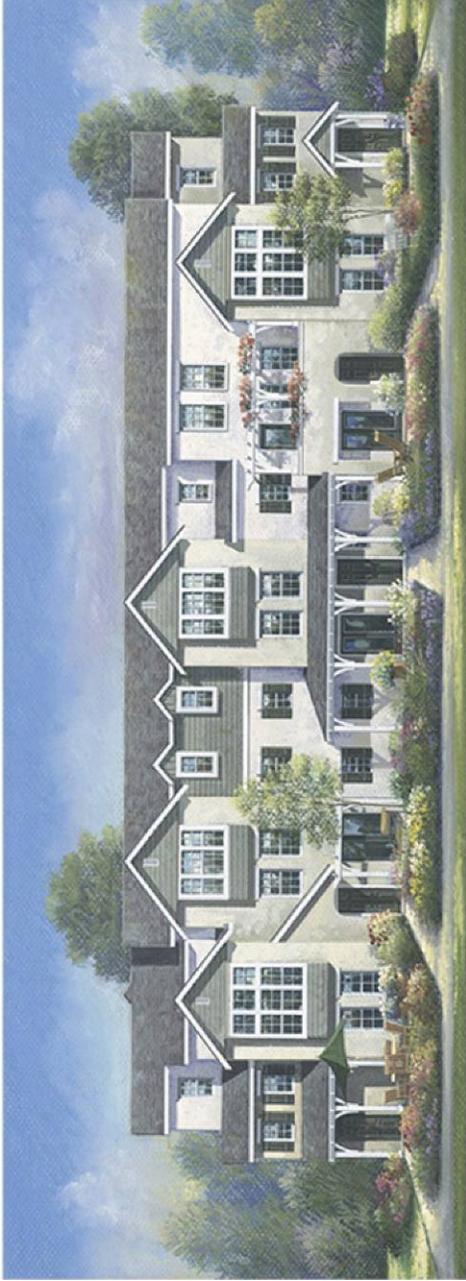
Source: Jamboree Housing Corporation and KTG Group, May 2006

▲ Not to Scale
 Exhibit 4.2-18a



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**Birch Hills: Conceptual Building Elevations,
Planning Area 12b - Townhomes**



Live/Work Townhomes Elevation



Townhomes Front Elevation



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.

Source: Bassettian Lagoni and EDAAW, August 2006

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**Birch Hills: Conceptual Building Elevations,
 Planning Area 12b - Recreation Facility**



Front Elevation



Left Elevation



Right Elevation



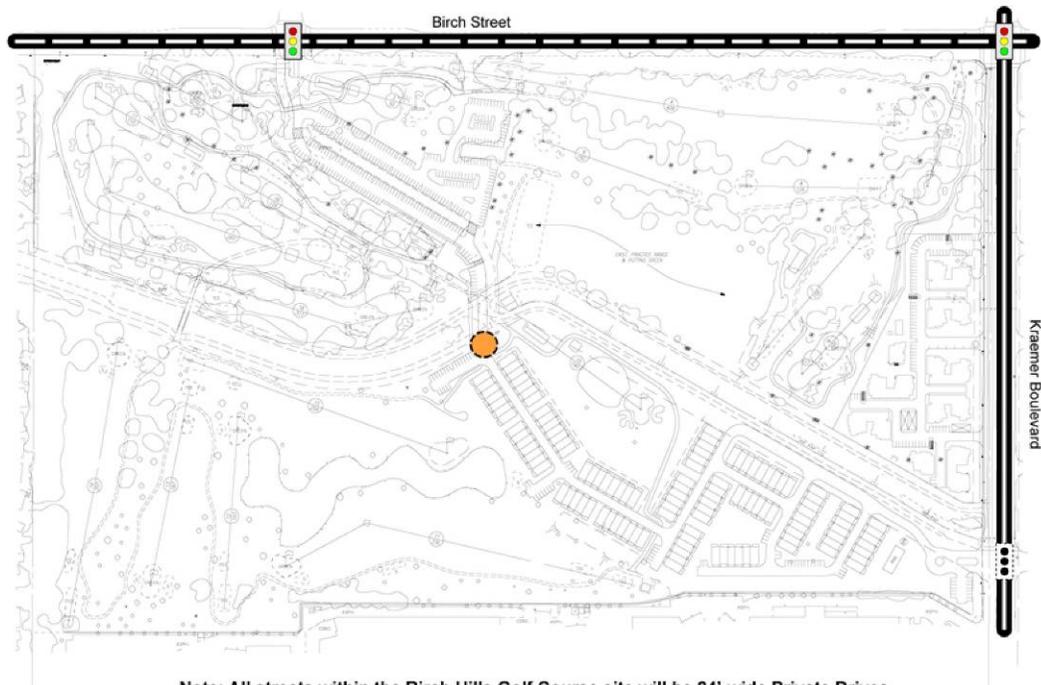
Rear Elevation



Note: Elevations shown are conceptual in nature and are provided for illustrative purposes only. Final elevations will be submitted as part of the Precise Development Plan process.
 Source: William Hezmalchal Architects and EDAAW, August 2006

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Birch Hills: Conceptual Circulation Plan



Note: All streets within the Birch Hills Golf Course site will be 24'-wide Private Drives.

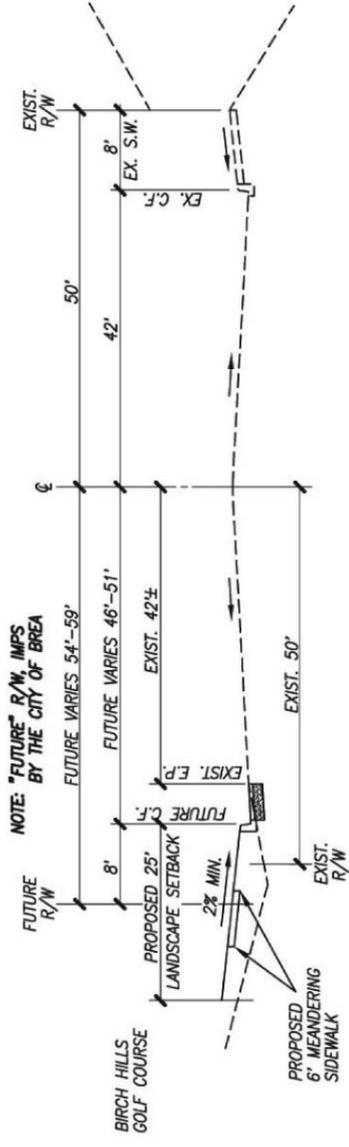
Legend - Right of Way Widths

- Kraemer Boulevard (104' - 109' ROW)
- Birch Street (80' - 100' ROW)
- Existing Signalized Intersection
- Proposed Signal Location
- Emergency Access Road Connection

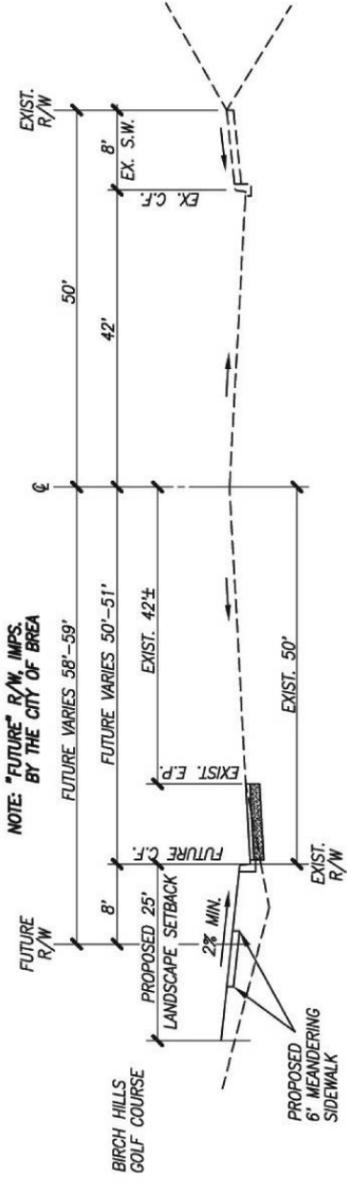
Source: Hunsaker & Associates and EDAW

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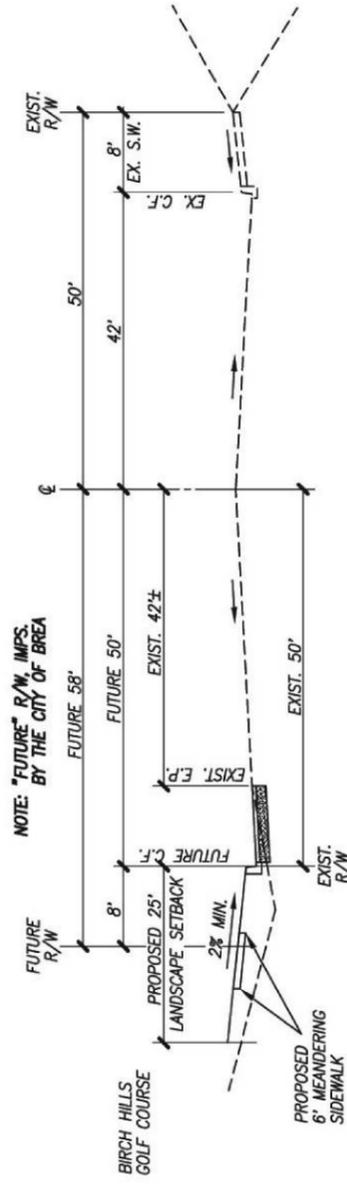
Birch Hills: Typical Street Cross-Sections



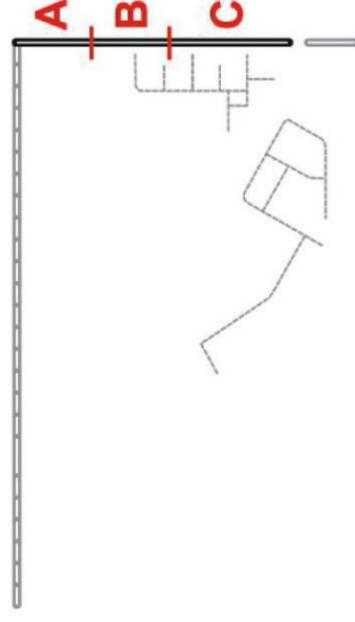
Section A: Kraemer Boulevard - From Birch Street to 300' South



Section B: Kraemer Boulevard - From ± 300'-640' South of Birch Street



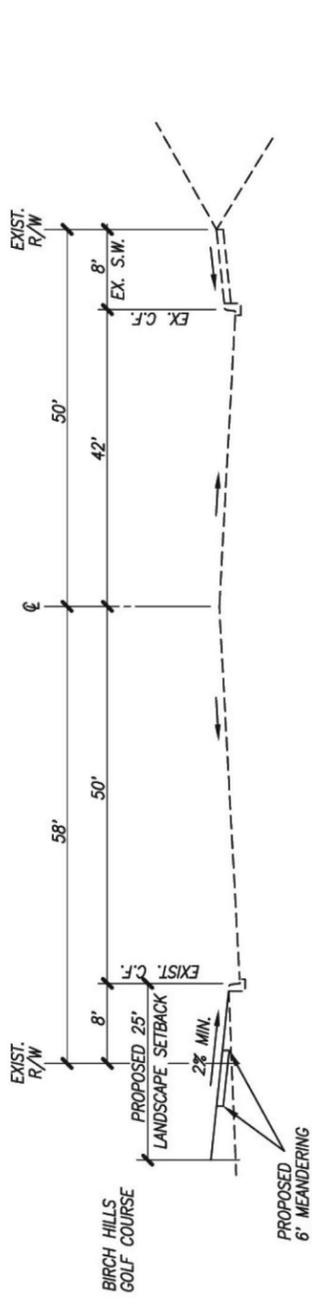
Section C: Kraemer Boulevard - From 640' South of Birch Street to Northernly R.O.W. of Loftus Channel



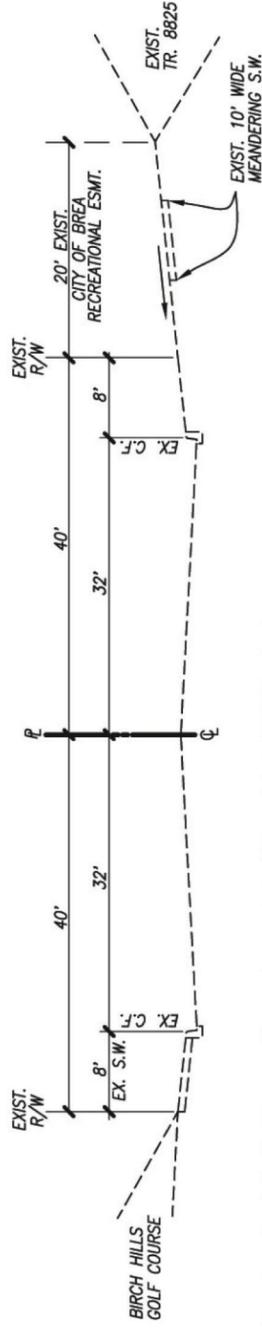
Street Cross Section Locations

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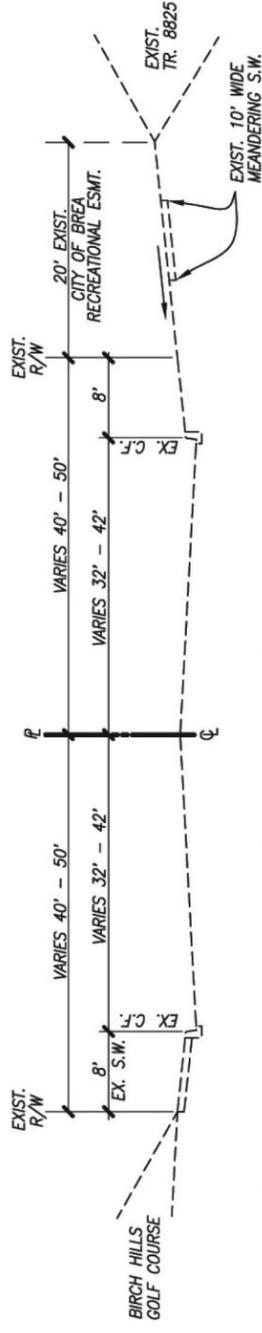
Birch Hills: Typical Street Cross-Sections



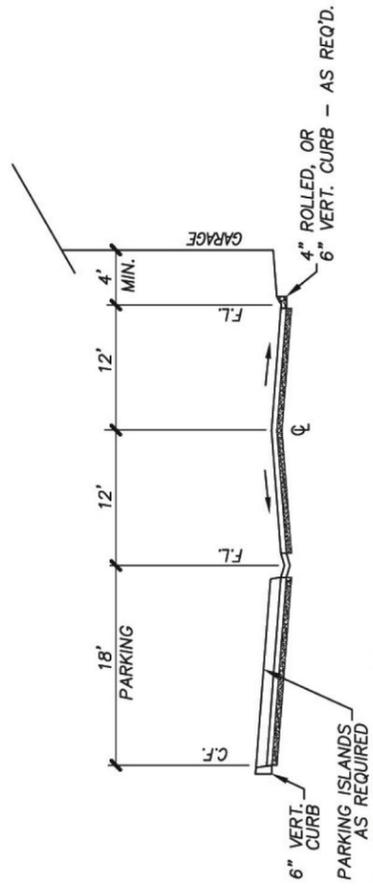
Section D: Kraemer Boulevard - From Southerly R.O.W of Loftus Channel South to Project Boundary



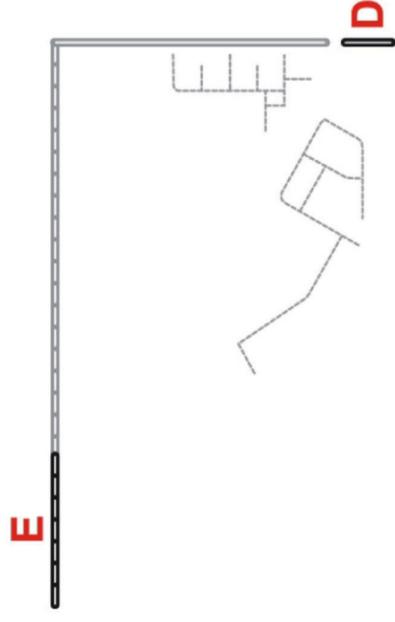
Section E: Birch Street - From Associated Road to 706' Westerly



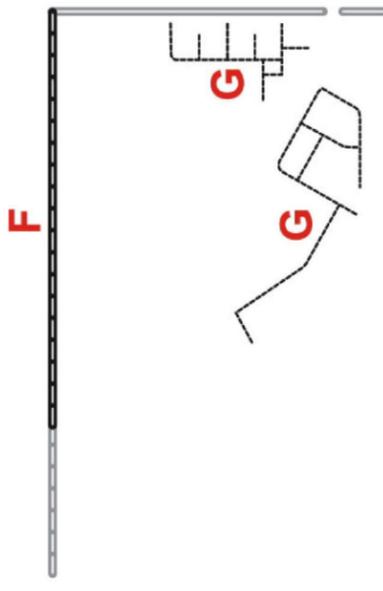
Section F: Birch Street - From Associated Road to Kraemer Boulevard



Section G: Drive Aisles



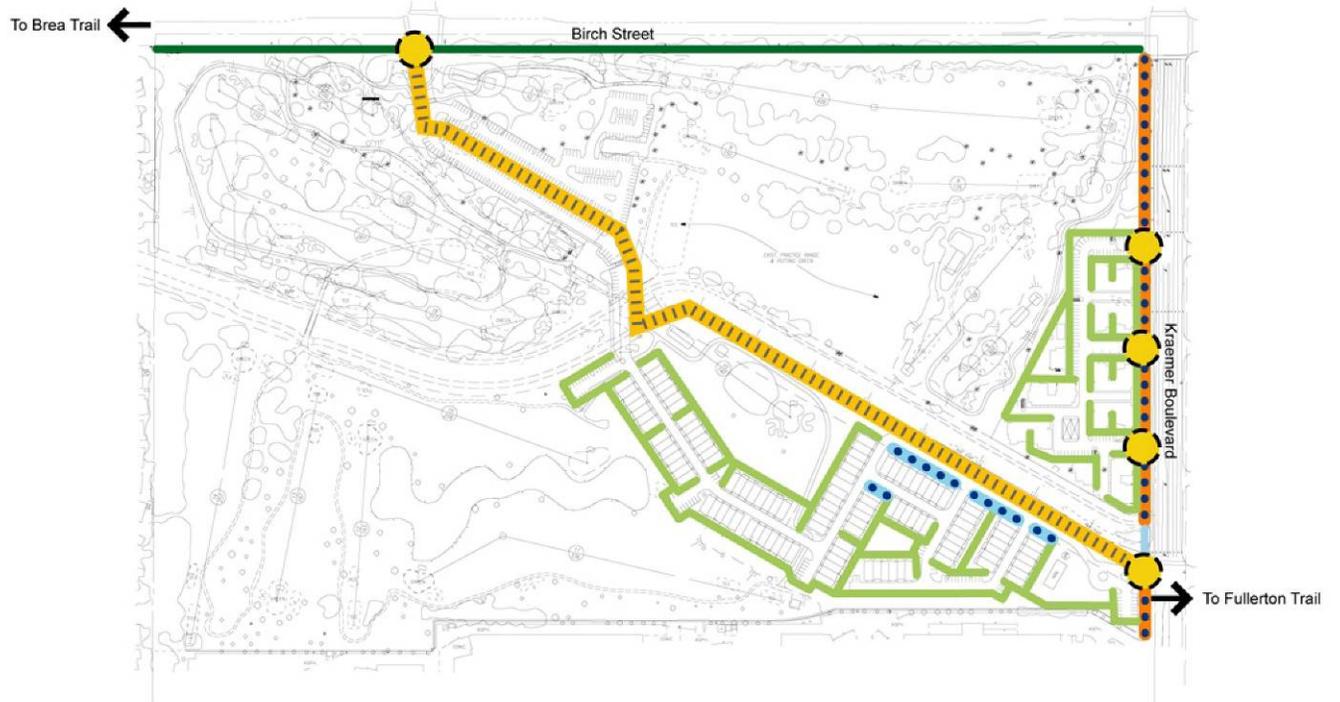
Street Cross Section Locations



Street Cross Section Locations

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Birch Hills: Conceptual Pedestrian Circulation Plan



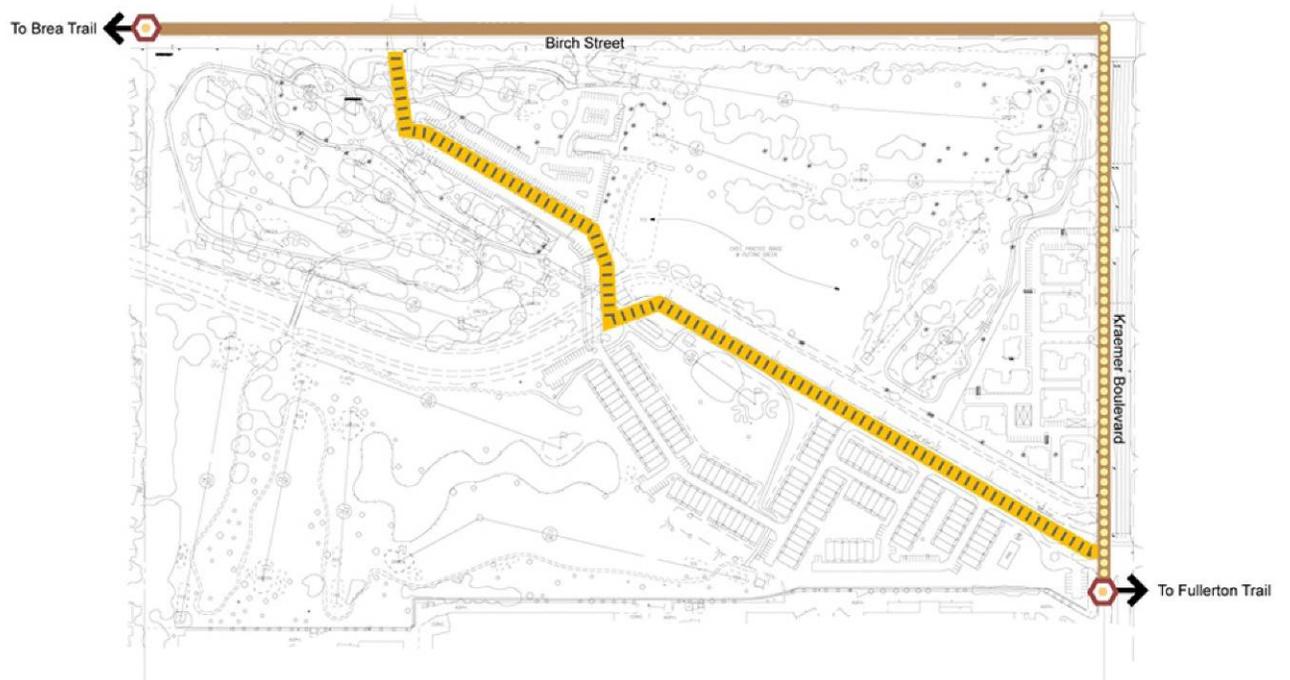
Legend - Pedestrian Circulation

-  10' Dual Purpose Trail
-  6' Meandering Sidewalk
-  7' Parkway; 5' Sidewalk
-  5' Sidewalk
-  8' Existing Sidewalk
-  4' Min. Sidewalk
-  Exterior Connection

Source: Land Concern and EDAW

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Birch Hills: Conceptual Bicycle Circulation



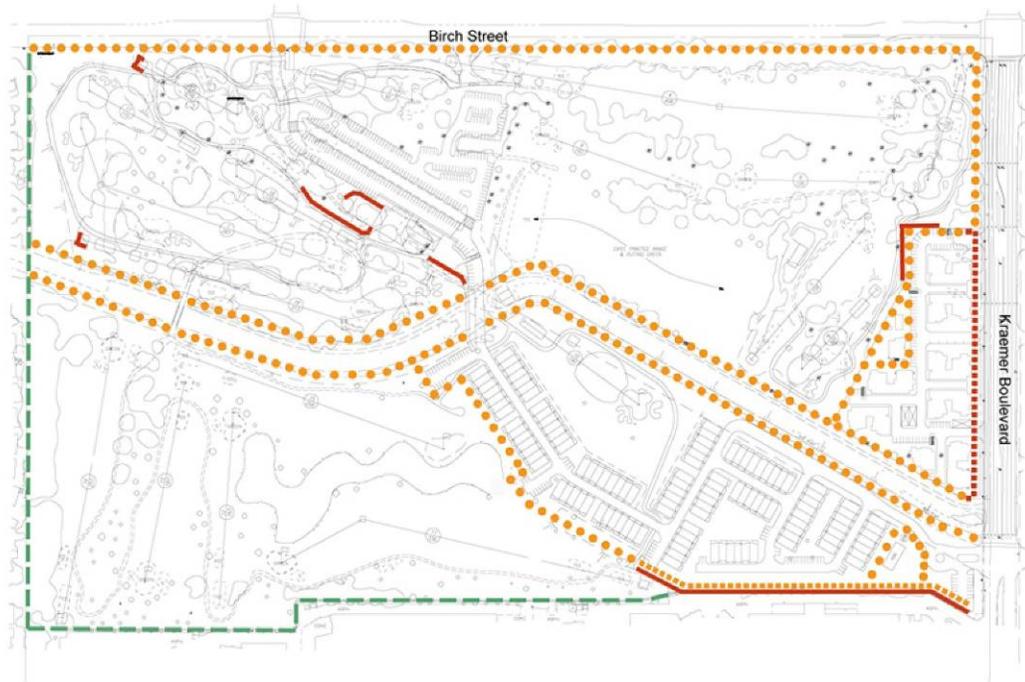
Legend - Bicycle Circulation

- Existing Class II Bike Lane (North Side of Birch Street)
- Class II Bike Lane
- 10' Dual Purpose Trail
- Community Trail Connection

Source: Land Concern and EDAW, July 20, 2006

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Birch Hills: Conceptual Wall and Fence Plan



Legend - Walls and Fences

- 6'-0" High Block Wall w/ Cap
- 6'-6" High Block Wall w/ Cap
- - - - Existing Block Wall to Remain
- 5'-0" High Tubular Steel Fence
- Retaining Wall

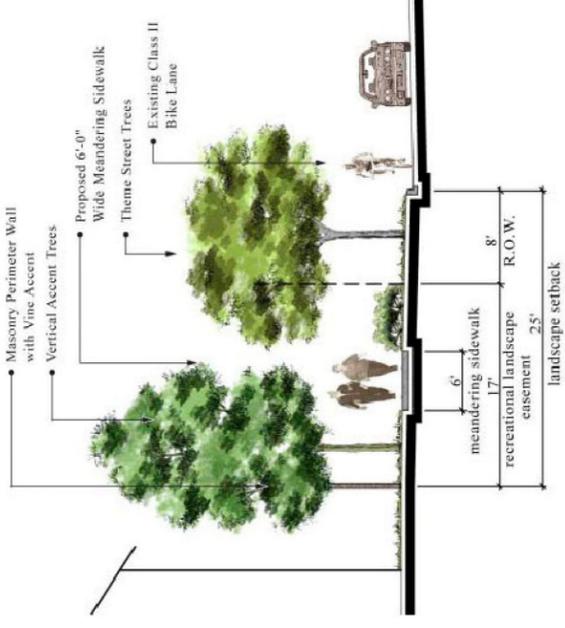
Note: Plans shown are conceptual in nature and are provided for illustrative purposes only.
Final plans will be submitted as part of the Precise Development Plan process.

Source: Land Concern and EDAW, July 20, 2006

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Birch Hills: Typical Landscape Conditions - Kraemer Boulevard and On-site Community Trails

Kraemer Boulevard

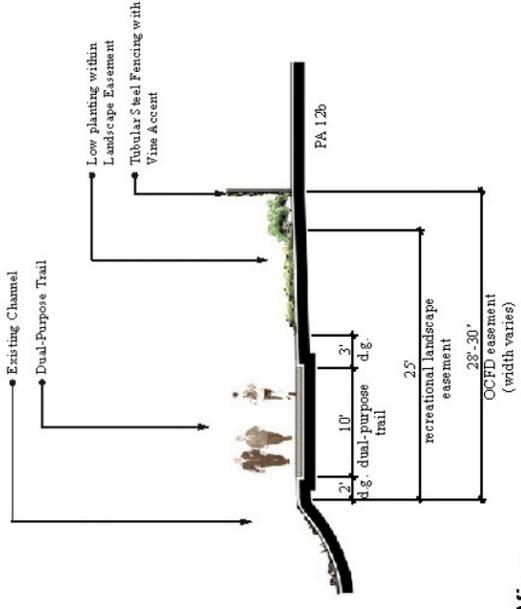


Section View

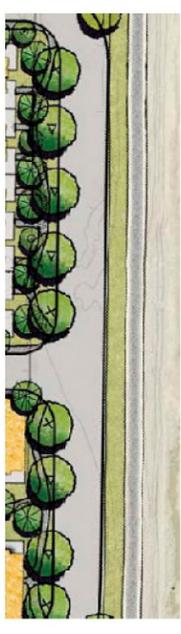


Plan View

Community Trail Along Loftus Channel

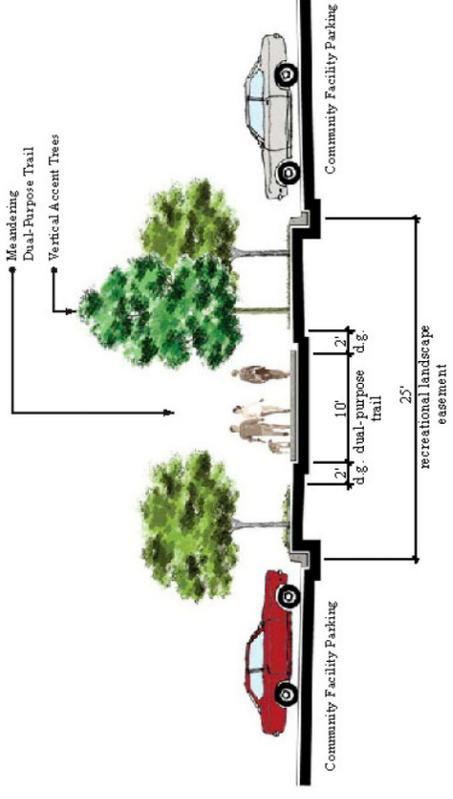


Section View

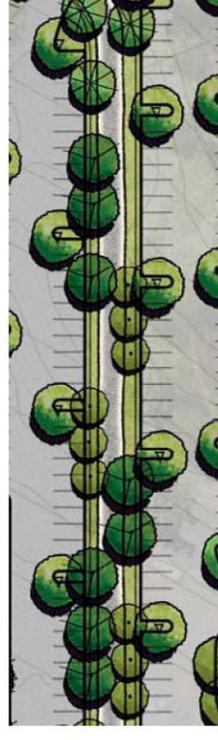


Plan View

Community Trail Through Golf Course



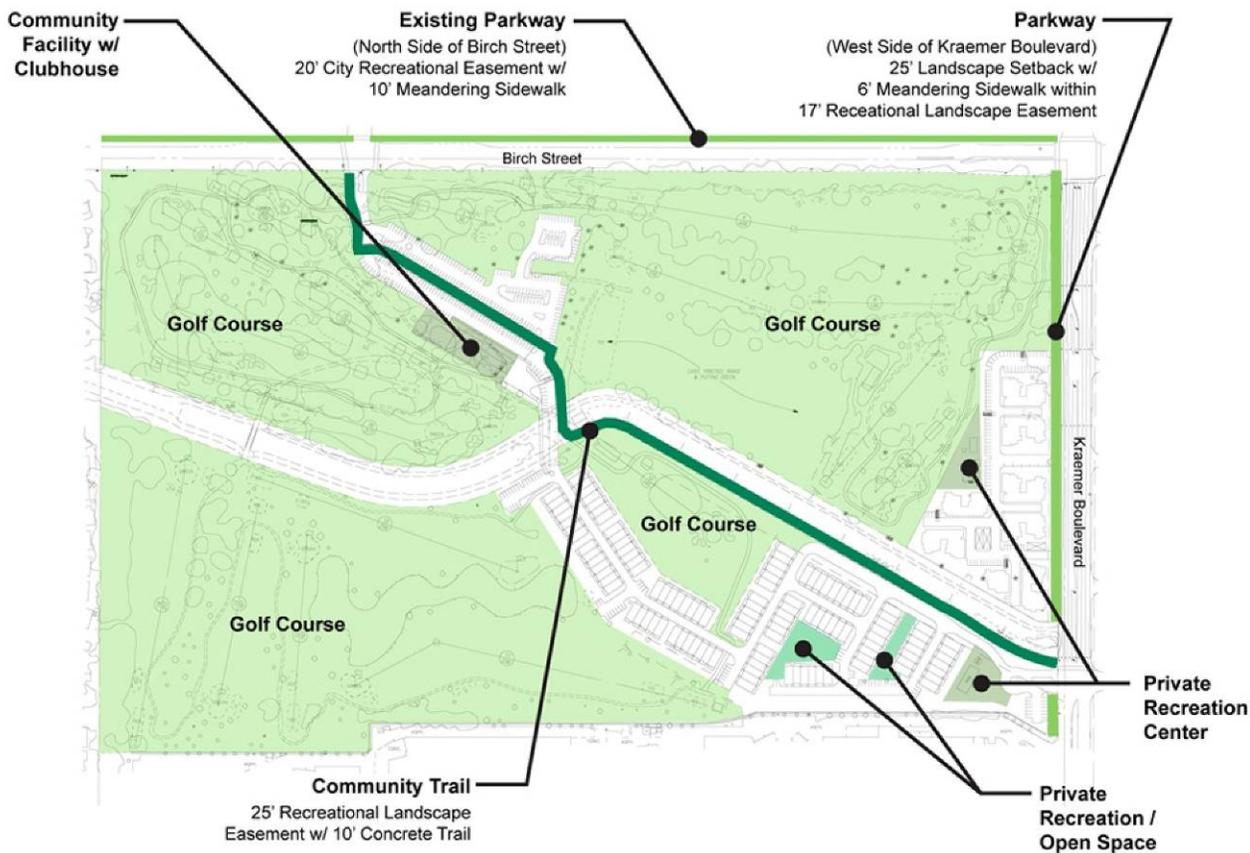
Section View



Plan View

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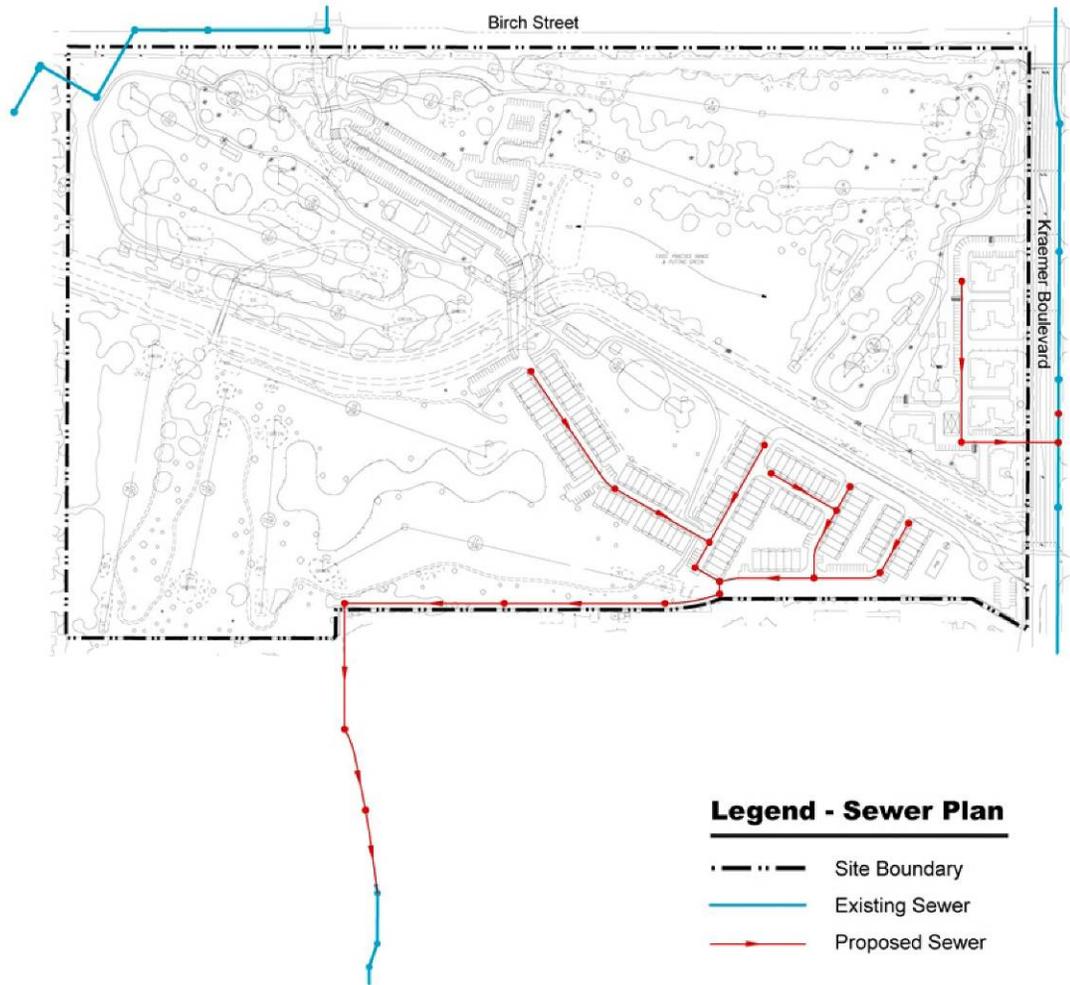
Birch Hills: Conceptual Open Space Plan



Source: Land Concern and EDAW, July 20, 2006

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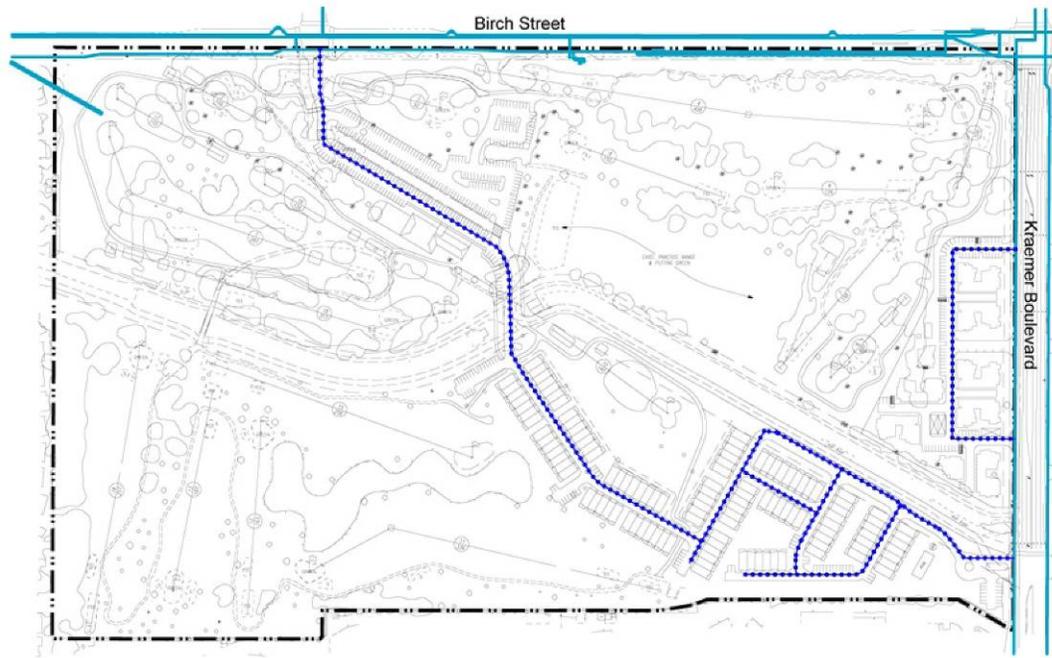
Birch Hills: Conceptual Sewer Plan



Note: Plans shown are conceptual in nature and are provided for illustrative purposes only.
Final layout and design will depend on final engineering.
Source: Hunsaker & Associates and EDAW, July 20, 2006

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Birch Hills: Conceptual Water Plan



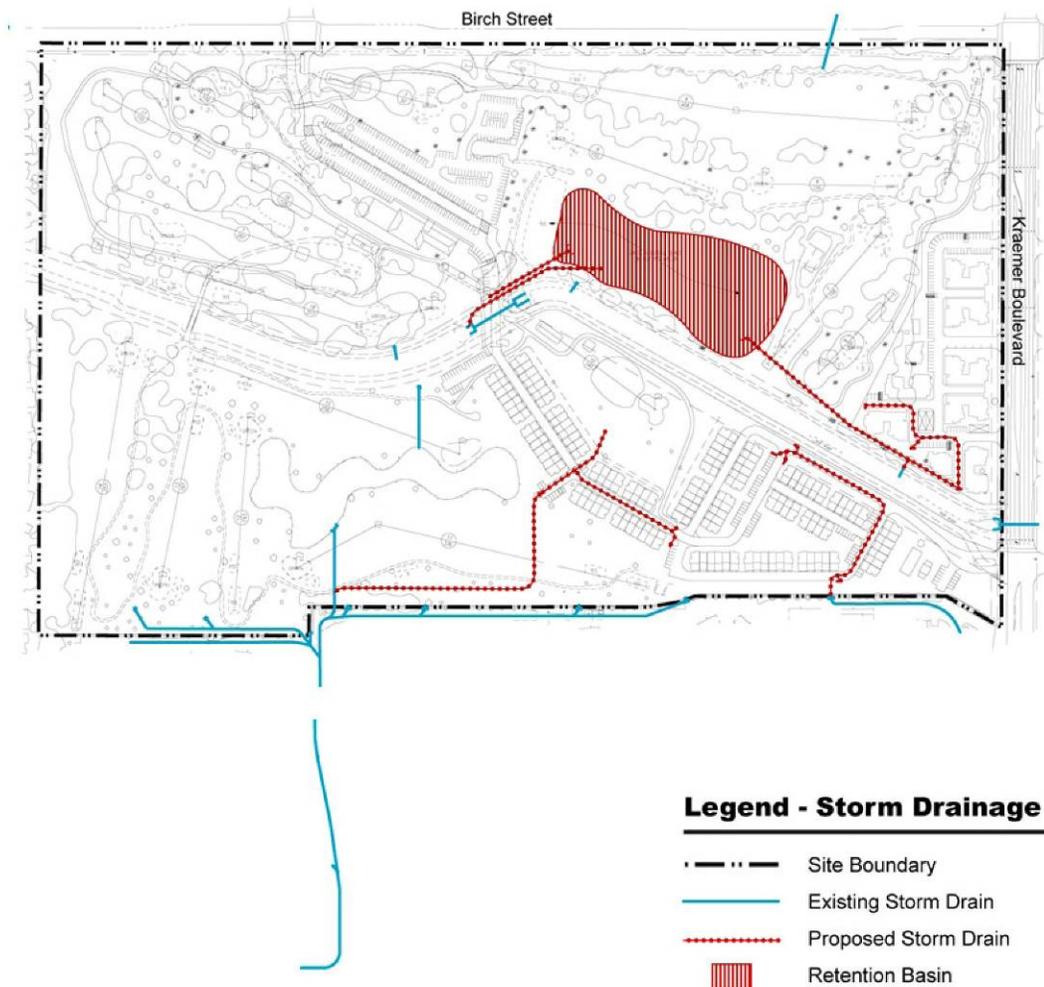
Legend - Water Plan

- Site Boundary
- Existing Water
- - - Proposed Water

Note: Plans shown are conceptual in nature and are provided for illustrative purposes only.
Final layout and design will depend on final engineering.
Source: Hunsaker & Associates and EDAW, July 20, 2006

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Birch Hills: Conceptual Storm Drainage Plan

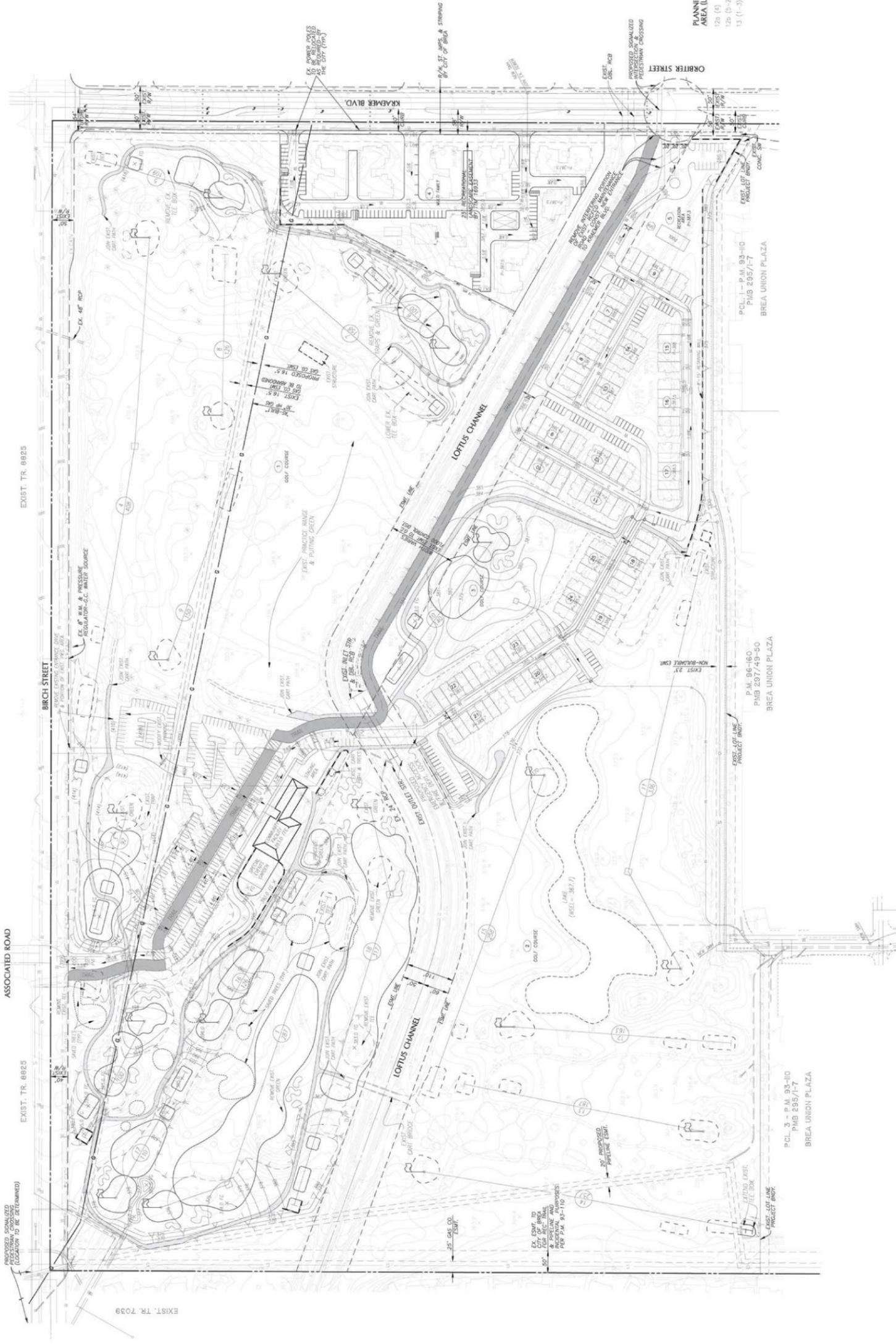


Note: Plans shown are conceptual in nature and are provided for illustrative purposes only. Final layout and design will depend on final engineering.

Source: Hunsaker & Associates and EDAW, November 2006

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Birch Hills: Tentative Tract Map 16933



GOLF COURSE SCORE CARD

HOLE #	YARDS		P.A.R.		HOLE #	YARDS		P.A.R.	
	(EXIST.)	(PROP.)	(EXIST.)	(PROP.)		(EXIST.)	(PROP.)	(EXIST.)	(PROP.)
1	(132)	287	(3)	4	10	(178)	140	(3)	3
2	(178)	100	(3)	3	11	(141)	136	(3)	4
3	(132)	92	(3)	3	12	(197)	163	(3)	3
4	(189)	408	(4)	4	13	(137)	187	(3)	3
5	(137)	109	(4)	3	14	(133)	257	(4)	4
6	(191)	100	(3)	3	15	(161)	258	(3)	4
7	(139)	158	(3)	3	16	(187)	126	(3)	3
8	(177)	126	(3)	3	17	(246)	110	(4)	3
9	(143)	150	(3)	4	18	(149)	317	(3)	4
OUT	(1625)	1530	(29)	29	IN	(1835)	1897	(30)	31
TOTAL		(3560)		3424	TOTAL		(3560)		3424

LAND USE SUMMARY

PLANNING AREA (LOT#)	LAND USE	ACREAGE	DWELLING UNITS	SO. FTG. (BUILDING)	OPEN PKG. SPCS.	COVERED PKG. SPCS.
12a (4)	RESIDENTIAL-VERY-HIGH DENSITY	4.7	115	---	88	115
12b (5-25)	RESIDENTIAL-HIGH DENSITY	13.0	116	---	82	232
13 (1-3)	OPEN SPACE	75.6	NA	---	273	NA
	CLUBHOUSE (EXIST.)		20,000	REMOVED		
	COMMUNITY FACILITY		20,000	REMOVED		
	BIRCH HILLS GOLF COURSE TOTALS	91.3	247			
					20,000	

Source: Hunsaker & Associates, October 2006



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4.2.3 Project Approvals

Development of the site as proposed would involve a number of both discretionary and ministerial approvals by the City of Brea. La Floresta LLC is the project applicant and proponent. This EIR will be used by the City, Responsible and Trustee Agencies in connection with their consideration of the following actions and approvals for the proposed Project.

- Certification of Environmental Impact Report # 06-01 (State Clearinghouse # 2005121093);
- General Plan Amendment: A General Plan Amendment is necessary to amend the current designation on the site from the Birch Hills Specific Plan to the appropriate land use designations.
- Specific Plan Amendment: A Specific Plan Amendment may be necessary to amend the Birch Hills Specific Plan to remove the site from the document.
- Approval of Development Agreement: A Development Agreement is proposed to implement transfer of the Birch Hills to the City and to implement design guidelines and development standards on both sites.
- Approval of Zone Changes: New High Density Residential (R3) and Public Facility (PF) zoning designations for the Birch Hills site to reflect the appropriate zoning for the proposed Birch Hills project.
- Tentative Tract Maps # 16933 and #16934: Tentative Tract Maps or parcel maps to be approved concurrent with the Development Agreement and Zone Change actions for both sites.
- Precise Development Plans: Precise Development Plans will require additional discretionary action by either the City Development Services Department or the Planning Commission for each of the twelve (12) Planning Areas in the La Floresta Development I Proposal. (Planning Areas 1 through 11 are located in the La Floresta Village Development, and Planning Area 12 is located in the Birch Hills Development.)
- Conditional Use Permit: A Conditional Use Permit is required for the Assisted Living Facility proposed for Planning Area 9 on the La Floresta Village Site.
- Final Tract Maps;
- Grading permits; and
- Building permits.

Additional approvals may also be required by other agencies for Project implementation include, but may not be limited to:

- Regional Water Quality Control Board-Santa Ana Region - National Pollutant Discharge Elimination System (NPDES) Permits, Stormwater Pollution Prevention Plan (SWPPP) and Monitoring Program Plan (MPP), both sites.

4. Project Description

- Brea-Olinda Unified School District – Potential annexation of a portion of the La Floresta Village site.
- Placentia-Yorba Linda Unified School District – Potential de-annexation of a portion of the La Floresta Village site.
- Caltrans / District 12 – Improvements on Imperial Highway and Valencia Avenue (La Floresta Village site).
- California Division of Oil, Gas and Geothermal Resources (DOGGR); La Floresta Village site – well abandonment.
- Army Corp. of Engineers – Connection to storm drain channel at Imperial Highway (La Floresta Village site).
- Orange County Flood Control District – Connection to storm drain channel at Imperial Highway (La Floresta Village site), and to the Loftus Channel (Birch Hills site).
- Orange County Sanitation District – Connection to Rose Drive trunk sewer (La Floresta Village site).
- Metropolitan Water District – Grading within an MWD easement (La Floresta Village site).
- Southern California Edison – approval of utility connections and proposed undergrounding of an existing 66KV overhead transmission line on the La Floresta Village site
- Southern California Gas – approval of utility connections.

5. Environmental Analysis

5.1 Aesthetics

5.1.1 Methodology

The Initial Study for this Project examined all aspects of potential aesthetics impacts outlined in the CEQA Checklist, which is contained in Appendix A to this EIR. In this preliminary evaluation, it was determined that the La Floresta Development Proposal would have “Less than Significant” impacts on scenic vistas, and on scenic resources such as trees, rock outcroppings, and historic buildings within a scenic highway corridor. Since the Initial Study, information has been developed regarding tree removal on the La Floresta Village site. Consequently, that topic is further evaluated in this EIR. Other aesthetics issues examined in the following section include: degradation of the existing visual character and quality of the Project sites and their surroundings, creation of a new source of light and glare, and construction-related aesthetics impacts. In order to assist in the evaluation of aesthetics impacts, a series of computer-aided visual simulations have been prepared from vantage points selected by the City of Brea to generally represent changes in the visual character that would occur and to also represent the most impacted vantage points. In addition, site photographs are provided illustrating existing on-site conditions for both Project sites.

The assessment of aesthetics impacts is by its nature a subjective exercise. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetics impacts. Potential aesthetics impacts can be evaluated considering factors such as proposed grade separations, landform alteration, building setbacks, scale, massing, typical construction materials, and landscaping features associated with the design of a proposed project. It should be noted, however, that there are no defined standards or established methodologies for the assessment of aesthetics impacts. Edge conditions and viewshed alteration are considered in the context of these factors, to the extent such information is known. The aesthetics compatibility of the La Floresta Development Proposal with the surrounding area and potential impacts to sensitive viewers are examined. Sensitive viewpoints are generally associated with land uses such as residential areas, scenic highways, and public recreational areas. The potential impacts of the proposed Project on viewsheds have been analyzed by establishing three basic viewing distance zones:

- Foreground Views. These views include elements that are seen at a close distance and that dominate the entire view. These vantage points are generally 500 feet or less from the site depending on the scale of the project, surrounding topography, and other prominent physical features in the project vicinity.
- Middleground Views. These views include elements that are seen at a moderate distance and that partially dominate the view. These vantage

points are generally located between 500 feet and one mile from the project site.

- Background Views. These views include elements that are seen at a long distance and typically comprise horizon line views that are part of the overall visual composition of the area. These vantage points are generally farther than one mile from the project site.

These distance zones have been utilized to assess the aesthetics compatibility of the La Floresta Development Proposal with the surrounding area and potential impacts to sensitive viewers. In the project area, sensitive viewpoints consist of vantage points from the residential areas to the east of the La Floresta Village site and passing motorists along Imperial Highway and Valencia Avenue. With respect to the Birch Hills site, sensitive viewpoints consist of vantage points from residential areas to the north, and passing motorists along Birch Street and Kraemer Boulevard.

5.1.2 Setting

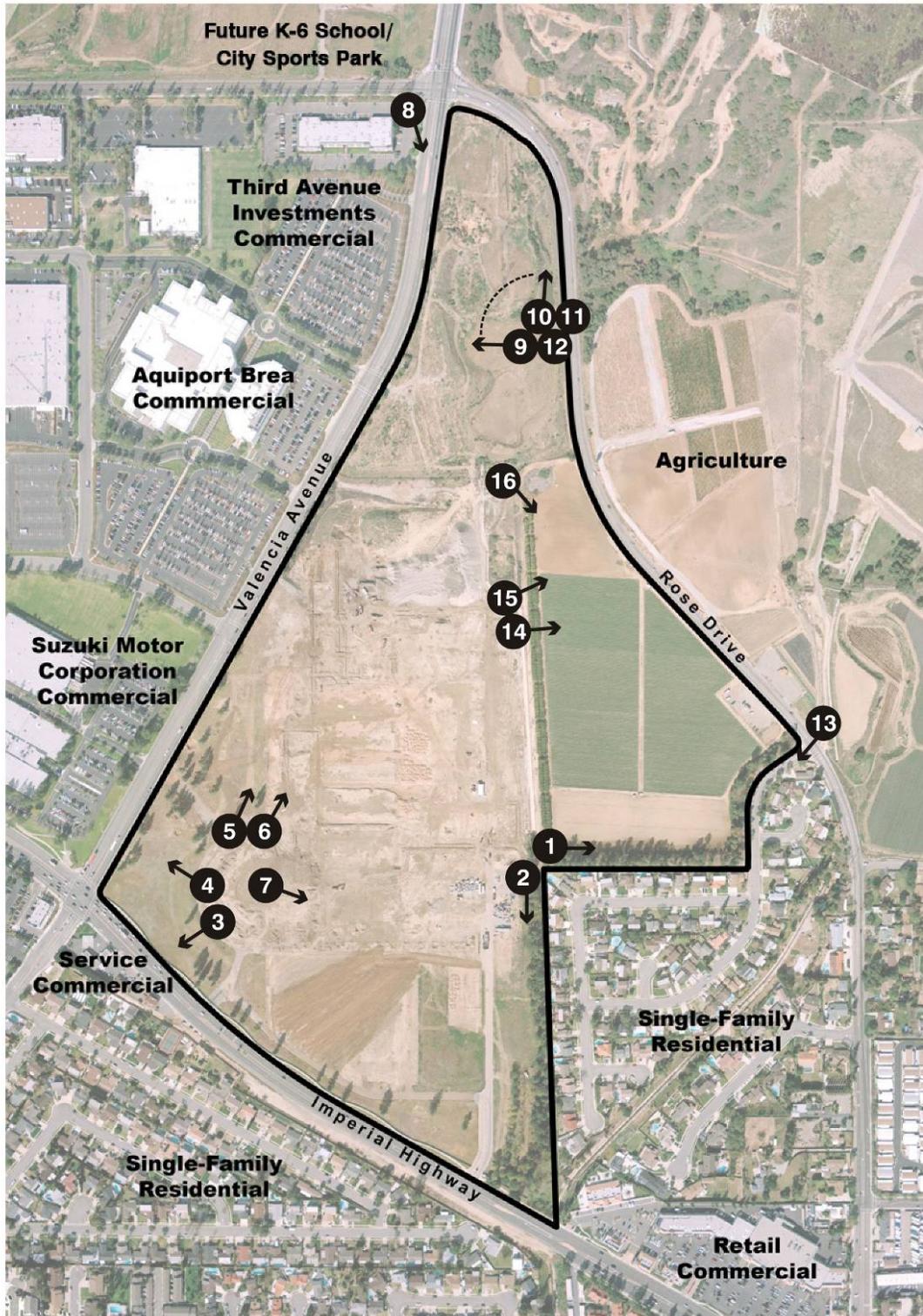
PROJECT SITE CONDITIONS

La Floresta Village Site

The La Floresta Village site is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the north and east, as illustrated in Exhibit 3.3-1 – Local Vicinity Map (page 3-5). The structures and improvements on the La Floresta Village site were removed in the past year and the entire site is currently vacant. Portions of the site have undergone rough grading during the removal of structures and improvements. The southern portion of the site is relatively flat, while the northern portion is characterized by gently rolling topography up to the intersection of Birch Street and Valencia Avenue. The northeastern portion of the site along Rose Drive is in agricultural use and has row crops and some citrus trees that primarily serve as windbreaks. Tree rows also exist along the site's easterly boundary abutting the Vesuvius residential neighborhood, and scattered mature trees are located along portions of Valencia Avenue and Imperial Highway. The perimeter of the La Floresta Village site currently is enclosed with chain link fencing with a visual screen along Valencia Avenue and Imperial Highway. A block wall exists along the boundary with the Vesuvius residential neighborhood.

Previous uses have substantially altered the overall aesthetic character of the La Floresta Village site. The most significant remaining visual features are perimeter tree rows. Overall, however, the existing character of the La Floresta Village site would be best described as disturbed, and the character of the surrounding area as developed suburban uses. The La Floresta Village site does not contain any unique visual features such as rock outcroppings or historic structures. Exhibit 3.4-1 – La Floresta Village: Existing On-site and Surrounding Land Uses (page 3-9), provides an up-to-date aerial view of existing conditions. Exhibit 5.1-1a through Exhibit 5.1-1d provide current site photographs illustrating various conditions throughout the La Floresta Village site.

La Floresta Village: Site Photograph Index



Legend - #(1)-(16): Photo Locations

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La Floresta Village: Site Photographs



Photo One



Photo Two



Photo Three

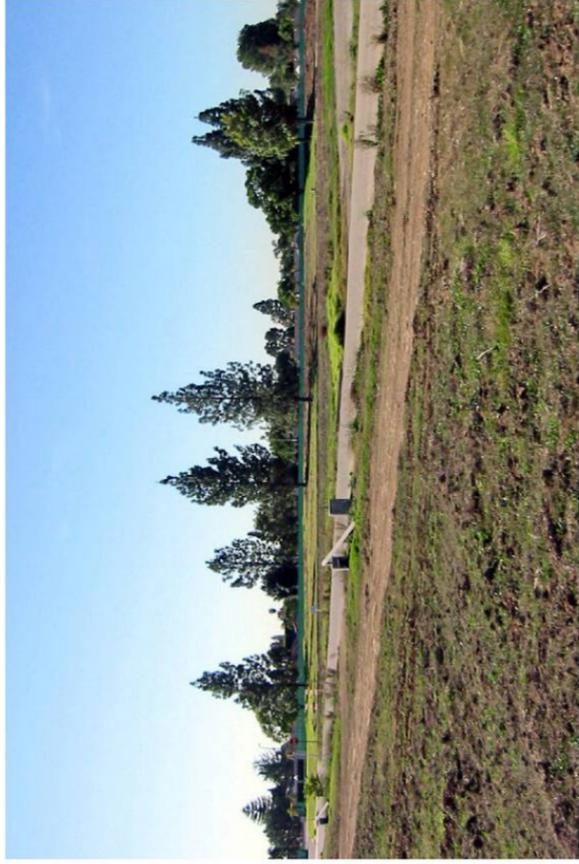


Photo Four



Photo Five



Photo Six

Note: All photographs taken December 6, 2005.

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La Floresta Village: Site Photographs



Photo Seven

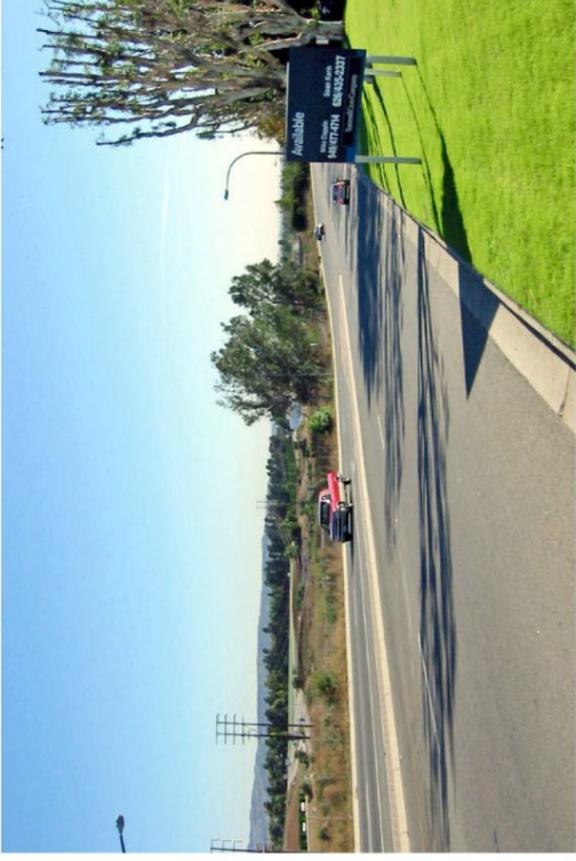


Photo Eight

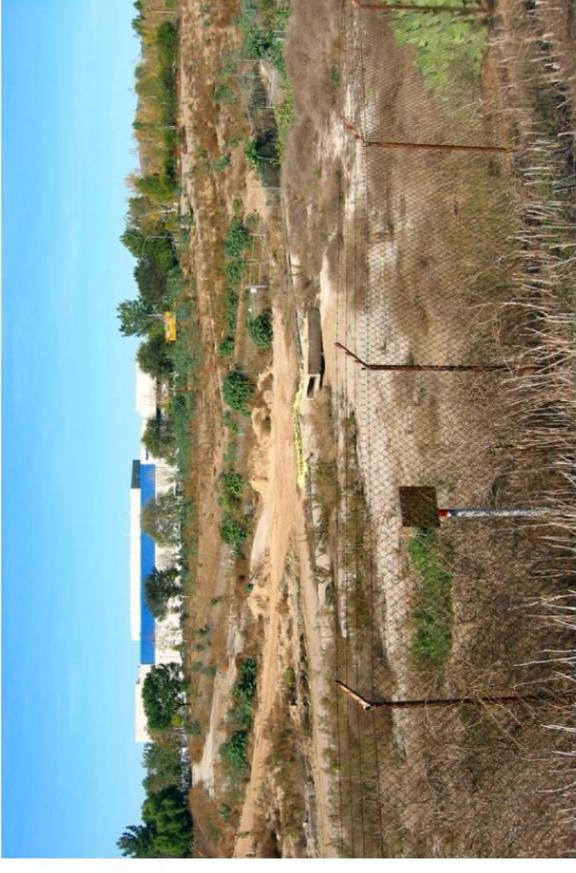


Photo Nine

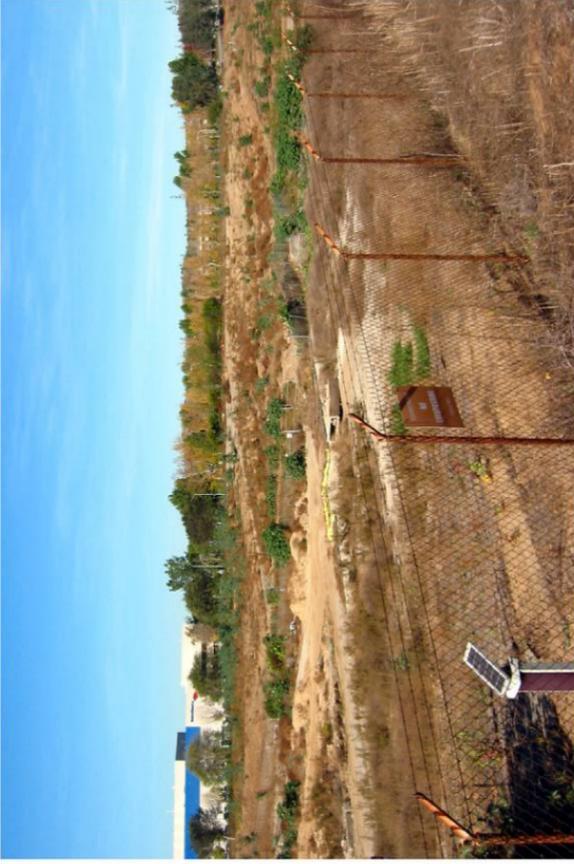


Photo Ten



Photo Eleven



Photo Twelve

Note: All photographs taken December 6, 2005.

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La Floresta Village: Site Photographs



Photo Thirteen

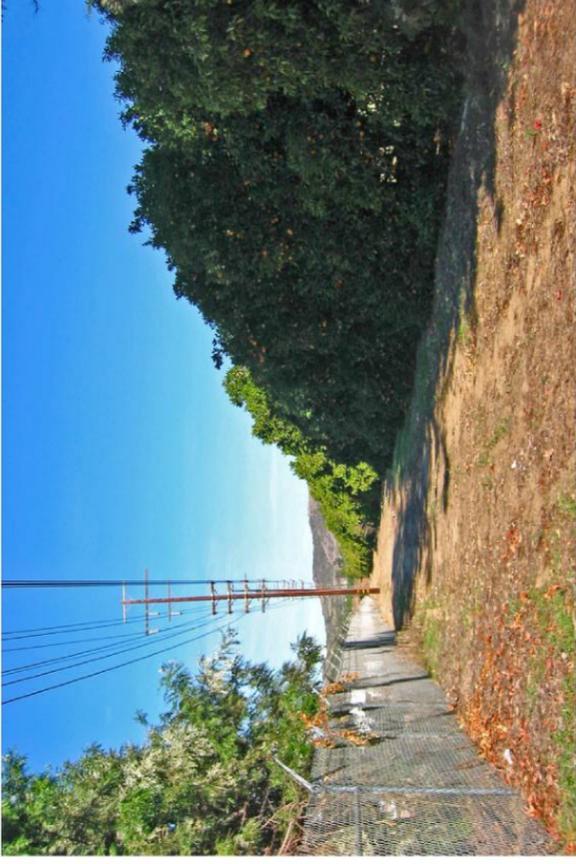


Photo Fourteen

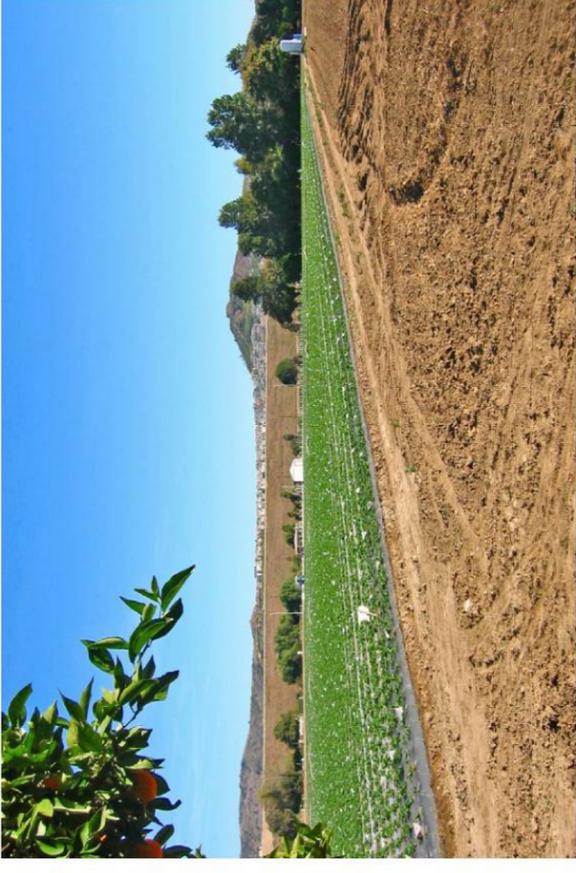


Photo Fifteen

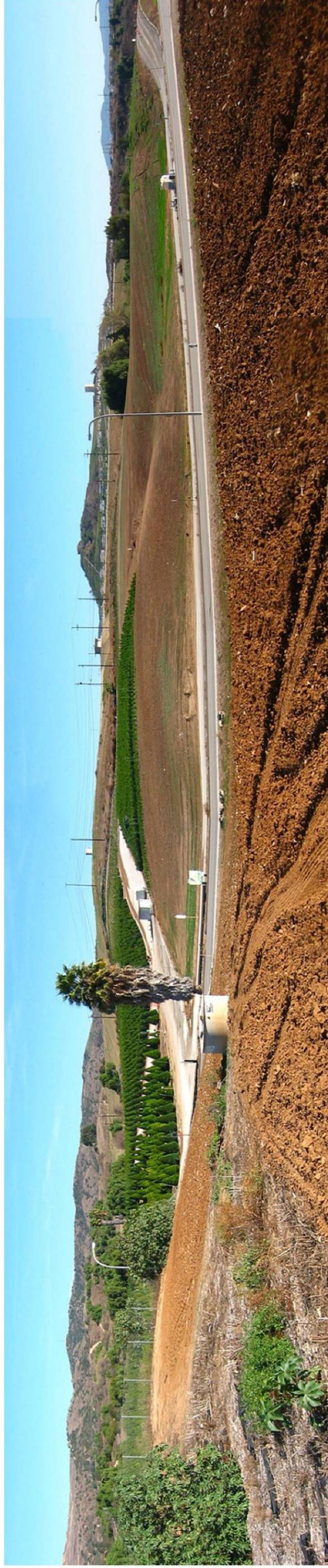


Photo Sixteen

Note: All photographs taken December 6, 2005.

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In February 2002, a survey of existing trees on the majority of the La Floresta Village site was conducted by the Valley Crest Tree Company under contract to La Floresta LLC. Areas covered in this tree survey are illustrated on Exhibit 5.1-2a. Tally sheets listing the inventoried trees are contained in Appendix B. A total of 300 trees were inventoried within the five survey areas shown. The vast majority of these trees were identified as Canary Island pines, with other species including Jacaranda, plumosa, Sweet Gum (liquidambar), podocarpus, Carrotwood and a few others. Due to their maturity, many of the Canary Island pines have reached heights of 40 feet or more, with spreads of 20 feet or greater. The majority of the existing trees covered in this inventory have since been removed to make way for site development. Approximately 84 of the larger and healthier specimens have, however, been boxed for future re-planting on the La Floresta Village site.

A second tree survey was conducted by Land Concern in May 2006 of the proposed linear park area along the southeasterly site boundary. The tree inventory and a listing of specimens to be removed and to remain are shown on Exhibit 5.1-2b. A total of 206 trees were inventoried, of which approximately 144 would remain in place depending on the health of the tree within the linear park proposed on the La Floresta Village plan.

Birch Hills Site

The Birch Hills site is approximately 91.3 acres in size and is located on Birch Street at the intersection of Kraemer Boulevard, as illustrated in Exhibit 3.3-1 – Local Vicinity Map (page 3-5). It is currently occupied by the Birch Hills Golf Course, which contains 18 holes on rolling topography. The Birch Hills site is transected by the Loftus Channel, which is a partially concrete-lined flood control facility with a 110-foot right-of-way. The perimeter of the site is walled along the south and west boundaries, and chain link fencing is found along Birch Street and Kraemer Boulevard. Major tree rows exist along Birch Street and Kraemer Boulevard and internally along portions of the Loftus Channel. Exhibit 3.4-3 – Birch Hills: Existing On-Site and Surrounding Land Uses (page 3-13), provides an up-to-date aerial view of existing conditions. Exhibit 5.1-3a through Exhibit 5.1-3c provide current site photographs illustrating various conditions throughout the Birch Hills site.

A preliminary tree inventory of the Birch Hills site was conducted in June 2006 by the firm of Treeco Arborist, Inc. under contract to the project applicant. This inventory and a proposed tree palette are contained in Appendix B to this EIR. A total of 834 trees were inventoried on the existing golf course. It is estimated that approximately 196 trees would be removed to accommodate proposed development. No re-planting of existing trees is proposed. The design concept for the reconfigured golf course is currently in preliminary form, however, and refinements are anticipated that may affect existing trees. The applicant has stated that their objective is to provide one-for-one tree replacement for any trees removed. The City of Brea will review any subsequent design plans to ensure that all landscaping at a minimum meets city standards and that mature healthy trees are retained to the extent feasible.

VISUAL CHARACTER IN THE VICINITY OF THE PROJECT SITES

La Floresta Village Site

The visual character surrounding the La Floresta Village site is predominantly suburban. Single-family residential areas, agricultural and industrial uses adjoin the La Floresta Village site as illustrated in Exhibit 3.4-1 – La Floresta Village: Existing On-site and Surrounding Land Uses (page 3-9). Industrial, commercial, and office uses are located along the westerly and southerly boundary across Valencia Avenue and Imperial Highway. The La Floresta Village site is situated approximately one mile downstream of the Carbon Canyon Dam, which provides a prominent visual backdrop. The Brea-Olinda Landfill is located approximately 1.8 miles to the north of the site, and is visible as a manufactured slope among the rolling Chino Hills. Easterly of Rose Drive, the La Floresta Village site is abutted by open space that is part of the Carbon Canyon Regional Park, which links with the Chino Hills State Park.

Birch Hills Site

The visual character surrounding the Birch Hills site can best be described as developed suburban. Single-family and multi-family residential neighborhoods abut the Birch Hills site to the west and north, as illustrated on Exhibit 3.4-3 – Birch Hills: Existing On-Site and Surrounding Land Uses (page 3-13). A 40-acre retail commercial center (Brea Union Plaza) abuts the Birch Hills site to the south, and light industrial uses are located east of the site.

REGULATORY SETTING

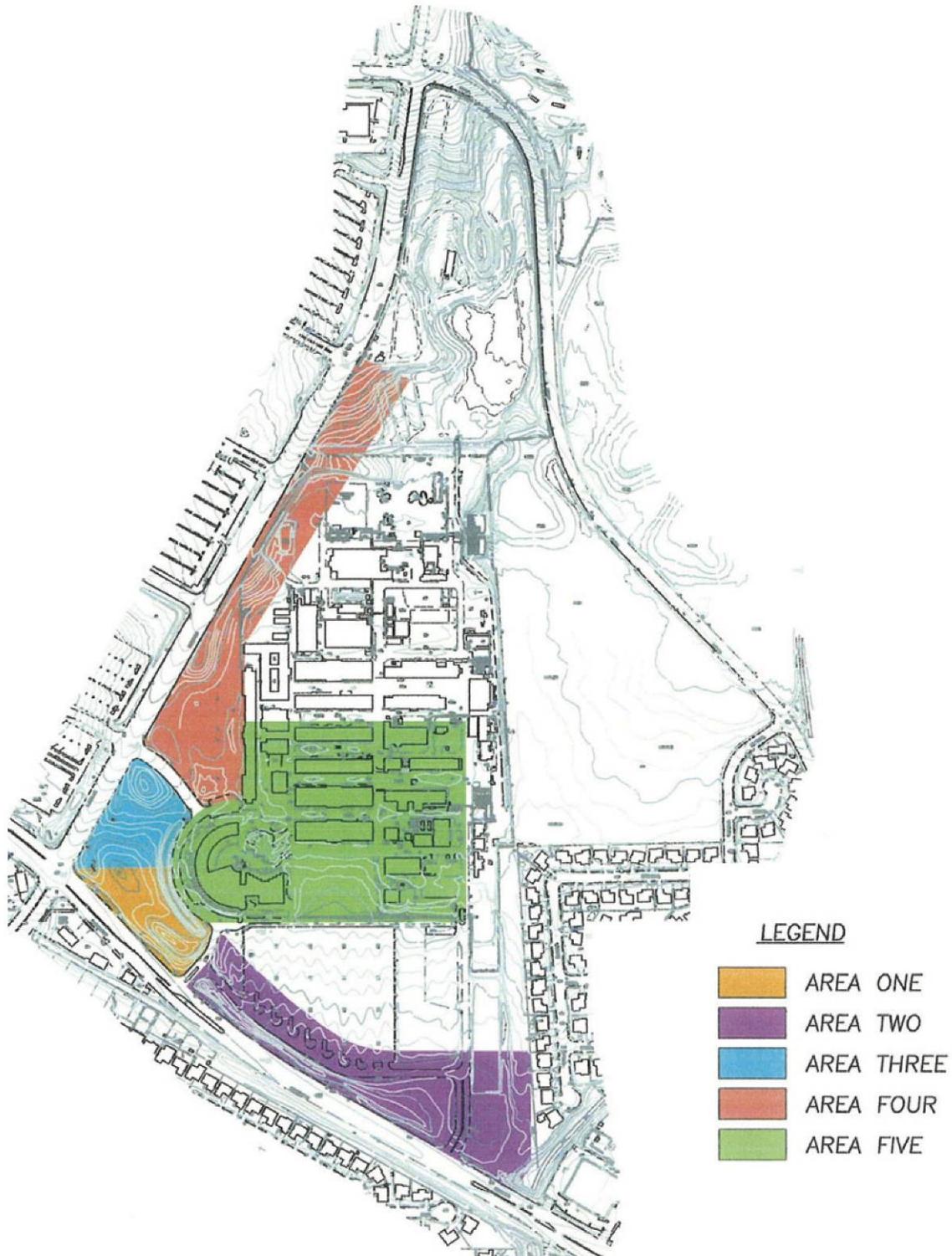
City of Brea General Plan: Community Development Element – Urban Design

The Community Development Element, Urban Design subsection contains the following policies that are applicable to the proposed Project, as listed below. Exhibit 5.1-4 illustrates the Urban Design Plan Map as contained in the City General Plan.

Citywide Policies

- *Policy CD-19: Encourage active and inviting street environments that include a variety of uses within Commercial and Mixed Use areas.*
- *Policy CD-20: Encourage site planning with Commercial and Mixed Use Districts that functionally and visually integrates on-site facilities and use, including buildings, services, access, and parking.*
- *Policy CD-21: Integrate residential development with its built and natural surroundings, and in particular, encourage a strong relationship between dwellings and the street.*
- *Policy CD-22: Encourage the use of native plant palettes in the creation of landscape plans used to establish a sense of place in neighborhood identification efforts.*

La Floresta Village: Tree Survey Index, Map One



Source: Land Concern, May 24, 2006

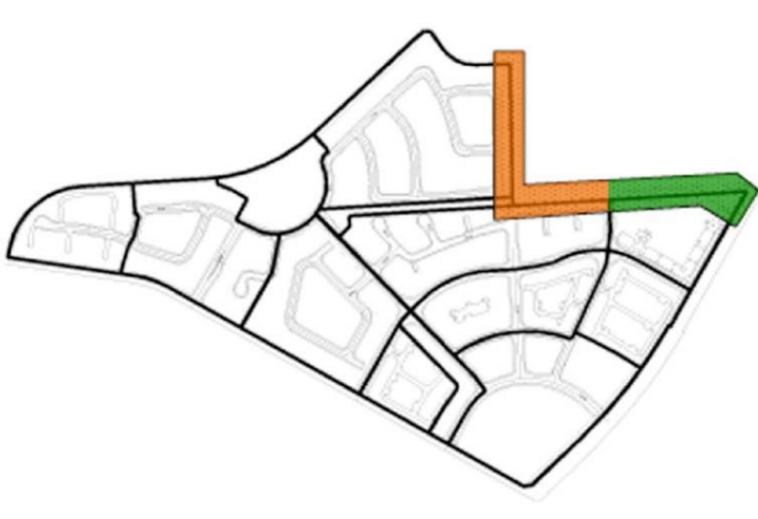
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La Floresta Village: Tree Survey, List of Species

TREE SCHEDULE - TREES TO BE REMOVED		
NO.	BOTANICAL NAME	COMMON NAME
300	Koelerutera bipinnata	Chinese Flame Tree
301	Koelerutera bipinnata	Chinese Flame Tree
302	Grevillea robusta	Silk Oak
303	Grevillea robusta	Silk Oak
304	Grevillea robusta	Silk Oak
305	Sophora japonica	Japanese Pagoda Tree
306	Fraxinus undel	Evergreen Ash
307	Eucalyptus sideoxyon	Red Ironbark
308	Eucalyptus sideoxyon	Red Ironbark
309	Pinus canariensis	Canary Island Pine
310	Pinus canariensis	Canary Island Pine
311	Pinus canariensis	Canary Island Pine
312	Grevillea robusta	Silk Oak
313	Schinus terebinthifolius	Brazilian Pepper Tree
314	Schinus terebinthifolius	Brazilian Pepper Tree
315	Grevillea robusta	Silk Oak
316	Schinus terebinthifolius	Brazilian Pepper Tree
317	Cupaniopsis anacardioides	Carrotwood
318	Schinus terebinthifolius	Brazilian Pepper Tree
319	Gelera parviflora	Australian Willow
320	Pinus halepensis	Aleppo Pine
321	Pinus halepensis	Aleppo Pine
322	Fraxinus undel	Evergreen Ash
323	Lagerstroemia indica	Crape Myrtle
324	Lagerstroemia indica	Crape Myrtle
325	Ulmus parvifolia	Chinese Elm
326	Cupaniopsis anacardioides	Carrotwood
327	Bauhinia variegata	Purple Orchid Tree
328	Bauhinia variegata	Purple Orchid Tree
329	Bauhinia variegata	Purple Orchid Tree
330	Melaleuca quinquenervia	Cajuput Tree
331	Melaleuca quinquenervia	Cajuput Tree
332	Melaleuca quinquenervia	Cajuput Tree
333	Melaleuca quinquenervia	Cajuput Tree
334	Alanthus altissima	Tree-Of-Heaven
335	Quercus agrifolia	Coast Live Oak
336	Grevillea robusta	Silk Oak
337	Grevillea robusta	Silk Oak
338	Schinus molle	California Pepper Tree
339	Grevillea robusta	Silk Oak
340	Melaleuca quinquenervia	Cajuput Tree
341	Melaleuca quinquenervia	Cajuput Tree
342	Bauhinia variegata	Purple Orchid Tree
343	Bauhinia variegata	Purple Orchid Tree
344	Bauhinia variegata	Purple Orchid Tree
345	Schinus terebinthifolius	Brazilian Pepper Tree
346	Dodonaea	Hop Bush
347	Schinus terebinthifolius	Brazilian Pepper Tree
348	Schinus molle	California Pepper Tree
349	Grevillea robusta	Silk Oak
350	Grevillea robusta	Silk Oak
351	Alanthus altissima	Tree-Of-Heaven
352	Alanthus altissima	Tree-Of-Heaven
353	Cinamomum camphora	Camphor Tree
354	Alanthus altissima	Tree-Of-Heaven
355	Zelkova serrata	Sawleaf Zelkova
356	Arbutus unedo	Strawberry Tree
357	Cercis canadensis	Eastern Redbud
358	Schinus molle	California Pepper Tree
359	Arbutus unedo	Strawberry Tree
360	Grevillea robusta	Silk Oak
361	Grevillea robusta	Silk Oak

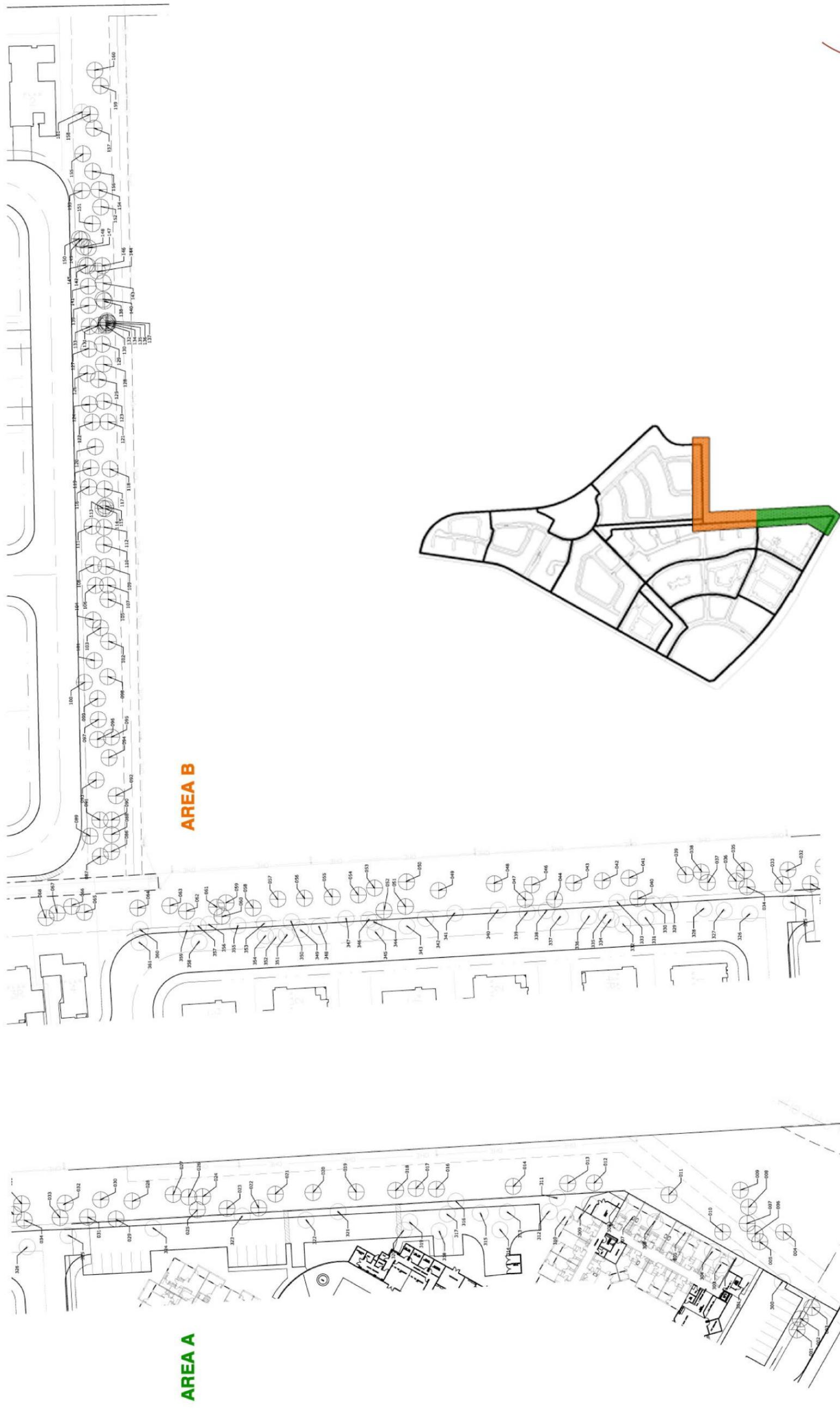
TREE SCHEDULE - TREES TO REMAIN		
NO.	BOTANICAL NAME	COMMON NAME
091	Grevillea robusta	Silk Oak
092	Grevillea robusta	Silk Oak
093	Grevillea robusta	Silk Oak
094	Grevillea robusta	Silk Oak
095	Grevillea robusta	Silk Oak
096	Grevillea robusta	Silk Oak
097	Grevillea robusta	Silk Oak
098	Lagerstroemia indica	Crape Myrtle
099	Schinus terebinthifolius	Brazilian Pepper Tree
100	Grevillea robusta	Silk Oak
101	Grevillea robusta	Silk Oak
102	Grevillea robusta	Silk Oak
103	Grevillea robusta	Silk Oak
104	Gelera parviflora	Australian Willow
105	Koelerutera bipinnata	Chinese Flame Tree
106	Grevillea robusta	Silk Oak
107	Grevillea robusta	Silk Oak
108	Citrus valencia	Valencia Orange Tree
109	Grevillea robusta	Silk Oak
110	Grevillea robusta	Silk Oak
111	Koelerutera bipinnata	Chinese Flame Tree
112	Grevillea robusta	Silk Oak
113	Grevillea robusta	Silk Oak
114	Citrus valencia (out of line)	Valencia Orange Tree
115	Grevillea robusta	Silk Oak
116	Liquidamber styraciflua	American Sweet Gum
117	Grevillea robusta (real small not orig.)	Silk Oak
118	Grevillea robusta	Silk Oak
119	Grevillea robusta	Silk Oak
120	Grevillea robusta	Silk Oak
121	Grevillea robusta	Silk Oak
122	Grevillea robusta	Silk Oak
123	Grevillea robusta	Silk Oak
124	Grevillea robusta	Silk Oak
125	Koelerutera bipinnata (Multi)	Chinese Flame Tree
126	Grevillea robusta	Silk Oak
127	Grevillea robusta	Silk Oak
128	Grevillea robusta	Silk Oak
129	Grevillea robusta	Silk Oak
130	Liquidamber styraciflua	American Sweet Gum
131	Liquidamber styraciflua	American Sweet Gum
132	Trestania conferta (Multi)	Brisbane Box
133	Lagerstroemia indica (Multi)	Crape Myrtle
134	Grevillea robusta	Silk Oak
135	Liquidamber styraciflua	American Sweet Gum
136	Liquidamber styraciflua	American Sweet Gum
137	Eucalyptus camaldulensis	Red Gum
138	Cupaniopsis anacardioides	Carrot Wood
139	Dead Tree	
140	Eucalyptus camaldulensis (big, out of position)	Red Gum
141	Schinus molle	California Pepper Tree
142	Grevillea robusta	Silk Oak
143	Grevillea robusta	Silk Oak
144	Grevillea robusta	Silk Oak
145	Grevillea robusta	Silk Oak
146	Liquidamber styraciflua	American Sweet Gum
147	Koelerutera bipinnata (Multi)	Chinese Flame Tree
148	Ligustrum lucidum (Multi)	Glossy Privet
149	Grevillea robusta	Silk Oak
150	Koelerutera bipinnata	Chinese Flame Tree
151	Grevillea robusta	Silk Oak
152	Koelerutera bipinnata	Chinese Flame Tree
153	Grevillea robusta	Silk Oak
154	Grevillea robusta	Silk Oak
155	Eucalyptus camaldulensis	Red Gum
156	Grevillea robusta	Silk Oak
157	Grevillea robusta	Silk Oak
158	Koelerutera paniculata	Goldenrain Tree
159	Sophora japonica	Japanese Pagoda Tree
160	Koelerutera bipinnata	Chinese Flame Tree
161		Red Gum

TREE SCHEDULE - TREES TO REMAIN		
NO.	BOTANICAL NAME	COMMON NAME
001	Pinus canariensis	Canary Island Pine
002	Pinus canariensis	Canary Island Pine
003	Pinus canariensis	Canary Island Pine
004	Fraxinus undel	Evergreen Ash
005	Ulmus parvifolia	Chinese Elm
006	Ulmus parvifolia	Chinese Elm
007	Ulmus parvifolia	Chinese Elm
008	Ulmus parvifolia	Chinese Elm
009	Koelerutera bipinnata	Chinese Flame Tree
010	Zelkova serrata	Sawleaf Zelkova
011	Zelkova serrata	Sawleaf Zelkova
012	Pinus canariensis	Canary Island Pine
013	Pinus canariensis	Canary Island Pine
014	Schinus terebinthifolius	Brazilian Pepper Tree
015	Grevillea robusta	Silk Oak
016	Pinus halepensis	Aleppo Pine
017	Schinus terebinthifolius	Brazilian Pepper Tree
018	Schinus terebinthifolius	Brazilian Pepper Tree
019	Gelera parviflora	Australian Willow
020	Fraxinus v. 'modest'	Modesto Ash
021	Cupaniopsis anacardioides	Carrotwood
022	Cupaniopsis anacardioides	Carrotwood
023	Cupaniopsis anacardioides	Carrotwood
024	Alanthus altissima	Tree of Heaven
025	Cupaniopsis anacardioides	Carrotwood
026	Magnolia grandiflora	Southern Magnolia
027	Fraxinus undel	Evergreen Ash
028	Fraxinus undel	Evergreen Ash
029	Grevillea robusta	Silk Oak
030	Hymenosporum flavum	Sweetshade
031	Schinus terebinthifolius	Brazilian Pepper Tree
032	Hymenosporum flavum	Sweetshade
033	Pinus halepensis	Aleppo Pine
034	Grevillea robusta	Silk Oak
035	Grevillea robusta	Silk Oak
036	Grevillea robusta	Silk Oak
037	Ulmus parvifolia	Chinese Elm
038	Ulmus parvifolia	Chinese Elm
039	Cinamomum camphora	Camphor Tree
040	Cupaniopsis anacardioides	Carrotwood
041	Cupaniopsis anacardioides	Carrotwood
042	Cupaniopsis anacardioides	Carrotwood
043	Cupaniopsis anacardioides	Carrotwood
044	Grevillea robusta	Silk Oak
045		
046	Grevillea robusta	Silk Oak
047	Grevillea robusta	Silk Oak
048	Grevillea robusta	Silk Oak
049	Pinus halepensis	Aleppo Pine
050	Quercus agrifolia	Coast Live Oak
051	Grevillea robusta	Silk Oak
052	Grevillea robusta	Silk Oak
053	Pinus halepensis	Aleppo Pine
054	Grevillea robusta	Silk Oak
055	Quercus agrifolia (DEAD)	Coast Live Oak
056	Cinamomum camphora	Camphor Tree
057	Cinamomum camphora	Camphor Tree
058	Cinamomum camphora	Camphor Tree
059	Pinus halepensis	Aleppo Pine
060	Grevillea robusta	Silk Oak
061	Grevillea robusta	Silk Oak
062	Koelerutera paniculata	Goldenrain Tree
063	Sophora japonica	Japanese Pagoda Tree
064	Grevillea robusta	Silk Oak
065	Grevillea robusta	Silk Oak
066	Grevillea robusta	Silk Oak
067	Grevillea robusta	Silk Oak
068	Grevillea robusta	Silk Oak
069	Grevillea robusta	Silk Oak
070	Grevillea robusta	Silk Oak
071	Grevillea robusta	Silk Oak
072	Grevillea robusta	Silk Oak
073	Grevillea robusta	Silk Oak
074	Grevillea robusta	Silk Oak
075	Grevillea robusta	Silk Oak
076	Grevillea robusta	Silk Oak
077	Grevillea robusta	Silk Oak
078	Grevillea robusta	Silk Oak
079	Grevillea robusta	Silk Oak
080	Grevillea robusta	Silk Oak
081	Grevillea robusta	Silk Oak
082	Grevillea robusta	Silk Oak
083	Grevillea robusta	Silk Oak
084	Grevillea robusta	Silk Oak
085	Grevillea robusta	Silk Oak
086	Grevillea robusta	Silk Oak
087	Grevillea robusta	Silk Oak
088	Liquidamber styraciflua	American Sweet Gum
089	Grevillea robusta	Silk Oak
090	Grevillea robusta	Silk Oak



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La Floresta Village: Tree Survey, Map Two



Note: See Figure 5.1-2b for a list of the tree species.
Source: Land Concern, May 24, 2006

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Birch Hills: Site Photograph Index



Legend - #(1)-(12): Photo Locations

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Birch Hills: Site Photographs



Photo One

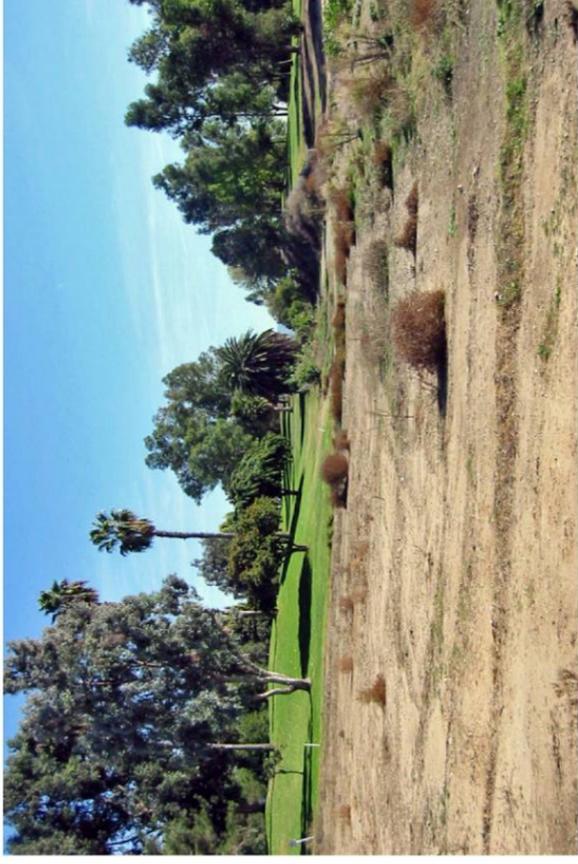


Photo Two



Photo Three

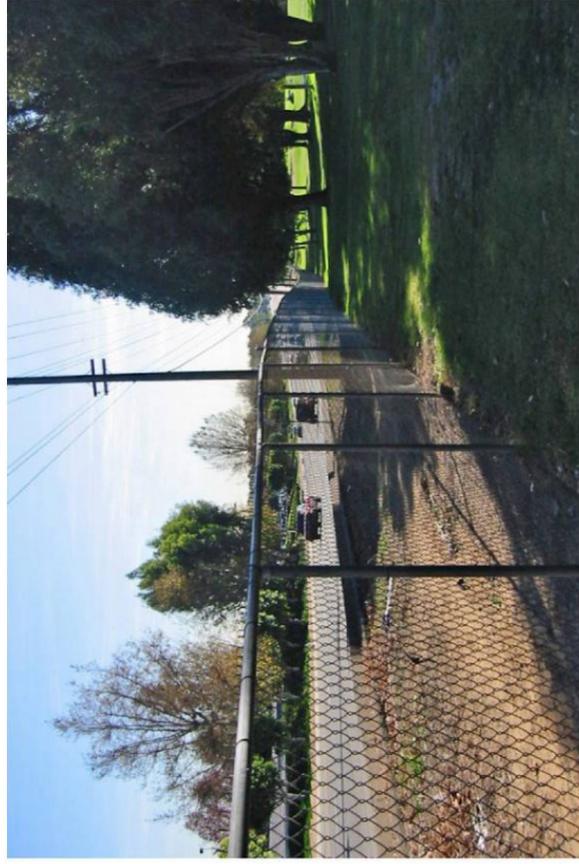


Photo Four

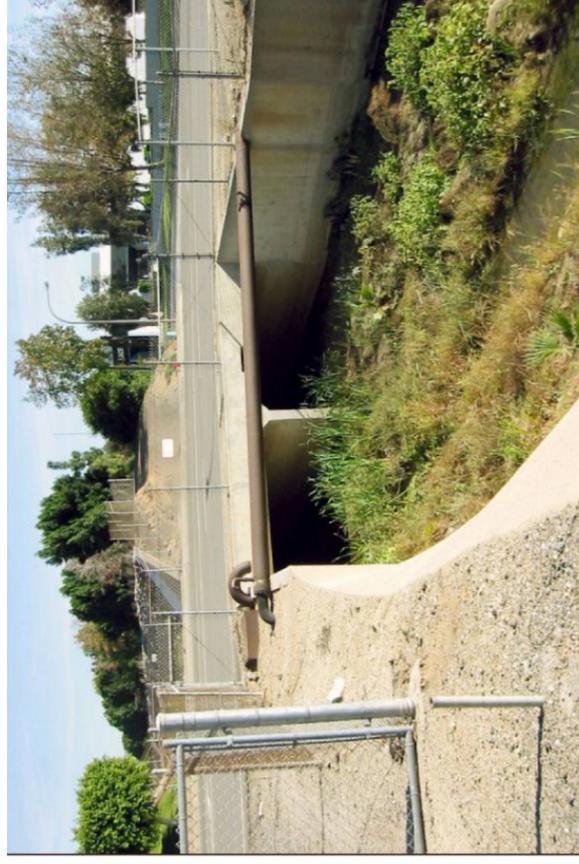


Photo Five

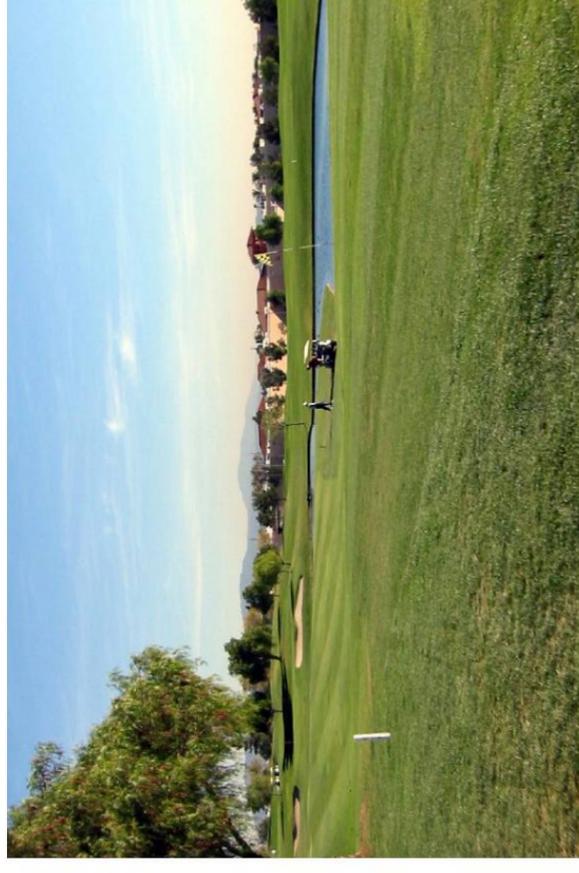


Photo Six

Note: All photographs taken December 6, 2005.

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Birch Hills: Site Photographs



Photo Seven



Photo Eight

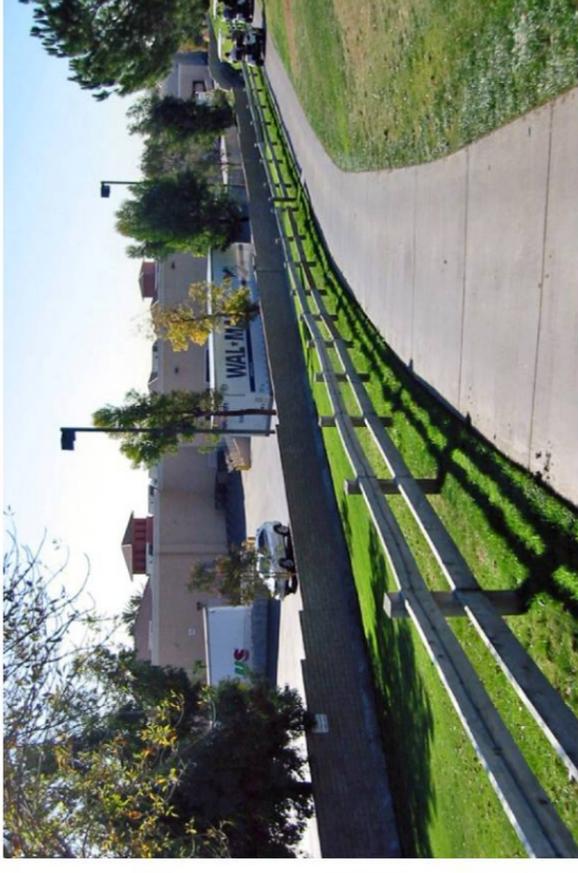


Photo Nine



Photo Ten

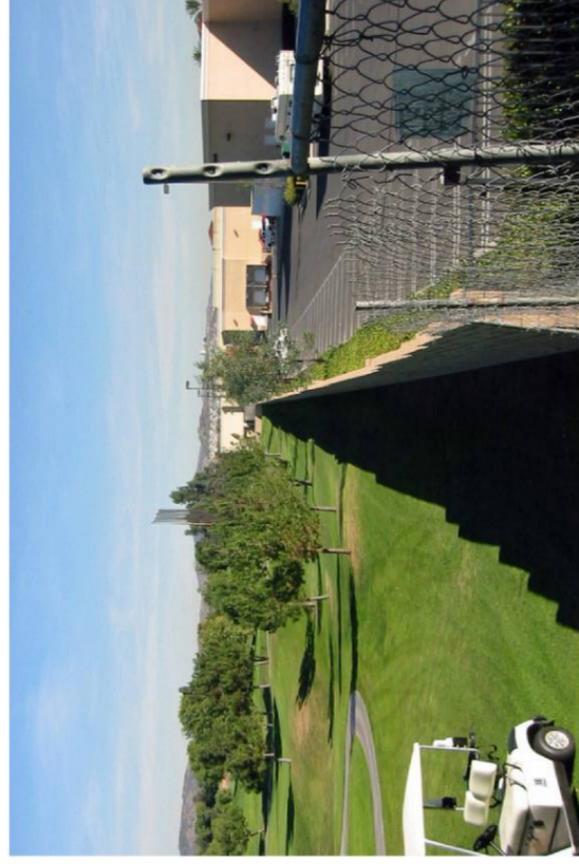


Photo Eleven



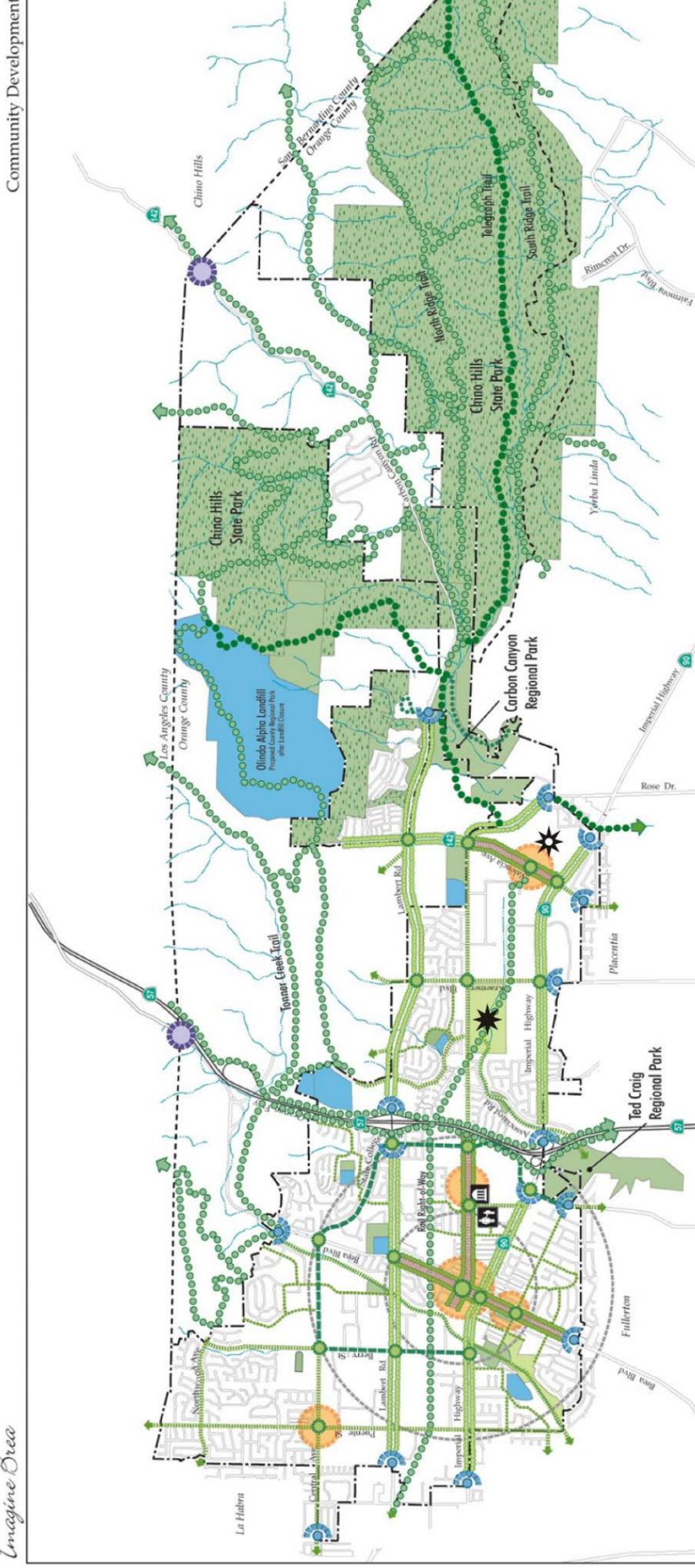
Photo Twelve

Note: All photographs taken December 6, 2005.

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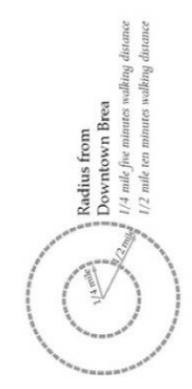
General Plan: Urban Design Plan Map

Imagine Brea



Community Development

Source: RTKL Associated Inc., April 2002 and Cotton/Bridges/Associates, 2002.



- Legend**
 - City Boundary
 - Sphere of Influence
 - Creeks, Streams, and Drainage Channels
- Activity and Design Elements**
 - Boulevard Corridor
 - Activity Node
 - Focal Intersection
 - City Gateway
 - City Entrance Signage
- Trails and Linkages**
 - Landscape Corridor (Major Trail)
 - Major Linkage (Downtown Circuit)
 - Major Linkage
 - Neighborhood Linkages
 - Nature/Wilderness Trails (Hiking, equestrian, and mountain biking)
 - Regional Trail
 - Community Trail
 - Local Trail
- Public, Parks, and Recreation Facilities**
 - Parks and Recreation Facilities
 - Dedicated Open Space
 - Golf Course
 - Public Facilities
 - Civic and Cultural Center (Includes City Hall, Civic Theatre, School District Office, and Library)
 - Brea Community Center

- ★ La Floresta Village
- ★ Birch Hills Golf Course

Source: City of Brea General Plan, August 19, 2003

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Specific urban design goals and policies have been adopted in the General Plan for several areas in the City of Brea. The Birch Hills site is not included within any of these focus areas. The La Floresta Village site is focused upon in the section entitled "Unocal Research Center and Environs." The following Community Development – Urban Design Policies apply to this area:

Policies for Creating a Sense of Place

- *Consistent with land use policy, transition toward a mixed-use urban village that encompasses a range of housing types. A highly integrated mix of complementary land uses should provide jobs, housing and services.*
- *Require pedestrian oriented development that emphasizes horizontal and vertical mixing of land uses to contribute to the desired village atmosphere.*
- *Incorporate well-defined urban spaces that support social interaction and are comfortable to occupy. Pocket parks, plazas, and courtyards are compatible with an urban village lifestyle.*
- *Make provisions for educational, institutional, and active recreational uses that serve the entire community.*

Policies for Creating Connections

- *Provide convenient pedestrian and transit access throughout the district, including an interconnected network of high-amenity streetscapes, attractive and comfortable transit stops, and multiple paths that connect activities and uses.*
- *Improve the appearance and pedestrian orientation of arterials and corridors that pass through the district. Street trees and other landscape improvements will be used to significantly upgrade district streets.*
- *Promote an active street life, in keeping with the desired urban village concept. Building design and orientation should establish a strong relationship to the street.*

5.1.3 Thresholds of Significance

The following criteria are extracted from most recent update of the California Environmental Quality Act (CEQA) and the Environmental Checklist Form pertaining to Aesthetics impacts. Would the project:

- *Have a substantial effect on a scenic vista?*
- *Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*
- *Substantially degrade the existing visual character or quality of the site and its surroundings?*

- *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Evaluation conducted in the Initial Study identified potentially significant policy impacts relative to the issues listed above with the exception of effects on scenic vistas and scenic resources. Impacts on scenic vistas are not addressed further in this EIR. As noted in Section 5.1.1, however, new information regarding tree removal has become available since the preparation of the Initial Study, thus the EIR examines this topic under impacts to scenic resources.

Visual impacts are considered potentially significant where they would result in a substantial, demonstrable degradation of the existing visual character or quality of a site. This determination is based on several criteria, including observer position, views, and characteristics of the proposed development. The key factor is the extent to which the project is compatible with the character, scale, bulk, and form of surrounding development.

Light impacts are generally considered an annoyance, while impacts from glare can sometimes present safety hazards. For the purposes of this EIR, light and glare would be determined to have a significant impact if the project would create substantial glare directed toward surrounding streets or if project lighting would substantially exceed established lighting standards typical in the area.

Aesthetics impacts could also be considered significant if aspects of the project were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.1.2 under Regulatory Setting.*

5.1.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE PLANS AND REGULATIONS

City of Brea General Plan: Community Development Element – Urban Design

Urban Design policies applicable to the proposed Project are listed in Section 5.1.2, under Regulatory Setting and are discussed below relative to each site.

La Floresta Village Site

The La Floresta Village site is designated for "Mixed Use II" on the current City of Brea General Plan. The City also recently adopted a new MU-II Zone District in order to direct implementation of land use policy in mixed-use areas such as the La Floresta Village site.

The proposed La Floresta Village project would comply with Community Development Element – Urban Design policies listed in Section 5.1.2, under Regulatory Setting in that it is a master planned project containing a range of single- and multi-family residential densities and dwelling types (including vertically integrated live/work dwelling units),

allows for a range of support commercial and office land uses in close proximity to future residents, and incorporates a system of trail links, a linear park and community recreation facilities.

This analysis, however, only evaluates the consistency of the proposed Project at a broad policy level. Plans for La Floresta Village will require the subsequent approval of Precise Development Plans by the City of Brea which involves detailed urban design review.

Level of Significance: Less than significant.

Mitigation Measures: Adherence to the relevant planning policies and development standards would ensure that no significant urban design policy conflicts occur.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

As noted above, there are no urban design policies that focus upon the Birch Hills site. Plans for Birch Hills will require the subsequent approval of Precise Development Plans by the City of Brea which involves detailed urban design review.

DAMAGE TO A SCENIC RESOURCE

La Floresta Village Site

The La Floresta Village site does not contain any distinctive or unique scenic resources such as rock outcroppings, geologic features, or historic structures. As has been described in preceding sections, it does however contain a substantial inventory of existing trees, many of them 40 to 50 feet in height and 20 to 25 feet in spread. Existing trees have been massed along the site perimeter, as illustrated in Exhibit 5.1-2a and Exhibit 5.1-2b. Exhibit 4.2-10a (page 4-57) and Exhibit 4.2-10b (page 4-59) illustrate proposed typical landscape conditions along Imperial Highway, Rose Drive, and Valencia Avenue. Perimeter street trees as well as landscape improvements within the development are planned.

La Floresta LLC (the project applicant) has also proposed retaining or replanting approximately 45 percent of existing trees on the La Floresta Village site. The City of Brea Municipal Code does not address tree preservation; however, the Urban Design Element of the General Plan encourages the use of street trees and other landscape improvements to enhance the urban setting. The proposed La Floresta Village plan is consistent with this policy and would act to preserve a substantial portion of healthy mature trees on the development site. No significant aesthetic impacts related to the removal of existing trees are anticipated. No mitigation measures are necessary.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The Birch Hills site does not contain any distinctive or unique scenic resources such as rock outcroppings, geologic features, or historic structures. As has been described in preceding sections, it does, however, contain a substantial inventory of existing trees. Existing trees are scattered throughout the golf course and line the site perimeter as well. Exhibit 4.2-24 illustrates proposed typical landscape conditions along Kraemer Boulevard and along onsite community trails. Perimeter street trees as well as landscape improvements within the development are planned.

La Floresta LLC (the project applicant) has also proposed retaining approximately 76 percent of existing trees on the Birch Hills site. The City of Brea Municipal Code does not address tree preservation; however, the Urban Design Element of the General Plan encourages the use of street trees and other landscape improvements to enhance the urban setting. The proposed Birch Hills development plan is consistent with this policy and would act to preserve a substantial portion of healthy mature trees on the development site. No significant aesthetics impacts related to the removal of existing trees are anticipated. No mitigation measures are necessary.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

DEGRADATION OF THE EXISTING VISUAL CHARACTER OR QUALITY OF THE SITE AND ITS SURROUNDINGS

La Floresta Village Site

Implementation of the proposed La Floresta Village development would remove any visually degraded conditions on-site that exist as a result of the recent removal of structures, rough grading, and ongoing remediation of hazardous materials (see Section 5.6 - Hazards and Hazardous Materials). The majority of the La Floresta Village site has been previously disturbed and contains limited native vegetation. The La Floresta development plan incorporates a 50-foot linear park setback along the easterly boundary with the Vesuvius residential neighborhood, perimeter landscaping along other edges, as well as a system of trails through the La Floresta Village site. No detailed landscape plan is currently available. The La Floresta Village development also incorporates a 3.27-acre "Active Adult Recreation Center" to be located in Planning Area 11. A second, smaller Recreation Center is also to be located within Planning Area 8. As described in the preceding discussion of scenic resources, existing mature, healthy

trees are to be retained to the extent feasible, particularly along the easterly boundary with the Vesuvius residential neighborhood. Proposed architectural styles are illustrated in Exhibits 4.2-4a (page 4-11) through 4.2-4n (page 4-37). A variety of architectural styles are proposed, including single- and multi-story dwellings and structures. Façade styles include Mediterranean, French, Tuscan, Colonial, Cape Cod, English Country, and Cottage, as well contemporary architecture styling planned for the commercial structures, as encouraged by General Plan's Urban Design policies. These aspects of the proposed La Floresta Village plan would minimize any adverse impacts on the existing visual character and quality of the site.

Although the proposed development would substantially alter the intensity of development on the site and substantially change the visual character of the site, these changes are not considered adverse relative to the existing conditions on the site presently. The character and intensity of residential and commercial development proposed is also consistent with other recent development in the City of Brea. The following sections address changes in edge conditions from vantage points illustrated in Exhibit 5.1.5a.

Viewpoints One through Four

Aesthetics impacts would be greatest to those receptors with unobstructed views in closest proximity to the La Floresta Village site, which are shown in the visual simulations for Viewpoints 1 through 4 on Exhibit 5.1-2b through Exhibit 5.1.5e. These views are from the nearby commercial and office uses, or from passing motor vehicles. As shown in Exhibits Exhibit 5.1.5b through Exhibit 5.1.5e, the foreground views would change from essentially vacant land to a developed character. Multi-story commercial structures to be located in Planning Area 5 and shown in Exhibit 5.1.5b would also generally block any middleground and background views that exist from structures located across Imperial Highway and Valencia Avenue. The same condition would occur from Viewpoints 2 through 4, as shown in Exhibit 5.1.5c through Exhibit 5.1.5e. Commercial and office uses that are located along these frontages are not considered "sensitive viewers." In addition, both Imperial Highway and Valencia Avenue are major arterials and act to significantly distance and separate these uses from the La Floresta Village site, both in a physical as well as visual sense. As noted previously, the character and intensity of residential and commercial development proposed is also consistent with other recent development in the City of Brea, and the area generally surrounding the La Floresta Village site. In consideration of the preceding factors, no significant adverse impacts to views from vantage points 1 through 4 are anticipated.

Viewpoint Five

The perimeter wall of the neighborhood as well as a dense tree row that follows the easterly La Floresta Village boundary largely obstructs existing views from the Vesuvius residential development. Exhibit 5.1.5f illustrates the existing public view looking west toward the La Floresta Village site from a cul-de-sac within the Vesuvius residential neighborhood. As shown, intervening structures and trees block all views of the La Floresta Village site from this location. Some residences located immediately on the

neighborhood edge may, however, have partial views from upper story rear windows. The more typical condition is represented in Exhibit 5.1.5f.

The La Floresta Village site plan includes a 50-foot landscaped linear park setback along the easterly site boundary with the Vesuvius neighborhood as previously mentioned. In addition, the character and intensity of residential and commercial development proposed are consistent with other recent development in the City of Brea, and the area generally surrounding the La Floresta Village site. In consideration of the preceding factors, no significant adverse impacts to views from vantage point 5 are anticipated.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

Implementation of the proposed Birch Hills development would result in the reconfiguration of the existing golf course, construction of a new community facility with a clubhouse, as well as construction of medium to high-density residential dwellings on a portion of the site located off Kraemer Boulevard, as illustrated in Exhibit 4.2-17 – Birch Hills: Illustrative Site Plan (page 4-79). From edges along Birch Street, the visual character of the site would be largely unchanged, although reconfiguration of the golf course will result in removal of existing trees as discussed in the preceding section, and changes in landscape areas. Facilities and residential dwellings to be constructed would not be visible from across Birch Street where the only sensitive viewers in the vicinity are located.

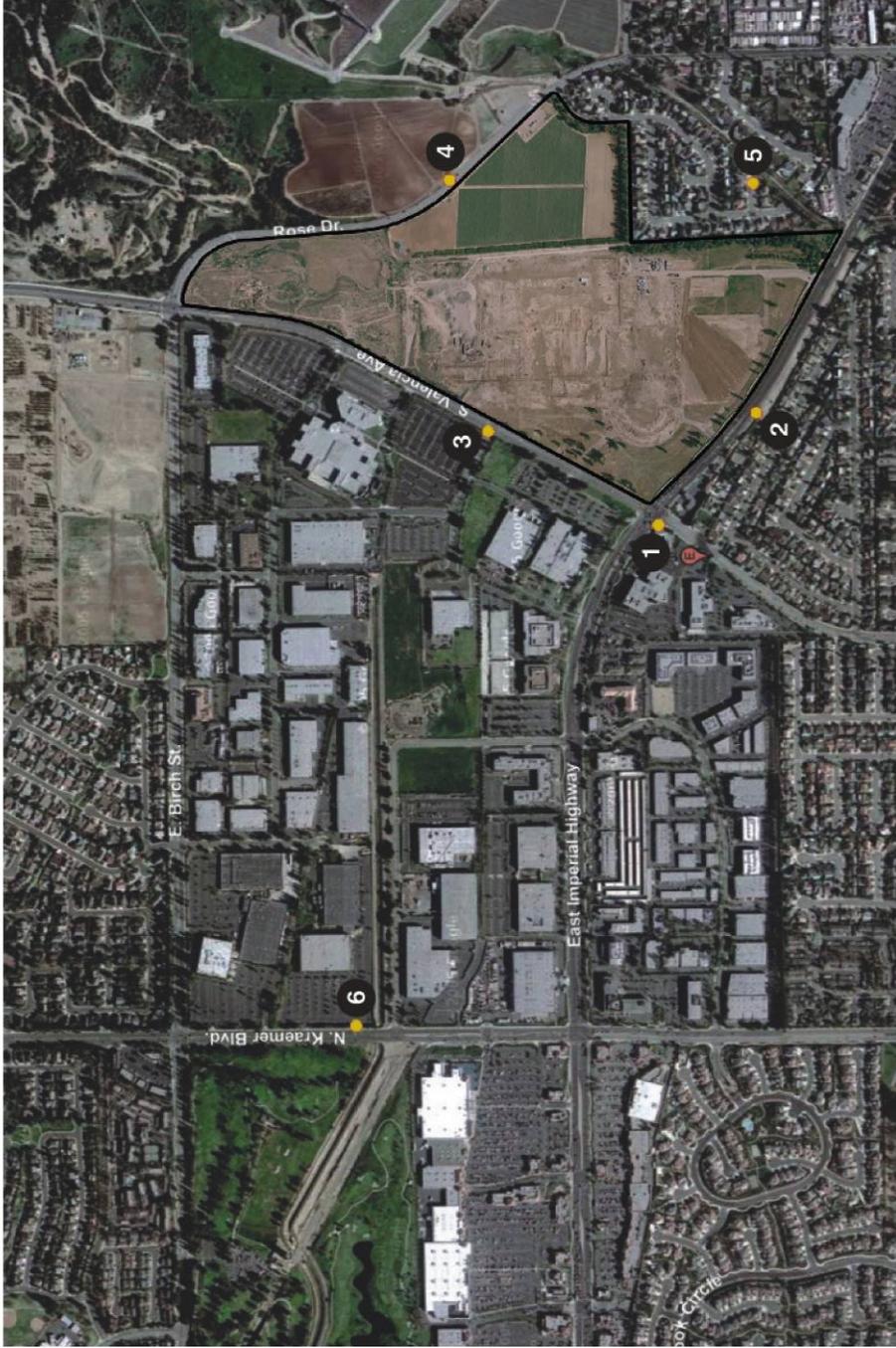
Exhibit 5.1.5g illustrates the existing and proposed view from along Kraemer Boulevard. Both motorists along Kraemer Blvd, as well as industrial/office uses to the east would experience this post-Project view. As shown on Exhibit 4.2-17, the Project edge along Kraemer Boulevard would be landscaped, although no detailed landscape plan is presently available. In addition, the character and intensity of residential development proposed is consistent with the intent of the General Plan Urban Design and Land Use policies and other similar recent development in the City of Brea. In consideration of the preceding factors, no significant adverse impacts to views from vantage point 6 are anticipated.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Visual Simulation Key Map

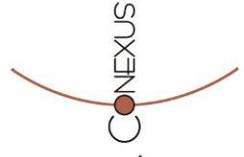


Source: TRG Land Inc., May 2006

Legend - #(1)-(6): Viewpoint Locations

- (1) - La Floresta Village Looking East
- (2) - La Floresta Village Looking Northeast
- (3) - La Floresta Village Looking South
- (4) - La Floresta Village Looking Southwest
- (5) - La Floresta Village Looking West
- (6) - Birch Hills Looking Northwest

▲ Not to Scale
Exhibit 5.1-5a



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La Floresta Village: Viewpoint One, Looking East



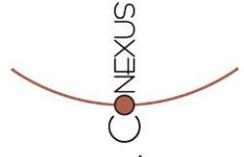
Existing



Proposed

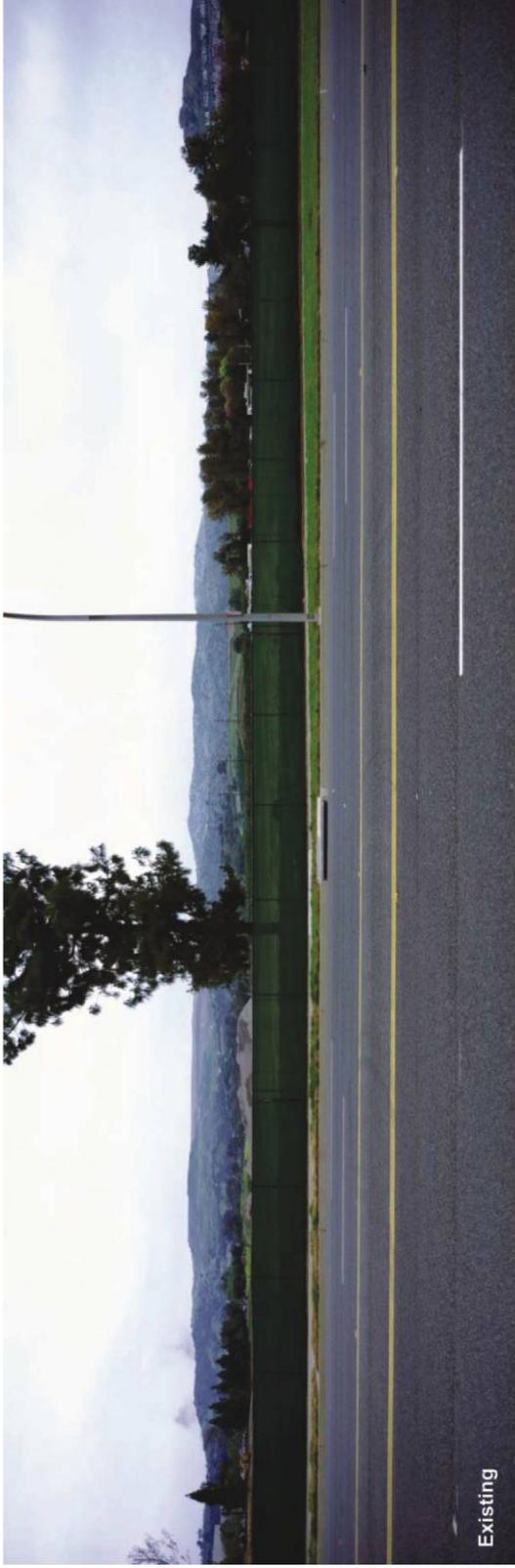
Source: TRG Land Inc., May 2006

Not to Scale
 Exhibit 5.1-5b



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La Floresta Village: Viewpoint Two, Looking Northeast



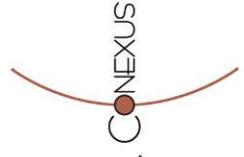
Existing



Proposed

Source: TRG Land Inc., May 2006

Not to Scale
 Exhibit 5.1-5c



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La Floresta Village: Viewpoint Three, Looking South



Existing



Proposed

Source: TRG Land Inc., May 2006

Not to Scale
 Exhibit 5.1-5d



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La Floresta Village: Viewpoint Four, Looking Southwest



Source: TRG Land Inc., May 2006

Not to Scale
Exhibit 5.1-5e

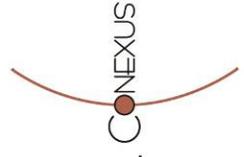
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La Floresta Village: Viewpoint Five, Looking West



Source: TRG Land Inc., May 2006

Not to Scale
Exhibit 5.1-5f



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La Floresta Village: Viewpoint Six, Looking Northwest



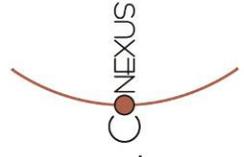
Existing



Proposed

Source: TRG Land Inc., May 2006

Not to Scale
Exhibit 5.1-5g



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CREATION OF A NEW SOURCE OF LIGHT AND GLARE

La Floresta Village Site

Additional nighttime lighting would be associated with development of the La Floresta Village site. However, no lighting plans are currently available. The La Floresta Village site would typically include the use of low intensity street lighting in residential areas. The use of pedestrian-scaled street lighting and provision of setbacks and landscaping within the proposed development would also minimize potential impacts on surrounding areas from new sources of nighttime lighting. Commercial areas would require exterior lighting in off-street parking areas. Very minimal lighting currently exists on the La Floresta Village site because former structures have been removed.

The area surrounding the La Floresta Village site to the west and south is characterized by predominantly industrial, commercial, office, and retail uses, which would not be sensitive to light and glare. The Vesuvius residential neighborhood, which abuts the La Floresta Village site on the east, will be separated by a 50-foot landscaped linear park setback. In addition, the land uses planned in Planning Areas 8, 9 and 10, located adjacent to the Vesuvius neighborhood, are residential uses similar in character. All lighting is required by the Municipal Code to be designed "to confine direct rays to the premises." No spillover beyond the property line is permitted. Lighting on the La Floresta Village site is also subject to additional standards set forth in the City of Brea Municipal Code (§20.08.040.C.5 and §20.220.040.L).

In consideration of the preceding factors, no significant adverse impacts to surrounding uses or roadways from light and glare that may be generated by the La Floresta Village project are anticipated.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

Additional nighttime lighting would be associated with development of the Birch Hills site. No lighting plans are, however, currently available. The Birch Hills site would typically include the use of low-intensity street lighting in residential areas. The use of pedestrian-scaled street lighting and provision of setbacks and landscaping within the proposed development would also minimize potential impacts on surrounding areas from new sources of nighttime lighting. The redesigned golf course would be illuminated in a manner similar to the existing course. The level of nighttime lighting present on the Birch Hills site is relatively low. As shown in Exhibit 4.2-17 – Birch Hills: Illustrative Site Plan (page 4-79), substantial tree rows are planned along Birch Street and a portion of Kraemer Boulevard as well.

The area surrounding the Birch Hills site is residential to the north and industrial to the east across Kraemer Boulevard. Land use planned on the Birch Hills site adjacent to Birch

Street would remain a golf course, which would have lighting conditions similar to the existing course.

All lighting is required by the Municipal Code to be designed "to confine direct rays to the premises." No spillover beyond the property line is permitted. Lighting on the Birch Hills site is also subject to additional standards set forth in the City of Brea Municipal Code (§20.08.040.C.5 and §20.220.040.L).

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CONSTRUCTION-RELATED AESTHETICS IMPACTS

Both Sites

Construction activities during the build-out of both Project sites, such as grading, building construction, and the movement of construction equipment throughout the site and on- and off-site, could impact receptors with foreground views of the site and those who travel through the Project vicinity by automobile.

Night lighting could be necessary for security in active construction areas. Light and glare related to construction activities could potentially affect surrounding residences in close proximity to either Project site and could be potentially significant if not properly screened and controlled. To mitigate these concerns, construction contractors shall be required to use non-glare directional lighting when lights are required for safety and security in construction areas.

These construction-related impacts on aesthetics would be temporary, occurring over a period of approximately 60 months, but are potentially significant as there are sensitive receptors in proximity to both of the Project sites. Construction activities would also be highly visible to motorists traveling on surrounding streets. The following mitigation measures would assure that construction related visual impacts would be less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

AES-1 Construction Lighting

Construction contractors shall use non-glare, directional lighting to minimize potential light and glare impacts when lights are necessary for nighttime safety and security in the construction area.

AES-2 Construction Screening

Temporary perimeter screening shall be utilized throughout the construction period in all areas where a solid visual barrier does not exist between

adjacent uses or roadways on both the La Floresta Village and Birch Hills sites.

Level of Significance After Mitigation: Less than significant.

5.1.5 Cumulative Impacts

Aesthetics impacts are by their nature primarily confined to a localized setting. Cumulative aesthetics impacts thus are considered within the setting of each site and the surrounding area, as described in Section 5.1.2 – Setting (beginning on page 5.1-2). Both sites are located within an urban setting. No vacant area exists around the Birch Hills site, and most undeveloped areas adjacent to the La Floresta Village site are designated as Open Space on the City or County General Plan. No development projects are pending or anticipated in proximity to the Birch Hills site. A sports complex is anticipated at the northwest corner of Birch Street at Valencia Avenue adjacent to the La Floresta Village site.

CONSISTENCY WITH APPLICABLE PLANS AND REGULATIONS: CITY OF BREA GENERAL PLAN, COMMUNITY DEVELOPMENT ELEMENT – URBAN DESIGN

Both Sites

The La Floresta Village and Birch Hills projects would provide master planned developments consistent with applicable land use and urban design goals and policies of the Brea General Plan. Together with other residential developments, this would work toward achieving the vision of the General Plan for both properties. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative urban design impacts related to General Plan consistency would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

DAMAGE TO A SCENIC RESOURCE

Both Sites

Neither of the Project sites contains any natural features that are considered scenic resources, as defined by CEQA. Both sites, however, have substantial stands of existing mature trees. Tree inventories have been conducted on both sites, and La Floresta LLC (the project applicant) is proposing to retain and/or replant a significant portion of healthy mature trees, as has been described in preceding sections. In addition, both site

plans incorporate additional new landscaping improvements. The visual character of the Birch Hills site would remain similar to the existing character, and the La Floresta Village site is largely vacant disturbed land at present. Both sites are also located within an urban setting. Proposed development would not visually degrade any scenic resources. No significant project specific impacts have been identified. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative aesthetics impacts to scenic resources would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

DEGRADATION OF THE EXISTING VISUAL CHARACTER OR QUALITY OF THE SITE AND ITS SURROUNDINGS

La Floresta Village Site

No significant project specific aesthetics impacts have been identified with respect to the alteration of the existing visual character or quality of the La Floresta Village site or its surroundings. The proposed La Floresta Village project is consistent with current land use and urban design goals and policies. Together with other master planned developments, this would work toward achieving the urban design vision of the General Plan. In consideration of the preceding factors, the contribution of the La Floresta Village development project to cumulative aesthetics impacts to the existing visual character of the site and surrounding areas would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

No significant project-specific aesthetics impacts have been identified with respect to the alteration of the existing visual character or quality of the Birch Hills site or its surroundings. The proposed Birch Hills development project is consistent with current land use and urban design goals and policies. Together with other residential developments, this would work toward achieving the urban design vision of the General Plan. In consideration of the preceding factors, the contribution of the Birch Hills development project to cumulative aesthetics impacts to the existing visual character of the site and surrounding areas would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CREATION OF A NEW SOURCE OF LIGHT AND GLARE

La Floresta Village Site

No significant project-specific impacts associated with the generation of new light and glare have been identified with respect to the La Floresta Village site or its surroundings. The proposed Project must comply with Municipal Code requirements designed to control adverse effects from light and glare. No significant cumulative impacts are anticipated in association with other developments in the City of Brea in that all development is subject to the same controls. In consideration of the preceding factors, the contribution of the La Floresta Village development project to cumulative aesthetics impacts from light and glare would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

No significant project-specific impacts associated with the generation of new light and glare have been identified with respect to the Birch Hills site or its surroundings. The proposed Birch Hills development project must comply with Municipal Code requirements designed to control adverse effects from light and glare. No significant cumulative impacts are anticipated in association with other developments in the City of Brea in that all development is subject to the same controls. In consideration of the preceding factors, the contribution of the Birch Hills development project to cumulative aesthetics impacts from light and glare would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.1.6 Significant Unavoidable Impacts

Both Sites

No significant aesthetics impacts or impacts from the generation of new light and glare have been identified.

5.2 Agricultural Resources

5.2.1 Methodology

The following discussion is based upon information contained in the City of Brea General Plan – Community Resources Element; The County of Orange General Plan – Natural Resources Component; and the State of California Farmland Mapping and Monitoring Program.

5.2.2 Setting

PROJECT SITE CONDITIONS

La Floresta Village Site

The majority of the La Floresta Village site is currently vacant. A 21.3-acre area adjacent to Rose Drive is, however, planted in row crops. This area has been tenant farmed and planted in a variety of field and row crops in the past, as well as citrus orchards. The area is zoned Mixed Use (MU-II), as is the remainder of the La Floresta Village site. The General Plan also designates the site for Mixed Use II (MU-II).

Agriculture has long been considered an interim land use in this location, with the expectation that the entire site would at some time be converted from its past industrial use to mixed urban uses, as are incorporated in the proposed project.

Birch Hills Site

The majority of the Birch Hills site is occupied by the golf course and related facilities. No agricultural uses exist in this site. Prior to the golf course, the site was developed with industrial land use.

REGULATORY SETTING

Both Sites

City of Brea General Plan: Community Resources Element

The Community Resources Element, Parks and Open Space component does not address the topic of agricultural resources since there is limited undeveloped land in the City. The Parks and Open Space Plan does not designate any area for agricultural preservation, as shown on Exhibit 5.11-1 – General Plan: Parks and Open Space Plan (page 5.11-5).

State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program

The purpose of the Farmland Mapping and Monitoring Program is to provide data to decision-makers for "use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources." According to Orange County Important Farmland Map (2004), the La Floresta Village site is designated as unique farmland. This category "consists 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. Land must have been cropped at some time during the four years prior to the mapping date."

Designation on the Farmland Mapping program does not imply any policy designation or restriction of land use.

Birch Hills Site

Birch Hills Specific Plan

The Birch Hills site is the subject of a Specific Plan adopted by the City in September 1995. The plan covers the golf course site as well as what has since become Brea Union Plaza and a parcel located to the southwest on Imperial Highway. The Specific Plan designated the majority of the golf course area for Low Density Residential use. A 7.5-acre park site was also planned. The Birch Hills Specific Plan does not designate any portion of the Birch Hills site for open space or agricultural preservation.

5.2.3 Thresholds of Significance

The following criteria are extracted from the most recent update of the California Environmental Quality Act (CEQA) and the Environmental Checklist Form pertaining to Agricultural Resources. Would the project:

- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- *Conflict with or obstruct zoning for agricultural use, or a Williamson act contract?*
- *Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use?*

Evaluation conducted in the Initial Study (contained in Appendix A) identified potentially significant policy impacts relative to the conversion of Unique Farmland as shown by the Farmland Mapping and Monitoring Program. Issues related to zoning/Williamson Act conflicts and other changes that could result in the conversion of farmland were found "Not Applicable" to the La Floresta Development Proposal, and are not further addressed in this EIR.

Impacts to agricultural resources could also be considered significant if aspects of the project were found to be inconsistent with applicable plans and policies, as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.2.2 under Regulatory Setting.*

5.2.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE PLANS AND REGULATIONS

Both Sites

No City policy plan, program, or ordinance designates either of the project sites for agricultural land use. Although a 21.3-acre portion of the La Floresta Village site is shown on the Orange County Important Farmland Map as "Unique Farmland," inclusion in the State Farmland Mapping program does not imply any policy designation or restriction of land use. The City of Brea intends to seek removal of the parcel from the Orange County Important Farmland Map. No impacts or conflicts with applicable plans and regulations have been identified that would be considered a significant impact.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

LOSS OF "UNIQUE FARMLAND"

Both Sites

Neither development site is prime agricultural soil or designated as an agricultural preserve by the Williamson Act or zoned for agricultural purposes. The project sites are generally surrounded by urban/suburban development, with the exception of the east boundary of the La Floresta Village site along Rose Drive. Some areas to the east beyond existing flood control channels are in agricultural use, and are designated as Open Space in the Land Use Element of the City of Brea General Plan.

The La Floresta Village site contains a 21.3-acre area that has been utilized for agricultural purposes as noted in preceding discussion. This parcel is not designated for Open Space or agricultural use, and its cultivation has always been considered an interim land use by the City of Brea. Continued agricultural use on the parcel would not be compatible with the intensified development planned on the La Floresta Village site. The parcel in question is small and isolated from any other agricultural uses remaining in the City of Brea and the region. No pressure for conversion of other "farmland" or of an agricultural resource is anticipated to occur due to implementation of the proposed projects. Consequently, the conversion of this parcel to urban use is not considered a

significant impact. The City of Brea will seek removal of the parcel from the Orange County Important Farmland Map.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.2.5 Cumulative Impacts

Cumulative impacts to agricultural resources are considered in the regional context of the County of Orange because the City of Brea and the north half of Orange County in general are essentially nearly totally urbanized, with only limited remnant agricultural parcels scattered through the area. The County of Orange General Plan, Resources Element - Natural Resources Component (April 2004) has been examined for statistical information presented below, as well as the State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, "Farmland Conversion Report: 2000-2002," December 2004.

Both Sites

The majority of agricultural land remaining in Orange is located in the southern portion of the County. In 2004, a total of 49,354 acres of "Agricultural Land" were inventoried in Orange County, of which 5,601 acres were considered "Unique Farmland." The conversion of 21.3 acres of agricultural use currently existing on the La Floresta Village site is functionally and statistically negligible in the context of ongoing regional trends (three hundredths of a percent) as well as agricultural operations within the City of Brea. In consideration of the preceding factors, the project's contribution to cumulative loss of agricultural resources would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.2.6 Significant Unavoidable Impacts

Both Sites

No significant impacts related to agricultural resources have been identified.

5.3 Air Quality

5.3.1 Methodology

This chapter is based on the information contained in the "Air Quality Analysis, La Floresta, City of Brea, California, August 7, 2006" prepared by Giroux & Associates. That report is provided in Appendix C to this EIR. The Community Resources Element of the Brea General Plan also provides an overview of air quality conditions and policies in the city.

5.3.2 Setting

PROJECT SITE CONDITIONS

Both Sites

Meteorology/Climate Setting

Brea's climate, as with all of Southern California, is largely dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii. It creates cool summers, mild winters, and infrequent rainfall; it drives the refreshing daytime sea breeze; and it maintains comfortable humidity and ample sunshine. Unfortunately, the same atmospheric processes that create the desirable living climate combine to severely restrict the ability of the atmosphere to disperse the air pollution generated mainly by the large population attracted by the climate. Portions of the Los Angeles Basin, including northern Orange County, therefore, experience some of the worst air quality in the nation for certain pollution species.

Regional air quality is controlled by the location and strength of pollutant sources and by the winds and inversions that control the horizontal and vertical regional dispersion patterns. Winds near the Project sites, as monitored at the South Coast Air Quality Management District (SCAQMD) measurement station in La Habra, display several characteristic regimes. During the day, especially in summer, winds are from the west and southwest at 7 to 9 miles per hour. At night, especially in winter, the land becomes cooler than the ocean and an offshore wind of 3 to 5 miles per hour develops. One other important wind regime occurs when a high-pressure center forms over the western United States and creates strong offshore winds. These winds are warmed and dried by air compression as they descend from the upper desert regions into the basin. These winds are accelerated through local canyons and create hot, dry, gusty Santa Ana winds from the east and northeast across northern Orange and southern Los Angeles Counties.

The low frequency of calms and adequate daytime ventilation speed typically do not allow for any daytime stagnation of air pollutants in the Brea area. The moderate onshore breeze carries any locally generated emissions eastward toward the Chino Hills

or across northern Orange County and then up Santa Ana Canyon or Carbon Canyon toward receptors in western San Bernardino and Riverside Counties. Any daytime air quality problems occur mainly when winds shift more into the northwest and the daytime clean sea breeze is replaced by airflow across substantial pollution generation areas of southwestern Los Angeles County. These winds bring occasional unhealthful smog levels across the project area during the summer and early fall. Wind at night drifting seaward across the air basin and off the nearby hills is much slower and does allow for localized stagnation of pollution, but the density of vehicular sources in the upwind area is generally low enough to minimize any major air pollution problems. Any air pollution episodes, if they occur, are, therefore, due mainly to pollutants transported into the area rather than any locally generated emissions.

In addition to winds that govern the horizontal rate and trajectory of any air pollutants, Southern California experiences several characteristic temperature inversions that control the vertical depth through which pollutants can be mixed. The daytime onshore flow of marine air is capped by a massive dome of warm air that acts like a giant lid over the basin. As the clean ocean air moves inland, pollutants are continually added from below without any dilution from above. As this layer slows down in inland valleys of the basin and undergoes photochemical transformations under abundant sunlight, it creates very unhealthful levels of smog (mainly ozone).

A second inversion forms at night as cool air pools in low elevations while the air aloft remains warm. Shallow radiation inversions are formed (especially in winter) that trap pollutants near intensive traffic sources such as freeways and shopping centers, and form localized violations of clean air standards called "hot spots." If any noticeable, direct air pollution effects were to occur from changes in the vehicular distribution around the Project area, it would be from automotive exhaust trapped by these nocturnal radiation inversions.

Air Quality Setting

Ambient Air Quality Standards (AAQS)

In order to gauge the significance of the air quality impacts of the proposed Project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or include different exposure periods. The initial attainment deadline of 1977 was extended several times in

air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule that extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 5.3-1. Sources and health effects of various pollutants are shown in Table 5.3-2.

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

Planning and enforcement of the federal standards for PM_{2.5} and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their respective attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard. Because the South Coast Air Basin is far from attaining the 1-hour federal standard, the 8-hour ozone non-attainment designation will not substantially alter the attainment planning process. The compliance deadline for the 8-hour ozone standard has been extended to 2021.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (CARB) to recommend adoption of the statewide PM_{2.5} standard that is more stringent than the federal standard. This standard was adopted on June 20, 2002. The state PM_{2.5} standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in April 2005, which mirrors the federal standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.08 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress toward attaining state standards, but there are no hard deadlines or any consequences of non-attainment. As part of the same re-evaluation process, the ARB is anticipated to adopt a new annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard.

**Table 5.3-1
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards		Federal Standards			
		Concentration	Method	Primary	Secondary	Method	
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	0.12 ppm (235 µg/m ³)	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	0.07 ppm (140 µg/m ³)		0.08 ppm (157 µg/m ³)			
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		50 µg/m ³			
Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard	Gravimetric or Beta Attenuation	65 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³		15 µg/m ³			
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–			–
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	(new standard pending)	Gas Phase Chemilumi- nescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemilumi- nescence	
	1 Hour	0.25 ppm (470 µg/m ³)		–			
Lead	30-Day average	1.5 µg/m ³	Atomic Absorption	–	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	–		1.5 µg/m ³			
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	–	Spectro- photometry (Pararosaniline Method)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)			
	3 Hour	–		–			0.5 ppm (1,300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		–			–
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards			
Sulfates	24 Hour	25 µg/m ³	Ion Chroma- tography				
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chroma- tography				

**Table 5.3-2
Health Effects of Criteria Pollutants**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM _{2.5})	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Of the standards shown in Table 5.3-1, those for ozone (O₃), carbon monoxide (CO), and particulate matter (PM₁₀) are exceeded at times in the South Coast Air Basin. They are called "non-attainment pollutants." The CO standard is currently met in the basin, and re-designation to "attainment/maintenance" is anticipated shortly. Because of the variations in the regional meteorology and in area-wide differences in levels of air pollution emissions, patterns of non-attainment have strong spatial and temporal differences.

Baseline Air Quality

Existing and probable future levels of air quality around the Project area can be best inferred from ambient air quality measurements conducted by the SCAQMD at the La Habra monitoring station. This station measures both regional pollution levels such as smog, as well as primary vehicular pollution levels near busy roadways such as carbon monoxide or nitrogen oxides. Some pollutants such as respirable particulates (PM₁₀) are not monitored near Brea. The nearest Orange County PM₁₀ data are available in Anaheim. Although these data resources are relatively far from Brea, the pervasive regional nature of many air pollutants makes these measurements reasonably applicable to Brea.

Table 5.3-3 summarizes the last five years of published data from a composite of representative monitoring stations. From these data the following conclusions can be drawn:

**Table 5.3-3
Air Quality Monitoring Summary –
(Number of Days Standards Were Exceeded and Maximum Levels during Such Violations)**

Pollutant/Standard	2000	2001	2002	2003	2004
Ozone					
1-Hour > 0.09 ppm (S)	8	4	3	7	6
1-Hour > 0.12 ppm (F)	1	0	0	1	0
8- Hour > 0.08 ppm (F)	2	2	0	2	0
Max 1-Hour Conc. (ppm)	0.14	0.11	0.12	0.17	0.10
Carbon Monoxide					
1-Hour > 20. ppm (S)	0	0	0	0	0
8- Hour > 9. ppm (S, F)	0	0	0	0	0
Max 1-Hour Conc. (ppm)	14	11	10	8	7
Max 8-Hour Conc. (ppm)	6.2	4.7	4.4	4.1	4.0
Nitrogen Dioxide					
1-Hour > 0.25 ppm (S)	0	0	0	0	0
Max 1-Hour Conc. (ppm)	0.12	0.13	0.12	0.16	0.12
PM₁₀					
24-Hour > 50 µg/m ³ (S)	8/61	9/46	5/61	6/61	7/61
24-Hour > 150 µg/m ³ (F)	0/61	0/46	0/61	0/61	0/61
Max. 24-Hour Conc. (µg/m ³)	126.	93.	69.	96.	74
PM_{2.5}					
24-Hour > 65 µg/m ³ (F)	6/273	1/252	1/351	3/340	0/319
Max. 24-Hour Conc. (µg/m ³)	113.9	70.8	68.6	115.5	58.9
Source: California Air Resources Board (ARB) - La Habra Air Monitoring Station; Anaheim Station for PM ₁₀					

1. Photochemical smog (ozone) levels very rarely exceed standards. The 1-hour state standard was only violated a maximum of 8 times a year in the last five years near Brea. Federal standards have only been exceeded two times within the last five years. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the Project vicinity is not likely to occur soon, but the severity and frequency of violations are expected to continue to slowly decline during the current decade.
2. PM₁₀ levels have exceeded the state 24-hour standard on approximately 12 percent of all measurement days (44 days per year). The three times less stringent federal 24-hour standard has not been exceeded. Although year to year fluctuations exist, overall PM₁₀ levels seem to be declining over the last five years.
3. PM_{2.5} readings have exceeded the federal 24-hour PM_{2.5} ambient standard on an average of 2 to 3 days per year for four of the last five years. There were no violations in 2004 in Anaheim. Such a frequency of violations is much lower than in inland valleys in western Riverside or San Bernardino Counties where the regional PM_{2.5} "hot spot" is normally found.
4. More localized pollutants such as carbon monoxide and nitrogen oxides are very low near the Project sites because background levels, even in northern Orange County, never exceed allowable levels. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS.

REGULATORY SETTING

Federal Clean Air Act/South Coast Air Quality Management District

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The South Coast Air Basin (SCAB) could not meet the deadline for ozone, nitrogen dioxide, carbon monoxide, or PM₁₀. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with "serious" or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised, and approved over the past decade. The previous clean air plan for the basin was the 1999 SIP Amendment, which accelerated the schedule for a number of new SCAQMD rules and regulations. The most current regional attainment emissions forecast for ozone precursors (ROG and NO_x) and for carbon monoxide (CO) is shown in Table 5.3-4.

**Table 5.3-4
South Coast Air Basin Attainment Plan
(Emissions in Tons/Day)**

	ROG	NO _x	CO
Current Inventory¹			
Stationary	304	103	246
On-Road Mobile	276	581	2,705
Off-Road Mobile	131	286	1,003
Total	710	970	3,953
2010 Forecast²			
Stationary	296	89	217
On-Road Mobile	212	434	2,048
Off-Road Mobile	122	257	1,094
Total	630	780	3,359
2020 Forecast²			
Stationary	340	90	234
On-Road Mobile	130	206	1,097
Off-Road Mobile	114	241	1,104
Total	584	537	2,435
¹ 2005 Base Year. ² With current emissions reduction programs and adopted growth forecasts. Source: California Air Resources Board, The 2005 California Almanac of Emission & Air Quality.			

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 AQMP was approved by the EPA in 2004. The Air Quality Management Plan (AQMP) outlines the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM₁₀) by 2006. Components of the 2003 air plan included:

- How the federal standard for CO will be maintained.
- Control measures to further reduce emissions from business, industry, and paints.
- Measures to be adopted by CARB and EPA to further reduce pollution from:
 - Cars
 - Trucks
 - Construction equipment
 - Aircraft
 - Ships
 - Consumer products

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan will be prepared in 2006. This plan will shift most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date will “slip” from 2010 to 2021. The next attainment plan will also include strategies for ultimately meeting the federal PM_{2.5} standard.

City of Brea General Plan: Community Resources Element

Both Sites

The Community Resources Element of the General Plan contains the following policies related to air quality:

- *Policy CR-13.1: Implement City-wide traffic flow improvements.*
- *Policy CR-13.2: Promote energy conservation and recycling by public and private sectors.*
- *Policy CR-13.3: Integrate air quality planning with land use, economic development, and transportation planning.*
- *Policy CR-13.4: Encourage the expansion and retention of local-serving retail businesses (e.g., restaurants, family medical offices, drug stores) to reduce the number and length of automobile trips to comparable services located in other jurisdictions.*
- *Policy CR-13.5: Encourage alternative modes of transportation, such as walking, biking, and public transportation to reduce emissions associated with automobile use.*

- *Policy CR-13.6: Cooperate with the South Coast Air Quality Management District and Southern California Association of Governments in their efforts to implement the regional Air Quality Management Plan.*

5.3.3 Thresholds of Significance

According to the CEQA Guidelines, air quality impacts are considered potentially significant if they cause clean air standards to be violated where they are currently met, or if they measurably contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

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

The Notice of Preparation (Appendix A) determined that during construction there would be short-term impacts to adjacent properties from diesel exhaust odors, but these impacts would be transient and would not be anticipated to result in a substantial nuisance. The NOP also indicated that no objectionable long-term odors would be expected from operation of the Project. These would be considered less than significant impacts, therefore they are not addressed further in this EIR.

Consistency with City plans and policies will also be addressed along with the thresholds of significance noted above. The following sections describe in greater detail the significance criteria that are used in the air quality impact analysis.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthy form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many

particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM₁₀, an aggressive dust control program is required to control fugitive dust.

Secondary Pollutants

Many pollutants require time to transform from a more benign form to a more unhealthy contaminant. Their impact occurs regionally far from the source and their incremental regional impact is small on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is thus based on a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating impact significance independent of chemical transformation processes. Projects in the SCAB with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant:

**Table 5.3-5
SCAQMD Emissions Significance Thresholds
(lbs/day)**

Pollutant	Construction	Operations
ROG	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
SO _x	150	150
Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.		

Additional Indicators

In its CEQA handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

The SCAQMD CEQA Handbook also identifies various secondary significance criteria related to toxic, hazardous, or odorous air contaminants. Such pollutants may be

associated with prior use of the Project sites for petrochemical research and production. Hazardous air contaminants are also contained within the small diameter particulate matter ("PM_{2.5}") fraction of diesel exhaust. Such exhaust will be generated by heavy construction equipment and by diesel-powered delivery trucks.

For PM_{2.5} exhaust emissions, recently adopted policies require the gradual conversion of delivery fleets to diesel alternatives, or the use of "clean" diesel if emissions are demonstrated to be as low as those from alternative fuels. Because health risks from toxic air contaminants (TACs) are cumulative over an assumed 70-year lifespan, measurable off-site public health risk from diesel TAC exposure would occur for only a brief portion of a project lifetime, and only in dilute quantity.

Sensitive Receptors

Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. Such persons are called "sensitive receptors." Sensitive population groups include young children, the elderly, and the acutely and chronically ill (especially those with cardio-respiratory disease).

Residential areas are considered to be sensitive to air pollution exposure because they may be occupied for extended periods, and residents may be outdoors when exposure is highest. Schools are similarly considered to be sensitive receptors. Commercial uses are considered less sensitive to air pollution exposure because they are populated by mainly healthy adults for limited periods in an indoor environment. Residential uses are located in proximity to both Project sites and are incorporated in the proposed Project as well. In addition, a new K-6 school and City sports complex is in the early planning stages at the northeast corner of Valencia Avenue and Birch Street adjacent to the La Floresta Village site.

Many mobile air pollutants require additional transformation to convert into their most unhealthful forms. That conversion process occurs several hours later and miles away. Localized sensitive receptor impacts thus derive mainly from "primary" pollutants that require no additional transformation. Primary pollutants include particulate matter (both from soil dust and from diesel exhaust) and carbon monoxide (CO). Project-related emissions of nitrogen oxides (NO_x) or reactive organic gases (ROG), contributors to regional smog formation, are less critical in local sensitive receptor exposure.

5.3.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

Federal Clean Air Act

Both Sites

In Southern California, federal clean air regulations and plans are implemented by the South Coast Air Quality Management District (SCAQMD). The proposed Project is considered to be in compliance with the Regional Air Quality Management Plan

(AQMP). Consistency with SCAQMD regulations is discussed further in the following sections regarding construction impacts, operational impacts and microscale impacts.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea General Plan: Community Resources Element

Both Sites

The Project would conform to all of the General Plan policies listed in Section 5.3.2 under Regulatory Setting, including traffic improvements, energy conservation, planning integration, local business retention, alternative transportation modes, and regional coordination.

Development, such as the proposed Project, does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing “general” development. Conformity with adopted plans, forecasts, and programs relative to population, housing, employment and land use is the primary yardstick by which the impact significance of master planned growth is determined. If a given project incorporates available transportation control measures that can be implemented on a project-specific basis, and if the scope and phasing of a project are consistent with adopted growth forecasts as shown in the Regional Comprehensive Plan (RCP), then the regional air quality impact of project growth would not be significant because of a policy inconsistency. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant simply because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed Project has therefore been analyzed on a project-specific basis.

The La Floresta Village development is consistent with the Mixed Use II land use designation in the General Plan, but the Birch Hills development would require a General Plan amendment to change the current land use designation of the site to “Birch Hills Specific Plan,” high density residential and public facility. The Birch Hills Specific Plan would allow these proposed uses; thus, the proposed Project is not inconsistent with local land use policy. The actual intensity/density of development proposed is actually less intense than existing General Plan and zoning designations would allow. Consequently, neither component of the Project addressed by this EIR is considered inconsistent with growth projections or regional planning policy that is the basis of the AQMP and RCP.

The proposed Project supports General Plan Policies CR-13.1 through 13.5 through the incorporation of commercial, mixed-use development, and a system of bikeways and trails into the La Floresta Village development, which would reduce the number and length of vehicle trips and encourage alternative modes of travel such as public transit, bicycles and walking. The Birch Hills development would also support these policies by providing a critical trail link through the site connecting to a planned regional trail network.

The Project also supports the City's efforts to implement Policy CR-13.6 by requiring an air quality study as part of this EIR and ensuring that the Project complies with the mitigation measures described in this chapter.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CONSTRUCTION AIR QUALITY IMPACTS

Both Sites

Single-family residential uses adjoin the La Floresta Village site to the south and southeast. A 40-acre site planned for a new K-6 school and sports park are located immediately to the northwest of the La Floresta Village site, at the intersection of Valencia Avenue and Birch Street. The Birch Hills site has single-family and multi-family residential uses to the west and north. The potential air quality impacts to these sensitive receptors during construction are analyzed below.

Dust is normally the primary concern during construction of new buildings and infrastructure. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Emission rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). These parameters are not known with any reasonable certainty prior to project development and may change from day to day. Any assignment of specific parameters to an unknown future date is speculative and conjectural.

Because of the inherent uncertainty in the predictive factors for estimating fugitive dust generation, regulatory agencies typically use one universal "default" factor based on the area disturbed assuming that all other input parameters into emission rate prediction fall into midrange average values. This assumption may or may not be totally applicable to site-specific conditions on the sites. As noted previously, emissions estimation for project-specific fugitive dust sources is therefore characterized by a considerable degree of imprecision.

Average daily PM₁₀ emissions during site grading and other disturbance are stated in the SCAQMD Handbook to be 26.4 pounds/acre. This estimate is based upon required dust control measures in effect in 1993 when the AQMD CEQA Air Quality Handbook was prepared. Rule 403 was subsequently strengthened to require use of a greater array of fugitive dust control on construction projects. All construction projects in the Los Angeles Basin are required to use strongly enhanced control procedures. Use of enhanced dust control procedures such as continual soil wetting, use of supplemental binders, early paving, etc. can achieve a substantially higher PM₁₀ control efficiency. Daily emissions with use of best available control measures (BACMs) for PM₁₀ can reduce emission levels to around 10 pounds per acre.

For the proposed Project, the Air Resource Board URBEMIS2002 computer model predicts that 42.5 acres could be under simultaneous heavy construction at some point during the build-out lifetime of the Project. With the use of only minimum construction dust control, daily PM-10 emissions during site grading could reach 1,122 pounds per day ($42.5 \times 26.4 = 1,122 \text{ lb/day}$). The SCAQMD significance threshold of 150 pounds per day would be exceeded. With the use of Best Available Control Measures (BACM), daily PM-10 emissions are reduced to 425 pounds per day ($42.5 \times 10 = 425 \text{ lb/day}$), still in excess of allowable standards by 183%.

Use of best available control measures (BACMs) alone would not be able to achieve a less-than-significant dust (PM_{10}) emission rate. Restricting of simultaneous grading activities to smaller parcels would reduce the daily PM_{10} generation rate, but could extend the project construction period. Grading of smaller parcels over a longer period of time may also entail operation of construction equipment near already completed businesses or homes rather than grading large tracts before any buildings are built/occupied. PM_{10} grading emissions impacts would thus be significant and cannot be mitigated to less-than-significant levels.

Current research in particulate-exposure health effects suggests that the most adverse effects derive from ultra-small diameter particulate matter comprised of chemically reactive pollutants such as sulfates, nitrates, or organic material. A new national clean air standard for particulate matter of 2.5 microns or smaller in diameter (called " $\text{PM}_{2.5}$ ") was adopted in 1997. Very little construction activity particulate matter is in the $\text{PM}_{2.5}$ range. Soil dust is also more chemically benign than typical urban atmospheric $\text{PM}_{2.5}$. Although worst-case, project-related construction activity PM_{10} is predicted to temporarily exceed the 150-pound/day threshold, the absence of much $\text{PM}_{2.5}$ within this dust generation level suggests a minimal potential health impact despite substantial amounts of PM_{10} .

In addition to fine particles that remain suspended in the atmosphere semi-indefinitely, construction activities generate many larger particles with shorter atmospheric residence times. This dust is comprised mainly of large diameter inert silicates that are chemically non-reactive and are further readily filtered out by human breathing passages. These fugitive dust particles are therefore more of a potential soiling nuisance as they settle out on parked cars, outdoor furniture, or landscape foliage rather than being any adverse health hazard. The deposition distance of most such dust particles is very close to the source (typically 100 feet). There are several concentrations of dust-sensitive receptors within the primary dust deposition impact zone. Enhanced nuisance control must thus be practiced when grading near existing homes.

Exhaust emissions would also result from on and off-site heavy equipment. The types and numbers of equipment will vary among contractors such that such emissions cannot be quantified with certainty. Equipment exhaust emissions were calculated presuming that grading would be balanced on-site, and that initial heavy grading and infrastructure development would gradually shift toward building construction and then for finish construction, paving, landscaping, etc.

5. Environmental Analysis

The URBEMIS 2002 computer model was used to calculate emissions from the following prototype construction equipment fleet for Phase I:

Demolition/Grading	Construction and Finish
Dozer (2)	Off Highway Tractors (1)
Off Highway Tractors (2)	Rough Terrain Forklift (1)
Scrapers (8)	Tractor/ Loader/Backhoes (2)
Grader (2)	Grader (1)
Tractor/ Loader/Backhoes (2)	Trencher (1)

Table 5.3-6 shows construction related emissions predicted by the URBEMIS2002 computer model. During grading activities, NO_x emissions could exceed the SCAQMD significance thresholds by approximately 198%. Mitigation in the form of regular equipment tune-ups and limits in equipment idling can reduce NO_x emissions by about 10%, but cannot reduce NO_x grading emissions to below threshold standards. Grading activity NO_x diesel emissions are a significant, but temporary, impact unless the size of the equipment fleet is reduced. A substantial equipment fleet reduction would reduce NO_x emissions, but would require much longer to grade the Project. Nuisance impacts from the dirt spillage, erosion, or blowing dust during windy conditions could offset any NO_x emissions reductions benefit from extending the grading duration.

**Table 5.3-6
Construction Activity Emissions (pounds/day) -
La Floresta Development Proposal**

Activity	ROG	NO _x	CO	SO ₂	PM ₁₀ Total	PM ₁₀ Exhaust	PM ₁₀ Dust
Clearing/Grading	45.3	298.2	376.8	0.0	437.6	12.6	425.0
Construction & Paving	75.5	48.2	144.5	0.0	3.1	1.7	1.4
SCAQMD Threshold	75	100	550	150	150	-	-

Source : Giroux & Associates, August 2006

“Excess” NO_x is a regional ozone concern because NO_x is an ozone precursor which has been shown to cause adverse health effects. The following NO_x and ozone-related health effects are as shown in Table 5.3-2 (page 5.3-5) for sensitive receptors and for emergent plant tissue:

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

ROG emissions may exceed the SCAQMD threshold by a very minute amount during construction and paving, even with application of low-VOC paintings and coatings.

Mitigation of this impact may be accomplished by using pre-coated building materials and using high pressure-low volume (HPLV) paint applicators.

As noted above, PM₁₀ emissions from fugitive dust released during site grading, plus the diesel exhaust particulates, would exceed the SCAQMD CEQA Handbook threshold. During prevailing daytime airflow from the SW to NW there may be residential dust-sensitive receptors downwind of the site. Therefore, enhanced dust control measures are needed to mitigate the dispersion of PM₁₀ emissions by atmospheric processes.

Carbon monoxide (CO) levels have dropped dramatically throughout the region over the last several decades. Baseline levels can accommodate substantial local emissions increases without creation of any CO "hot spots." It has been demonstrated in the regional CO attainment/maintenance plan that even the most congested intersection with the highest traffic volumes anywhere in the basin no longer poses any risk of a CO "hot spot." Construction equipment CO exhaust would be spread over a much larger area than those from thousands of vehicles at major congestion nodes. Levels of CO emissions in excess of SCAQMD thresholds during construction therefore do not create any adverse health risks.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. Public exposure to heavy equipment operating in the distance would be an extremely small fraction of the above dosage assumption. Diesel equipment is also becoming progressively "cleaner" in response to air quality rules on new off-road equipment. Diesel exhaust emissions from up to 16 pieces of heavy equipment operating on-site would be somewhat masked by ambient diesel particulate matter (DPM) levels throughout the SCAB, particularly refuse trucks along Imperial Highway and Valencia Avenue delivering to the Olinda-Alpha Landfill site, as well as other industrial area diesel trucks. Any public health risk associated with project-related heavy equipment operations exhaust is not quantifiable. However, because of the cumulative impact from elevated ambient levels and equipment exhaust emissions associated with this Project, use of reasonably available control measures to reduce equipment-related ambient diesel particulate matter (DPM) levels throughout the SCAB from project construction equipment is recommended.

Construction activity air quality impacts occur mainly in close proximity to the surface disturbance area. There may, however, be some "spill-over" into the surrounding community. That spill-over may be physical as vehicles drop or carry out dirt or silt is washed into public streets. Passing non-project vehicles then pulverize the dirt to create off-site dust impacts. "Spillover" may also occur via congestion effects.

Construction may entail roadway encroachment, detours, lane closures and competition between construction vehicles (trucks and contractor employee commuting) and ambient traffic for available roadway capacity. Emissions controls require good housekeeping procedures and a construction traffic management plan that would maintain such "spill-over" effects at a less-than-significant level.

Level of Significance: Potentially significant.

Mitigation Measures:

AQ-1 Construction Air Pollution Control

- a. *Prior to the issuance of any grading permits, the Applicant shall prepare and submit for the approval of the Director of Development Services (or his designee) a Fugitive Dust Emission Control Plan in compliance with SCAQMD Rule 403. The Plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line of the proposed facility. Provisions of the plan shall include the stipulation that all areas of active grading shall be watered at least twice daily. The plan shall also stipulate that disturbed areas at the construction site shall be treated with dust suppressants when activities have ceased for 30 days as well as control techniques listed below as determined appropriate.*

The Building Official shall ensure that the applicant adheres to the following requirements during construction activities, which shall also be placed as conditions on any grading or building permit.

- (1) Application of chemical stabilizers to unpaved roads and vehicle parking areas;*
 - (2) Application of sufficient water prior to initiating any earth movement;*
 - (3) Sweeping and/or cleaning streets where vehicles exit construction sites;*
 - (4) Installation of wheel washers where vehicles exit disturbed surface areas onto paved roads;*
 - (5) Paving of construction access roads;*
 - (6) Paving of all roads on a construction site once final elevations have been reached or at the earliest feasible time;*
 - (7) All stockpiles for material export shall be watered twice daily. Stockpiles that may be used for long-term on-site soil storage shall be planted and watered twice daily until such plants take root.*
 - (8) Any other measures as approved by the Planning Department.*
- b. *All heavy equipment shall be maintained in a proper state of tune as per the manufacturer's specifications.*
- c. *Heavy equipment shall not be allowed to remain idling for more than five minutes duration.*

- d. *Trucks equipment shall not be allowed to remain idling for more than two minutes duration.*
- e. *Electric power shall be used to the exclusion of gasoline or diesel generators whenever feasible.*
- f. *The Applicant shall specify that the contractor use only paints and coatings low in Reactive Organic Gas (ROG) content in order to minimize such emissions and vapors.*
- g. *All paints and coatings shall be applied either using high volume, low pressure (HVLP) spray equipment or by hand application in order to minimize dispersion of vapors and spray.*
- h. *All known and observed hazardous materials shall be remediated in accordance with the recommendations included in Section 5.6 of this document. If locations where spillage of fluids from prior activities or hazardous materials are discovered during construction activities, these construction activities shall be curtailed until the area is evaluated and remediated as determined appropriate by all regulatory agencies. Removal of petroleum contamination will also alleviate the generation of hydrogen sulfide and its attendant odor. These activities would fall under the direction of both local and State agencies that would "sign off" on the remediation effort upon completion.*

Level of Significance after Mitigation: Even with the mitigation described above, impacts would remain significant.

FILL HAULING IMPACTS

Both Sites

The two projects combined would require the import of 125,000 cubic yards of fill material. The fill trucks would travel along the 57 Freeway, and then along Imperial Highway to the site (turning on Kraemer Boulevard. to the Birch Hills site). The haul truck capacity is approximately 25 cubic yards for a bottom dump and trailer. The import of fill would require 5,000 truck trips. The daily truck volume is not known. For purposes of analysis, fill import has been assumed to occur over 50 work-days (two months). The average daily trucking activity would be 100 trips, or 2,500 cubic yards per day. Because the origin of the fill is unknown, air quality impacts have only been evaluated on a local scale.

The round-trip travel distance on local streets for the Birch Hills site is 2.5 miles. The round-trip distance from the freeway to the La Floresta Village site is 4.1 miles. The overall local travel distance is as follows:

Birch Hills Site – 1,000 trips x 2.5 miles = 2,500 VMT

La Floresta Village Site – 4,000 trips x 4.1 miles = 16,400 VMT

Total = 18,900 VMT

Average Daily VMT (18,900/50 days) = 378 VMT/day

Excess local construction activity emissions from 378 VMT per day were calculated using the EMFAC 2002 computer model for heavy duty diesel trucks (> 33,000 pounds) as shown in Table 5.3-7.

**Table 5.3-7
Estimated Emissions from Hauling Activities -
La Floresta Development Proposal**

Pollutant	EMFAC (lb/mile)	Emissions (lb/day)
ROG	0.001227	0.5
CO	0.005520	2.1
NO _x	0.035635	13.5
PM ₁₀	0.000644	0.2
SO _x	0.000046	<0.1

Source: Giroux & Associates, August 2006

The on-road NO_x emissions would slightly exacerbate the temporary construction activity impacts from on-site grading equipment. NO_x is an ozone precursor such that the on-road NO_x emissions would have an impact far from Brea. Any possible local impacts would derive mostly from the 0.2 pounds per day of PM₁₀.

Diesel particulate matter (DPM) is a known carcinogen. The DPM concentration at the roadway edge of the haul route was calculated for 100 daily round trips. The exposure was calculated using the CALINE4 roadway model. The worst-case DPM exposure and associated individual excess cancer risk on the sidewalk along the haul route was compared to the SCAQMD risk significance threshold of a probability of 10 in one million as follows:

1-Hour DPM Concentration – 0.60 µg/m³

8-Hour DPM Concentration – 0.42 µg/m³

24-Hour DPM Concentration – 0.14 µg/m³

Lifetime adjustment (50 days/365/70) – 0.002

Lifetime exposure (0.14 x 0.002) – 0.00028

Cancer Risk (0.00028 x 300 x 10⁻⁶) – 0.08 x 10⁻⁶

The excess cancer risk from 50 haul days is less than 0.1 in a million on the sidewalk along Imperial Highway. It is assumed there will be no receptors located on the sidewalk for 8 hours per day for 50 days of hauling. One truck inbound and one outbound every five minutes would not create measurable local traffic congestion that would promote any

air pollution “hot spots” near major intersections. Fill hauling activity impacts are therefore locally less-than-significant.

Level of Significance: Less than significant.

Mitigation Measures: None required other than those discussed previously under Construction Impacts.

Level of Significance after Mitigation: Not applicable.

REGIONAL MOBILE SOURCE OPERATIONAL IMPACTS AFTER PROJECT COMPLETION

Note: Subsequent to the preparation of the air quality technical study the proposed mix of land uses in the La Floresta Village development was modified, resulting in an estimated increase in Average Daily Traffic (ADT) from 14,574 to 15,216 trips at Project buildout. This change represents a daily traffic increase of 4%, and would not cause the conclusions in the air quality analysis to differ substantially from those presented in the following discussion and in the Appendix C to this EIR.

Both Sites

Project-related air quality concerns derive primarily from the mobile source emissions that would be generated from the residential and commercial uses proposed.. The air quality analysis is based upon estimated daily trip generation of 14,574 ADT at Project build-out. Project energy demand met by burning fossil fuels in regional power plants would add a small NO_x increment from Project operations and add very minute amounts of other pollutants. Residential uses also generate small quantities of organic compounds from cleaning products, personal care products, landscape maintenance, cooking, etc. The individual residential contribution of each such source is small, but becomes significant when summed over the total residential build-out planned in the Project.

Operational emissions for project-related traffic were calculated using a computerized procedure developed by the California Air Resources Board (CARB) for urban growth source emissions. The URBEMIS2002 model was run using the trip generation factors specified by the project traffic consultant for this specific project. Project build-out is anticipated to occur between 2010 and 2015. The computer model was used to calculate area source emissions and the resulting vehicular operational emissions for years 2010 and 2015. The results are shown in Table 5.3-8.

As shown, Emissions of CO, ROG, NO_x and PM₁₀ are all forecast to exceed their respective SCAQMD significance thresholds by a substantial margin. By Project build-out in 2015, project-related emissions from both sites combined would compare to SCAQMD thresholds as follows:

5. Environmental Analysis

ROG +310%
 NO_x +148%
 CO +140%
 PM₁₀ + 93%

These levels of emissions in excess of standards would presumably occur at other new developments planned in Orange County if not with this Project. While the Project represents a significant regional emissions contributor, it does not generate emissions that have not been adequately anticipated in the regional air quality plan. The Project's level of development has been anticipated in the Brea General Plan and therefore in the Regional Comprehensive Plan, which predicts substantial population growth as well as housing jobs growth in the City of Brea and the Orange County region between 2005 and 2015.

**Table 5.3-8
 Average Daily Project Mobile Source Air Pollution Emissions* -
 La Floresta Development Proposal**

Year 2010	ROG	NO_x	CO	PM₁₀	SO_x
Area Source Emissions	99.8	13.7	23.8	0.1	0.2
Mobile Source Emissions	105.4	111.7	1,211.4	139.3	0.9
Total	205.2	125.4	1,235.2	139.4	1.1
SCAQMD Significance Threshold	55	55	550	150	150
Exceeds Threshold?	Yes	Yes	Yes	No	No
Percent of Threshold	373	228	225	93	<1
Year 2015	ROG	NO_x	CO	PM₁₀	SO_x
Area Source Emissions	99.8	13.7	23.8	0.1	0.2
Mobile Source Emissions	70.7	67.9	748.1	139.0	0.9
Total	170.5	81.6	771.9	139.1	1.1
SCAQMD Significance Threshold	55	55	550	150	150
Exceeds Threshold?	Yes	Yes	Yes	No	No
Percent of Threshold	310	148	140	93	1
*Pounds per day Source: Giroux & Associates: URBEMIS2002, Output in Appendix C.					

The Project would add 1,335 residential units to Brea housing (1,088 dwelling units from the La Floresta Village Development and 247 dwelling units from the Birch Hills Development). This represents approximately 87% of the total forecast housing growth for Brea between 2005 and 2015. Additionally the Project would add 156,800 square feet of commercial and office space. The typical job creation from commercial uses is 3 jobs per 1,000 square feet. The Project would thus add approximately 470 jobs to the City of Brea. Because Orange County is jobs rich and housing poor, the Project would help to improve the existing jobs/housing imbalance by providing a higher proportion of residential development than employment generating land uses.

Although mobile source emissions from the Project would have a regionally significant and non-mitigable air quality impact, the positive effect on the regional jobs-housing

balance would be beneficial to air quality in the basin and would act to partially offset total emissions generated by the Project.

In addition to mobile sources, this Project causes smaller amounts of air pollution to be generated from on-site energy consumption (natural gas combustion) and from other "area source" emissions. Area source emissions for an assumed 2015 Project build-out by themselves would exceed the ROG significance threshold by 81 percent. The inclusion of such emissions adds substantially to the total significant project-related emissions burden as shown in Table 5.3-8.

The area source emissions calculations do not take into account the on-going programs to reduce area-source emissions from reformulation of cleaning products, hairspray, deodorants, insecticides, herbicides, charcoal starters, spray paint, etc. that have occurred in the last decade and will continue into the future. The actual "area source" emissions would be substantially lower than shown in Table 5.3-7 because the URBEMIS2002 computer model has not been updated to keep pace with these developments in area source reductions. Although non-mobile source emissions would be less than shown in Table 5.3-8 because of computer model deficiencies, they would nevertheless be far in excess of adopted significance thresholds.

Level of Significance: Potentially Significant.

Mitigation Measures:

AQ-2 Trip Reduction Measures

The applicant shall incorporate the following trip reduction measures into the final design of the non-residential portions of the Project to reduce vehicular traffic, energy consumption, and air emissions.

- Preferential carpool and vanpool parking
- Bicycle storage facilities
- Electric vehicle charging stations

AQ-3 Transit Coordination

The applicant shall coordinate with the Orange County Transportation Authority and the City Engineering Department to provide bus turnouts and shelters where appropriate.

Level of Significance after Mitigation: Even with the mitigation described above, project related regional mobile source air quality impacts would remain significant.

MICROSCALE AIR QUALITY IMPACTS

Both Sites

Single-family residential uses adjoin the La Floresta Village site to the south and southeast. A 40-acre site planned for a new K-6 school and sports park is located immediately to the northwest of the La Floresta Village site, at the intersection of Valencia Avenue and Birch Street. The Birch Hills site has single-family and multi-family residential uses to the west and north. The potential microscale air quality impacts to these sensitive receptors are analyzed below.

Micro-scale air quality impacts have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for carbon monoxide (CO). However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no "hot spots" anywhere in the air basin, even at intersections with much higher volumes, much worse congestion, and much higher background CO levels than anywhere in the Project area. If the worst-case intersections in the air basin have no "hot spot" potential, any local impacts near the facility would be well below thresholds with an even larger margin of safety.

To verify this conclusion, a CO screening analysis was performed at the most congested intersections surrounding the Project sites. One-hour CO concentrations were calculated on the sidewalks adjacent to these intersections. PM peak one-hour levels (ppm above background) were as shown in Table 5.3-9. Existing peak one-hour local CO background levels in 2004 were 7.0 ppm. Combined worst-case background (7.0 ppm) plus local (2.7 ppm) equate to one-hour CO levels of 9.7 ppm which are far below the one-hour standard of 20 ppm. Micro-scale impacts are therefore not significant.

**Table 5.3-9
One-Hour CO Concentrations (ppm) -
La Floresta Development Proposal**

Intersections	Existing	2012 No Project	2012 w/Project	2025 No Project	2025 W/Birch Hills Only	2025 W/ LF Village Only	2025 Entire Project
PM Peak Hours							
Kramer/Birch	1.3	0.9	1.0	0.6	0.6	0.6	0.6
Kramer/Imperial	2.7	1.6	1.7	0.9	0.9	0.9	0.9
Source: Giroux & Associates, August 2006							

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.3.5 Cumulative Impacts

Both Sites

The context for cumulative impacts to air quality is the South Coast Air Basin, which includes all of Orange County, as well as the greater metropolitan Los Angeles/Riverside/San Bernardino county area. Cumulative projects include local development as well as on-going growth within the basin. The greatest cumulative source of emissions would be from vehicular traffic throughout the region as well as within the local area. From an air quality standpoint, the cumulative effect of other regional growth would affect the project area much more than the development of the proposed Project especially since meteorological patterns could influence emission concentrations.

The Project is located in a non-attainment area for both ozone and PM10 (particulate matter). Construction and operation of cumulative projects would further degrade the local air quality, as well as the regional air quality of the South Coast Air Basin. Air quality would be degraded during construction activities that occur separately or simultaneously, but only for the duration of these activities. A greater cumulative impact on the regional air quality is anticipated from incremental increases in traffic from residential, commercial, and industrial development. Long-term mobile emissions would further exacerbate non-attainment conditions in the South Coast Air Basin.

Mitigation measures identified previously would reduce project-specific impacts and would aid in mitigating cumulative air quality impacts to the extent similar control measures are applied consistently to other new development projects within the region as well. With mitigation measures outlined under Construction-related Impacts, cumulative air quality impacts would be reduced, but remain significant on a project-specific basis.

While the overall effectiveness of mitigation measures may in some cases be limited, their aggressive and diligent implementation would reduce the overall regional air quality burden. In accordance with SCAQMD methodology, any project that produces a significant air quality impact in a non-attainment area adds to the cumulative impact, and is considered potentially significant.

With respect to emissions that exceed State and Federal standards, CO hot spot analysis was performed for Year 2025 traffic when area build-out is expected. The results of this analysis show that cumulative growth in the area would not violate air quality standards for localized CO concentrations, and are not a significant cumulative impact.

Level of Significance: Potentially significant.

Mitigation Measures: Project-specific mitigation measures are listed in the previous discussion of construction-related air quality impacts. No other mitigation is considered feasible to address cumulative air quality impacts.

Level of Significance after Mitigation: Even with the identified mitigation measures, cumulative impacts are considered significant.

5.3.6 Significant Unavoidable Impacts

Both Sites

Even with implementation of all feasible mitigation measures discussed above, both project-specific construction-related and long term operational mobile source emissions as well as cumulative impacts to air quality would remain significant.

5.4 Cultural Resources

5.4.1 Methodology

The following section summarizes the pertinent findings of a series of archaeological and paleontological investigations conducted under contract to the project applicant by SWCA environmental consultants. These include:

1. "Cultural Resources Literature Review and Monitoring for Hartley Center – North, City of Brea, California," April 2004;
2. "Paleontological Assessment of the La Floresta/Birch Hills Golf Course Development Project, Brea, Orange County, CA," February 2006;
3. "Cultural Resources Reconnaissance Survey for the Birch Hills Golf Course/La Floresta Development Project, City of Brea, Orange County, CA," February 2006.
4. "Cultural Resources Survey for the Hartley Center – La Floresta Project, City of Brea, Orange County, California," July 2006.
5. "Paleontological Resources Survey and Assessment of the Hartley Center-La Floresta Project, Brea, Orange County, California," July 2006.
6. "Evaluation and Recommendations on Surviving 1911 Pacific Electric Railroad Roadbed through Birch Hills Golf Course in Brea, Orange County, California," September 2006.

These studies are contained in their entirety in Appendix C to this EIR.

5.4.2 Setting

PROJECT SITE CONDITIONS

General Background

Both Sites

The archaeological heritage of California is considered quite rich; however, knowledge of early native Californians is scarce. The date of arrival of people in southern California is unknown; however, radiocarbon dating of resources recovered from a deeply buried archaeological site in southern Orange County indicates an occupation as early as 11,000 BP (before present). The La Floresta Village site lies within an area occupied during the late prehistoric period by Native American societies known as the Gabrielino. The name "Gabrielino" denotes those people who were administered by the Spanish from Mission San Gabriel. Gabrielino lands encompassed the greater Los Angeles basin and

three Channel Islands. Other ethnic or tribal groups present in the general area include the Tongva and the Juaneño.

The first Europeans to view Orange County were members of the 1542 expedition of Juan Rodriguez Cabrillo. The first permanent settlement occurred after San Juan Capistrano was made the site of a mission in 1776. With the founding of the Pueblo of Los Angeles in 1781, civilian settlers arrived. The Mexican Revolution, which began in 1821, overthrew Spanish imperial control, and the new Mexican government accelerated the granting of mission rancho lands to a few influential Mexican families. In 1846, as result of the Mexican-American War, California was formally annexed by the United States. A complete pre-historic and ethnographic context is described in detail in Appendix C to this EIR.

Local History

The Brea area was included in the San Juan Cajon De Santa Ana Rancho in 1837. In 1894, 1,200 acres of the rancho, including part of what was to become Brea, were acquired by the Union Oil Company. In 1908, a Subdivision Map was filed by the Ontario Investment Company for the Town of Randolph, which was renamed "Brea" in 1911. Brea was incorporated in 1917, the eighth city In Orange County.

La Floresta Village Site

The proposed La Floresta Village site is approximately 119 acres in size and is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the north and east, and is the former location of the Unocal Hartley Research Center, as illustrated in Exhibit 3.3-1 – Local Vicinity Map (page 3-5). A literature review was conducted in December 2002 by SWCA to determine if any prehistoric or historic sites were previously recorded within the La Floresta Village site. The record search revealed that 24 cultural resources studies have been completed within a one-mile radius of the site. Of these, three resource studies are in proximity or within the boundaries of the La Floresta Village site. These studies are summarized below:

- A field survey in 1977 by Scientific Resource Surveys, Inc. recorded no archaeological resources within a 100-foot pipeline corridor located along Rose Drive.
- A second field survey in 1977 crossed the southeast terminus of the La Floresta Village site where Rose Drive intersects Carbon Canyon Creek. Remnants of the settlement of Olinda were identified within what is now the Carbon Canyon Regional Park.
- In 1993, a survey by the Archaeological Advisory Group included a portion of the southern half of the La Floresta Village site along Imperial Highway. No archaeological sites were identified within the study corridor in the vicinity of the La Floresta Village site.

The structures and improvements on the La Floresta Village site were removed in March 2005. SWCA was contracted during 2002 and 2003 to conduct a literature review and

field reconnaissance, and to monitor ground-disturbing activities associated with remediation of a two-acre area in the northern portion of the site where hydrocarbon-impacted soils were found.

Fifty-four artifacts, consisting primarily of glass bottles, glass fragments, glass insulators, and domestic ceramics ranging in date of manufacture from approximately 1920 to the present, were recovered in the upper four to five feet of historic fill during field investigations in 2004. Evaluation of these artifacts by SWCA personnel determined that the artifacts had been redeposited from an unknown location and that none of the artifacts collected met any of the criteria established to determine historical significance. For this reason, these artifacts were not recorded as an archaeological site.

Additional field investigation of the remainder of the La Floresta Village site was conducted by SWCA in July 2006. The southern portion of the site is considered "highly disturbed," and the ground in general is covered with a light scattering of construction debris from structural demolition and rough grading, which has occurred recently. Approximately 20 percent of the southern portion of the site is covered in grasses or gravel, and the ground surface is not visible. A majority of the remaining area is covered by weeds, which also reduce visibility of the soil surface. In the southeast area of the La Floresta Village site along Rose Avenue, 21.3 acres are devoted to agricultural row crops. The northernmost portion of the site, however, retains its natural rolling topography, although it has been disturbed by oil production activities and access roads.

No prehistoric or historic cultural materials were observed within the La Floresta Village site during recent surveys. The La Floresta Village site is, however, characterized by Pleistocene-age alluvial deposits, which are considered to have a high paleontological sensitivity, although no fossils were observed during field surveys.

Birch Hills Site

The proposed Birch Hills site is approximately 91.3 acres in size and is located at the southwest corner of Birch Street and Kraemer Boulevard. The Birch Hills Golf Course currently occupies the site. A literature review was conducted in January 2006 by SWCA to determine if any prehistoric or historic sites were previously recorded within the Birch Hills site. The record search revealed that 18 cultural resources studies have been completed within a one-mile radius of the site, but none have occurred within the site boundaries. No pre-historic cultural resources have been identified within the Birch Hills site, though one historic and three archaeological sites are recorded within one mile of the study area. The character of these sites is described in Appendix C to this EIR in the report entitled "Cultural Resources Reconnaissance Survey for the Birch Hills Golf Course/La Floresta Development Project, City of Brea, Orange County, CA," February 2006.

SWCA archaeologists conducted field reconnaissance of areas of the Birch Hills site that are not landscaped in January 2006. No pre-historic cultural material was observed within the accessible area surveyed, and no surficial evidence of habitation by Native Americans was observed. The presence of Pacific Electric Railway tracks within the site was, however, considered to be of "local historical interest." The Birch Hills site is also

characterized by Pleistocene-age alluvial deposits, which are considered to have a high paleontological sensitivity, although no fossils were observed during field surveys.

The railroad roadbed on the Birch Hills site was examined in detail by SWCA Environmental Consultants in September 2006 for its historic significance under the criteria of CEQA and the California Register of Historic Places (CRHR). The railroad roadbed is the former Pacific Electric inter-urban route constructed in 1911, and was part of the La Habra Line, which originated in Los Angeles and terminated in Yorba Linda. The line provided passenger service with "Red Cars" as well as freight service to nearby oil fields and farms in the 1920s and 1930s. In the mid-60s, Pacific Electric's parent company, Southern Pacific Railroad, absorbed the former inter-urban line and abandoned the La Habra/Yorba Linda Line. Since 1968, the tracks ended at the former Collier Chemical Plant, now developed as Brea Plaza and the southern portion of the Birch Hills Golf Course. The expansion of the golf course south of the Loftus Channel did not, however, alter the "distinctive topography of the 1911 Pacific Electric cuts, fills, drainages, and grade," according to SWCA consultants report (contained in Appendix C to this EIR). SWCA noted that rails remain embedded in the paved golf cart road that connects the north and the south portions of the existing course, and that "roadbed gravel ballast and a few original wood ties mark the right-of-way across the length of the golf course."

REGULATORY SETTING

Both Sites

City of Brea General Plan: Community Resources Element – Historic Resources

The Community Resources Element does not address archaeological or paleontological resources. The Historic Resources subsection, however, contains the following goals and policies that may be applicable to the proposed Project:

Citywide Policies

- *Goal CR-14: Preserve historically significant landmarks and/or sites, individual structures, objects, and neighborhoods, and encourage appropriate rehabilitation.*
- *Policy CR-14.3: Review all development and rehabilitation proposals affecting historic structures, landmarks, and objects in terms of site design and building design.*
- *Policy CR-14.7: Preserve and enhance the City's history and tradition through inclusion of historic sites and other resources in the City's parklands.*

California Environmental Quality Act (CEQA)- §15064.5 (A)(3)(a-d)

CEQA Guidelines state that a resource is considered “historically significant” if it meets at least one of the following criteria:

- *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
- *Is associated with the lives of persons important in our past;*
- *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or*
- *Has yielded, or may be likely to yield, information important to prehistory or history.*

5.4.3 Thresholds of Significance

The following criteria are extracted from most recent update of the California Environmental Quality Act (CEQA) and the Environmental Checklist Form pertaining to Cultural Resources. Would the project:

- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5;*
- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;*
- *Disturb any human remains, including those interred outside of formal cemeteries.*

Because additional investigation has been conducted since preparation of the Initial Study, giving rise to questions regarding potential historic resources on the Birch Hills site, this topic will also be addressed in this EIR. The CEQA Checklist contains the following threshold of significance pertaining to historical resources. Would the project:

- *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5.*

Cultural Resources impacts could also be considered significant if aspects of the project were found to be inconsistent with applicable plans and policies as outlined in the preceding subsection. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations presented in this EIR.*

5.4.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE PLANS AND REGULATIONS

City of Brea General Plan: Community Resources Element – Historical Resources

Historical resource goals and policies that may be found applicable to the proposed Project are listed in Section 5.4.2, Setting and are discussed below.

La Floresta Village Site

No structures remain on the La Floresta Village site; consequently there is no potential for historic resources to be located on the site. General Plan Historical Goals and Policies do not apply to this area.

Birch Hills Site

Field reconnaissance conducted by SWCA in July 2006 suggested that remnants of the Pacific Electric Railway tracks through the property may be of local historical interest and historically significant. SWCA recommended that further research and recordation of the Pacific Electric Railway tracks be conducted to evaluate their historical significance. This additional research was conducted in September, 2006.

Additional investigation and field reconnaissance determined that the Pacific Electric roadbed segment through the Birch Hills Golf course meets the California Registry of Historic Resources (CRHR) criterion for association with historic events and is eligible for listing in the California Register of Historical Resources. Under CEQA Guidelines, this would be considered a "significant resource" requiring mitigation.

A community trail link is proposed to run through the site and would generally follow the path of the old Pacific Electric Railway, linking up with the former rail line off-site. An accurate alignment will be determined during Precise Development Plan review.

Level of Significance: Potentially significant.

Mitigation Measures:

CR-1 Design Plans

Final design plans shall maintain the former Pacific Electric Railroad roadbed as a straight sightline axis through the Birch Hills development project unless determined physically infeasible by the City of Brea.

CR-2 Retention of Historical Age Features

Portions of rails embedded in the existing golf cart path and other historic age features such as the roadbed profile and drainage pipes shall be retained in final Birch Hills project design to the extent feasible and consistent with any new drainage or other essential improvements that may

be required for physical safety purposes by the City of Brea or other public agencies.

CR-3 Public Viewing Facilities

Appropriate facilities for public viewing with identifying plaques shall be incorporated into final Birch Hills project design at locations to be determined by the City of Brea Development Services Department.

Level of Significance after Mitigation: Less than significant.

SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE

La Floresta Village Site

No structures remain on the La Floresta Village site; consequently there is no potential for impacts to historic resources to occur on the site.

Birch Hills Site

The preceding discussion of consistency with General Plan Historical Resources goals and policies addresses the potential for historical resources on the Birch Hills site and identifies appropriate mitigation measures. No further discussion is needed.

SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE

La Floresta Village Site

Field investigations conducted in 2004 and 2006 did not reveal any archaeological or historic cultural resources. Because of the potential for archaeological material to be located within the La Floresta Village development site area, however, it is recommended by the project archaeologist that a qualified monitor be present during any future ground-disturbing activities in native soils/sediments. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities could, however, continue in other areas. If the discovery proves to be significant, additional analysis such as evaluation and recovery excavation may be warranted.

Level of Significance: Potentially significant.

Mitigation Measures:

CR-4 Archaeological Monitor

An Orange County certified archaeologist monitor shall be present during all ground-disturbing construction activities occurring in native sediments/soils. In the event that cultural resources are exposed during construction,

the monitor shall be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. If the archeologist determines that they are unique archeological resources as defined by §21083.2 of CEQA, then the archeologist shall conduct additional excavations to avoid impacts to these resources by the development. If they are not "unique," then no further mitigation would be required. Unique cultural resources shall be determined based on the criteria set forth in §21083.2 of CEQA.

CR-5 Disposition of Any Human Remains

If previous human remains are uncovered during site preparation, grading, or excavation, the archeologist monitor shall have the authority to temporarily halt or divert grading in the immediate area of the discovery, and shall notify the County Coroner within 24 hours of the discovery. If the Coroner determines that the remains are not recent, the Coroner shall notify the Native American Heritage Commission. The project applicant shall comply with the procedures set forth in §5097.98 of the California Public Resources Code and shall consult with the most likely descendant designated by the Native American Heritage Commission to obtain recommendations on the treatment and disposition with appropriate dignity of the human remains and associated grave goods.

Level of Significance after Mitigation: Less than significant.

Birch Hills Site

The Birch Hills site is considered to have the potential for buried archaeological resources, although none were observed during field investigations due to groundcover and other improvements and structures. The project archaeologist recommended that a qualified archaeologist monitor all ground disturbing construction activities occurring in native sediments/soils. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt activities in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities could, however, continue in other areas. If the discovery proves to be significant, additional analysis such as evaluation and recovery excavation may be warranted.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures CR-4 and CR-5 above.

Level of Significance after Mitigation: Less than significant.

**DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE OR
UNIQUE GEOLOGIC FEATURE**

Both Sites

The La Floresta Village site and the Birch Hills site are considered to have the potential for paleontological resources. Pre-construction excavations on the project sites are considered “highly likely” to result in adverse impacts to significant paleontological resources unless proper mitigation measures are implemented due to the presence of paleontologically sensitive geologic sediments throughout the general vicinity.

Level of Significance: Potentially significant.

Mitigation Measures:**CR-6 Paleontological Monitor**

All construction-related ground disturbance related to the Hartley Center–La Floresta Village development project that could potentially impact the paleontologically sensitive Quaternary Older Alluvium will be monitored by a qualified paleontological monitor on a full-time basis. Ground disturbances in Holocene-age alluvium will be monitored on a part-time basis to ensure that underlying paleontologically sensitive sediments are not impacted.

CR-7 Paleontological Mitigation Plan

An Orange County Certified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed La Floresta Village development project. Paleontological monitoring will include inspection of exposed rock units during active excavations. The monitor will have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data.

CR-8 Progress Reports

The Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agency.

CR-9 Recordation of Fossil Localities

At each fossil locality, pertinent geologic data will be recorded on field data forms, stratigraphic sections will be measured, and appropriate sediment samples will be collected and submitted for analysis.

CR-10 Recovery of Fossils

Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and repositied in a designated paleontological curation facility. Potential repositories include

the Natural History Museum of Los Angeles County and the San Bernardino County Museum.

CR-11 Final Monitoring and Mitigation Report

The Certified Paleontologist will prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.

Level of Significance after Mitigation: Less than significant.

DISTURB ANY HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE FORMAL CEMETERIES

Both Sites

The City of Brea has consulted with the Native American Heritage Commission to request a Sacred Lands File Search and a Native American Contact List. (Appendix C to this EIR contains the contact letter sent and a distribution list of tribes to which it was sent.) No responses to correspondence seeking additional information from area tribes were received. Native Americans may, however, have inhabited the Project area in prehistoric times; therefore, cultural resources may exist in the vicinity. During grading operations, it is possible that human remains could be discovered. Mitigation Measures CR-4 and CR-5 above would reduce potential impacts to a less than significant level.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures CR-4 and CR-5 above.

Level of Significance after Mitigation: Less than significant.

5.4.5 Cumulative Impacts

Impacts to cultural resources are by their nature confined to a localized setting. Virtually all development has the potential to disrupt cultural resources. Such impacts are, however, site specific. Both sites are located within an urban setting and have been previously developed or disturbed over the majority of the area involved. No development projects are pending or anticipated in proximity to the Birch Hills site. A sports complex/K-6 school is anticipated at the northwest corner of Birch Street at Valencia Avenue adjacent to the La Floresta Village site.

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Community Resources Element – Historical Resources

La Floresta Village Site

No structures remain on the La Floresta Village site; consequently, there is no potential for historic resources to be located on the site. General Plan Historical Goals and Policies do not apply to this area.

Birch Hills Site

Investigation and field reconnaissance determined that the "Pacific Electric" roadbed segment through the Birch Hills Golf course meets the California Registry of Historic Resources (CRHR) criterion for association with historic events and is eligible for listing in the California Register of Historical Resources. Under CEQA Guidelines, this would be considered a "significant resource" requiring mitigation. Mitigation Measures CR-1 through CR-3 require the preservation of remaining artifacts and features related to the former "Pacific Electric" rail line. These measures would reduce potential project specific impacts to cultural resources to a less than significant level. Similar mitigation measures are required of other development projects under CEQA where cultural resources are identified. In consideration of the preceding factors, the contribution of the Birch Hills development project to cumulative impacts to historical resources would be rendered less than considerable, and therefore, less than cumulatively significant.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures CR-1 through CR-3.

Level of Significance after Mitigation: Less than significant.

SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE

La Floresta Village Site

No structures remain on the La Floresta Village site; consequently, there is no potential for impacts to historic resources to occur on the site.

Birch Hills Site

The preceding discussion of consistency with General Plan Historical Resources goals and policies addresses the potential for historical resources on the Birch Hills site and identifies appropriate mitigation measures. These measures would reduce potential project-specific impacts to cultural resources to a less than significant level. Similar mitigation measures are required of other development projects under CEQA where cultural resources are identified. In consideration of the preceding factors, the contribution of the Birch Hills development project to cumulative impacts to historical resources would be rendered less than considerable, and therefore, less than cumulatively significant.

Level of Significance: Potentially significant.

Mitigation Measures: See CR-1 through CR-3.

Level of Significance after Mitigation: Less than significant.

SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE

Both Sites

Cultural resource impacts are site specific. All development projects have the potential for disrupting cultural resources. Investigations conducted on the La Floresta Village and Birch Hills sites did not reveal any surface resources. Mitigation Measures, as described in Section 5.4.4 of this EIR, require monitoring of site preparation activities and appropriate measures to protect subsurface resources if any are discovered. These measures would reduce potential project-specific impacts to cultural resources to less than significant levels. Similar mitigation measures are typically required of all development projects under CEQA. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative impacts to archaeological resources would be rendered less than cumulatively significant.

Level of Significance: Less than significant

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE OR UNIQUE GEOLOGIC FEATURE

Both Sites

Cultural resource impacts are site specific. All development projects have the potential for disrupting cultural resources. Investigations conducted on the Village and Birch Hills sites did not reveal any surface resources. Mitigation Measures, as described in Section 5.5-4 of this EIR, require monitoring of site preparation activities and appropriate measures to protect subsurface resources if any are discovered. These measures would reduce potential project-specific impacts to cultural resources to less than significant levels. Similar mitigation measures are typically required of all development projects under CEQA. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative impacts to paleontological resources would be rendered less than cumulatively significant.

Level of Significance: Less than significant

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

DISTURB ANY HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE FORMAL CEMETERIES

Both Sites

Cultural resource impacts are site specific. All development projects have the potential for disrupting cultural resources. Investigations conducted on the La Floresta Village and Birch Hills sites did not reveal any surface resources. Mitigation Measures, as described in Section 5.5-4 of this EIR, require monitoring of site preparation activities and appropriate measures to protect subsurface resources if any are discovered. These measures would reduce potential project-specific impacts to cultural resources to less than significant levels. Similar mitigation measures are typically required of all development projects under CEQA. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative impacts related to disturbing human remains would be rendered less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.4.6 Significant Unavoidable Impacts

No significant unavoidable impacts to Cultural Resources have been identified on either the La Floresta Village site or the Birch Hills site.

5.5 Geology and Soils

5.5.1 Methodology

This chapter is based on the information contained in the "Geotechnical Feasibility Report, La Floresta Development (Former Unocal Hartley Center), 376 South Valencia Avenue, Brea, California, November 14, 2005" and the "Geotechnical Feasibility Report, Birch Hills Golf Course Development, Southwest Corner of Birch Street and Kraemer Boulevard, Brea, California, November 18, 2005," both prepared by Albus-Keefe & Associates, Inc. These reports are provided in the Technical Appendix. The Public Safety Element of the Brea General Plan also provides an overview of geologic conditions and hazards in the city. The General Plan Geologic and Seismic Hazards Map is shown in Exhibit 5.5-1.

5.5.2 Setting

PROJECT SITE CONDITIONS

Both Sites

Regionally, the Project sites lie within the northeastern portion of the Los Angeles basin within the Peninsular Ranges Geomorphic Province. More specifically, the sites are situated near the base of the south-central Puente Hills. The Puente Hills is a structural unit of Upper Miocene-age sedimentary rocks that has been uplifted between the Whittier fault zone and the Chino fault zone. The La Habra syncline is a structural feature positioned south of and nearly parallel to the southern edge of the Puente Hills. The study area is situated within the lowlands of this structural feature, which lies between the hills to the north and the Coyote Hills uplift to the south.

Uplift of the Puente Hills in the Late Pleistocene and Holocene has created geomorphic landforms within the hills and lowlands to the south that have episodically been eroded and infilled with various generations of alluvium. Thick accumulations of these deposits underlie the Project sites.

Faulting and Seismicity

Regional Faulting

Several large active fault systems are located in relative close proximity to the Project sites. Seismic activity on these larger fault systems has for the most part controlled the geologic structure in the region. The closest known active fault systems to the sites include the Whittier fault, the Puente Hills Blind Thrust fault, the Chino fault, the San Jose fault, the Elsinore fault, the Sierra Madre fault, and the Cucamonga fault.

Site Specific Faulting

No evidence of faulting was observed or reported within or directly adjacent to either of the Project sites. Based on a review of the referenced publications and seismic data, no faults are known to extend through or immediately adjacent to the sites, nor do the sites lie within an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act (see Exhibit 5.5-1 and Exhibit 5.5-2).

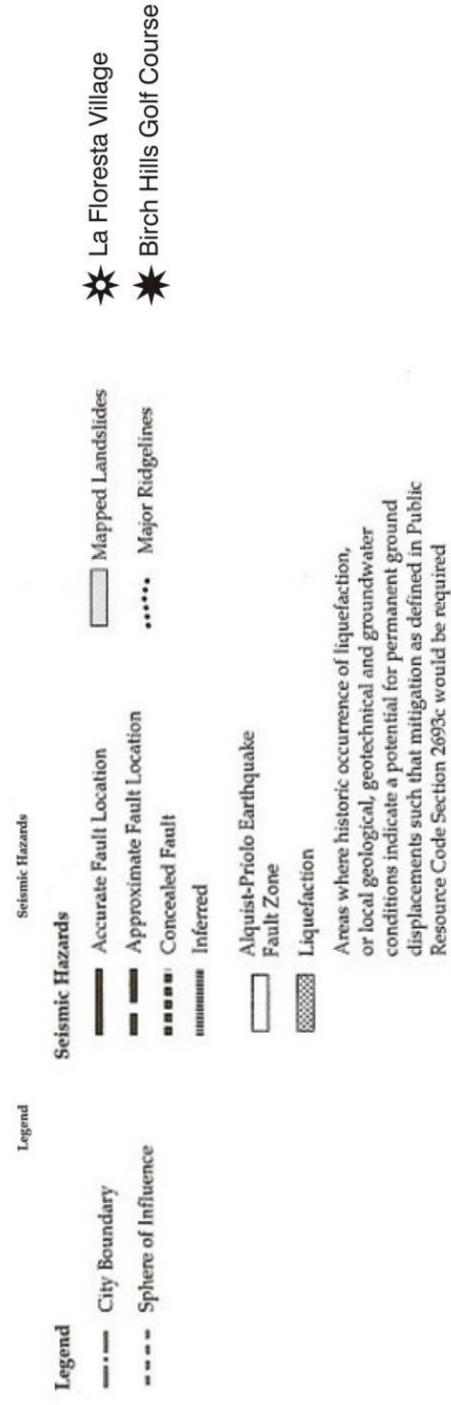
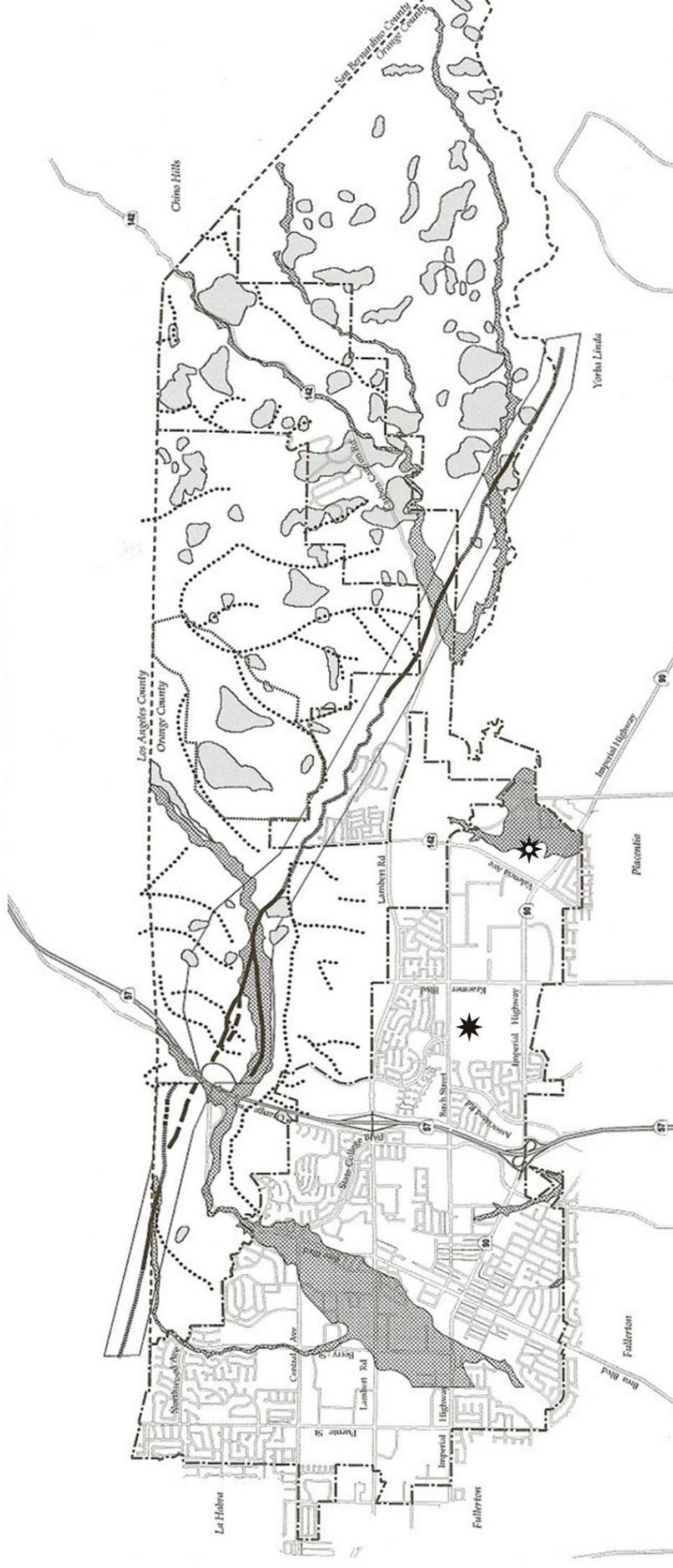
Landslides

No conditions were observed that would suggest the Project sites are prone to landsliding. The sites are not located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability.

La Floresta Village Site

Pleistocene-age terrace deposits (Qt) and Quaternary-age alluvium (Qal) underlie the La Floresta Village site. These deposits are generally mantled by compacted artificial fill, non-engineered artificial fill (Qaf), and topsoil. The Pleistocene-age terrace deposits are located along the elevated western and northern margins of the site. These deposits, which are essentially uplifted and partially eroded older alluvial deposits, consist of yellowish to reddish brown clayey silt, sandy silt, silty sand, clayey sand, and sands that are damp to moist, firm to stiff, and dense. The younger alluvial deposits underlie the low-lying areas of the site and are estimated to be over 100 feet in maximum thickness. These deposits consist of various shades of brown and gray colored clayey to sandy silt, silty clay, clayey sand, silty sand, and sands that are dry to very moist, soft to firm, and medium dense to dense. Relatively undisturbed areas of the site are generally underlain by a 2-foot to 4-foot thick mantle of topsoil. The topsoil materials, depending on the underlying parent materials, generally consist of grayish brown colored clayey and silty sands and sandy silts that are dry to moist, soft to firm, medium dense, and porous. Compacted artificial fill materials are present within various portions of the site and are generally coincident with structures associated with the previous research center and with backfilling of environmental remediation excavations in the northeasterly portion of the site. These fills generally vary from a few feet to up to 15 feet or more in thickness and consist of locally derived materials that are damp to moist, stiff, and dense. Non-engineered (or undocumented) artificial fill is also widely scattered throughout the site. Owing to the long history of development of the site, the nature of these fills is quite variable. Only those fills of significant extent are indicated on the Geologic Map (see Exhibit 5.5-3).

City of Brea: Geologic and Seismic Hazards



Source: City of Brea - Earth Consultants International, January 2002;
 California Division of Mines and Geology, 1980, 1991, and 1998.

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Hydrogeologic Setting

The La Floresta Village site lies within the La Habra-Yorba Linda Basin, a gently down-warped trough lying between the Puente Hills to the north and the Coyote Hills to the south. This hydrogeologic area is located in the northern portion of the Coastal Plain of Orange County and is bounded by the Norwalk Fault zone and the Whittier Fault. Aquifers within the basin occur in relatively thin sediments that are deposited on non-water bearing rocks adjacent to the Puente Hills.

Shallow perched groundwater was not encountered during supplemental geotechnical investigation to the depths explored (51 feet), nor was it encountered within the site during previous investigations by others. Research indicates that groundwater beneath the site is in excess of 100 feet of the existing ground surface.

Birch Hills Site

Upper Pleistocene-age non-marine sediments assigned to the La Habra Formation underlie the entire Birch Hills site and are locally exposed on the hilltops. These deposits consist primarily of interbedded sequences of brown, gray brown, and yellow brown colored clayey sandstone, silty sandstone, sandstone, clayey siltstone, and silty claystone. Generally, these deposits are damp to moist, moderately hard, thinly bedded to massive and moderately to highly fractured. Overlying the La Habra Formation are surficial units consisting of late Pleistocene to early Holocene age older alluvial deposits, recent alluvium, colluvium, topsoil, and various artificial fills. The older alluvial deposits generally consist of brown, yellow brown, and gray brown colored sands, silty sands, clayey sands and clayey silt. These deposits are typically damp to very moist, medium dense to very dense, and/or stiff to very stiff, and contain scattered gravel, cobbles, and siltstone rock fragments. The recent alluvium, colluvium, and topsoil materials generally consist of various mixtures of brown to gray brown colored sands, silts, and clays and are typically damp to very moist, loose to medium dense, and or soft to firm and porous. The artificial fill materials, which are generally associated with the construction of the golf course, the abandoned railroad easement, and the Loftus Channel, consist primarily of locally derived mixtures of sands, silts and clays (see Exhibit 5.5-3, page 5.5-9).

Hydrogeologic Setting

The Birch Hills site lies within the La Habra-Yorba Linda Basin, a gently down-warped trough lying between the Puente Hills to the north and the Coyote Hills to the south. This hydrogeologic area is located in the northern portion of the Coastal Plain of Orange County and is bounded by the Norwalk Fault zone and the Whittier Fault. Aquifers within the basin occur in relatively thin sediments that are deposited on non-water-bearing rocks adjacent to the Puente Hills.

Research of referenced investigation reports by others indicates that groundwater levels were encountered at depths in excess of 30 feet below the ground surface.

REGULATORY SETTING

Both Sites

City of Brea General Plan: Public Safety Element

The Public Safety Element of the General Plan contains policies that are applicable to the Project, as identified below.

Public Safety Element Policies

- *Policy PS-8.1: Minimize the potential damage to structures and loss of life that may result from an earthquake.*
- *Policy PS-8.2: Require seismic safety standards for construction of all new buildings.*
- *Policy PS-8.3: Continue to require geological and geotechnical investigations of all new developments in areas of potential seismic or geologic hazards as part of the environmental and development review process.*
- *Policy PS-8.4: Require that careful, site-specific evaluations based on detailed surface and subsurface geotechnical studies be conducted in areas where landslides are suspected or known to occur.*
- *Policy PS-8.5: Participate in Federal, State, and local earthquake preparedness and emergency response programs.*

Other Applicable Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The State of California, per the requirements of the Alquist-Priolo Earthquake Fault Zoning Act, requires the delineation of earthquake fault zones along faults that are sufficiently active and well-defined. The Act requires cities and counties to withhold development permits for sites within an earthquake fault zone until geologic investigations demonstrate that the sites are not threatened by surface displacements from future faulting. In Brea, the Whittier fault meets this definition, and the fault zone boundaries shown in Exhibit 5.5-1 (page 5.5-3) reflect state-delineated boundaries.

La Floresta Village: Local Geologic Setting



EXPLANATION
 (LOCATIONS APPROXIMATE)

SURFICIAL UNITS:
 Qat - Artificial Fill
 Qal - Alluvium
 Qt - Terrace Deposits

LINES:
 - Geologic Contact (querried where uncertain)
 - Approximate Limit of Engineered Compacted Fill Placed in Association with the Environmental Remediation of the Former Sump, 2004.

SYMBOLS:
 8 - Estimated Depth of Unstable Materials (in feet)

EXPLANATION (LOCATIONS APPROXIMATE):

- T-24 - Exploratory Trench (Abus-Keefe & Associates, Inc., 2003)
- #7 - Exploratory Boring (Fredrick J. Converse, 1948)
- B-4 - Exploratory Boring (Converse Foundation Engineers, 1966)
- B-2 - Exploratory Boring (Converse Foundation Engineers, 1967)
- B-14 - Exploratory Boring (LeRoy Crandall and Associates, 1979)
- B-14 - Exploratory Boring (Environmental Applications, Inc., 1998)
- B-2 - Exploratory Boring (Pacific Soils Engineering, Inc., 12/14/01)
- B-4 - Exploratory Boring (Abus-Keefe, 2002)

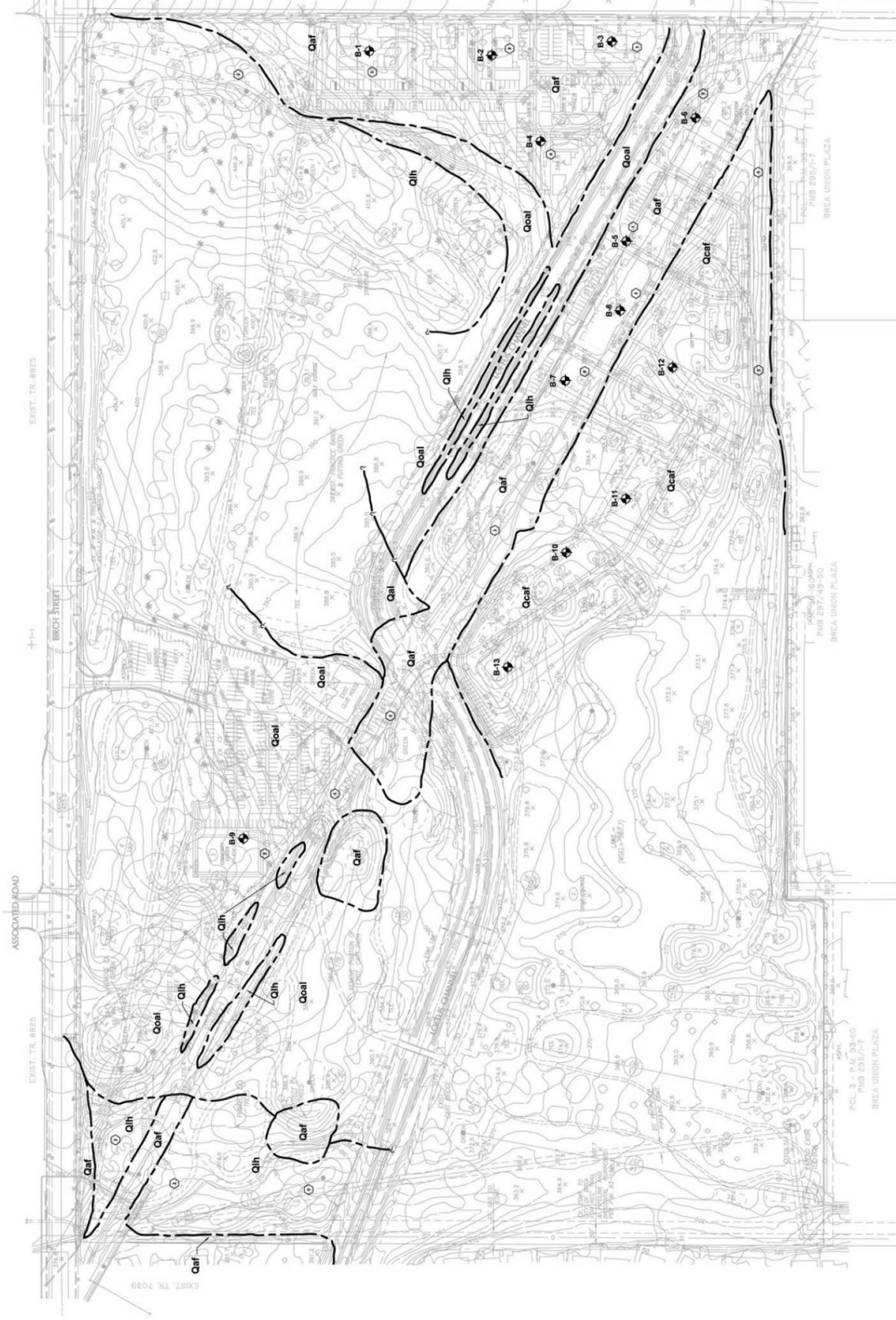
Source: Albus-Keefe & Associates, Inc., November 2005

Not to Scale
 Exhibit 5.5-2



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Birch Hills: Local Geologic Setting



EXPLANATION
 (LOCATIONS APPROXIMATE)

SURFICIAL UNITS:

- Qaf** - Artificial Fill
- Qcaf** - Compacted Artificial Fill
- Qal** - Alluvium
- Qoal** - Older Alluvium

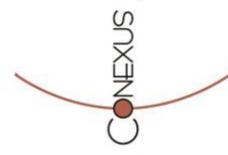
BEDROCK UNIT:

- Qlh** - BEDROCK: La Habra Formation

LINES AND SYMBOLS:

- - Geologic Contact (querried where uncertain)
- B-13 - Exploratory Boring
- - Estimated Depths of Removal below Existing Grade (in Feet)

Source: Albus-Keefe & Associates, Inc., June 9, 2006



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5.5.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project will normally have a significant adverse environmental impact on geology and soils if it will:

- *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 1. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.*
 2. *Strong seismic ground shaking.*
 3. *Seismic-related ground failure, including liquefaction.*
 4. *Landslides*
- *Result in substantial soil erosion or the loss of topsoil.*
- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*
- *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*
- *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*

The NOP (Appendix A) determined that the following issues would either have no impacts or impacts that are less than significant. However, these issues were addressed in the geotechnical studies performed for the proposed project, and the results are summarized in the Impacts section below in order to provide a complete summary of the technical reports.

- 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.
- Seismic-related ground failure, including liquefaction (Birch Hills site only)
- Landslides
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Geology and Soils impacts could also be considered significant if aspects of the project were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.5.2 under Regulatory Setting.*

5.5.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Public Safety Element

Both Sites

The project would conform to all General Plan policies listed under Regulatory Setting in Section 5.5.2. Existing law requires that all grading and construction comply with Uniform Building Code standards for seismic safety. In addition, detailed geotechnical studies have been conducted for both sites, and findings are summarized in this discussion. Mitigation Measure GEO-1 would require that these studies be reviewed and approved by the City Engineer and all recommendations from these studies be incorporated into grading and building plans. (Please see additional discussion of specific impacts in sections below.)

Level of Significance: Potentially significant.

Mitigation Measures:

GEO-1 Geotechnical Investigation

Prior to approval of a final subdivision map or issuance of a grading permit the applicant shall submit a site-specific geotechnical investigation report prepared by a licensed engineering geologist in conformance with the City Grading and Excavation Code and meeting the approval of the City Engineer. All recommendations of the report shall be based on surface and subsurface mapping, laboratory testing, and analysis, and shall be incorporated into the final grading plans. The report shall address the following issues:

- *Site clearing and preparation*
- *Identification of faults and traces*
- *Full characterization of on-site soils*
- *Mitigation options for removal of in-ground improvement (or structure design mitigation) of uncompacted fill, compressible soils, expansive soils, corrosive soils, and liquefiable soils*
- *Foundation design*
- *Slope stability*
- Subdrains

Level of Significance after Mitigation: Less than significant

Alquist-Priolo Earthquake Fault Zoning Act

Both Sites

There are no Alquist-Priolo Zones on or immediately adjacent to either site, therefore no significant impacts would occur (see Exhibit 5.5-1, page 5.5-3).

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

IMPACTS RELATED TO SEISMIC ACTIVITY, SLOPE STABILITY, SOILS AND GROUNDWATER CONDITIONS

Both Sites

Ground Rupture

No active faults are known to project through the Project sites nor do the sites lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the sites is considered low, and potential impacts would be less than significant.

Ground Shaking

The Project sites are located in a seismically active area that has historically been affected by moderate to occasionally high levels of ground motion. The sites lie in relatively close proximity to several active faults; therefore, during the life of the proposed development, the properties will probably experience moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the southern California region. Design of proposed structures in accordance with the current UBC is anticipated to mitigate potential impacts from ground shaking to a level that is less than significant (see Mitigation Measure GEO-1 (page 5.5-12)).

Landsliding

No conditions were observed that would suggest the Project sites are prone to landsliding. The sites are not located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability. Geologic hazards associated with landsliding are not anticipated at the sites. Proposed grading of the sites is unlikely to expose adverse geologic conditions. However, adverse geologic conditions could be readily mitigated with stabilization and/or buttress fills. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. Mitigation Measure GEO-1 would also require a detailed

geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Slope Stability

Based on experience with earth materials encountered within the Project sites and adjacent properties and considering the maximum slope ratio and height of proposed slopes, proposed cut and fill slopes are generally anticipated to be grossly and surficially stable under static and seismic conditions. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. In addition, Mitigation Measure GEO-1 would also require a detailed geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Settlement

Based on a review of previous site investigations within and near the sites, as well as experience with similar projects, the artificial fill, topsoil, colluvium, recent alluvium, and the upper portion of older alluvium within the sites would undergo significant settlement due to the weight of new fills and introduction of water. Settlement from these materials would likely exceed 1 inch, of which significant portions of settlement could occur after construction of proposed structures. These materials are not suitable to be left in-place within the influence of proposed fills and improvements. This condition can be readily mitigated by removal of these materials and replacing them as engineered fill. Long-term settlement of proposed fills and underlying competent earth materials is anticipated to be within tolerable limits. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. Mitigation Measure GEO-1 would also require a detailed geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Groundwater

Groundwater and surface water conditions in the future may vary substantially from those observed within the sites as a result of seasonal variations of rainfall and future development and irrigation. The relatively low permeability characteristic of portions of the soil beneath the sites may increase the potential for localized groundwater ponding subsequent to development. Provided appropriate remedial grading measures and subsurface drainage devices are incorporated into the construction of the Project, adverse effects from future groundwater conditions are not anticipated. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. Mitigation Measure GEO-1 would also require a detailed geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: Mitigation Measure GEO-1 would reduce all potential impacts to a level that is less than significant.

Level of Significance after Mitigation: Less than significant.

La Floresta Village Site

Liquefaction

The State of California Seismic Hazards Zone Map for the Yorba Linda Quadrangle has incorporated the eastern portion of the La Floresta Village site within a zone considered potentially liquefiable. As such, a site-specific liquefaction analysis is required prior to construction of the site.

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite subsurface soils was evaluated by analyzing the potential concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for this site was completed under the guidance of Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 1997).

Subsurface soils beneath the site consist of dense to very dense alluvial deposits that are not considered prone to seismic-induced liquefaction. In addition, groundwater was not encountered within the upper 51.5 feet of the ground surface at the time of our exploration and is not anticipated to rise above this level for extended periods of time in the future. As such, the potential for liquefaction at the site is considered low, and therefore potential impacts would be less than significant.

Soil Expansion and Foundations

Based on laboratory test results and the USGS visual manual classification, the near-surface soils within the La Floresta Village site are generally anticipated to possess a Very Low to High expansion potential (UBC Table 18-1-B). Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete work to confirm these conditions.

Adverse effects from expansive soils can be readily mitigated through the use of well-reinforced foundations, post-tension slabs, and pre-moistening of supporting surface soils

prior to construction. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. Mitigation Measure GEO-1 would also require a detailed geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: Mitigation Measure GEO-1 would reduce all potential impacts to a level that is less than significant.

Level of Significance after Mitigation: Less than significant.

Birch Hills Site

Liquefaction

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite subsurface soils was evaluated by analyzing the potential concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the Birch Hills site was completed under the guidance of Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 1997).

Subsurface soils beneath a depth of approximately 20 feet below the ground surface consist of dense to very dense Pleistocene-age earth material that are not considered prone to seismic-induced liquefaction. In addition, groundwater is not anticipated within the upper 30 feet of the ground surface. Furthermore, the site is not located within a mapped California Geologic Survey liquefaction hazard zone. As such, the potential for liquefaction at the site is considered low, and therefore potential impacts would be less than significant.

Soil Expansion and Foundations

Based on laboratory test results and the USGS visual manual classification, the near-surface soils within the Birch Hills site are generally anticipated to possess a Low to Medium expansion potential (UBC Table 18-1-B). Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete work to confirm these conditions.

Adverse effects from expansive soils can be readily mitigated through the use of well-reinforced foundations, post-tension slabs, and pre-moistening of supporting surface soils prior to construction. All grading and construction must conform to the requirements of the Uniform Building Code, with any locally adopted amendments. Mitigation Measure GEO-1 would also require a detailed geotechnical investigation prior to construction, and would reduce this potential impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: Mitigation Measure GEO-1 would reduce all potential impacts to a level that is less than significant.

Level of Significance after Mitigation: Less than significant.

5.5.5 Cumulative Impacts

Both Sites

Geotechnical constraints are site specific concerns, and other developments would not affect geological or soils conditions at these Project sites nor would the proposed Project contribute to cumulative impacts elsewhere. The Project sites have been investigated and the recommended mitigation measures would reduce any potentially significant impacts to less than significant levels. While the proposed development would expose future residents to certain hazards, all of Southern California is exposed to seismic safety hazards. Standard building practices in compliance with existing codes would mitigate such impacts to acceptable levels. In consideration of these factors, the project's contribution to cumulative impacts to, and from, geology and soils would be rendered less than considerable and, therefore, less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.5.6 Significant Unavoidable Impacts

Both Sites

With the implementation of existing code requirements and the recommended mitigation measure, all potential impacts would be reduced to a level that is less than significant.

5.6 Hazards and Hazardous Materials

5.6.1 Methodology

This chapter is based on reports and documents provided to the City by Chevron. These materials, as well as the following chapter, were reviewed by the City's independent hazardous materials consultant, Impact Environmental, Inc. All of the technical reports and other referenced documents are available for public review at the City of Brea Development Services Department.

5.6.2 Setting

PROJECT SITE CONDITIONS

As discussed in the Project Description (Section 4.0) the proposed project includes two separate properties. One is the "La Floresta Village site," which includes the former Unocal Hartley Research Center, a petroleum research and development facility, a plant nursery adjacent to the north, and an orange grove adjacent to the east, all of which encompass about 120 acres. The northern portion of this site formerly included oil production activities (part of the Brea-Olinda Oil Field). Three abandoned oil wells are located within this site. A fourth well, which has not been located, is suspected to be within Rose Drive near the boundary of the site.

The other property is the "Birch Hills site," which includes the existing Birch Hills Golf Course. This site occupies a portion of the former Union Collier Chemical Plant located at 2601 East Imperial Highway, approximately 1.5 miles west of the La Floresta Village site.

La Floresta Village Site

As discussed in Section 3.5 - Project History, the La Floresta Village site is currently owned by La Floresta LLC. This property was historically used as Unocal's Fred L. Hartley Research Center, which was constructed during the 1950s. Prior to the research center's construction, the land was primarily undeveloped. Subsequent actions on the site include approval of a cogeneration facility in the late 1980s/early 1990s to produce electricity for on-site use. In March 2005 the City of Brea issued a permit to demolish all structures located on the Hartley Center site, including the Hartley building, and auditorium, the cafeteria, and other ancillary structures. Demolition activities were completed in 2005.

Land uses adjacent to the La Floresta Village site that are considered most sensitive to hazardous materials include the residential neighborhoods to the east and across Imperial Highway to the south. In addition, a future school site is located northwest of the intersection of Valencia Avenue and Birch Street, less than one-quarter mile from the

northwestern portion of the site. All other adjacent uses are commercial, industrial, or agricultural.

Previous Environmental Assessments and Remediation Work

An initial Phase I environmental assessment of the site (CET, 1995) identified several areas for focused assessment, including three former underground storage tank (UST) areas, discolored soils near three above-ground storage tanks (ASTs), two drum storage areas, a former acid treatment area, an industrial wastewater holding sump, several other wastewater sumps, and possible historical pesticide use in an orange grove area. No testing was performed at that time. The specific locations of these areas are shown in Exhibit 5.6-1 – La Floresta Village: Areas of Potential Environmental Concern (APECs).

Subsequent to this initial evaluation, several follow-on assessments were conducted to perform testing and to more completely define the potential areas of concern. The first subsequent assessment (England and Associates, 1995) identified elevated concentrations of petroleum hydrocarbons in a former oil field sump and in the vicinity of an abandoned oil well (Olinda Two #15) in the northern area of the site (Olinda Nursery). Elevated levels of petroleum hydrocarbons were identified at five feet below ground surface at the Y2 Tank Block and the Y2 Drum Storage Area (England and Associates, 1997).

Another study (Cape Environmental, 2001) focused on the area of a diesel fuel release at the K-1 Tank Block. Elevated concentrations of fuel hydrocarbons were detected in an area estimated to be approximately 25 by 15 feet and from 12 to 15 feet deep.

Further sampling was conducted in several areas (Environmental Applications, 2004). The results identified elevated concentrations of PCBs in two soils samples obtained from a transformer area.

Elevated concentrations of arsenic were also detected in the soil within a waste water holding basin. In 2005 and 2006, elevated levels of arsenic were found in two surface soil samples within the former nursery area (Waterstone Environmental, personal communication with Mark Shifflett, 11/14/06).

Remediation of a former oil field sump in the northern portion of the site was completed in December 2003 (Waterstone Environmental, 2004). The soil in the sump contained weathered crude oil. It was originally estimated that there was approximately 65,000 cubic yards of affected soil in this area. A closure letter was received for this item in January 2005 from OCHCA (County of Orange, 2005).

No other contaminants have been found on this site.

La Floresta Village: Areas of Potential Environmental Concern (APEC's)

- Legend**
- ◆ ABANDONED OIL WELL
 - 1 FORMER NURSERY
 - 2 WASTE WATER SUMP - ARSENIC
 - 3 FORMER TRANSFORMER - PCBs
 - 4 FORMER K-1 TANK BLOCK AST AREA - DIESEL FUEL AREA
 - 5,6,7 FORMER AGRICULTURAL AREA
 - 8 UNDERGROUND STORAGE TANK
 - 9 DRUM STORAGE
 - 10 ACID TREATMENT
 - 11 OIL-FIELD SUMP
 - 12 FORMER TANK BLOCK AST AREA



Site Plan
La Floresta
Former Unocal Hartley Center

DATUM SOURCES

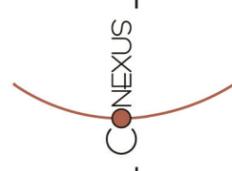
WELLS GL #50, Olinda II #19
 and GL #49:
 HUNSAKER & ASSOCIATES
 FIELD SURVEY COORDINATES
 DATE: 03-14-05

* TO BE RE-ABANDONED

** WELL 15:

DOGGR INFORMATION; CALIFORNIA OIL
 FIELDS SUMMARY OF OPERATION
 QUARTERLY CHAPTER APRIL, MAY, JUNE,
 1932. PLATE 1 - MAP OF PORTION OF
 BREA-OLINDA FIELD

Source: Hunsaker & Associates and Waterstone Environmental, Inc., November 15, 2006



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Soil Excavation Workplan

A Workplan (Waterstone Environmental, 2005) was prepared to excavate and remove residual hydrocarbon-affected soil from a diesel fuel tank (K-1 Tank Block), elevated arsenic within a waste water containment area, and PCBs at a former electrical transformer area. In a letter dated March 1, 2005 the Orange County Health Care Agency concurred with the proposed remediation Workplan with a slight modification to the proposed cleanup target for PCBs in the soil within 10 feet of the surface.

The Workplan specifically excludes other areas of concern at the site, which will be addressed in conjunction with future demolition and grading activities. The Workplan also does not address the northern parcel of the facility where historical oilfield production and nursery activities occurred. This portion of the site includes the former sump discussed earlier, which was remediated and closed by OCHCA in January 2005.

Other Miscellaneous Environmental Work Conducted at the Site

A 5,000-gallon underground "slop tank" was removed from the site in November 1998 (Tait Environmental Management, 1999). The removal was conducted under the supervision of the Orange County Health Care Agency. No hydrocarbons were detected in the soil samples obtained, and closure was granted by the County (April 15, 1999).

Three 2,000-gallon gasoline USTs were removed in June 1992. Elevated levels of diesel fuel were detected in one of the soil confirmation samples. These concentrations were attributed to a former dispenser and/or piping rather than the tanks. This area will be further assessed during grading and remediated, if necessary, to the satisfaction of Orange County Health Care Agency.

Asbestos and lead-based paint sampling was conducted in every building and structure on the site (Altec Testing & Engineering, 2004). Areas containing asbestos were identified. The asbestos-containing materials (ACMs) were subsequently abated in Buildings U, V, F, and G, Cooling Tower Q, Buildings U1 and U-42, ASTs, NE Pump Station, and the Coker Plant. Close-out documentation demonstrating removal of the ACMs was provided in 2003 (CST Environmental, 2003).

Methane and Hydrogen Sulfide

The most recent environmental sampling and testing was conducted in December 2003. The consultant report (GeoSyntec, 2004) discussed the findings of a soil vapor survey and followed an earlier soil vapor assessment that had been conducted by Unocal. Low concentrations of methane had been detected in three of the Unocal vapor probes. To further evaluate the site, GeoSyntec obtained soil vapor samples from the northern portion of the site where former oil production activities had occurred and in the southern part of the site where no historical oil production work was conducted. Samples were also obtained from two well casings that had been used by Unocal for training purposes and from the previous Unocal soil gas probes. The samples were tested for methane, hydrogen sulfide, and volatile organic compounds. The laboratory results indicated that methane was detected at some of the sample locations. The methane

levels detected are well below the action level of 5,000 ppm published by Orange County Fire Authority and do not pose an explosion or health risk. Hydrogen sulfide was also detected at some of the probe locations. The consultant concluded that the methane/hydrogen sulfide ratios and the vertical distribution of hydrogen sulfide in the subsurface indicate that hydrogen sulfide is likely due to a localized source of organic matter and does not warrant any mitigation measures. The concentrations of hydrogen sulfide measured at depths less than 5 feet below ground surface do not exceed risk based levels for vapor migration into structures.

Low concentrations of some volatile organics were also detected, including benzene, toluene, and xylene.

Oil Wells

Three oil wells are known to have been located on the northern portion of the site. A fourth well (Olinda Land Company #15) is believed to be located beneath Rose Drive near the northeastern boundary of the site (CDOGGR, California Oil Fields Summary of Operation, April-June 1932). None of these wells are active.

Geophysical surveys were conducted on a five-acre unpaved area of the Site in 2003 to search for one missing abandoned oil well, Graham Loftus #49 (GeoVision, 2004). Although it was not identified during the geophysical survey, it was later found by excavation and identification of a "mud ring". The remaining two wells, Graham Loftus #50 and Olinda Land Company #19 were both positively located with casing intact (Hunsaker, Field survey 3/14/05).

All wells must be abandoned during grading to current California Division of Oil, Gas and Geothermal Resources standards.

Birch Hills Site

Site boundaries include Birch Street to the north, Kraemer Boulevard to the east, residences to the west, and Brea Union Plaza shopping center to the south. Current plans call for the construction of multi-family housing units on the eastern half of the site (north and south of Loftus Channel), a community facility in the northwest portion of the site, and reconfiguration of the existing golf course. This summary addresses known contamination at the site and areas requiring additional assessment.

Land uses adjacent to the Birch Hills site that are considered most sensitive to hazardous materials include the residential neighborhoods to the north and west. All other adjacent uses are either commercial or industrial.

Union Collier Fertilizer Plant

The southeastern part of the site was occupied by the former Union Collier Fertilizer Plant ("plant"), operated by Unocal from the 1950s to 1991. The plant was located south of Loftus Channel and extended down to Imperial Highway. The plant manufactured nitrogen-based fertilizers such as urea and ammonia nitrate. No pesticides or herbicides

were ever manufactured at the site. Brea Union Plaza was built on the southern part of the plant and a portion of Birch Hills golf course was built over the northern portion. The residential development planned south of Loftus Channel will overlies portions of the former plant. Prior environmental investigations at the plant primarily identified nitrogen compounds derived from fertilizer production in soil and groundwater, with some isolated areas impacted with metals and low pH conditions (Environmental Applications, 1996; PHR Environmental Consultants, 1999). Extensive nitrate soil remediation was conducted throughout the southern portion of the development site (and under Brea Union Plaza south of the site). Orange County Health Care Agency (OCHCA) issued a No Further Action letter (Orange County Health Care Agency, June 19, 1998) for soil remediation with respect to current site use, but referred groundwater issues to the Santa Ana Regional Water Quality Control Board (RWQCB). Additional soil assessment is planned for all of the residential portions of the development site and will be performed unless OCHCA determines that additional testing is unnecessary.

Construction of Brea Union Plaza was contingent on approval by the RWQCB, which required the remediation of nitrate-impacted groundwater from the plant. Groundwater below the southern portion of the development site is currently being remediated for nitrate contamination, under the oversight of the RWQCB. A letter from the RWQCB to Unocal dated December 12, 1996 provided approval for implementation of the groundwater remediation system proposed in the August 1996 *Groundwater Restoration System Remediation Workplan (Environmental Applications, Inc.)*. Groundwater is extracted south of the site on the Brea Union Plaza property from a 10-well extraction network and discharged directly to the sanitary sewer under permit from the Orange County Sanitation District. The groundwater plume is monitored twice annually, with the most recent report prepared by URS on July 14, 2006. Although most of the monitoring wells are within Brea Union Plaza, two are on the golf course driving range.

Underground Storage Tank

An underground fuel storage tank (UST) was previously located at the golf course. A letter dated April 15, 1999 from the OCHCA provided closure for the 2,000-gallon unleaded gasoline UST removed from the golf course parking lot in 1998. The March 23, 1999 *UST Closure Report* indicated "minor" concentrations of petroleum hydrocarbons that were well below regulatory action levels. No additional soil testing is planned in this area at this time.

Railroad Right-of-Way

A prior environmental investigation was conducted by Environmental Applications Inc. (EA) in 1999 along the railroad right-of-way at the development site. The investigation identified nitrates, petroleum hydrocarbons, pesticides, and certain metals in soil. The report concluded that the detected levels of pesticides and metals were not "toxic" or "able to produce a toxic leachate." No conclusions were developed with respect to nitrates and petroleum hydrocarbons. The report was prepared for internal use by Unocal, the owner of the property at the time, and was not submitted to the OCHCA. Although the detected levels of nitrates, petroleum hydrocarbons, pesticides, and metals

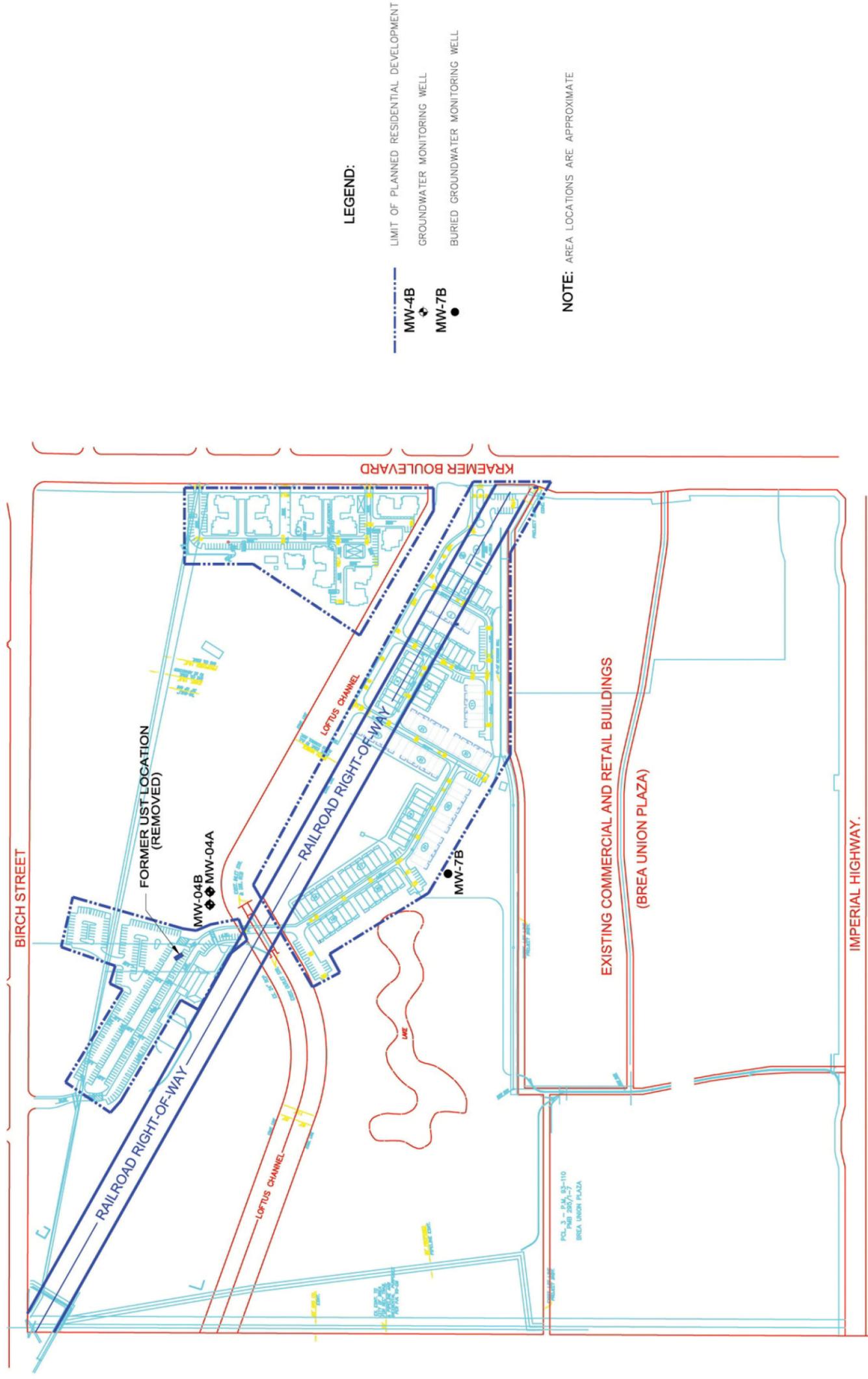
were all relatively low, additional assessment is planned for this area to confirm prior results. Depending on the results of the investigation, impacted soils will be removed prior to development if required.

Additional Assessment

Additional assessment is currently planned for certain areas of the development site as described above. These areas include the residential portion of the development site where the Union Collier Fertilizer Plant was located and the railroad right-of-way. In addition, soil sampling and analytical testing will be performed in the housing development area south of Loftus Channel and the area proposed for the community facility.

Exhibit 5.6-2 shows the locations of the issue areas for the Birch Hills site.

Birch Hills: Areas of Potential Environmental Concern (APEC's)



Source: Environmental Applications, Inc., June 30, 2006

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REGULATORY SETTING

City of Brea General Plan: Public Safety Element

The Public Safety Element of the General Plan contains policies that are applicable to the proposed project, as identified below.

Both Sites

Public Safety Element Policies

- *Policy PS-4.1: Ensure that hazardous materials used in businesses and industry are handled properly.*
- *Policy PS-4.3: Work with responsible Federal, State, and County agencies to identify and regulate the disposal of toxic materials.*
- *Policy PS-5.1: Work closely with responsible State and Federal agencies to ensure that active oil field operations comply with all current regulations and, once oil field operations cease, that appropriate closure and clean-up activities occur.*
- *Policy PS-5.3: Require comprehensive investigation, disclosures, and remediation of any former oil field property proposed for an alternative use.*

Other Applicable Regulations

Both Sites

U.S. Environmental Protection Agency (USEPA)

Region IX of the Federal EPA promulgates Preliminary Remediation Goals (PRGs) that are used as soil screening levels to evaluate the degree of impact of contaminants to soil and whether, based on the health-based screening criteria built into the PRGs, the presence of contaminants may be considered to be “elevated” or not. The PRGs for residential soil were used to determine that elevated concentrations of pesticides were not present in the upper one foot of soil at the site.

California Department of Conservation/Division of Oil, Gas, and Geothermal Resources

Oil wells that are no longer producing must be abandoned to the satisfaction of the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR). The abandonment process begins with the removal of surface equipment and the capping of the well. The upper 50 feet of the well is sealed with a final concrete plug and a metal plate is welded over the well annulus. CDOGGR inspects the

abandonment throughout each step of the process¹. The Brea Fire Department is the lead regulatory authority within the City of Brea.

California Department of Toxic Substances Control (DTSC)

DTSC oversees toxic and hazardous waste management, regulatory, and enforcement programs. Underground storage tanks are typically not included under the jurisdiction of DTSC. DTSC has not been involved in matters regarding the presence or assessment of contaminants at the Project sites.

Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) oversees potential contaminant impacts to groundwater and discharges to surface waters, such as streams or the storm drains. The RWQCB is the lead agency on the Birch Hills Golf Course groundwater remediation to mitigate elevated concentrations of nitrate in the groundwater. Semi-annual groundwater monitoring continues for that portion of the site.

Orange County Health Care Agency

The OCHCA oversees local environmental regulations and permitting, including underground storage tanks. OCHCA is the lead agency at the site for all environmental issues that are not otherwise under the jurisdiction of the RWQCB or Fire Department.

Orange County Fire Authority/Brea Fire Department

The Orange County Fire Authority (OCFA) has jurisdiction over the investigation, remediation, and mitigation of hazardous soil gas contamination in the county. OCFA's Guidelines for Combustible Soil Gas Hazard Mitigation sets forth its policy for the scientific investigation, remediation, and/or mitigation of potentially hazardous concentrations of combustible soil gases associated with the construction and occupancy of a building or structure. The Brea Fire Department implements these requirements within the city. Crude oil is classified as a hazardous material because it is flammable. It can also produce flammable vapors that can flow with the wind and become ignited if they come in contact with an ignition source. The produced gas is mostly methane, which is the primary constituent of natural gas. CDOGGR has identified urban oil fields with a potential for hazardous gas accumulations that could result in explosions; the Brea-Olinda oil field is one of these sites. Highly explosive concentrations of methane are typically associated with oil and gas seepage zones.²

¹ Tonner Hills PC Draft EIR, County of Orange, 2002

² Ibid

5.6.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project will normally have a significant adverse environmental impact regarding hazards or hazardous materials if it will:

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*
- *Be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?*
- *Be 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, and as such, result in a safety hazard for people residing or working in the project area?*
- *Be within the vicinity of a private airstrip, and as such, result in a safety hazard for people residing or working in the project area?*
- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*
- *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are subject to urbanized areas or where residences are intermixed with wildlands?*

Inconsistencies with any General Plan policies would also be considered a potentially significant impact.

The NOP (Appendix A) determined that impacts in all of these issue areas would either have no impacts or impacts that are less than significant. However, during the preparation of the Draft EIR it was determined that potentially significant impacts could occur with regard to previous oil extraction activities and use of hazardous materials on the sites. Potential impacts in these areas are discussed below.

5.6.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Public Safety Element

Both Sites

The Project will be required to conform to all of the General Plan policies discussed previously. At appropriate stages of project review and development, the applicant must obtain clearance from the City Fire Department or other state, federal or local regulatory agencies regarding the investigation and remediation of former oil wells and other areas affected by the previous use of hazardous materials. Specific issue areas and mitigation requirements are discussed below.

Level of Significance: Potentially significant.

Mitigation Measures: Specific requirements and mitigation measures related to each issue area are discussed separately under each topic in the following sections.

Level of Significance after Mitigation: Less than significant.

Other Applicable Regulations

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR)

La Floresta Village Site

The site was previously used for oil production, and three wells were located on the La Floresta Village site with a fourth well believed to be located under Rose Drive, northeast of the site. This issue is addressed under the Oil Wells issue below.

Level of Significance: Potentially significant.

Mitigation Measures: See discussion under Oil Wells.

Level of Significance after Mitigation: Less than significant.

IMPACTS RELATED TO PREVIOUS OIL PRODUCTION AND INDUSTRIAL USE

La Floresta Village Site

Underground Storage Tanks (USTs)

All underground storage tanks have been removed and the areas assessed. Documentation regarding the removal and agency closure could not be located for all the tanks. Seven soil samples were collected from these areas in 1995/1996. Two soil vapor samples were collected in December 2003. No significant concentrations of TPH

(>50ppm) were detected in the soil samples. No VOCs were detected in the soil vapor samples.

The former UST locations without complete documentation will be further assessed and, if necessary, remediated during grading. Any impacted soil shall be remediated to the satisfaction of the regulatory agencies.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-1 Underground Storage Tanks

Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

Above-Ground Storage Tanks (ASTs)

Soil contamination was detected in soil at the K-1 tank block (Cape Environmental Management, 2001) and in one five-foot-deep sample at the Y2 tank block (England & Associates, 1997). All ASTs have been removed and a remediation workplan was reviewed and approved for the K-1 tank block by OCHCA (March 1, 2005).

The diesel-affected soil has not yet been remediated. Both areas will be addressed during site grading activities to the satisfaction of Orange County Health Care Agency in accordance with the approved workplan.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-2 Above-Ground Storage Tanks

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by ASTs, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

Drum Storage Areas

An assessment found elevated levels of petroleum hydrocarbons at the drum storage area near the Y2 tank block (England and Associates, 1997).

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-3 Drum Storage Areas

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by former drum storage areas, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

Acid Treatment Area

The site assessment found no concentrations of chemicals of concern in this area (England and Associates, 1997). Soil pH values were between 6 and 9. No further investigation or remediation work is necessary.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Wastewater Sump

An assessment was conducted, and soil sampling revealed elevated arsenic levels throughout the upper four feet of soil in the wastewater basin area (Environmental Applications, 2004). Preliminary discussions with Orange County Health Care Agency have indicated that it will be acceptable to bury the contaminated soil beneath 10 feet of "clean" fill (Regional Water Quality Control Board approval will also be required). A Soil Management Plan (SMP) will be required to ensure that the affected soil will be properly monitored and its location and depth documented. The SMP will be submitted to OCHCA and RWQCB for review and approval. If this method is not acceptable to the agencies, other methods such as removal and disposal will be performed.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-4 Wastewater Sump Area

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former wastewater sump, the applicant shall provide evidence acceptable to the City Building

Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.

Level of Significance after Mitigation: Less than significant.

Pesticides

A total of 20 soil samples were collected from the former nursery and agricultural areas and submitted for laboratory analysis (England and Associates, 1997; Environmental Applications, 2004). No pesticides were detected in 13 of the samples. Detected concentrations in the remaining samples were well below their respective EPA Region 9 Preliminary Remediation Goals (PRG) for residential soil (USEPA Region IX Preliminary Remediation Goals, 2004 Update). Since the samples were considered to be representative and the concentrations were well below the PRGs, no further testing or remediation is deemed necessary.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Oil Wells and Methane Gas

As discussed previously, three inactive oil wells are located on the northern portion of the La Floresta site and one well is believed to be located under Rose Drive adjacent to the northeastern portion of the site. Each of the wells will be re-abandoned in accordance with Division of Oil & Gas regulations and no structures will be located directly above any abandoned wells. Structures located near abandoned wells must meet the soil gas mitigation requirements and procedures outlined in the City of Brea Fire Department Combustible Soil Gas Mitigation Requirements. One additional well, which is known to be east of the site, is outside of the development area. Any impacted soil associated with the wells must be remediated to the satisfaction of Orange County Health Care Agency and the Regional Water Quality Control Board.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-5 Oil Wells and Methane Gas

- a. *Oil Well Abandonment. Prior to final certification of grading or issuance of any building permit, the applicant shall submit evidence acceptable to the Brea Fire Chief demonstrating that the locations of all known wells on site have been reviewed by the California Division of Oil, Gas and Geothermal Resources (DOGGR) and that all well abandonment requirements, including gas leakage testing, have been completed according to DOGGR specifications. All abandoned wells shall be vented according to Brea Fire Department guidelines.*

- b. Soil Gas Survey. Prior to final certification of grading or issuance of any building permit, a soil gas survey shall be conducted in accordance with the Brea Fire Department guidelines to determine whether or not there is methane and/or other combustible soil gases at concentrations of concern at the site. The survey shall evaluate the areas around the old, abandoned wells as well as any and all locations identified by the City's combustible soil gas consultant.

Samples shall also be collected at depth below final design grades as determined by a registered professional engineer with experience in the field of combustible soil gas control and mitigation systems. Said survey is subject to third party review by the City's combustible soil gas consultant. A workplan and appropriate mitigation measures will be required if methane gas at concentrations over 5,000 parts per million is detected at the site, in accordance with the guidelines established by the City of Brea Fire Department, as appropriate.

- c. Soil Gas Mitigation. Prior to issuance of a grading permit, site development plans must comply with the Brea Fire Department's requirements for the investigation, mitigation, and remediation of combustible soil gases. These requirements are outlined in the City of Brea Fire Department "Combustible Soil Gas Mitigation System Installation and Inspection Requirements." In addition, if hydrocarbon concentrations in excess of 20,000 parts per million are left in place below 10 feet below grade surface, the City Fire Department will require documentation that shows that the contamination will not create a methane gas problem.

Mitigation measures regarding combustible soil gases shall be provided in accordance with City of Brea Fire Department's requirements. They may include but may not be limited to: sub-slab passive venting systems, sub-slab membranes, bottoms mitigation measures and venting of abandoned wells. This program shall be submitted to the Director or designee, Development Services Department within 60 days of completion of grading for review/approval.

- d. Grading Protocol. Prior to issuance of a grading permit, the applicant shall submit a description of the oil well protocols to be followed during grading operations. The protocols shall describe the methods for searching for unknown oil wells and the procedures to be followed in the event that a well is discovered, in compliance with Fire Department and DOGGR regulations. The Grading Protocol shall be subject to review and approval by the Fire Marshall and the Building Official.
- e. Grading Monitor. Prior to issuance of a grading permit, the applicant shall retain a grading monitor to observe all grading operations to ensure that the approved Grading Protocol is implemented. The

monitor shall be selected by the City Fire Marshall and shall have the authority to halt grading operations and immediately notify the Fire Marshall if an oil well is discovered.

- f. *Residential Structure Setbacks. Prior to issuance of any building permit for residential structures, the applicant shall provide evidence acceptable to the Building Official that a setback of at least 10 feet from an abandoned well or 100 feet from an operating well shall be maintained.*

Level of Significance after Mitigation: Less than significant.

Nursery Area

During additional assessment of the nursery area in 2005 and 2006, elevated levels of arsenic were detected in two surface soil samples (Waterstone Environmental, personal correspondence with Mark Shifflett, 11/14/06). Additional assessment will be required to evaluate the extent of arsenic concentrations in the soil. Any soil requiring remediation must be addressed to the satisfaction of Orange County Health Care Agency and the Regional Water Quality Control Board during site grading.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-6 Nursery Area Arsenic

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former nursery area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.

Level of Significance after Mitigation: Less than significant.

Electrical Transformer Area

Elevated levels of PCBs were detected in the soil at one of 14 transformer locations tested in December 2003 (Environmental Applications, 2004). The PCB-affected soil was removed and disposed of offsite at an appropriate facility in accordance with the approved workplan under the oversight of Orange County Health Care Agency. Laboratory results of soil confirmation samples have demonstrated that cleanup of the area has been completed in accordance with the approved workplan. No further work is deemed necessary; however the final report, OCHCA review and case closure are pending.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-7 Electrical Transformer Area

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former electrical transformer area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

Asbestos

Assessment of asbestos-containing materials (ACMs) was conducted (Altec Testing & Engineering, Inc., 2004). ACMs included pipe insulation, window putty, floor tile and mastic, roofing, transite panels, and transite pipe. ACMs contained in building materials were removed per EPA protocols. Approximately 7,200 linear feet of underground piping containing asbestos was removed. Approximately 800 linear feet of asbestos piping remains under debris stockpiles. This additional pipe must be removed per EPA and SCAQMD protocols after the stockpiles are removed.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-8 Asbestos Pipe

Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that asbestos remediation has been completed in accordance with EPA and SCAQMD protocols.

Level of Significance after Mitigation: Less than significant.

Lead-Based Paint

A lead paint survey was conducted prior to building demolition. Although the majority of paints and coatings tested were found to be below regulated levels; five samples were found to be 5,000 ppm or greater (Altec Testing & Engineering, Inc., 2006). All coating materials were in an undamaged condition, remained intact throughout the demolition process, and were not required to be abated prior to demolition due to the nature of the materials and the demolition processes that were used. Additionally, the substrate materials that had been coated with lead-based paint were mostly metal and were segregated for recycling rather than disposal at a sanitary landfill. Therefore, additional testing was not required, and no mitigation is necessary.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Hydrogen Sulfide

Low concentrations of hydrogen sulfide detected during a soil gas survey were determined to be the result of plant matter decay (GeoSyntec, 2004). Additional assessment will be required to evaluate the presence of H₂S concentrations. As necessary, mitigation measures will be implemented to the satisfaction of the Brea Fire Department.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-9 Hydrogen Sulfide

Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation for H₂S has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

Hazardous Materials within One-Quarter Mile of a School

A future school site is located near the northwest corner of Birch Street and Valencia Avenue, less than one-quarter mile from the La Floresta Village development. The requirements and mitigation measures discussed above would reduce any potential impacts from hazardous materials to the future school below the level of significance.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures HAZ-1 through 9, above

Level of Significance after Mitigation: Less than significant.

These issue areas along with mitigation requirements for the La Floresta Village site are summarized in Table 5.6-1.

**Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center**

Issue/ Location	Background	Current Status	Mitigation
Former USTs (Key Map 8)	<p>All underground storage tanks have been removed and the areas assessed. A closure letter was issued by OCHCA in 1999 for the Slop UST. Three gasoline USTs near the former K Tank Block were removed in June 1992. An agency closure has not been located for these tanks.</p> <p>Seven soil samples were collected from these areas in 1995/1996. Two soil vapor samples were collected in December 2003.</p> <p>No significant concentrations of TPH (>50ppm) were detected in the soil samples. No VOCs were detected in the soil vapor samples.</p>	<p>The former UST locations will be assessed during grading to verify that all tanks have been removed and that no soil impacts exist. Any impacted soil shall be remediated to the satisfaction of the regulatory agencies.</p>	<p>HAZ-1 Underground Storage Tanks</p> <p>Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>
Former ASTs (Key Map 4 & 12)	<p>All above-ground storage tanks have been removed. The diesel-affected area was sampled by Cape Environmental Management in October 2001. The proposed remediation of this area was outlined in a February 2005 workplan which was reviewed and approved by OCHCA. Elevated levels of petroleum hydrocarbons were detected in one soil sample at the Y2 tank block.</p>	<p>To date the diesel-affected soil has not been remediated. This area will be remediated during site grading activities to the satisfaction of Orange County Health Care Agency in accordance with the approved Feb 2005 workplan.</p> <p>The Y2 tank block will be assessed prior to or during grading. Any impacted soil requiring mitigation will be remediated to the satisfaction of Orange County Health Care Agency.</p>	<p>HAZ-2 Above-Ground Storage Tanks</p> <p>Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by ASTs, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>
Former drum storage areas (Key Map 9)	<p>Assessment conducted. Elevated levels of petroleum hydrocarbons were detected at five feet below ground surface at the drum storage area near the Y2 tank block.</p>	<p>The Y2 drum storage area will be assessed prior to or during grading. Impacted soil will be remediated to the satisfaction of Orange County Health Care Agency.</p>	<p>HAZ-3 Drum Storage Areas</p> <p>Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by former drum storage areas, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and</p>

Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center

Issue/ Location	Background	Current Status	Mitigation
Acid treatment area (Key Map 10)	Assessment conducted. No concentrations of chemicals of concern were detected. Soil pH values were between 6 and 9.	No further work necessary.	approved by OCHCA. No mitigation required.
Waste water sump (key Map 2)	Assessment conducted. The February 2005 workplan proposed the removal and disposal of the affected soil. Additional soil sampling revealed elevated arsenic levels in the upper four feet of soil in the wastewater basin area. Preliminary discussions with Orange County Health Care Agency have indicated that it will be acceptable to bury the contaminated soil beneath 10 feet of "clean" fill (Regional Water Quality Control Board approval also required).	A Soil Management Plan will be prepared to ensure that the affected soil will be properly monitored and its location and depth well documented. The SMP will be submitted to OCHCA and RWQCB for review and approval. If this method is not acceptable to the agencies, other methods such as removal and disposal will be performed.	HAZ-1 Underground Storage Tanks Prior to final certification of grading or issuance of a building permit (whichever occurs first) for any structure within 300 feet of a former UST location, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshal that site remediation has been completed and approved by OCHCA.
Historic agricultural pesticide use (Key Map 1, 5, 6, & 7)	A total of 20 soil samples were collected from the former nursery and agricultural areas and submitted for laboratory analysis. No pesticides were detected in 13 of the samples. Detected concentrations in the remaining samples were well below their respective EPA Region 9 Preliminary Remediation Goals (PRG) for residential soil. Since the samples were considered to be representative and the concentrations were well below the PRGs, no further testing or remediation is deemed necessary.	No remedial action is necessary.	No mitigation required.
Oil wells and methane gas	Three oil wells are located on the site and one well is believed to be outside the boundaries of the site beneath Rose Drive. The wells were previously abandoned but must be re-abandoned to current	Oil wells within the Hartley Center Site must be re-abandoned in accordance with Division of Oil & Gas regulations and no structures may be located directly above any abandoned wells.	HAZ-5 Oil Wells and Methane Gas a. <u>Oil Well Abandonment</u> . Prior to final certification of grading or issuance of any building permit, the applicant shall submit

**Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center**

Issue/ Location	Background	Current Status	Mitigation
	standards.	Structures located near abandoned wells must meet the soil gas mitigation requirements and procedures outlined in the City of Brea Fire Department Combustible Soil Gas Mitigation Requirements. Any impacted soil associated with the wells must be remediated to the satisfaction of Orange County Health Care Agency and the Regional Water Quality Control Board.	<p>evidence acceptable to the Brea Fire Chief demonstrating that the locations of all known wells on site have been reviewed by the California Division of Oil, Gas and Geothermal Resources (DOGGR) and that all well abandonment requirements, including gas leakage testing, have been completed according to DOGGR specifications. All abandoned wells shall be vented according to Brea Fire Department guidelines.</p> <p>b. <u>Soil Gas Survey</u>. Prior to final certification of grading or issuance of any building permit, a soil gas survey shall be conducted in accordance with the Brea Fire Department guidelines to determine whether or not there is methane and/or other combustible soil gases at concentrations of concern at the site. The survey shall evaluate the areas around the old, abandoned wells as well as any and all locations identified by the City's combustible soil gas consultant.</p> <p>Samples shall also be collected at depth below final design grades as determined by a registered professional engineer with experience in the field of combustible soil gas control and mitigation systems. Said survey is subject to third party review by the City's combustible soil gas consultant. A workplan and appropriate mitigation measures will be required if methane gas at concentrations over 5,000 parts per million is detected at the site, in accordance with the guidelines established by the City of Brea</p>

**Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center**

Issue/ Location	Background	Current Status	Mitigation
			<p>Fire Department, as appropriate.</p> <p>c. <u>Soil Gas Mitigation</u>. Prior to issuance of a grading permit, site development plans must comply with the Brea Fire Department's requirements for the investigation, mitigation, and remediation of combustible soil gases. These requirements are outlined in the City of Brea Fire Department "Combustible Soil Gas Mitigation System Installation and Inspection Requirements." In addition, if hydrocarbon concentrations in excess of 20,000 parts per million are left in place below 10 feet below grade surface, the City Fire Department will require documentation that shows that the contamination will not create a methane gas problem.</p> <p>Mitigation measures regarding combustible soil gases shall be provided in accordance with City of Brea Fire Department's requirements. They may include but may not be limited to: sub-slab passive venting systems, sub-slab membranes, bottoms mitigation measures and venting of abandoned wells. This program shall be submitted to the Director or designee, Development Services Department within 60 days of completion of grading for review/approval.</p> <p>d. Grading Protocol. Prior to issuance of a grading permit, the applicant shall submit a description of the oil well protocols to be followed during grading operations. The protocols shall describe the methods for</p>

**Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center**

Issue/ Location	Background	Current Status	Mitigation
Nursery area (Key Map 1)	Initial assessment of the former nursery area has been completed. Elevated levels of arsenic were detected in two surface soil samples.		<p>searching for unknown oil wells and the procedures to be followed in the event that a well is discovered, in compliance with Fire Department and DOGGR regulations. The Grading Protocol shall be subject to review and approval by the Fire Marshall and the Building Official.</p> <p>e. Grading Monitor. Prior to issuance of a grading permit, the applicant shall retain a grading monitor to observe all grading operations to ensure that the approved Grading Protocol is implemented. The monitor shall be selected by the City Fire Marshall and shall have the authority to halt grading operations and immediately notify the Fire Marshall if an oil well is discovered.</p> <p>f. Residential Structure Setbacks. Prior to issuance of any building permit for residential structures, the applicant shall provide evidence acceptable to the Building Official that a setback of at least 10 feet from an abandoned well or 100 feet from an operating well shall be maintained.</p>
Electrical transformer area (Key Map 3)	Elevated levels of PCBs were detected in the soil at one of 14 transformer locations tested in December 2003. The PCB-	Additional assessment will be performed to evaluate the extent of arsenic concentrations in the soil. Any soil requiring remediation will be addressed to the satisfaction of Orange County Health Care Agency and the Regional Water Quality Control Board during site grading. No further work is deemed necessary, however the final report, OCHCA review and case closure is	<p>HAZ-6 Nursery Area Arsenic Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas affected by the former nursery area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA and the RWQCB.</p> <p>HAZ-7 Electrical Transformer Area Prior to final certification of grading or issuance</p>

**Table 5.6-1
Hazardous Materials Remediation Summary -
La Floresta Village/Hartley Research Center**

Issue/ Location	Background	Current Status	Mitigation
	<p>affected soil was removed and disposed of offsite at an appropriate facility in accordance with the approved workplan under the oversight of Orange County Health Care Agency. Laboratory results of soil confirmation samples have demonstrated that cleanup of the area has been completed in accordance with the approved workplan.</p>	<p>pending.</p>	<p>of any building permit (whichever occurs first) for areas affected by the former electrical transformer area, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall that site remediation has been completed and approved by OCHCA.</p>
<p>Asbestos and lead-based paint in buildings</p>	<p>Assessment of asbestos-containing materials (ACMs) was conducted. ACMs included pipe insulation, window putty, floor tile and mastic, roofing, transite panels and transite pipe. All above-ground structures have been removed.</p>	<p>ACMs contained in building materials were removed per EPA protocols. Approximately 7,200 linear feet of underground piping containing asbestos was removed. Approximately 800 linear feet of asbestos piping remains under debris stockpiles. This additional pipe will be removed per EPA and SCAQMD protocols after the stockpiles are removed.</p>	<p>HAZ-8 Asbestos Pipe Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that asbestos remediation has been completed in accordance with EPA and SCAQMD protocols.</p>
<p>Hydrogen sulfide (see also Oil Wells, above)</p>	<p>Previous sampling detected low concentrations of hydrogen sulfide in unpaved areas. The methane/hydrogen sulfide ratios and vertical distribution of hydrogen sulfide in the subsurface indicate the hydrogen sulfide is likely due to a localized source of organic matter and does not warrant any mitigation measures. Also, the concentrations of hydrogen sulfide measured at depths less than 5 ft bgs do not exceed risk based levels for vapor migration into structures.</p>	<p>Additional assessment will be required to evaluate the presence of H₂S concentrations. As necessary mitigation measures will be implemented to the satisfaction of Orange County Health Care Agency and the Brea Fire Department.</p>	<p>HAZ-9 Hydrogen Sulfide Prior to final certification of grading or issuance of any building permit (whichever occurs first), the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation for H₂S has been completed and approved by OCHCA.</p>

Birch Hills Site

Soil and Groundwater Nitrate

A housing development and shopping center (Brea Union Plaza) were previously built over the plume area. Affected soil was excavated and removed and no further action is required per OCHCA (June 19, 1998). Residual contamination was present in the groundwater. A groundwater remediation system was approved by the RWQCB in 1996. Remediation has been ongoing since 1996 under the oversight of the RWQCB. Two monitoring wells are located on the golf course driving range. The groundwater plume is monitored twice annually.

Level of Significance: Potentially significant.

Mitigation Measure:

HAZ-10 Groundwater Remediation

- a. Groundwater Monitoring Reports. All groundwater monitoring reports for the Birch Hills property shall be submitted to the City Fire Marshall at the same time they are submitted to the RWQCB.
- b. Groundwater Remediation. Prior to issuance of a building permit, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall demonstrating that neither groundwater contamination nor remediation activities present any significant health risk to construction workers or project occupants.

Level of Significance after Mitigation: Less than significant.

Fuel ASTs/USTs

Above-ground and underground storage tanks were used for fuel storage on site. The Phase I assessment found that all tanks, with the exception of one 5,000-gallon waste oil tank, had been removed, and there were no observed spills or leaks (CET Environmental, 1995). The remaining UST was subsequently removed and no contamination was noted. A closure letter was issued by OCHCA in 1999. No further action is necessary.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Pesticides, Herbicides, Paints and Motor Oils

These materials were used on site as part of golf course operations. A Phase I assessment was conducted and no spills or leaks were observed (PHR Consultants, 1999). No further action is necessary.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Union Pacific Railroad Right-of-Way

An assessment conducted in 1999 identified nitrates, petroleum hydrocarbons, pesticides, and metals in the soil along the former rail line (Environmental Applications, 1999). The assessment concluded that contaminants were not toxic, although additional assessment will be performed to confirm the previous study prior to development.

Level of Significance: Potentially significant.

Mitigation Measures:

HAZ-11 Railroad Right-of-Way

Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas containing railroad ROW, the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation (if necessary) has been completed and approved by OCHCA.

Level of Significance after Mitigation: Less than significant.

These issue areas along with mitigation requirements for the Birch Hills site are summarized in Table 5.6-2.

5. Environmental Analysis

**Table 5.6-2
Hazardous Materials Remediation Summary -
Birch Hills Golf Course**

Issue/ Location	Background	Current Status	Mitigation
Soil and groundwater nitrate	<p>Affected soil was excavated and removed. No further action required per OCHCA.</p> <p>Residual contamination was present in the groundwater offsite. A groundwater remediation system was approved by the RWQCB in 1996.</p>	<p>Remediation has been ongoing since 1996 under the oversight of the RWQCB. Two monitoring wells are located on the golf course driving range. The groundwater plume is monitored twice annually.</p>	<p>HAZ-10 Groundwater Remediation</p> <p>a. <u>Groundwater Monitoring Reports</u>. All groundwater monitoring reports for the Birch Hills property shall be submitted to the City Fire Marshall at the same time they are submitted to the RWQCB.</p> <p>b. <u>Groundwater Remediation</u>. Prior to issuance of a building permit, the applicant shall provide evidence acceptable to the City Building Official and the Fire Marshall demonstrating that neither groundwater contamination nor remediation activities present any significant health risk to construction workers or project occupants.</p>
Fuel ASTs/USTs	<p>Above-ground and underground storage tanks were used on site. All tanks were removed, and the Phase I assessment found that there were no observed spills or leaks. The UST was removed and no contamination was noted. A closure letter was issued by OCHCA in 1999.</p>	<p>No action required.</p>	<p>No mitigation required.</p>
Pesticides, herbicides, paints, motor oils	<p>These materials were used on site as part of golf course operations. A Phase I assessment was conducted and no spills or leaks were observed.</p>	<p>No action required.</p>	<p>No mitigation required.</p>
Union Pacific railroad ROW	<p>Assessment conducted in 1999 identified nitrates, petroleum hydrocarbons, pesticides, and metals in the soil. The assessment concluded that contaminants were not toxic, although additional assessment will be performed to confirm the previous study prior to development.</p>	<p>Additional assessment required.</p>	<p>HAZ-11 Railroad Right-of-Way</p> <p>Prior to final certification of grading or issuance of any building permit (whichever occurs first) for areas containing railroad ROW, the applicant shall provide evidence acceptable to the City Building Official and Fire Marshall that site remediation (if necessary) has been completed and approved by OCHCA.</p>

5.6.5 Cumulative Impacts

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Public Safety Element

Both Sites

Hazardous materials impacts are site-specific. Existing code requirements and the recommended mitigation measures will ensure that the project conforms to all Public Safety Element policies related to hazards. Discussion of specific potential impacts and mitigation measures is contained in Section 5.6.4 of this EIR. These measures would reduce potential project-specific impacts regarding hazards and hazardous materials to less than significant levels. Similar mitigation measures are typically required of all development projects under CEQA when hazardous materials may be present. In consideration of the preceding factors, the project's contribution to cumulative impacts related to hazards and hazardous materials would be rendered less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: No cumulative mitigation measures are necessary.

Level of Significance after Mitigation: Not applicable.

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CDOGGR)

La Floresta Village Site

Potential impacts related to CDOGGR policies are site-specific. Potential impacts and mitigation measures related to previous use of the site for oil production are addressed in Section 5.6.4 of this EIR. These measures would reduce potential project-specific impacts related to hazards and hazardous materials to less than significant levels. Similar mitigation measures are typically required of all development projects under CEQA when hazardous materials may be present. In consideration of the preceding factors, the project's contribution to cumulative impacts related to hazards and hazardous materials would be rendered less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: No cumulative mitigation measures are necessary.

Level of Significance after Mitigation: Not applicable.

IMPACTS RELATED TO PREVIOUS OIL PRODUCTION AND INDUSTRIAL USE OF THE SITES

Both Sites

Potential impacts related to previous oil production activities and industrial uses are site-specific. Potential impacts and mitigation measures are addressed in Section 5.6.4 beginning on page 5.6-14 of this EIR. These measures would reduce potential project-specific impacts to less than significant levels. Similar mitigation measures are typically required of all development projects with potential hazardous materials impacts under CEQA. In consideration of the preceding factors, the project's contribution to cumulative impacts in the area of hazards and hazardous materials would be rendered less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: No cumulative mitigation measures are necessary.

Level of Significance after Mitigation: Not applicable.

5.6.6 Significant Unavoidable Impacts

Both Sites

With the implementation of existing code requirements and the recommended mitigation measures, all potential impacts would be reduced to a level that is less than significant.

5.7 Hydrology and Water Quality

5.7.1 Methodology

This chapter is based on the information contained in the "Hydrology Analysis for TT 16934, Hartley Center", the "Hydrology Analysis for TT 16933 Birch Hills Golf Course," the "Conceptual Water Quality Management Plan (WQMP), Birch Hills Golf Course Reconstruction," the "Conceptual Water Quality Management Plan (WQMP), Birch Hills Golf Course Redevelopment," the "Conceptual Water Quality Management Plan (WQMP), La Floresta," and the "Preliminary Hydraulic Analysis for Loftus Diversion Channel (Orange County Facility No. A06), November 10, 2006", all prepared by Hunsaker & Associates, Inc. The hydrology analysis reports are contained in the Technical Appendix, while the conceptual WQMPs and the Loftus Channel study are available for review at the City Development Services Department.

Information regarding groundwater is based on the "Geotechnical Feasibility Report, La Floresta Development (Former Unocal Hartley Center), 376 South Valencia Avenue, Brea, California, November 14, 2005" and the "Geotechnical Feasibility Report, Birch Hills Golf Course Development, Southwest Corner of Birch Street and Kraemer Boulevard, Brea, California, November 18, 2005," both prepared by Albus-Keefe & Associates, Inc. These reports are provided in the Technical Appendix.

Additional information regarding the hydrology of the Birch Hills site is based on the "Birch Hills Specific Plan EIR" prepared by RBF (1995). This report is available for review at the Development Services Department.

5.7.2 Setting

PROJECT SITE CONDITIONS

La Floresta Village Site

Surface Water

Hydrology

The La Floresta Village site is located within the Carbon Canyon Creek watershed. The drainage area analyzed in the project hydrology study includes the site itself (the "on-site area") plus an off-site area that drains through the site. Prior to the site demolition work of 2005, approximately half of the on-site drainage area (60 acres) was occupied by office and industrial buildings and parking lots, and the other half of the on-site drainage area (63 acres) was natural and agriculture. Storm runoff produced from the undeveloped off-site drainage area (approximately 141 acres to the northeast) is conveyed through an existing double 48-inch RCP crossing Rose Drive, and discharged onto the project site. The off-site flow then combines with the on-site flow produced from the undeveloped

sub-area (47 acres) and drains into an existing private storm drain system and then into a flood control channel controlled by the Army Corps of Engineers. The surface runoff within the remainder of the site flows in a southwesterly direction and enters a city-owned storm drain adjacent to Imperial Highway and eventually discharges into the Carbon Canyon Flood Control Channel (CCFCC) at the southeast corner of the site.

The CCFCC and the private on-site storm drain system were constructed in the late 1950s, the existing storm drain system located in Imperial Highway was constructed in 1979, and the existing 48-inch RCP crossing Rose Drive was constructed in 1982. The storm frequency that these systems were designed for is unknown. Existing hydrological conditions for the La Floresta site are shown in Exhibit 5.7-1 – La Floresta: Existing Hydrological Conditions.

Flooding/Inundation

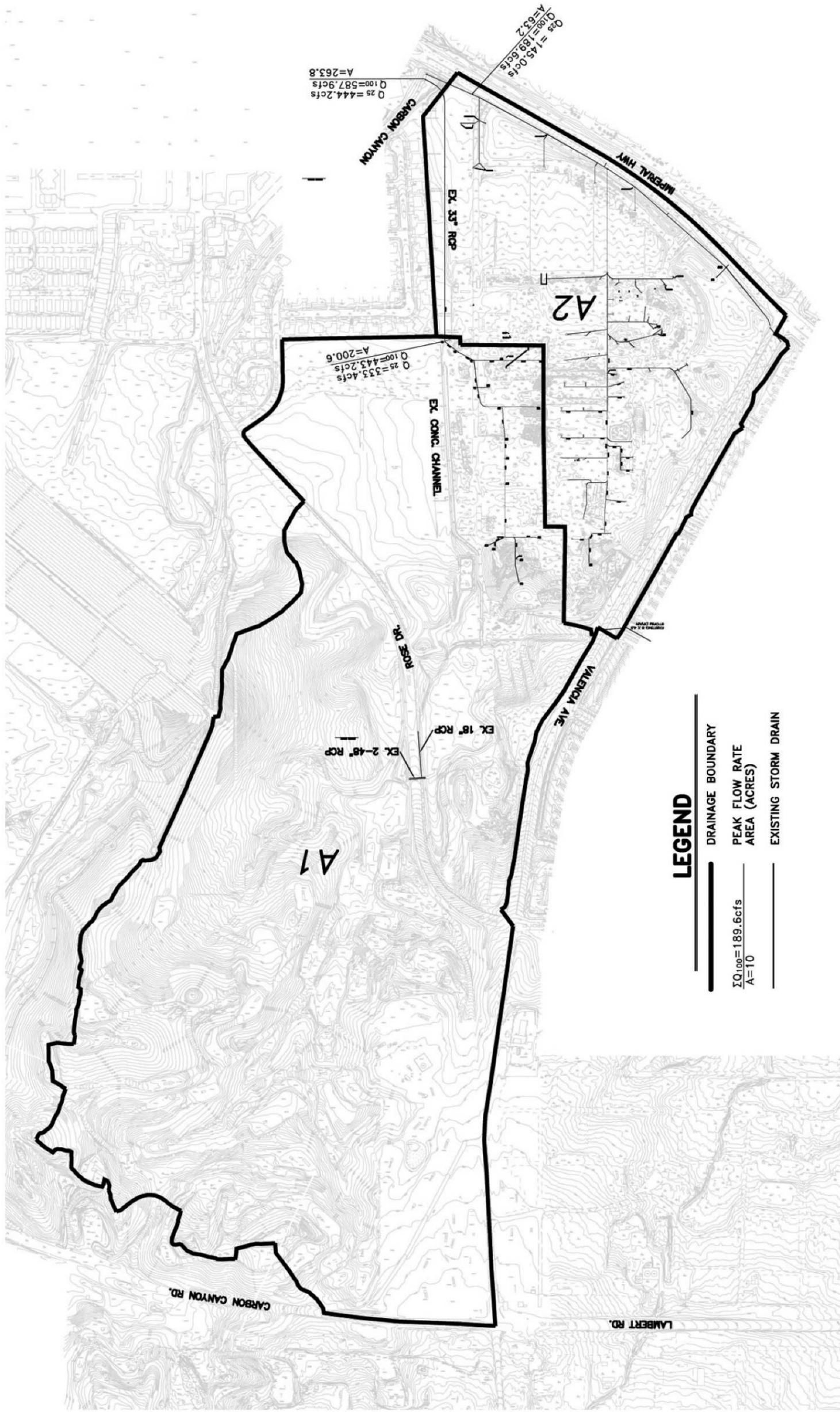
The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP). Through this program, hydrologic analyses are conducted to determine the magnitude of flood risk that exists in various communities throughout the country. Individuals are eligible to buy flood insurance if the community has joined the NFIP. Based on the Flood Insurance Rate Map (FIRM) panels 61 and 62 of 550 dated February 18, 2004, the La Floresta Village site is in "Zone X," which is defined as "areas determined to be outside the 0.2% annual chance floodplain." Zone X flood areas have been determined to be outside the 500-year floodplain; therefore, the La Floresta site is not located within any flood hazard zone (Exhibit 5.7-2 – Flooding Hazards).

The La Floresta Village site is located within the Dam Failure Inundation Pathway for the Carbon Canyon Dam. The Carbon Canyon Flood Control Dam, operated by the Army Corps of Engineers, is located approximately one-eighth mile northeast of the site. According to the Corps' Carbon Canyon Dam Emergency Plan Inundation Map (Exhibit 5.7-3), in the event of a dam breach with water at the spillway elevation (475.0 feet), the average maximum depth of flood waters over the La Floresta site would be 15 feet.

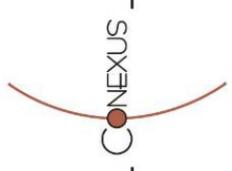
Surface Water Quality

The La Floresta Village site is within the jurisdiction of the Santa Ana Region Water Quality Control Board and is within the Carbon Creek Watershed (County of Orange Watershed B). Runoff from the site is discharged into the Carbon Creek Channel and conveyed in a southerly and westerly direction to the Santa Ana River, which eventually drains into the Pacific Ocean. During times of high flows, storm water may go over a weir in the Miller Retarding Basin, in which case flows would be partially routed into the San Gabriel River. Carbon Creek is not listed as an impaired water body under Section 303(d) of the Clean Water Act. Coyote Creek is currently listed as impaired for abnormal fish histology, algae, copper, bacteria, lead, selenium, toxicity, and zinc. The San Gabriel River is listed as impaired for abnormal fish histology, algae, bacteria, and toxicity.

La Floresta Village: Existing Hydrological Conditions



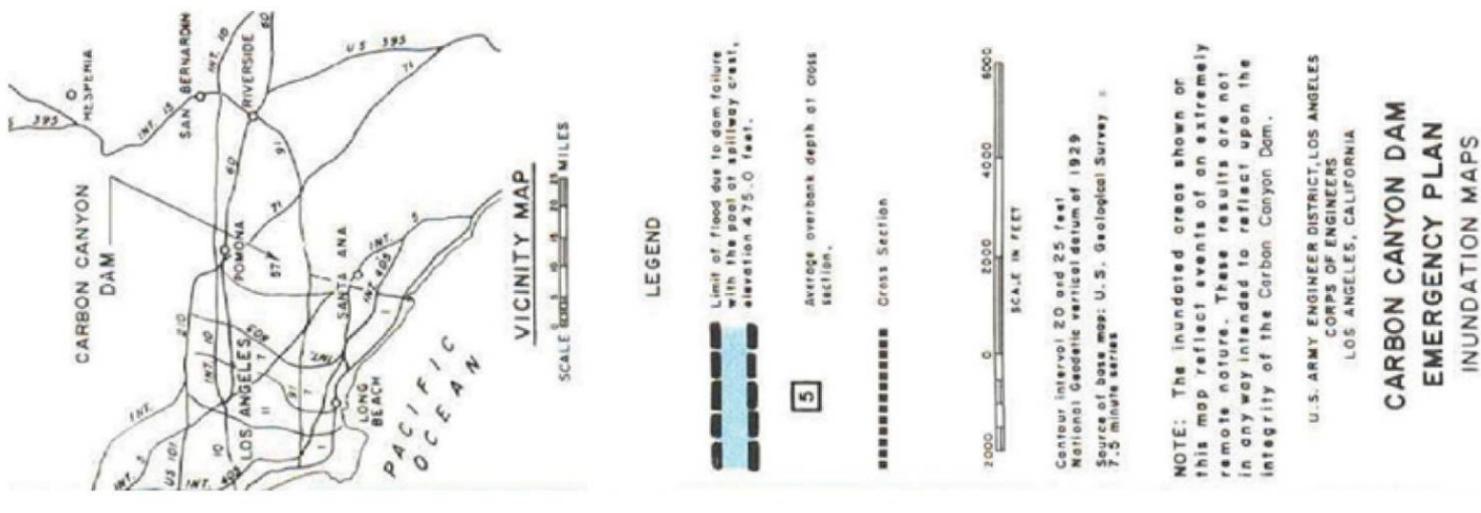
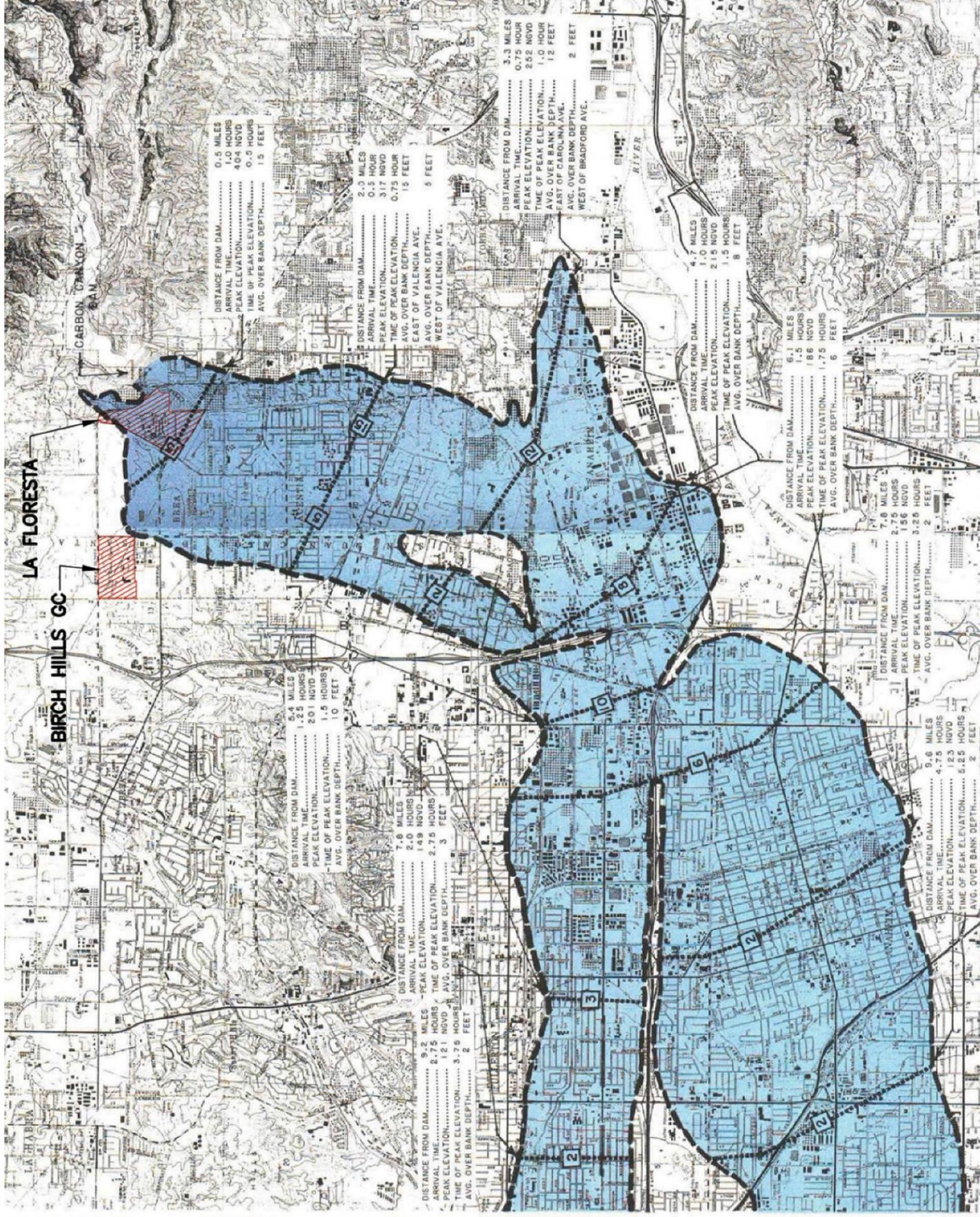
Source: Hunsaker & Associates, May 15, 2006



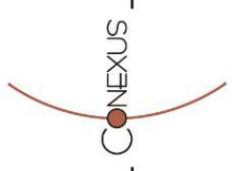
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La Floresta Development Proposal: Dam Inundation Map



Source: Hunsaker & Associates, April 2006



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Due to the earlier demolition of the former Hartley Research Center buildings, sandbags have been installed on site to prevent debris from being washed into storm drains.

Groundwater

The La Floresta Village site lies within the La Habra-Yorba Linda Basin, a gently down-warped trough lying between the Puente Hills to the north and the Coyote Hills to the south. This hydrogeologic area is located in the northern portion of the Coastal Plain of Orange County and is bounded by the Norwalk Fault zone and the Whittier Fault. Aquifers within the basin occur in relatively thin sediments that are deposited on non-water-bearing rocks adjacent to the Puente Hills.

The La Habra Groundwater Basin, located directly beneath the city, has poor water quality that would require extensive treatment and blending with higher quality water to meet the state's public health standards (Brea General Plan, p. 4-43). It is not currently used as a source for domestic water.

Shallow perched groundwater was not encountered during supplemental geotechnical investigation to the depths explored (51 feet), nor was it encountered within the site during previous investigations by others. Research indicates that groundwater beneath the site is in excess of 100 feet of the existing ground surface.

Birch Hills Site

Surface Water

Hydrology

Drainage within the project site generally flows to the south and west. The dominant drainage feature traversing the site generally from east to west is the Loftus Diversion Channel.

Storm runoff from the portion of the site north of the channel drains in the southerly direction and discharges through four pipes along the north side of this channel. Storm runoff from the portion of the site south of the channel also drains in the southerly direction and discharges into existing storm drain systems located in the Union Plaza. A 48-inch RCP storm drain crosses under Birch Street approximately 600 feet west of Kraemer and discharges into the north portion of the site.

The Loftus Diversion Channel (Orange County Facility No. A06) was originally constructed in 1955. It runs east to west from Voyager Avenue to Associated Road and then runs southwest, crosses under Imperial Highway and drains into the U.S. Army Corps of Engineers Fullerton Dam in Craig Regional Park. When originally constructed the Loftus Channel was an engineered channel for most of its length, which had partially revetted sides and an earthen bottom. In 1977, the crossing at Kraemer Boulevard was improved; however, a temporary 2-foot-deep false bottom was placed in the double box culvert until future down stream improvements could be accomplished. The channel was improved upstream of Kraemer in 1978 and downstream of the site to Imperial Highway

in 1980. The improvements included drop structures, rip rap sides, and improved culvert crossings.

Through the Birch Hills site, the channel has had no significant improvements since its original construction. There is an existing double 9 x 9.6 RCB culvert midway in this portion of the channel. The box culvert was originally constructed to provide a bridge crossing for the railroad facilities that formerly traversed the site. Visual inspection of the channel revealed four existing drainage connections into the north side of the channel. The oldest is a 24-inch RCP that connects to the channel at the railroad box culvert. This connection appears to have been installed as part of the original railroad culvert construction. Two newer 18-inch and one newer 24-inch corrugated metal pipe inlets connect to the channel at various locations along the north side. The earthen sides of the mid-section of the channel have experienced considerable erosion and do not appear to have been maintained by the County.

Through the site the channel is located within a 110- to 160-foot-wide Orange County flood control easement. There are existing gravel roadbeds along both sides of the channel for County maintenance access.

Existing hydrological conditions for the Birch Hills site are shown in Exhibit 5.7-4.

Flooding/Inundation Hazards

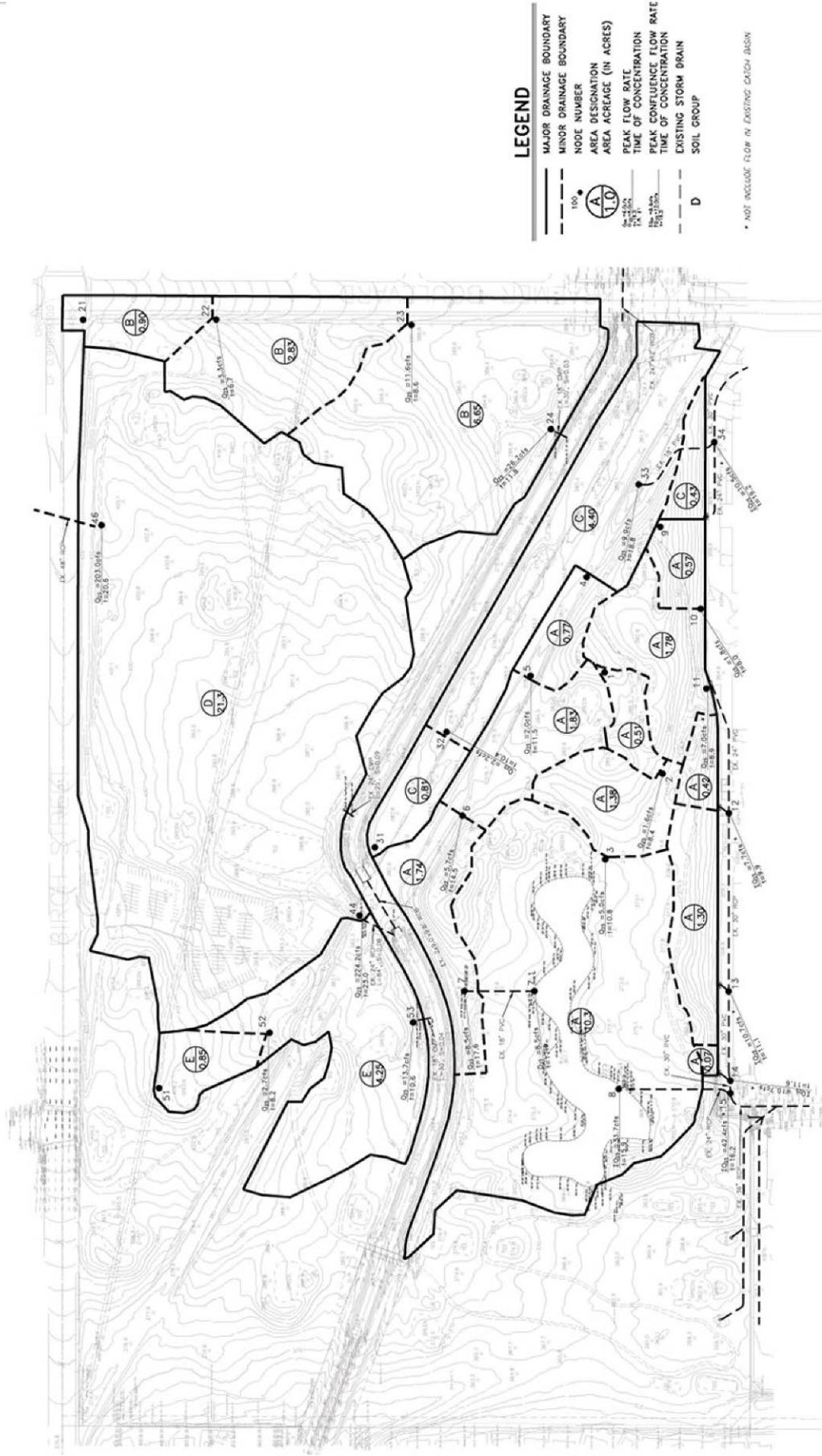
The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP). Through this program, hydrologic analyses are conducted to determine the magnitude of flood risk that exists in various communities throughout the country. Individuals are eligible to buy flood insurance if the community has joined the NFIP.

The Loftus Channel is classified as a regional facility owned and operated by the Orange County Flood Control District. The channel has been improved through this reach in accordance with current plans, but does not have the ability to safely convey the ultimate 100-year design flood. The channel itself is within a Zone A flood hazard zone. Zone A indicates areas subject to 100-year flooding, but the base flood elevations have not been determined. The remainder of the site is within Zone X, which is outside any designated flood hazard zone. Buildings within Zone X could be flooded by severe concentrated rainfall coupled with inadequate local drainage systems. Local storm water drainage systems are not normally considered in the community's flood insurance study, and inadequate local drainage facilities could result in localized flooding. Flood insurance is available in participating communities but is not required by regulation in Zone X.

There are no planned improvements to Loftus Channel at this time.

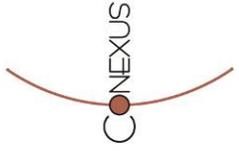
The Birch Hills site is not located within an area subject to flooding hazards or potential inundation in the event of a dam failure (see Exhibit 5.7-2 Flooding Hazards on page 5.7-5 and Exhibit 5.7-3 Dam Inundation Map on page 5.7-7).

Birch Hills: Existing Hydrological Conditions



Source: Hunsaker & Associates, November 2006

▲ Not to Scale
 Exhibit 5.7-4



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Surface Water Quality

The Birch Hills site is located within the jurisdiction of the Santa Ana Region Water Quality Control Board and is within the San Gabriel River/Coyote Creek Watershed (County of Orange Watershed A). Runoff from approximately one-half of the site flows into the Loftus Channel and is conveyed in a southerly and westerly direction to Fullerton Dam and Fullerton Creek prior to discharging into Coyote Creek and the San Gabriel River. The remainder of the site discharges into the city storm drain system, which also eventually discharges into the Fullerton Dam and Fullerton Creek. Although the site does not discharge directly to a 303(d) listed water body, it does contribute runoff to the San Gabriel River, which is considered an impaired water body under Section 303(d) of the Clean Water Act.

The majority of the Birch Hills site is currently used as a golf course, and pollutants are generally limited to fertilizers, pesticides, and particulate matter. First flush runoff is partially captured in the existing swales and lakes.

Groundwater

The Birch Hills site lies within the La Habra-Yorba Linda Basin, a gently down-warped trough lying between the Puente Hills to the north and the Coyote Hills to the south. This hydrogeologic area is located in the northern portion of the Coastal Plain of Orange County and is bounded by the Norwalk Fault zone and the Whittier Fault. Aquifers within the basin occur in relatively thin sediments that are deposited on non-water bearing rocks adjacent to the Puente Hills.

The La Habra Groundwater Basin, located directly beneath the city, has poor water quality that would require extensive treatment and blending with higher quality water to meet the State's public health standards (Brea General Plan, p. 4-43). It is not currently used as a source for domestic water.

Research of referenced investigation reports by others indicates that groundwater levels were encountered at depths in excess of 30 feet below the ground surface.

REGULATORY SETTING

City of Brea General Plan: Community Resources and Public Safety Elements

The Community Resources and Public Safety Elements of the City of Brea General Plan contain policies and objectives that are considered applicable to the proposed project, as identified below.

Both Sites

Community Resources Element Policies

- *Policy CR-11.5: Utilize design techniques that conserve natural resources and preserve natural terrain, drainage, and vegetation.*

- Policy CR-11.6: Cooperate with regional agencies, such as the Regional Water Quality Control Board, in their efforts to improve surface and groundwater water quality for all Southern Californians.
- Policy CR-12.1: To the maximum extent practicable, adopt and enforce regulations and engage in educational efforts to eliminate pollution from urban runoff.
- Policy CR-12.2: Evaluate development projects for compliance with NPDES requirements, aiming toward reducing pollutant loads in storm water runoff, minimizing impervious surface areas, and minimizing peak flows.

Public Safety Element Policies

- Policy PS-7.1: Cooperate and work with the Orange County Flood Control District to ensure District flood control facilities are well maintained and capable of accommodating, at a minimum, 100-year storm flows.
- Policy PS-7.2: Require that new developments minimize storm water and urban runoff into drainage facilities by incorporating design features such as detention basins, on-site water features, or other strategies.
- Policy PS-7.3: Maintain an active storm drain inspection program.
- Policy PS-7.4: Protect critical facilities located within areas subject to flooding.
- Policy PS-7.5: Evaluate and monitor water storage facilities to determine which facilities are not self-contained and might pose an inundation hazard to downstream properties.

Other Applicable Regulations

Both Sites

Clean Water Act/NPDES

The primary contributor to water pollution is urban runoff. Runoff from streets, parking lots, commercial businesses, and private yards may contain oil, grease, pesticides and herbicides, heavy metals, paints and household chemicals, construction materials, sediment, and eroded soil. Ultimately, these materials end up in creeks and storm drains that lead directly into the ocean, where they have caused substantial water quality degradation over the past century. Urban pollutants degrade water quality and impact wildlife and plants dependent on aquatic habitat. The City is a co-permittee with the County of Orange in the National Pollution Discharge Elimination System (NPDES) program. The program is designed to reduce pollutants in runoff. According to the NPDES permit, all new development projects and substantial rehabilitation projects are required to incorporate Best Management Practices (BMPs) as identified in the County Drainage Area Master Plan (DAMP).

FEMA - National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP). Through this program, hydrologic analyses are conducted to determine the magnitude of flood risk that exists in various communities throughout the country. Individuals are eligible to buy flood insurance if the community has joined the NFIP.

La Floresta Village Site

Potential Flooding-Dam Inundation Act

The Potential Flooding-Dam Inundation Act (California *Government Code* §8589.4) requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a "100-year flood." In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.³

5.7.3 Thresholds of Significance

In accordance with the CEQA Guidelines, the project may be deemed to have a significant environmental impact with respect to hydrology and water quality if it would:

- *Violate any water quality standards or waste discharge requirements*
- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site*
- *Substantially 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*

³ <http://www.propertyrisk.com/refcentr/newsdam.htm>
<http://www.realtydisclosure.com/hazards/dam.htm>

- *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff*
- *Otherwise substantially degrade water quality*
- *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map*
- *Place within a 100-year flood hazard area structures which would impede or redirect flood flows*
- *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam*
- *Inundation by seiche, tsunami, or mudflow*

Hydrology and water quality impacts could also be considered significant if aspects of the project were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.7.2 under Regulatory Setting.*

The NOP (see Appendix A) determined that the following issues would either have no impacts or impacts that are less than significant, therefore these issues are not further addressed in this EIR.

- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)*
- *Otherwise substantially degrade water quality*
- *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map*
- *Place within a 100-year flood hazard area structures which would impede or redirect flood flows*
- *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (Birch Hills site only)*
- *Inundation by seiche, tsunami, or mudflow*

However, additional information obtained subsequent to the publication of the NOP indicated that further analysis was necessary regarding drainage and flood hazard issues related to the Birch Hills site. This topic is addressed in the Impacts section, which follows.

5.7.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Community Resources Element

Both Sites

The proposed grading and construction would alter drainage patterns, increase impervious surfaces, and potentially increase erosion and sedimentation. In addition, conversion of undeveloped areas to urban uses would be expected to introduce new sources of pollution such as oil, grease, pesticides, and herbicides, heavy metals, paints and household chemicals, and pet wastes into storm water runoff if not properly mitigated. However, compliance with applicable regulations and policies such as NPDES is required of all developments in the city and would ensure conformance with all relevant Community Resources Element policies.

Level of Significance: Potentially significant.

Mitigation Measures: Please see HYD-1 and HYD-2, discussed below. These mitigation measures would ensure compliance with General Plan policies and reduce potential impacts to a level that is less than significant.

Level of Significance after Mitigation: Less than significant.

City of Brea General Plan: Safety Element

Both Sites

The Project would involve grading and construction, which would alter drainage patterns, increase impervious surfaces, and potentially increase peak storm water runoff from the sites. The applicant will be required to cooperate with the Orange County Flood Control District and provide drainage improvements to ensure adequate flood protection for occupants of the proposed development. The Project would comply with Safety Element policies in that it incorporates detention basins and on-site water features to minimize off-site storm water flows. Additional analysis of flood hazards and mitigation strategies for each site is provided below.

Level of Significance: Potentially significant.

Mitigation Measures: Mitigation measures HYD-3 through HYD-8, discussed below, would ensure compliance with applicable General Plan policies and reduce potential impacts to a level that is less than significant.

Level of Significance after Mitigation: Less than significant.

Other Applicable Regulations

Clean Water Act/NPDES

Both Sites

As discussed previously, the project would have the potential to cause increased water pollution due to construction activities as well as conversion of land to urban uses. Mitigation Measures HYD-1 and HYD-2 would require compliance with NPDES regulations and preparation of a Water Quality Management Plan, and would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures HYD-1 and HYD-2.

Level of Significance after Mitigation: Less than significant.

FEMA – National Flood Insurance Program

Both Sites

The Project has the potential to cause increased storm water runoff and flood hazards. Mitigation Measures HYD-3 through 8 would require the installation of drainage improvements based on a detailed hydrology study and would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures HYD-3 through HYD-8.

Level of Significance after Mitigation: Less than significant.

Potential Flooding-Dam Inundation Act

La Floresta Village Site

The La Floresta Village development would place people and structures within the dam failure inundation pathway of Carbon Canyon Dam. Mitigation Measure HYD-9 would require the preparation of an Emergency Response Plan and notification of buyers, which would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measure HYD-9.

Level of Significance after Mitigation: Less than significant.

VIOLATION OF WATER QUALITY STANDARDS

Both Sites

The proposed grading and construction would alter drainage patterns, increase impervious surfaces, and potentially increase erosion and sedimentation. In addition, conversion of undeveloped areas to urban uses would be expected to introduce new sources of pollution such as oil, grease, pesticides and herbicides, heavy metals, paints and household chemicals, and pet wastes into storm water runoff if not properly mitigated. Compliance with NPDES Best Management Practices (BMPs) would substantially reduce the quantity of pollutants that would enter drainage channels. BMPs can be either structural or non-structural. Structural BMPs could include such things as proper design of trash storage areas, water-efficient irrigation systems, detention/ retention basins, grassy swales, porous pavement and sand filters. Examples of non-structural BMPs include public education, street sweeping, landscape management, spill contingency plans, housekeeping of loading docks and activity restrictions. The following mitigation measures would reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

HYD-1 NPDES Compliance

Prior to issuance of a grading permit for each site, the project proponent shall apply for coverage for discharge under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a Storm water Pollution Prevention Plan (SWPPP) and implementing Best Management Practices (BMPs) to address construction site pollutants. Separate coverage shall be obtained for each site. The Storm Water Pollution Prevention Plan (SWPPP) shall: 1) require implementation of BMPs so as to prevent a net increase in sediment load in storm water discharges relative to preconstruction levels; 2) prohibit discharges of storm water or non-storm water at levels that would cause or contribute to an exceedance of any applicable water quality standard contained in the regional basin plan; 3) discuss in detail the BMPs for the project related to control of sediment and erosion, non-sediment pollutants, and potential pollutants in non-storm water discharges; 4) describe post-construction BMPs for the project; 5) explain the monitoring and maintenance program for the project BMPs; 6) require reporting of violations to the RWQCB; and 7) list the parties responsible for SWPPP implementation and BMP maintenance both during and after construction. Upon acceptance of the NOI by the State Board, the project proponent shall implement the SWPPP and will modify the SWPPP as directed by the Storm Water Permit.

HYD-2 Water Quality Management Plan

Prior to issuance of building permits for each site, the project proponent shall prepare a Water Quality Management Plan (WQMP) meeting the

approval of the City Engineer. The WQMP shall: 1) describe the routine and special post-construction BMPs to be used at the proposed development site (including both structural and non-structural measures); 2) describe responsibility of the initial implementation and long-term maintenance of the BMPs; 3) provide narrative with the graphic materials as necessary to specify the locations of the structural BMPs; and 4) describe effective means to ensure that the WQMP is carried out by all future successors or assigns to the property.

Level of Significance after Mitigation: Less than significant.

ALTERATION OF DRAINAGE PATTERNS IN A MANNER THAT WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON-SITE OR OFF-SITE

Both Sites

The Project would alter drainage patterns for both sites. Proposed hydrology plans for the La Floresta and Birch Hills sites are shown in Exhibits 5.7-5 and 5.7-6, respectively. Although the proposed grading and drainage alterations could result in an increase in erosion or siltation, Mitigation Measures HYD-1 and HYD-2, above, would require compliance with BMPs and preparation of a WQMP for each site. These requirements would reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures: See HYD-1 and HYD-2, above.

Level of Significance after Mitigation: Less than significant.

ALTERATION OF DRAINAGE PATTERNS IN A MANNER THAT WOULD EXCEED DRAINAGE CAPACITY OR RESULT IN FLOODING ON-SITE OR OFF-SITE

Both Sites

The Project would involve grading and construction, which would alter drainage patterns, increase impervious surfaces, and potentially increase peak storm water runoff from the sites. City policy requires that local storm drain systems be designed for a 25-year storm frequency for purposes of street flow and 100-year frequency for protection of structures. This means that during a 100-year storm, local streets and possibly private yards may be flooded but building floor elevations would remain above the flood waters. A detailed hydrology study will be required to demonstrate compliance with this policy, and the necessary drainage improvements must be installed concurrent with project construction.

La Floresta Village Site

The La Floresta Development is designed to incorporate adequate storm drain facilities (see Exhibit 5.7-5). The general existing drainage pattern will be retained

in conjunction with the implementation of the La Floresta Specific Plan. Storm water will be primarily directed into a closed drainage system and held in a detention basin in the northeastern portion of the site, prior to discharging into Carbon Creek Channel. This detention basin will require routine maintenance for the life of the project. Typically, the maintenance includes regular removal of vegetation and trash that could clog the outlets and less frequently removal of silts and sands that have settled in the basin. The drainage system for the site will include a combination of surface drainage and underground storm drain system, such that post-project conditions will not impact downstream facilities. The following mitigation measures would reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

HYD-3 Hydrology Study and Drainage Improvements

- a. *Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit a detailed hydrology study for review and approval by the City Engineer. The study shall demonstrate that the backbone mainline drainage system shall be designed to convey the 100-year design flow. The on-site non-mainline drainage system shall be designed to pick up and convey the 25-year storm flow.*
- b. *Prior to issuance of any occupancy permit, all drainage improvements shall be completed in a manner meeting the approval of the City Engineer.*

HYD-4 Runoff Management Plan

- a. *Prior to approval of any final subdivision map for the La Floresta Village development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation measures.*
- b. *Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.*

HYD-5 Drainage System Maintenance

The City shall maintain the underground mainline storm drain. Prior to recordation of any subdivision map for the La Floresta Village development the applicant shall, in a manner meeting the approval of the City Engineer,

form a Community Service Area covering the same area as the Master Homeowners Association for the purpose of maintaining the detention basins and non-mainline storm drain facilities.

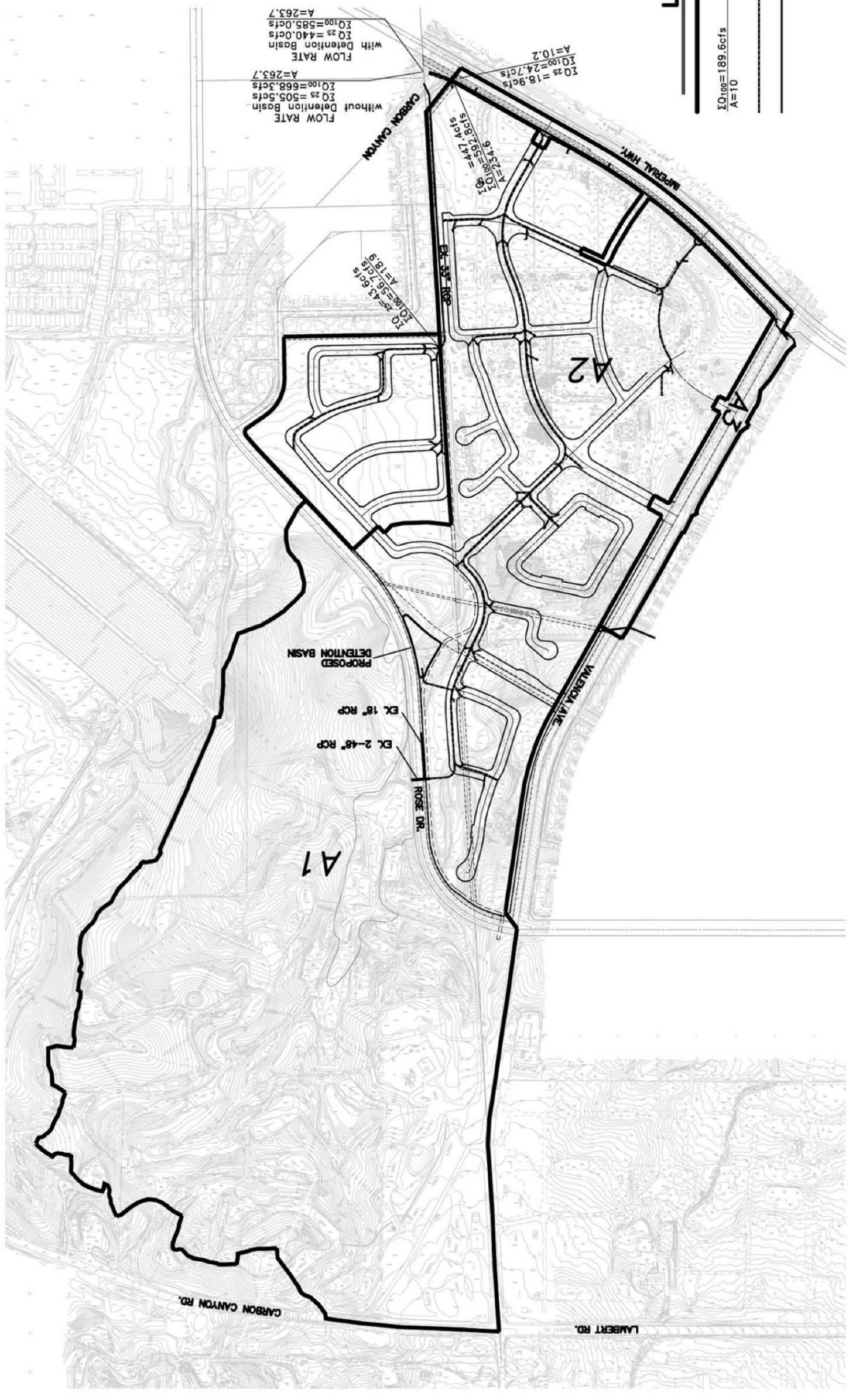
Level of Significance after Mitigation: Less than significant.

Birch Hills Site

The proposed hydrological conditions for the Birch Hills site are shown in Exhibit 5.7-6. A Preliminary Hydraulic Analysis has been prepared by Hunsaker & Associates, Inc. for the Loftus Diversion Channel (Hunsaker, November 10, 2006). The study utilized the 100-year high confidence (HC) and expected value (EV) storm frequencies to determine the before and after flow conditions within the channel. The report indicates that both the existing Q100 HC and EV storm event flows would exceed the existing capacity of the channel through the development. In the event of a Q100 EV storm, for both existing and post-Project conditions, channel flows are expected to flow across Kraemer Blvd. Within the Birch Hills Project limits, flows are expected to be contained within the limits of the maintenance roads on either side of the Channel. The Birch Hills development plan proposes to intercept the existing off-site flows from the City 48-inch storm drain and capture this and the run-off from the portion of the project northerly of the Loftus Channel in a retention basin. The retention basin would effectively reduce the peak flow into the channel from 236 cubic feet per second (cfs) to 21 cfs. This post-project reduction in runoff would reduce the Q100 EV discharge in the channel to such that the channel would have the capacity to convey the Q100 EV discharge. No capacity improvements are proposed for the Loftus Channel, since flow to the channel would not be increased as a result of this project. In addition, the project proposes to elevate all residential pads to a minimum of 1 foot above the potential flooding from the Loftus Channel during the Q100 HC storm event. Although no channel improvements are proposed at this time, the Hunsaker study indicates that the Birch Hills development would maintain adequate right of way for the ultimate improvement of the Loftus Channel to handle the 100-year storm. The following mitigation measures would reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

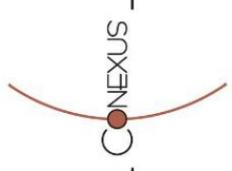
La Floresta Village: Proposed Hydrological Conditions



LEGEND

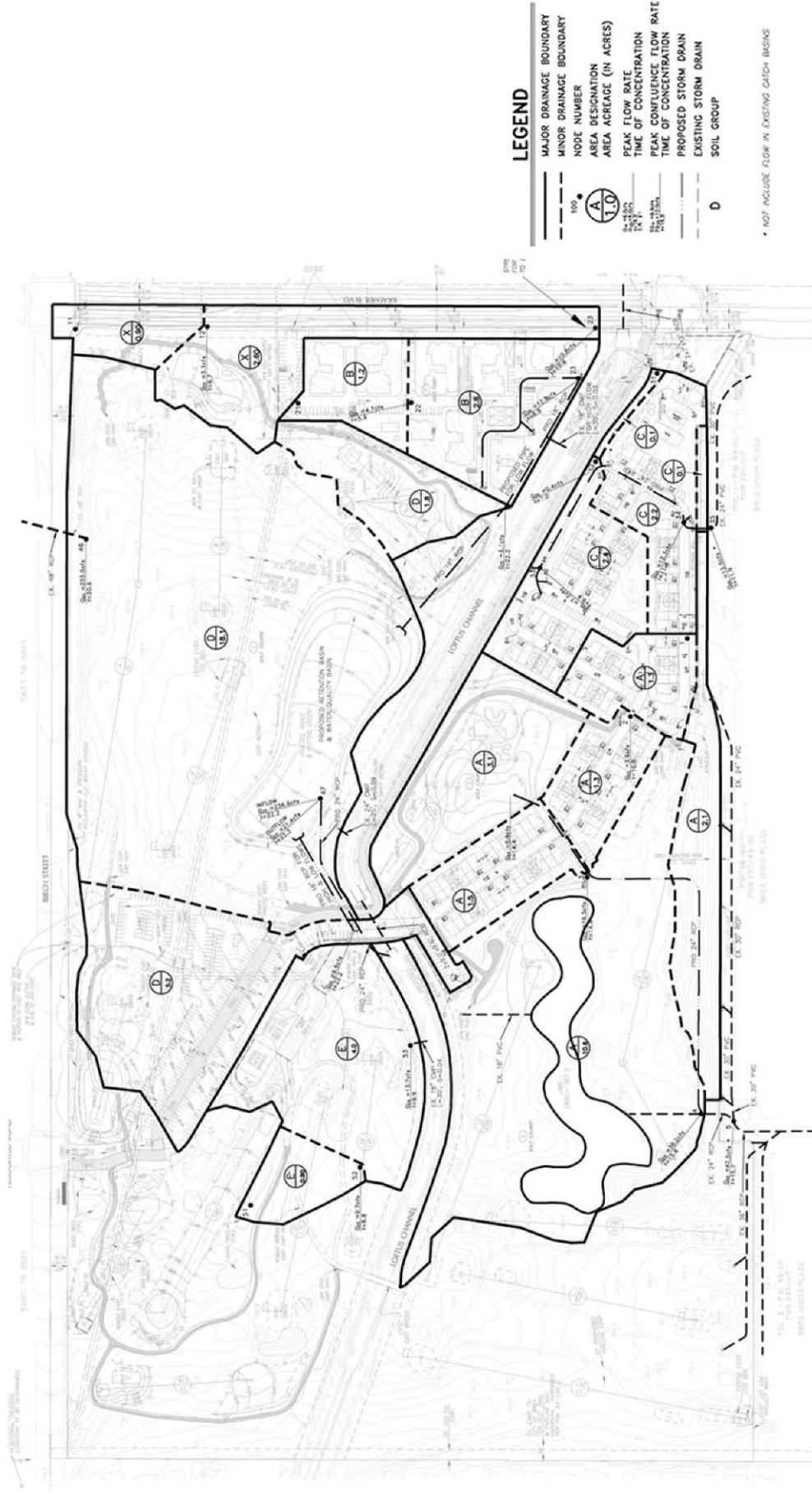
- DRAINAGE BOUNDARY
- PEAK FLOW RATE AREA (ACRES)
 $Q_{100}=189.6\text{cfs}$
 $A=10$
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN

Source: Hunsaker & Associates, November 2006



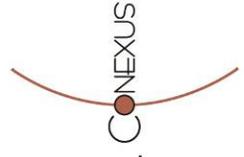
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Birch Hills: Proposed Hydrological Conditions



Source: Hunsaker & Associates, November 2006

▲ Not to Scale
 Exhibit 5.7-6



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Mitigation Measures:**HYD-6 Hydrology Study and Drainage Improvements**

- a. *Prior to any grading permit issuance or final map approval in the Birch Hills development, whichever occurs first, the final hydrology and hydraulic study and the final hydraulic analysis of the Loftus Diversion Channel shall be submitted to the City and County of Orange for review and comment, and the detailed drainage studies shall confirm that the project runoff is adequately accommodated. Drainage systems shall be engineered and designed so that post-development site runoff is conveyed to pre-development surface water conveyance features. Design and engineering must ensure that post-development peak flows from the site will not exceed peak flow currently exiting the site, or otherwise negatively impact the Loftus Channel. The studies shall demonstrate that the project shall be protected from the Q100 High Confidence Storm Event.*
- b. *Project plans shall incorporate detention basin(s) and storm drain facilities sufficient to maintain project flows to the channel at or below existing conditions to the satisfaction of the City Engineer, prior to issuance of grading permits for the Birch Hills development.*
- c. *Prior to any final map approval for the Birch Hills development, the applicant/owner shall consult with the Orange County Flood Control District (OCFCD) to identify requirements for any facility or property improvements planned for construction within the OCFCD channel easement. Such improvements shall be constructed to the satisfaction of the OCFCD and the City Engineer.*
- d. *Prior to issuance of any occupancy permit, all drainage improvements required shall be installed in a manner meeting the approval of the City Engineer.*

HYD-7 Runoff Management Plan

- a. *Prior to approval of any final subdivision map in the Birch Hills development (except for financial purposes) a detailed Runoff Management Plan (RMP) shall be developed and submitted for the review and approval of the City Engineer. The RMP shall include comprehensive runoff management and water quantity/quality control measures in order to address the multiple objectives of the development consistent with the project EIR mitigation measures.*
- b. *Prior to the issuance of any grading permits for phased improvements, applicant shall submit drainage calculations indicating the proposed drainage improvements are adequate to mitigate for project impacts as stated in the Runoff Management Plan to the City Engineer for review and approval.*

HYD-8 Drainage System Maintenance

The City shall maintain the underground storm drain and detention basin within the golf course. The Developer shall be responsible for maintaining all other on-site drainage infrastructure.

Level of Significance after Mitigation: Less than significant.

SIGNIFICANT RISK DUE TO FAILURE OF A LEVEE OR DAM

**La Floresta Village Site –
Carbon Canyon Dam
Inundation**

As noted previously, the Potential Flooding - Dam Inundation Act (California Government Code §8589.4) requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a “100-year flood⁴.” In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.⁵

The La Floresta Village site is within the Dam Failure Inundation Pathway for the Carbon Canyon Flood Control Dam (see Exhibit 5.7-3 – Dam Inundation Map on page 5.7-7). Policy PS-7.5 calls for the City to “Evaluate and monitor water storage facilities to determine which facilities are not self-contained and might pose an inundation hazard to downstream properties.” The “Flood Emergency Plan, Carbon Canyon Dam, General Report, December 1985” was prepared by the U.S. Army Corps of Engineers and is on file with the City of Brea Emergency Preparedness Coordinator and Orange County Sheriff Department. The following mitigation measure would reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

HYD-9 Potential Dam Failure Emergency Response Plan

Prior to approval of any final subdivision map or issuance of a building permit for the La Floresta Village development, the project proponent shall submit an Emergency Response Plan meeting the approval of the Brea Fire Department. The Plan shall provide emergency response protocols and

⁴ A 100-year flood means a storm that has a 1% chance of occurring in any given year.

⁵ <http://www.propertyrisk.com/refcentr/newsdam.htm>

<http://www.realtydisclosure.com/hazards/dam.htm>

shall also demonstrate compliance with the dam failure inundation buyer notification provisions of state law.

Level of Significance after Mitigation: Less than significant.

5.7.5 Cumulative Impacts

The context for cumulative impacts to hydrology and water quality is the proposed Project together with other projects within the same drainage basin. As noted in Section 5.7.2 – Setting beginning on page 5.7-1, the La Floresta Village site lies within the Carbon Creek drainage basin, which flows into the Santa Ana River. The Birch Hills site is located within the San Gabriel River/Coyote Creek Watershed.

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

Both Sites

The proposed Project and all other developments in the City are required to comply with General Plan policies regarding hydrology and water quality, and other applicable regulations. As a result, no significant cumulative impacts would be expected in this area.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CUMULATIVE IMPACTS TO WATER QUALITY

Both Sites

Build-out of the area through development of other related projects would incrementally add to changes in the Carbon Canyon Creek watershed (La Floresta) and San Gabriel River/Coyote Creek watersheds (Birch Hills), and impact the quality of surface waters. While the effect of any individual project would most likely be less than significant, the incremental effect of other related projects could be potentially significant. However, the required application of NPDES standards and best management practices, in addition to adequate flood control and drainage planning, would reduce and maintain potential cumulative impacts to less than significant levels. No significant project-specific impacts relative to water quality have been identified. The Project's contribution to cumulative impacts is less than considerable and, therefore, not cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CUMULATIVE IMPACTS TO FLOOD HAZARDS

Both Sites

Build-out of the area through development of other related projects would incrementally add to changes in the Carbon Canyon Creek watershed (La Floresta) and San Gabriel River/Coyote Creek watersheds (Birch Hills), and result in increases in impervious surfaces and associated urban runoff. These changes would have a direct effect on total volume of urbanized runoff and permeable area available for percolation to underlying groundwater tables, and could result in potentially significant cumulative flood hazards. However, both development sites will be required to prepare detailed hydrology studies and runoff management plans, and install drainage improvements that meet all applicable standards. In addition, both sites include retention basins to improve percolation and reduce storm water runoff. These requirements would reduce and maintain potential cumulative impacts to less than significant levels. No significant project-specific impacts relative to potential flooding have been identified. The Project's contribution to cumulative impacts is less than considerable and, therefore, not cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

La Floresta Village Site – Carbon Canyon Dam Inundation

As noted previously, the La Floresta Village site is within the Dam Failure Inundation Pathway for the Carbon Canyon Flood Control Dam. This potential hazard would not be affected by other projects in the vicinity; therefore, no potential cumulative impacts would occur related to this issue.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.7.6 Significant Unavoidable Impacts

Both Sites

With the implementation of the identified mitigation measures, all potential impacts would be reduced to a level that is less than significant.

5.8 Land Use and Planning

5.8.1 Methodology

The following section identifies applicable land use and housing policies and zoning regulations, and evaluates the consistency of the La Floresta Development Proposal at a broad policy level. Development plans on each site will require the subsequent approval of Precise Development Plans by the City of Brea, which involves detailed review to establish specific code compliance. Evaluation of the La Floresta Development Proposal relative to other Elements of the General Plan is addressed in the pertinent topical sections of this EIR.

In addition to land use and housing policy compliance, this section generally evaluates potential land use impacts that may be associated with traffic mitigation measures outlined in Section 5.12 of this EIR. Briefly, traffic analysis concluded that additional rights-of-way could be needed at two intersections – one in the City of Brea and one in the City of Placentia. Discussion of specific intersections affected, adjacent land uses, and a preliminary assessment of potential impacts is contained in the following sections. A final determination of right-of-way needs would be made when specific roadway design studies are carried out. In order to construct intersection improvements, additional review under CEQA would also be required when accurate design information is available.

5.8.2 Setting

PROJECT SITE CONDITIONS

La Floresta Village Site

The proposed La Floresta Village site is approximately 119 acres in size and is bounded by Imperial Highway (State Route 90) on the south, Valencia Avenue (State Route 142) on the west, and Rose Drive on the north and east, and is the former location of the UNOCAL Hartley Research Center, as illustrated in Exhibit 3.3-1 – Local Vicinity Map (page 3-5). The structures and improvements on the La Floresta Village site were removed under a ministerial permit issued by the City of Brea in March 2005.

Single-family residential areas, commercial, agricultural land and industrial uses adjoin the La Floresta Village site as illustrated in Exhibit 3.4-1 – La Floresta Village: Existing On-site and Surrounding Land Uses (page 3-9). Commercial, industrial, and office uses are located along the westerly boundary across Valencia Avenue; agricultural uses are located to the north across Rose Drive; single-family residential and the City of Yorba Linda are located to the east; and commercial and single-family residential are located to the south across Imperial Highway. The La Floresta Village site is situated approximately one mile downstream of the Carbon Canyon Dam and the Carbon Canyon Regional Park, which links to the Chino Hills State Park. The Brea-Olinda Landfill is located approximately 1.8 miles to the north of the site. A 40-acre site planned for a new K-6

school and active sports park is located immediately to the northwest of the La Floresta Village site at the intersection of Valencia Avenue and Birch Street.

The northern portion of the La Floresta Village site has been undeveloped and is characterized by rolling topography. It contains two easements of the Metropolitan Water District (40 feet and 50 feet in size) as well as the Southern California Gas Company (16.5 feet and 50 feet in size) and Southern California Edison easements (10 feet and 15 feet in size). Three regional trail connections are located on the site, two on Valencia Avenue, and one on Rose Drive, as illustrated in Exhibit 3.4-2 – La Floresta Village: Existing On-Site Planning Considerations (page 3-11). The southern portion of the La Floresta Village site has been previously developed as noted, and has relatively flat topography. A 21.4-acre strawberry field also remains on the eastern portion of the La Floresta Village site, and is considered an interim use. Exhibits 5.1-1a through 5.1-1d provide photographs of typical existing conditions on the La Floresta Village site.

Birch Hills Site

The Birch Hills site is approximately 91.3 acres in size and is located south of Birch Street at the southwest intersection of Kraemer Boulevard, as illustrated in Exhibit 3.3-1 –Local Vicinity Map (page 3-5). It is currently occupied by the Birch Hills Golf Course, which contains 18 holes on rolling topography and is owned by the Birch/Kraemer LLC and leased to the Imperial Golf Course. Single-family and multi-family residential neighborhoods abut the Birch Hills site to the west and north, as illustrated on Exhibit 3.4-3 – Birch Hills: Existing On-Site and Surrounding Land Uses (page 3-13). A 40-acre retail commercial center (Brea Union Plaza) abuts the Birch Hills site to the south, and light industrial uses are located east of the site.

The southern portion of the Birch Hills site was a part of the former Collier Chemical Plant site, which operated for 37 years between 1954 and 1991. The Loftus Flood Control Channel (varies in width up to 110 feet), owned and operated by the Orange County Flood Control District, traverses the site in a east to west direction. Two Southern California Gas Company easements (5 to 16.5 feet and 25 feet in width) are also located on the Birch Hills site. A 50-foot-wide recreational trail easement runs along the western site boundary with a regional trail connection located at the northwest corner of the site on Birch Street, as illustrated in Exhibit 3.4-4 – Birch Hills: On-Site Planning Considerations (page 3-15). Exhibits 5.1-3a through 5.1-3c provide photographs of typical existing conditions on the Birch Hills site.

LAND USE CONDITIONS AT INTERSECTIONS AFFECTED BY TRAFFIC MITIGATION

The recommended traffic mitigation measures outlined in Section 5.12 would require improvements at a total of five intersections – three in the City of Brea and two in the City of Placentia. Two of these locations would also require additional street right-of way to implement. These affected intersections are Imperial Highway/Kraemer Boulevard (Brea) and Bastanchury Road/Placentia Road (Placentia). Exhibit 5.12-11 (page 5.12-43) illustrates the location of these affected intersections, and existing land uses surrounding

these intersections is described below. A preliminary assessment of potential right-of-way takes is contained in Section 5.8.4, which follows.

- Imperial Highway/Kraemer Boulevard (Brea)

This intersection is located just south of the Birch Hills project site and has commercial/office land use on all four corners.
- Bastanchury Road/ Kraemer Boulevard (Placentia)

This intersection is surrounded by residential land use to the northwest and northeast, commercial land use to the southeast, and an elementary school (Sierra Vista Elementary School) to the southwest.

REGULATORY SETTING

City of Brea General Plan: Community Development Element – Land Use

Both Sites

The Community Development Element, Land Use subsection contains the following policies that are applicable to the La Floresta Development Proposal:

Citywide Policies

- *Policy CD-1.1: Create neighborhoods that effectively integrate single-family and multi-family housing with convenience and neighborhood shopping centers, park and recreation areas, and other uses appropriate to the neighborhoods.*
- *Policy CD-1.5: Provide opportunities for development of housing that responds to diverse community needs in terms of density, size, location design, and cost.*
- *Policy CD-1.6: Accommodate a broad range of business uses that provide employment at all income levels and that make a positive contribution to the City's tax base.*
- *Policy CD-1.7: Create and maintain linked open spaces and pedestrian access that serves the entire community.*
- *Policy CD 1.9: Encourage new development that is organized around compact, walkable, mixed-use neighborhoods and districts to conserve open space resources, minimize infrastructure costs, and reduce reliance on the automobile.*
- *Policy CD-1.15: Strongly encourage the master planning of any large contiguous land holdings.*

La Floresta Village Site

The Community Development Element, Land Use subsection contains the following policies that are applicable to the La Floresta Site:

Focus Areas

Specific goals and policies have been adopted in the General Plan for six distinct areas in the City of Brea. The La Floresta Village site is located in the Southeast Brea Focus Area. The following Focus Area Community Development Policies apply to this area:

- *Policy CD-9.1: Ensure that new commercial uses complement rather than compete with businesses along Imperial Highway and in Downtown.*
- *Policy CD-9.2: Accommodate emerging housing trends, and encourage pedestrian linkage to surrounding neighborhoods and activity centers.*
- *Policy CD-9.3: Encourage the establishment of community recreation and park facilities in the area.*
- *Policy CD-9.4: Support efforts to establish quality community institutions in the area.*
- *Policy CD-9.5: Provide quality affordable housing that would accommodate young families, college students, and educators.*
- *Policy CD-9.6: Preserve open space within the area and provide outdoor recreation facilities.*
- *Policy CD-9.7: Strongly encourage the master planning of any large contiguous land holdings in this area.*

City of Brea General Plan: Housing Element

Both Sites

The Housing Element of the General Plan contains policies that are applicable to the La Floresta Development Proposal, as identified below.

- *Policy 2.1: Use financial and/or regulatory incentives where feasible to encourage the development of affordable housing.*
- *Policy 2.2: Maintain the Inclusionary Housing Ordinance to ensure that new housing development provides a percentage of units affordable to low and moderate-income households or pay an in-lieu fee to support the provision of affordable housing.*
- *Policy 2.3: Provide homeownership assistance to low and moderate-income households.*
- *Policy 2.4: Support the provision of rental housing to accommodate large families.*

- *Policy 2.5: Facilitate the development of senior housing with supportive services.*
- *Policy 2.6: Encourage the construction of apartment complexes with strong on-site management.*
- *Policy 2.9: Partner non-profit organizations and affordable housing builders with for-profit developers.*
- *Policy 3.2: Facilitate development of a range of housing types in the City's specific plan areas, including Birch Hills, Brea Towne Plaza, Carbon Canyon, and Olinda Heights.*
- *Policy 3.5: Explore reuse opportunities on obsolete commercial or industrial sites, especially obsolete strip retail centers.*
- *Policy 3.6: Promote mixed-use development where housing is located adjacent to jobs, shopping, services, schools, and leisure opportunities.*

Birch Hills Specific Plan

Birch Hills Site

The Birch Hills site is the subject of a Specific Plan adopted by the City in September 1995. The plan covers the golf course site as well as what has since become Brea Union Plaza and a parcel located to the southwest on Imperial Highway. The Specific Plan designated the majority of the golf course area for Low Density Residential use. It is estimated that approximately 335 to 385 single-family dwelling units could be permitted on the 91.3-acre golf course under the Birch Hills Specific Plan. The more recent General Plan update and the EIR, however, assumed 263 single-family dwelling units on the Birch Hills site. (The boundary of the Low Density area does not correspond completely with the existing golf course.) A 7.5-acre park site was also planned.

A General Plan Amendment to change the current designation on the Birch Hills site from the Birch Hills Specific Plan to the appropriate land use designations has been filed. A Specific Plan Amendment may also be necessary to amend the Birch Hills Specific Plan to remove the site from the document.

City of Brea - Zoning

La Floresta Village Site

The City recently adopted a new MU-II Zone District in order to direct implementation of land use policy in mixed-use areas such as the La Floresta Village site. The purpose of the MU-II Zone is described as follows:

This zoning district provides opportunities for the coordinated development of urban villages that offer a diverse range of complementary land uses in close proximity to each other. The MU-II residential density range within the MU-II Zone is 6.1 to 40.0 dwelling units per acre. The maximum floor area ratio (FAR) is 2.0. Either

vertical or horizontal integration of uses is allowed, with an emphasis on tying together the uses with appropriate pedestrian linkages. Residential densities at the higher end of the scale will be allowed for developments that clearly integrate uses.

Land uses specifically prohibited from the MU-II zone include regional-serving retail uses, the manufacturing and processing of goods and materials, and warehousing.

Birch Hills Site

The Birch Hills site is currently zoned under the Birch Hills Specific Plan. An application has been filed to change the current zoning and to reflect the proposed Birch Hills plan, as illustrated in Exhibit 4.2-17 (page 4-79).

5.8.3 Thresholds of Significance

The following criteria are extracted from the most recent update of the California Environmental Quality Act (CEQA) and the Environmental Checklist Form pertaining to Land Use and Planning impacts. Would the project:

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

Evaluation conducted in the Initial Study found 'No Impact' relative to the La Floresta Development Proposal and physical division of an established community and relative to any habitat conservation plan or natural community conservation plan. Consequently, these topics are not further discussed in this EIR.

Land Use and Planning impacts could also be considered significant if aspects of the La Floresta Development Proposal were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.8.2 under "Regulatory Setting" (beginning on page 5.8-3).*

As described in the preceding section, traffic mitigation measures may also result in land use impacts. This topic is not covered in the CEQA Checklist. The following thresholds of significance have consequently been established by the City of Brea to evaluate impacts associated with additional right-of-way takes. The implementation of proposed intersection improvements would have a significant effect if:

- A substantial encroachment on any adjacent land use would occur that would disrupt/displace existing viable uses or structures or major improvements such as parking areas that would render existing uses infeasible.

5.8.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE PLANS AND REGULATIONS

City of Brea General Plan: Community Development Element – Land Use

Land Use policies applicable to the proposed project are listed in Section 5.8.2, Setting and are discussed below relative to each site.

La Floresta Village Site

The La Floresta Village site is designated for “Mixed Use II” on the current City of Brea General Plan. The City also recently adopted a new MU-II Zone District in order to direct implementation of land use policy in mixed-use areas such as the La Floresta Village site as noted previously.

The proposed La Floresta Village development would comply with Community Development Element – Land Use policies listed in Section 5.8.2 under “Regulatory Setting” (beginning on page 5.8-3) in that it is a master planned project that contains a range of single- and multi-family residential densities and dwelling types (including vertically integrated live/work dwelling units), allows for a range of support commercial and office land uses in close proximity to future residents, and incorporates a system of trail links, a linear park, and community recreation facilities.

The proposed residential densities range from 5.0 to 48.5 dwelling units per acre as illustrated in Table 4.2-1 – Statistical Overview of Proposed Development, La Floresta Village. The commercial/office component of La Floresta Village development is proposed at a Floor Area Ratio (FAR) of 2.0. The La Floresta Village development project would conform to MU-II permitted land uses and development intensity.

This analysis, however, only evaluates the consistency of the proposed La Floresta development project at a broad policy level. Plans for La Floresta Village development project will require the subsequent approval of Precise Development Plans by the City of Brea, which involves detailed review to establish specific code compliance.

Level of Significance: Potentially significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Less than significant.

Birch Hills Site

The Birch Hills site is designated “Birch Hills Specific Plan.” The proposed Birch Hills development project would require a General Plan Amendment to change the current

designation on the site from the Birch Hills Specific Plan to the appropriate land use designations. The proposed residential density of the Birch Hills development project ranges from 12 to 24.5 dwelling units per acre.

The proposed Birch Hills development project would comply with Community Development Element – Land Use policies listed in Section 5.8.2 under "Regulatory Setting" (beginning on page 5.8-3), in that it is planned to preserve and improve open space and recreation facilities available to the public, including a multi-use trail link along the Loftus Channel and a new community recreation facility while reconfiguring the existing public golf course. In addition, the proposed Birch Hills project incorporates both "workforce" rental housing and high-density market-rate "for-sale" housing integrated with the recreational setting. The proposed density of residential development essentially complies with the R3 – High Density Residential Zone as well.

This analysis, however, only evaluates the consistency of the proposed project at a broad policy level. Plans for the Birch Hills development plan will require the subsequent approval of Precise Development Plans by the City of Brea, which involves detailed review to establish specific code compliance.

Level of Significance: Less than Significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea General Plan: Housing Element

Housing policies applicable to the proposed project are listed in Section 5.8-2 under Regulatory Setting and are discussed below relative to each site.

La Floresta Village Site

The La Floresta Village development project would conform to General Plan housing policies listed in Section 5.8.2 under "Regulatory Setting" (beginning on page 5.8-3) in that the project would replace an obsolete industrial property with additional housing opportunities. The new development would include mixed-use development and senior housing, and would be subject to the City's Inclusionary Housing Ordinance.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The Birch Hills development project would conform to General Plan Housing Element policies listed in Section 5.8.2 under "Regulatory Setting" (beginning on page 5.8-3) in that the projects would provide additional housing opportunities where none currently exist.

The new development would be subject to the City's Inclusionary Housing Ordinance. A portion of the Birch Hills development is proposed for workforce housing for low- and moderate-income households, which would help the City meet its fair share of the regional housing need.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Specific Plan

Birch Hills Site

The proposed Birch Hills development project includes 75.6 acres of Open Space (a reconfiguration of the golf course) and 247 medium to high-density dwelling units. This is obviously more open space and less, although more dense, residential development than could occur under the Birch Hills Specific Plan. The Birch Hills Specific Plan would be amended to reflect the Birch Hills Illustrative Plan, as illustrated in Exhibit 4.2-17 (page 4-79, if the proposed project is approved, thereby eliminating an inconsistency in designated land use. Approval of a corresponding General Plan Amendment (GPA), a Zone Change (ZC), and a Development Agreement (DA) is also required to fully implement the Specific Plan Amendment (SPA). With these actions, no policy conflicts would occur.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea - Zoning

La Floresta Village Site

The La Floresta Village site is zoned MU-II (Mixed Use II). The proposed La Floresta Village project is considered to be consistent with the intent of the MU-II Zone in that it is a master planned development featuring neighborhoods that offer a diverse range of residential dwelling types and densities, ranging from 5.0-28.5 dwelling units per acre. The MU-II residential density range within the MU-II Zone is 6.1 to 40.0 dwelling units per acre. In addition, 156,800 square feet of commercial and office uses are incorporated in the development at an FAR of 2.0 or less. The maximum floor area ratio (FAR) permitted in the MU-II zone is 2.0.

Either vertical or horizontal integration of uses is allowed in the MU-II Zone, with an emphasis on tying together the uses with appropriate pedestrian linkages. The La Floresta Village development project includes 150 residential dwellings in the planned mixed-use area (PA 5) some of which would be live/work units in multi-story structures. As is shown in Exhibit 4.2-2 – La Floresta Village: Illustrative Site Plan (page 4-7), Exhibit 4.2-11a – La

Floresta Village: Conceptual Open Space Plan (page 4-61), and Exhibit 4.2-11b – La Floresta Village: Typical Linear Park Edge Conditions (page 4-63), respectively, an internal system of sidewalks, trails, and linear parks is planned, with links to nearby regional trail systems.

This EIR has not reviewed the proposed La Floresta Village development project for consistency with specific design guidelines and developments standards. This type of review is typically not included in the CEQA process, and will be performed by the City of Brea in the review of Precise Development Plans.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The Birch Hills site is currently zoned Birch Hills Specific Plan. The Birch Hills Specific Plan would be amended to reflect the Birch Hills Illustrative Plan, as illustrated in Exhibit 4.2-17 (page 4-79), if the proposed project is approved, thereby eliminating an inconsistency in designated land use and zoning. Approval of a corresponding General Plan Amendment (GPA), a Zone Change (ZC), and a Development Agreement (DA) is also required to fully implement the Specific Plan Amendment (SPA). With these actions, no zoning or policy conflicts would occur.

This EIR has not reviewed the proposed Birch Hills development plan for consistency with specific design guidelines and developments standards. This type of review is typically not included in the CEQA process, and will be performed by the City of Brea in the review of Precise Development Plans.

Level of Significance: Less than significant.

Mitigation Measures: None are required

Level of Significance after Mitigation: Not applicable.

5.8.5 Cumulative Impacts

Land use and housing policy impacts are considered within the overall framework of the General Plan, individual plan elements and specific policies and objectives pertaining to both sites. Land use impacts at specific intersections related to traffic mitigation have been examined in the context of projected Year 2025 traffic. Year 2025 is the horizon year for General Plan build-out.

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Community Development Element – Land Use

Both Sites

No conflicts with adopted land use plans or policies are anticipated with approval of requested entitlement actions. The La Floresta Development Proposal would provide additional housing opportunities, commercial and office and recreational facilities in compliance with City land use goals and policies. Together with other master planned developments in compliance with adopted plans and policies, the La Floresta Development Proposal would work toward achieving the land use vision of the General Plan.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea General Plan – Housing Element

Both Sites

The La Floresta Development Proposal would provide additional housing opportunities, including housing that is affordable to low- and moderate-income households. All residential development projects are reviewed for compliance with the policies of the Housing Element and applicability and compliance with the Inclusionary Housing Ordinance. Together with other residential developments providing similar opportunities, the La Floresta Development Proposal would help the City provide its fair share of the region's housing need for all income levels.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Specific Plan

Birch Hills Site

The proposed Birch Hills development project would require a General Plan Amendment to change the current designation on the site from the Birch Hills Specific Plan to the appropriate land use designations reflecting the Birch Hills Illustrative Plan, as illustrated in Exhibit 4.2-17 (page 4-79). Approval of this action would eliminate any inconsistency in designated land use. The proposed Birch Hills development project would thus comply with Community Development Element - Land Use policies listed in Section 5.8.2 under "Regulatory Setting" (beginning on page 5.8-3). No project-specific land use impacts

related to the Birch Hills Specific Plan have been identified. Similarly, no cumulative impacts related to the Birch Hills Specific Plan are anticipated.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea – Zoning

La Floresta Village Site

The proposed La Floresta Village development is consistent with existing MU-II zoning on the site. No project-specific impacts related to zoning have been identified. Similarly, no cumulative impacts related to zoning are anticipated with the La Floresta Village development.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The Birch Hills site is currently zoned Birch Hills Specific Plan. The Birch Hills Specific Plan would be amended to reflect the Birch Hills Illustrative Plan, as illustrated in Exhibit 4.2-17 (page 4-79), if the proposed project is approved, thereby eliminating an inconsistency in designated land use and zoning. Approval of a corresponding General Plan Amendment (GPA), a Zone Change (ZC), and a Development Agreement (DA) is also required to fully implement the Specific Plan Amendment (SPA). With these actions, no zoning or policy conflicts would occur. No project specific impacts related to zoning have been identified. Similarly, no cumulative impacts related to zoning are anticipated with the Birch Hills development.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

CUMULATIVE LAND USE IMPACTS AT INTERSECTIONS AFFECTED BY TRAFFIC MITIGATION

Both Sites

Imperial Highway/Kraemer Blvd.-Year 2025 (Brea)

The La Floresta development proposal is anticipated to result in less than significant changes in Intersection Capacity Utilization (ICU) at this intersection in the morning peak

hour period. During PM peak hour period, however, changes in ICU are estimated to result in changes in Level of Service (LOS) that would be considered a significant traffic impact according to established City of Brea thresholds. (Refer to Section 5.12 for detailed traffic and circulation analysis.) This intersection has commercial or office land use on all four corners. Additional right-of way would be required to accommodate project mitigation, which includes:

1. Addition of a northbound de facto right turn lane;
2. Addition of a separate eastbound right turn lane.

The addition of a de facto right turn lane at this intersection may be accommodated within existing rights-of way. Any additional rights-of-way acquisition to accommodate an additional separate eastbound right hand turn lane could encroach on developed commercial/office uses. Existing conditions have, however, been examined by City of Brea planning and traffic engineering staff on a preliminary basis. This review suggests that existing structural setbacks could accommodate the additional eastbound right turn lane without substantial impacts to adjacent uses. The proposed project would be responsible for payment of fair share costs of necessary improvements, which would be implemented through the City's Nexus traffic improvement program. In consideration of the preceding factors, the project's contribution to cumulative land use impacts related to traffic improvements at the intersection of Imperial Highway/Kraemer Boulevard is considered to be rendered less than cumulatively considerable, and therefore less than cumulatively significant. Additional CEQA review would, however, be required when specific intersection design and configurations are available.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Bastanchury Road/Placentia Avenue (Placentia).

The La Floresta Development Proposal is anticipated to result in less than significant changes in Intersection Capacity Utilization (ICU) in the morning peak hour period at this intersection. During the PM peak hour period, however, the La Floresta Development Proposal would result in ICU and Level of Service (LOS) changes that exceed thresholds established by the City of Brea. This intersection is located in the City of Placentia, and is surrounded by residential land use to the northwest and northeast, commercial land use to the southeast, and an elementary school (Sierra Vista Elementary School) to the southwest of the intersection. Additional right-of-way could be required to accommodate cumulative traffic mitigation, which includes:

1. Addition of a separate northbound right turn lane.

If any additional right-of-way acquisition on the northwest or northeast corners occurred, it could encroach on existing residential land uses. Improvements necessary to mitigate project traffic generation at this intersection would not allow the intersection to reach an acceptable Level of Service, but would mitigate the project's share of cumulative

impacts according to the traffic analysis presented in Section 5.12 of this EIR. The La Floresta Development Proposal is required to contribute its fair share to the mitigation of cumulative traffic impacts. Irrespective of project-related traffic impacts, however, land use impacts could remain potentially cumulatively significant unless a solution not requiring additional rights-of-way in sensitive locations is found acceptable by the City of Placentia.

If the proposed project is approved, it is established procedure for the City of Brea to negotiate acceptable mitigation with other impacted jurisdictions where appropriate. The City of Brea, along with the project applicant, will negotiate with the City of Placentia to determine alternative mitigation in the form of fair share fees or other means that avoid the physical take of additional rights-of-way or reduce them to a less than significant level in sensitive locations at the intersection of Placentia Avenue/Bastanchury Road. In consideration of the preceding factors, the project's contribution to cumulative land use impacts related to traffic improvements at the intersection of Placentia Ave/Bastanchury Road are considered to be rendered less than cumulatively considerable, and therefore less than cumulatively significant. Additional CEQA review would, however, be required when specific intersection design and configurations are available.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Less than significant.

5.8.6 Significant Unavoidable Impacts

Both Sites

No adverse General Plan land use or housing policy impacts have been identified.

No adverse land use policy or zoning impacts have been identified.

No significant land use impacts associated with traffic mitigation have been identified at intersections that may require additional rights-of-way takes.

5.9 Noise

5.9.1 Methodology

This chapter is based on the information contained in the "Noise Impact Analysis, La Floresta, City of Brea, California, October 17, 2006" prepared by Giroux & Associates. This report is provided in the Technical Appendix. The Public Safety Element of the Brea General Plan also provides an overview of noise conditions and policies in the city.

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The unit of sound pressure ratioed to the lowest sound level detectable by a young person with good auditory acuity is called a decibel (dB). Because sound or noise can vary in intensity by over one million times within the range of human hearing, decibels are a logarithmic progression used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called "A-weighting" written as dBA. Any further reference to decibels written as "dB" should be understood to be A-weighted.

Time variations in noise exposure are normally expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called Leq), or, alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

5.9.2 Setting

PROJECT SITE CONDITIONS

Both Sites

Noise measurements were made in order to document existing baseline levels in the area. These help to serve as a basis for projecting future noise exposure, both from projects upon the surrounding community and from ambient noise activity upon the proposed project. Short-term on-site noise measurements were conducted at six

locations surrounding the Project sites. The results of the measurements are shown below. The locations of the monitors are shown in Exhibit 5.9-1 and Exhibit 5.9-2.

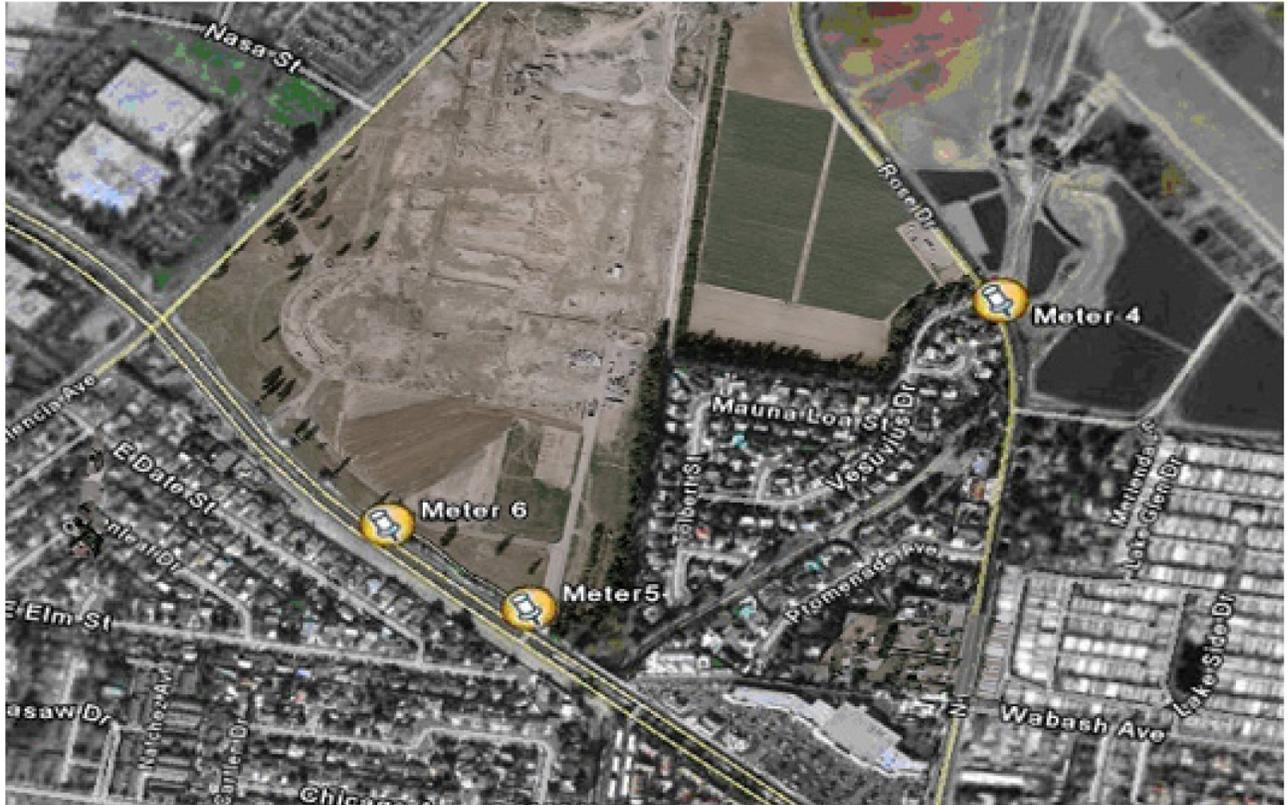
Monitoring experience has shown that 24-hour weighted CNELs are typically 2 to 3 dB higher than the mid-afternoon Leq readings shown below. Except for the Imperial Highway locale, the existing site perimeter noise levels are in the low 50 to mid 60 dB Leq range. This would translate into CNELs of 52 to 67 dBA. The two measurement sites along Birch Street may already experience CNELs above the allowed 65 dBA CNEL exterior residential threshold. The measurements along Imperial Highway show a CNEL of about 71 dB CNEL at 75 feet from the roadway centerline. This would translate into distance adjusted noise level of about 73 dB CNEL at 50 feet from the centerline, which closely correlates to the predicted traffic noise levels found later in this chapter.

**Table 5.9-1
Short-Term Noise Measurements (dB[A])**

Site	Time	Leq	Lmax	Lmin	L ₁	L ₀₈	L ₂₅	L ₅₀
1	1:00-1:15	50.1	58.5	46.0	51.5	50.0	49.0	47.0
2	1:27-1:42	64.0	71.5	47.0	68.0	64.5	61.5	57.5
3	1:50-2:05	64.1	74.0	47.5	67.5	64.0	62.5	52.5
4	2:20-2:35	57.1	68.0	46.0	59.0	56.0	54.5	50.0
5	3:05-3:20	68.6	76.5	50.5	72.0	69.0	67.5	61.5
6	3:24-3:39	69.2	80.5	46.0	72.5	69.5	67.5	59.5

- Site 1: Intersection of Devonshire and Chevy Chase
Meter placed on eastern sidewalk
- Site 2: Rear Patio/Nearest residence/Country Hills Apartments
North Side of Birch/ 25 Yards to Roadway Centerline
- Site 3: Rear Yard/Single Family Homes on Raintree Drive/Yard Faces Birch Street
North Side of Birch/ 24 yards to Roadway Centerline
- Site 4: Agricultural Field/Southwest Corner- Intersection Rose Dr. and Vesuvius Dr.
Near Backyards-Closest Residences
- Site 5: 3575 E. Imperial Hwy (former UNOCAL site)
75 yards from Imperial Hwy centerline.
- Site 6: Imperial Hwy (former UNOCAL site)
East of Site 5, 70 yards from Imperial Hwy centerline.

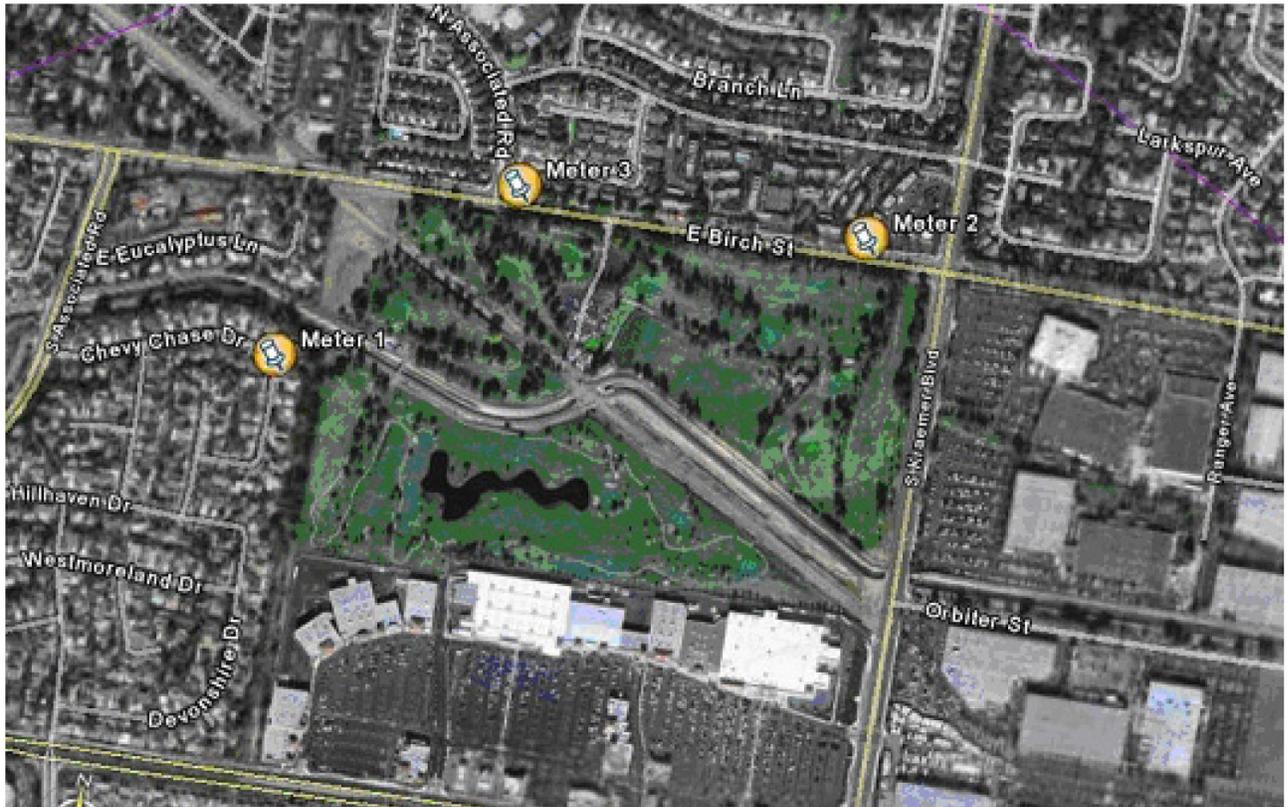
Noise Monitoring Locations - La Floresta Village



Source: Giroux & Associates, October 2006

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Noise Monitoring Locations - Birch Hills



Source: Giroux & Associates, October 2006

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REGULATORY SETTING

City of Brea General Plan: Public Safety Element

Both Sites

The Public Safety Element contains the following policies that are relevant to this Project:

- *Policy PS-9.1: Evaluate the need to require acoustical studies for development proposals that address both direct and indirect, particularly traffic, noise impacts, and require such studies, with appropriate mitigation included, as warranted.*
- *Policy PS-9.3: Ensure that acceptable noise levels are maintained near schools, hospitals, convalescent homes, and other noise sensitive areas in accordance with the City's Municipal Code and noise standards contained in the General Plan.*

The State of California has established guidelines for acceptable community noise levels that are based upon the CNEL rating scale. The guidelines rank noise/land use compatibility in terms of “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable” noise levels for various land use types. In the Public Safety Element of the General Plan, the City of Brea has adopted slightly more stringent exterior noise/land use compatibility guidelines than those used by the State of California. The City of Brea noise/land use compatibility guidelines have been used in the analysis of the proposed Project.

CNEL-based standards are used to make land use decisions as to the suitability of a given site for its intended use. They apply to those noise sources not amenable to local control such as on-road traffic, aircraft, trains, etc. Because cities cannot regulate the noise created by such sources, they control the types of land use or levels of mitigation required by the receiving property. These noise compatibility standards are shown in Table 5.9-2.

The noise/land use compatibility standards consider exterior exposures up to 60 dBA CNEL “normally acceptable” for multi-family residential use, and exposures of up to 65 dB “conditionally acceptable.” Commercial and office buildings are considered “normally acceptable” with exposures of 65 dBA CNEL as well, though they are allowed a 75 dBA threshold for “conditionally acceptable.” “Conditionally acceptable” requires closed windows and fresh air supply systems or air conditioning.

Exterior standards apply to normally used recreational exterior space (patio, porch, pool/spa, etc.). They are also a guide to likely interior noise exposure based on the structural attenuation normally achievable with various types of construction.

Though the City of Brea's General Plan does not specifically call out interior noise standards, for the purposes of this analysis, a weighted noise exposure of 45 dBA CNEL was selected as the guideline level for single- and multi-family dwelling units. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dBA CNEL for exterior and 45 dBA CNEL for interior is generally the land use compatibility guideline for new residential dwellings in Brea.

**Table 5.9-2
Brea Land Use Compatibility Guidelines for Exterior Community Noise**

Land Use	Community Noise Exposure CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50-60	60-65	65-75	Above 75
Multi-Family Homes	50-60	60-65	65-75	Above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-70	70-80	Above 80
Transient Lodging: Motels, Hotels	50-60	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	-	50-65	-	Above 65
Sports Arena, Outdoor Spectator Sports	-	50-70	-	Above 70
Playgrounds, Neighborhood Parks	50-70	-	70-75	Above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	-	70-80	Above 80
Office Buildings, Business and Professional Commercial	50-65	65-75	Above 75	-
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-80	Above 80	-
<p>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.</p> <p>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.</p> <p>Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.</p> <p>Clearly Unacceptable: New construction or development should generally not be undertaken.</p>				
Source: Brea General Plan (Fig PS-6)				

City of Brea Municipal Code

Both Sites

CNEL-based standards are the land use planning standards that are applied to noise sources for which the City of Brea is pre-empted from exercising local control. These sources include on-road traffic and train noise. Those noise sources that are amenable to local control are regulated by the City of Brea Municipal Code (Chapter 8.20.050). The ordinance establishes allowable levels of sound that may cross any adjacent property line, as well as prohibiting general nuisance noise and identifying a number of specific prohibitions. The City of Brea Municipal Code exterior and interior noise standards are summarized in Table 5.9-3 and Table 5.9-4 below:

**Table 5.9-3
City of Brea Noise Ordinance Exterior Standards (dBA)**

Land Use	Time Period	Not to be exceeded for:				
		30 min.	15 min.	5 min.	1 min.	0 min.
Exterior Residential Uses	7:00 a.m. – 10:00 p.m.	55	60	65	70	80
	10:00 p.m. – 7:00 a.m.	50	55	60	65	70

**Table 5.9-4
City of Brea Noise Ordinance Interior Standards (dBA)**

Land Use	Time Period	Not to be exceeded for:		
		5 min.	1 min.	0 min.
Interior Residential Uses	7:00 a.m. – 10:00 p.m.	55	60	65
	10:00 p.m. – 7:00 a.m.	45	50	55

Construction activities are exempt from these standards if they occur between 7:00 a.m. and 7:00 p.m. (Monday through Saturday), excluding federal holidays (8.20.070).

The Ordinance also states that, while schools, hospitals, and churches are in use, it is unlawful to create any noise which causes the noise level to exceed the Brea exterior standards (8.20.090).

5.9.3 Thresholds of Significance

According to the current CEQA Appendix G guidelines, noise impacts are considered potentially significant if they cause:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Noise levels exceeding the City of Brea Noise Standards would be considered significant.

- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- 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 expose people residing or working in the project area to excessive noise levels?
- f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

In addition to these criteria, conflict with a General Plan policy would be considered a significant impact.

CEQA Guidelines also identify potential impact significance due to aircraft noise. There are no airports within any reasonable noise impact distance from the proposed project area.

Construction noise is typically governed by ordinance limits on allowable times of equipment operations. The City of Brea Noise Ordinance (Section 8.20.070) limits the hours of construction operation to be between the hours of 7 a.m. and 7 p.m. Monday through Saturday. No construction activity is allowed on Sundays and Federal holidays.

The NOP (Appendix A) determined that the following issues would have no impacts; therefore, they are not addressed in this EIR.

- *Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels*
- *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*
- *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

5.9.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Public Safety Element

Both Sites

The Project would conform to applicable General Plan policies. An acoustical study has been prepared; therefore, Policy PS-9.1 has been satisfied. The following sections analyze the project's conformance with Policy PS-9.3 and applicable General Plan and Noise Ordinance standards.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures N-1 through N-4 below.

Level of Significance after Mitigation: Less than significant.

CONSTRUCTION NOISE IMPACTS

Both Sites

Temporary construction noise impacts vary markedly because the noise level of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated initially by earth-moving sources, then by foundation and parking area construction, and finally for finish construction.

Exhibit 5.9-3 shows the typical range of construction activity noise generation as a function of equipment used in various building phases. The earth-moving sources are seen to be the noisiest with equipment noise ranging up to about 90 dBA at 50 feet from the source. Several pieces of equipment operating in close proximity may create a combined noise level of around 93 dB. Spherically radiating point sources of noise emissions are atmospherically attenuated by a factor of 6 dB per doubling of distance, or about 20 dB in 500 feet of propagation. The loudest earth-moving noise sources will therefore sometimes be detectable above the local background beyond 1,000 feet from the construction area. An impact radius of 1,000 feet or more pre-supposes a clear line-of-sight and no other machinery or equipment noise that would mask project construction noise. With buildings and other barriers to interrupt line-of-sight conditions, the potential "noise envelope" around individual construction sites is reduced. Construction noise impacts are, therefore, somewhat less than that predicted under idealized input conditions.

Because of close proximity, construction noise impacts would most likely affect the exterior nearby residential uses to the south and southeast of the La Floresta Village site, and to the north and west of the Birch Hills site. Construction noise from the La Floresta Village site will be masked to some extent by roadway traffic noise on Imperial Highway. Traffic noise on Birch Street will mask the Birch Hills site construction noise, but perhaps not as substantially as along Imperial Highway.

Level of Significance: Potentially significant.

The City of Brea Noise Code limits construction activity noise generation to the hours of 7 a.m. to 7 p.m. on Monday through Saturday, with no construction on Sundays or Federal Holidays. These hours are included as conditions on any grading permits and these limits will serve to minimize any adverse construction noise impacts. In addition, the following mitigation measure would further reduce impacts from construction noise to a level that is less than significant.

Mitigation Measures:

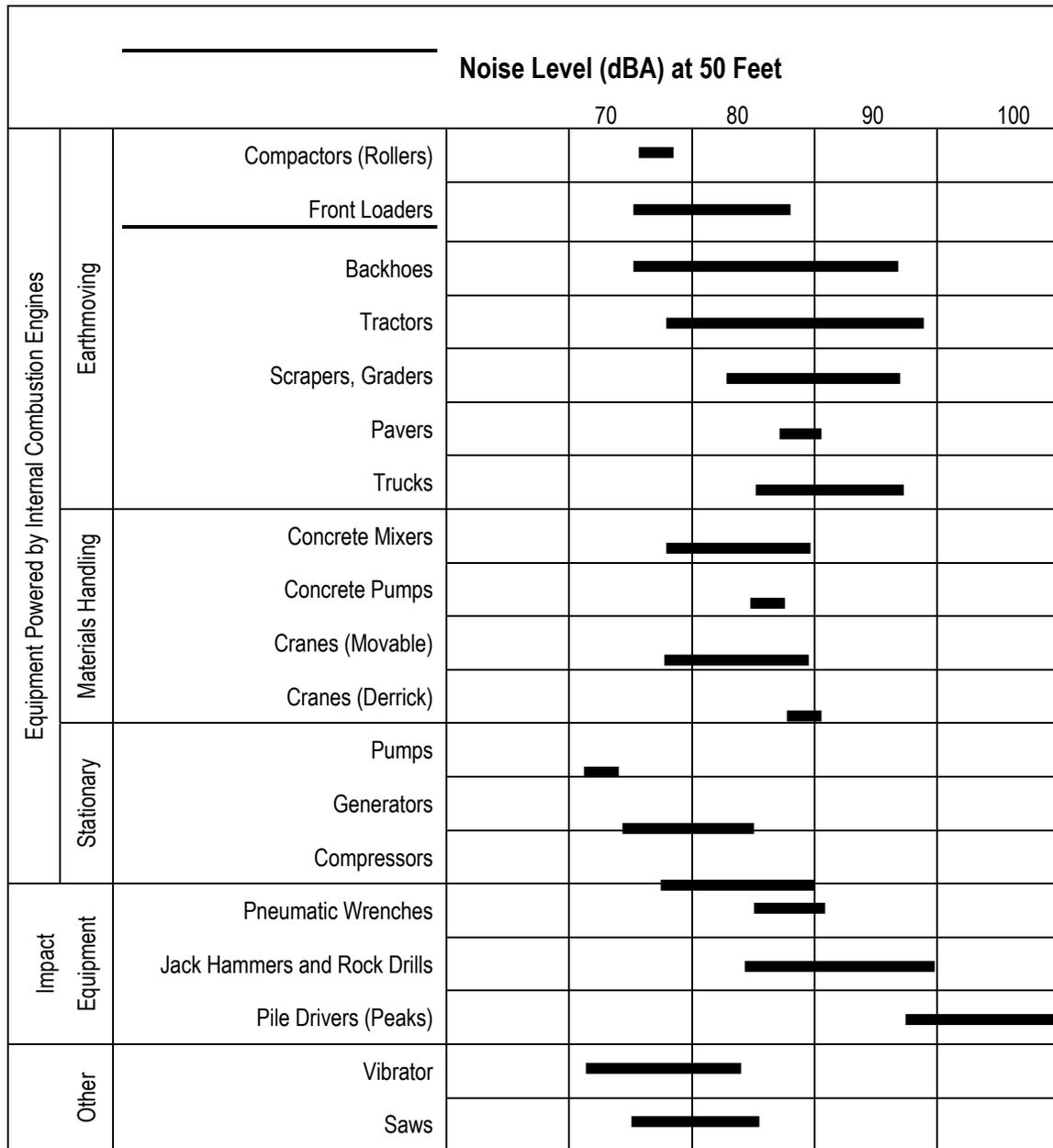
N-1 Construction Noise Mitigation

In addition to compliance with the limits on construction hours set forth in the Municipal Code, the applicant shall adhere to the following requirements, which shall also be placed as conditions on any grading or building permit:

- a. *All construction staging areas shall be located as far as feasible from existing residences or other noise-sensitive uses.*
- b. *All construction equipment shall be fitted with properly operating mufflers.*

Level of Significance after Mitigation: Less than significant.

Exhibit 5.9-3 Typical Construction Equipment - Noise Generation Levels



Source: EPA PB 206717, Environmental Protection Agency, December 31, 1971, "Noise from Construction Equipment and Operations."

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FILL HAULING IMPACTS

Both Sites

Construction at the two project sites will require the import of 125,000 cubic yards of fill material. The fill trucks will travel along the 57 Freeway, and then along Imperial Highway to the sites (turning north on Kraemer to the Birch Hills site). Haul truck capacity is approximately 25 cubic yards for a bottom dump and trailer. The import of fill will require 5,000 truck trips. For purposes of analysis, fill import has been assumed to occur over 50 work-days (two months). Under this assumption, the average daily trucking activity would be 100 trips, or 2,500 cubic yards per day, with assumed average daily trucking activity level along site access roads as follows:

Imperial Highway/	
W of Kraemer	200 trips
Kraemer-Valencia	160 trips
E of Valencia	160 trips
Kraemer Boulevard/	
N of Imperial Highway	40 trips

The geographic context for fill hauling noise impacts is other areas within the haul radius for the Project. The precise source of fill material and haul routes will not be identified until construction begins and available sources of fill material are found. Potential noise impacts due to truck traffic to and from the Project sites could result in some noise impacts. However, the noise analysis indicated that additional noise from fill hauling would be in the range of 0.1 to 0.2 dB adjacent to the Project sites, which is far below perceptible levels. In consideration of the preceding factors, noise from fill hauling activities is considered less than significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

LONG-TERM PROJECT-GENERATED VEHICULAR NOISE IMPACTS ON SURROUNDING AREAS

Both Sites

Long-term noise concerns from the increase of residential, retail, and office uses at the Project sites center primarily on mobile source noise emissions along roadways. These concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the Leq noise level for a particular reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, roadway speeds, or noise barriers.

Table 5.9-5 summarizes the 24-hour CNEL level at 50 feet from the roadway centerline along 46 roadway segments. Seven traffic scenarios were evaluated; existing conditions, 2012 without the Project, 2012 with the Project, 2025 without the Project, 2025 with Birch Hills only, 2025 with La Floresta Village only and 2025 with the entire Project.

As seen in Table 5.9-5, existing traffic noise levels in the Project vicinity are currently elevated, with all roadway segments except along more lightly traveled Golden Avenue currently exceeding 65 dBA CNEL at 50 feet from the centerline. By 2025, well after Project build-out, most segments will see traffic noise increases from area growth. Because the area is mostly built out, traffic volume changes from infill projects like the La Floresta Project will not substantially alter the noise environment. By 2025 all but one of the 46 roadway segments analyzed will exceed 65 dBA CNEL at 50 feet from the centerline, even without Project implementation.

This analysis looks at two types of noise impacts to the community. The cumulative acoustical change is the change between existing noise levels and future noise at the same location. Cumulative impacts derive from area growth and growth from the Project. The Project-only impacts are the incremental change the Project adds for a given year at the same location. Within the Project-only category, alternatives involving implementation of the several different land uses including "Birch Hills only" or "La Floresta Village only" were examined. Here, elimination of only a portion of the Project was contrasted to implementation of the Project in its entirety.

Table 5.9-5
La Floresta Traffic Noise Impact Analysis
(dBA CNEL at 50 feet from centerline)

Segment	Existing	2012 Base	2012 w/ Project	2025 Base	2025 w/ Birch Hills Only	2025 w/ LF Village Only	2025 w/ Project
East-West Segments							
Lambert Road/ W of SR-57	75.7	76.0	76.0	76.6	76.6	76.6	76.6
SR-57 - Pointe	74.1	74.6	74.6	75.3	75.3	75.3	75.3
Pointe-Associated	73.0	73.5	73.6	74.2	74.2	74.2	74.3
Associated-Kraemer	73.0	73.5	73.6	74.4	74.5	74.5	74.5
Kraemer-Valencia	71.1	72.2	72.2	73.8	73.8	73.8	73.8
Carbon Cyn Rd/Valencia	70.9	71.6	71.8	72.9	73.0	73.0	73.0
Birch St/ SR-57-Associated W	72.2	72.5	72.5	72.9	72.9	72.9	72.9
Associated W-Associated E	71.8	72.2	72.5	72.8	72.9	72.9	73.0
Associated-Kraemer	70.6	71.3	71.3	72.2	72.2	72.2	72.2
Kraemer-Valencia	69.0	69.0	69.0	69.0	69.0	69.0	69.0
Imperial Hwy/ W of SR-57	76.0	76.4	76.4	76.9	76.9	76.9	76.9
SR-57-Associated	75.6	75.8	76.0	76.1	76.2	76.2	76.3
Associated -Placentia	74.7	74.8	75.0	75.1	75.1	75.2	75.2
E of Placentia	74.5	71.1	71.5	75.6	75.6	75.8	75.8
W of Kraemer	74.5	74.7	74.8	74.9	74.9	75.1	75.1
Kraemer-Valencia	74.0	74.2	74.6	74.7	74.7	75.0	75.0
Valencia-Rose	73.4	73.8	74.1	74.4	74.5	74.7	74.7
E of Rose	74.3	74.3	73.9	74.3	74.3	73.9	73.9
Golden Ave/ Kraemer-Valencia	64.8	64.8	64.8	65.6	65.6	65.6	65.6
Valencia-Rose	62.6	62.6	62.6	62.6	62.6	60.9	62.6

**Table 5.9-5 (cont.)
La Floresta Traffic Noise Impact Analysis
(dBA CNEL at 50 feet from centerline)**

Segment	Existing	2012 Base	2012 w/ Project	2025 Base	2025 w/ Birch Hills Only	2025 w/ LF Village Only	2025 w/ Project
Bastanchury Rd/ W of Placentia	70.4	70.9	70.9	71.6	71.6	71.6	71.6
Placentia-Kraemer	71.6	72.3	72.5	73.3	73.4	73.4	73.4
Kraemer-Valencia	69.6	70.1	70.4	70.9	70.9	71.1	71.1
E of Valencia	68.6	69.3	69.3	70.6	70.6	70.6	70.6
W of Rose	69.0	69.9	69.9	71.1	71.1	71.1	71.1
E of Rose	68.6	68.6	67.4	68.6	68.6	67.4	67.4
North-South Segments							
Associated Rd/ Lambert-Birch	66.9	67.4	67.4	67.8	67.8	67.8	67.8
Birch-Imperial	69.9	69.9	69.9	69.9	69.9	69.9	69.9
Imperial-SR-57	67.4	67.4	67.4	67.8	67.8	67.8	67.8
Placentia Ave/ Rolling Hills-Bastanchury	67.8	67.8	67.8	68.3	68.3	68.3	68.3
Kraemer Ave/ Lambert-Birch	69.6	70.9	70.9	72.6	72.6	72.5	72.6
Birch-Imperial	70.9	71.6	71.8	72.9	72.9	73.0	73.0
S of Imperial	71.1	71.6	71.6	72.5	72.5	72.5	72.5
N of Golden	71.1	71.1	71.1	71.8	71.8	71.8	71.8
S of Golden	71.3	71.6	71.8	72.5	72.5	72.5	72.6
N of Bastanchury	70.9	71.3	71.5	72.2	72.3	72.3	72.3
Valencia Ave/ N of Lambert	65.6	67.8	67.8	69.0	69.0	69.0	69.0
Lambert-Birch	70.6	70.9	71.1	71.5	71.5	71.6	71.6
Birch-Imperial	67.8	67.8	67.8	67.8	67.8	68.6	68.6
S of Imperial	66.3	66.3	66.3	66.3	66.3	66.3	66.3
N of Golden	65.6	65.6	65.6	65.6	65.6	65.6	65.6
Golden-Bastanchury	67.4	67.4	67.8	67.4	67.4	67.8	67.8
Rose Dr/ S of Birch	70.1	70.6	70.9	71.5	71.5	71.6	71.6
N of Imperial	69.6	69.9	70.1	70.6	70.6	70.9	70.9
Imperial-Golden	69.6	69.6	68.3	69.6	69.6	68.3	68.3
S of Bastanchury	70.1	70.1	69.3	70.1	70.1	69.3	69.3

PROJECT ONLY COMPARISON IMPACTS

“Project” versus “No Project” in 2012. The project does not significantly affect the noise forecast in year 2012. Because of the logarithmic nature of sound, it would take a large impact in traffic to produce even a small change in the noise environment. Project implementation causes a maximum traffic noise impact of +0.4 dB on the segments studied. This is not significant.

“Project” versus “No Project” in 2025. This comparison shows that the maximum project traffic noise contribution in 2025 in the Brea area is +0.8 dB on any segments analyzed. This segment is on Valencia between Birch and Imperial. Addition of the project at area build-out contributes negligibly to the noise environment.

2025 “Birch Hills Only” versus 2025 “Entire Project.” This alternative, which eliminates the La Floresta Village portion of the project, does little to the overall noise environment. About half of the segments analyzed see no change. Many segments would see a very small reduction in noise of -0.1 dB or -0.2 dB if the La Floresta Village development were eliminated, with one segment experiencing a -0.8 dB reduction. This segment is at Valencia Avenue between Birch and Imperial. Elimination of the La Floresta Village development while retaining the Birch Hills development would have a very minor improvement in area noise and likely would not be noticeable.

2025 “La Floresta Village Only” versus 2025 “Entire Project.” Predictably, because the Birch Hills portion of the project is small in comparison to the entire Project, its elimination would do little to reduce noise impacts. About 40 of the 46 roadway segments analyzed would see no change in noise. Five of the remaining segments would see a very minor improvement of -0.1 dB. The remaining segment, Golden Avenue between Valencia and Rose would see a modest improvement of -1.7 dB noise. Implementation of this scenario would not lead to a significant improvement in area wide noise and would not be noticeable.

CUMULATIVE COMPARISON IMPACTS

2012 “No Project” versus Existing. Contrast of these two time frames shows most roadway segments will see modest increases in traffic noise levels. Of the 46 segments; 15 will have no change, 29 will have increases of less than 1.0 dB, and 2 will have increases greater than +1.0 dB. The largest increase +1.3 dB, will occur on Kramer between Lambert and Birch. This is not significant.

2012 “Project” versus Existing. This analysis yields similar results to that above. Of the 46 segments; 10 will experience no change, 35 will see a change less than 1.0 dB, and 1 will see an increase of +1.3 dB, also on Kramer between Lambert and Birch. This is not significant.

2025 “No Project” versus Existing. Of the 46 segments; 11 would see no change, 16 would see a change between 0 to +1.0 dB, 15 between +1.0 to +2.0 dB, and 4

over +2.0 dB. The maximum increase of +3.0 dB occurs on Kramer between Lambert and Birch. This increase is at, but does not exceed, the +3B threshold, and therefore is not significant.

2025 “Project” versus Existing. This is the most extreme comparison possible for this project with the data provided. Existing traffic is contrasted with area build-out traffic volumes in 2025 “with project.” Here 5 segments see no change in traffic noise, 13 see increases between 0 and +1.0 dB, 17 see increases between +1.0 to +2.0 dB and 3 greater than +2.0 dB. As above, the maximum increase of +3.0 dB occurs on Kramer between Lambert and Birch. As before, this increase is not significant.

Level of Significance: Less than significant.

All of the above comparisons demonstrate that the Project would not pose a significant noise impact to the community, either cumulatively or individually. Even the worst possible scenario, contrasting 2025 “Build-out with Project” versus “Existing Conditions” shows a maximum noise increase of +3 dB. As seen in Table 5.9-5, the Project itself will not cause any roadway segment to exceed the 65 dBA CNEL noise threshold at 50 feet from roadway centerline that would not do so without the Project. Individual Project-related noise impacts will be less-than-significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

LONG-TERM VEHICULAR NOISE IMPACTS ON THE PROJECT SITES

Exterior Noise Levels

Because both project sites are adjacent to highly traveled and therefore noisy roads, particularly Imperial Highway (SR-90) and Kraemer Avenue, care must be taken in siting residential uses. The City of Brea has established 65 dBA CNEL as the allowable “conditionally acceptable” exterior noise level for residential uses. From the 50 ft CNEL data provided in Table 5.9-5, the distance required to attenuate to 65 dBA CNEL is calculated and reported in Table 5.9-6. To ensure that traffic noise will not exceed 65 dBA CNEL at any residential property line, useable outdoor space would need to be set back at the noted distance from the road centerline. If any sensitive receivers (such as residential yards or patios) are sited within these 65 dBA CNEL contours, they would require mitigation of usable outdoor space in order to comply with City standards.

La Floresta Village Site

The La Floresta Village site is bordered by Valencia Avenue, Rose Drive, and Imperial Highway. As shown in Table 5.9-6 (page 5.9-22), the 65 dB CNEL noise contour along Valencia between Birch and Imperial would be estimated to extend 88 feet from the centerline of the street by the year 2025, assuming regional growth and the La Floresta

project. Along Rose Drive south of Birch, this contour lies 139 feet from the centerline, and along Imperial Highway between Valencia and Rose the 65 dB contour is projected to be 220 feet from the centerline. Since residential development is proposed adjacent to each of these streets, significant noise impacts to exterior living areas could occur if these areas are located within the noise contours described above, and therefore mitigation would be necessary. The noise wall analysis summarized in Table 5.9-7 indicates that walls ranging from 5.5 feet to 8 feet in height would reduce noise to acceptable levels in these locations. Mitigation Measure N-2 would satisfy this requirement and reduce potential impacts to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

N-2 Exterior Noise Mitigation

Prior to approval of any final map for property adjacent to a perimeter arterial roadway (except maps for financing purposes only) the applicant shall submit an acoustical analysis demonstrating that noise levels in all outdoor living areas will conform to the City standard of 65 dBA CNEL. If sound attenuation walls are required to satisfy this requirement, the location and design of the walls shall be shown on the map and a note shall be placed on the map stating that an interior acoustical analysis will be required prior to issuance of a building permit for dwellings adjacent to perimeter walls. The analysis shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official.

Level of Significance after Mitigation: Less than significant.

Birch Hills Site

The proposed Birch Hills residential development is adjacent to Kraemer Avenue between Birch and Imperial Highway. The existing 65 dBA noise contour along this segment of Kraemer Avenue is approximately 125 feet from the centerline, and by 2025 this contour is estimated to expand to 170 feet as a result of regional traffic increases without the Project. The addition of the proposed Project would be minor in comparison to regional traffic and therefore would not measurably change this noise contour. If outdoor living areas were located further than 170 feet from the centerline, no significant noise impacts would occur. However, if living areas were located within this 170-foot contour, noise mitigation would be required. Table 5.9-7 indicates that a sound wall 6.5 feet high located 60 feet from the centerline of the street would reduce the 65 dBA noise impact zone to within 70 feet of the roadway centerline. Therefore, if a wall were built in this location no significant noise impacts would occur to outdoor living areas. Mitigation Measure N-2 would satisfy this requirement and reduce potential impacts to a level that is less than significant.

5. Environmental Analysis

**Table 5.9-6
La Floresta Traffic Noise Analysis
Distance to 65 dBA CNEL Contour in feet**

Segment	Existing	2012 Base	2012 w/ Project	2025 Base	2025 w/ Birch Hills Only	2025 w/ LF Village Only	2025 w/ Project
East-West Segments							
Lambert Road/ W of SR-57	260	275	275	300	300	300	300
SR-57 - Pointe	200	215	215	245	245	245	245
Pointe-Associated	170	185	190	205	205	205	210
Associated-Kraemer	170	185	190	210	215	215	215
Kraemer-Valencia	125	150	150	190	190	190	190
Carbon Cyn Rd/Valencia	125	140	145	170	170	170	170
Birch St/ SR-57-Associated W	150	160	160	170	170	170	170
Associated W-Associated E	145	150	160	165	170	170	170
Associated-Kraemer	120	130	130	150	150	150	150
Kraemer-Valencia	90	90	90	90	90	90	90
Imperial Hwy/ W of SR-57	275	285	285	310	310	310	310
SR-57-Associated	255	260	270	275	280	280	285
Associated -Placentia	225	225	235	235	235	240	240
E of Placentia	215	125	135	255	255	265	260
W of Kraemer	215	220	225	230	230	235	235
Kraemer-Valencia	200	205	215	220	220	235	235
Valencia-Rose	180	190	200	210	215	220	220
E of Rose	210	210	195	210	210	195	195
Golden Ave/ Kraemer-Valencia	50	50	50	55	55	55	55
Valencia-Rose	<50	<50	<50	<50	<50	<50	<50

Table 5.9-6 (cont.)
La Floresta Traffic Noise Analysis
Distance to 65 dBA CNEL Contour in feet

Segment	Existing	2012	2012 w/ Project	2025	2025 w/ Birch Hills Only	2025 w/ LF Village Only	2025 w/ Project
Bastanchury Rd/ W of Placentia	115	125	125	140	140	140	140
Placentia-Kraemer	140	155	160	180	180	180	180
Kraemer-Valencia	100	110	115	125	125	125	125
E of Valencia	90	95	95	120	120	120	120
W of Rose	90	105	105	125	125	125	125
E of Rose	90	90	70	90	90	70	70
North-South Segments							
Associated Rd/ Lambert-Birch	65	70	70	80	80	80	80
Birch-Imperial	105	105	105	105	105	100	105
Imperial-SR-57	70	70	70	80	80	80	80
Placentia Ave/ Rolling Hills-Bastanchury	80	80	80	85	85	85	85
Kraemer Ave/ Lambert-Birch	100	125	125	160	160	160	160
Birch-Imperial	125	140	145	170	170	170	170
S of Imperial	125	140	140	160	160	160	160
N of Golden	130	125	125	145	145	145	145
S of Golden	130	140	145	160	160	160	160
N of Bastanchury	125	130	135	150	155	155	155
Valencia Ave/ N of Lambert	55	55	78	78	92	92	92
Lambert-Birch	119	119	127	127	135	135	139
Birch-Imperial	78	78	78	78	78	78	88
S of Imperial	61	61	61	61	61	61	61
N of Golden	55	55	55	55	55	55	55
Golden-Bastanchury	72	72	78	78	72	72	78
Rose Dr/ S of Birch	110	110	123	123	135	135	139
N of Imperial	102	102	110	110	119	119	123
Imperial-Golden	102	102	83	83	102	102	83
S of Bastanchury	110	110	97	97	110	110	97

**Table 5.9-7
La Floresta Noise Wall Analysis**

Roadway	Distance to Wall* (feet)	Distance to Receiver* (feet)	Wall Height Required (feet)
La Floresta Village site			
Imperial Highway	110	120	8
Valencia Ave.	70	80	8
Rose Drive	60	70	5.5
Birch Hills site			
Kraemer Blvd.	60	70	6.5
*from centerline			

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measure N-2, above.

Level of Significance after Mitigation: Less than significant.

Interior Noise Levels

Both Sites

Traffic noise from adjacent streets also has the potential to cause interior noise levels to exceed standards. The Project must comply with the City of Brea's 45 dBA CNEL interior residential requirement. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dBA CNEL will typically provide a 45 dBA CNEL interior noise level. If setback distances in Table 5.9-6 are not met and noise walls are required, sufficient attenuation would be provided for the first floor residential living space. However, second floor exterior building façades may be exposed to a maximum noise level of greater than 65 dB CNEL and would require more than 20 dB exterior to interior noise reduction.

For the setbacks in the perimeter wall analysis, building façade noise levels at proposed homes along Imperial Highway could be as high as 71 dB CNEL. Façade noise levels along less heavily traveled perimeter roadways would be slightly lower. Structural noise reductions of up to 26 dB could therefore be needed to meet interior noise standards. Reductions of up to 26 dB are readily attainable in standard residential construction while still allowing for discretionary window opening.

Table 5.9-8 describes a range of structural noise mitigation options that would allow the project to meet City requirements.

**Table 5.9-8
Interior Noise Attenuation Options**

Exterior to Interior Reduction Desired	Measure(s) Needed
0-10 dB	None
10-20 dB	Close windows facing roadway. Provide supplemental ventilation.
20-25 dB	Close standard dual-paned windows. Provide supplemental ventilation.
25-30 dB	Close upgraded dual-paned windows. Provide supplemental ventilation. Baffle vents and line ducts with absorbers.
>30 dB	Custom upgrades (dual layer drywall, triple-paned windows, steel doors, etc.)

Due to these potential interior noise impacts, a supplemental acoustical analysis will be necessary after final site designs are completed. This analysis must be submitted in conjunction with the building plan check process to verify that adequate structural noise protection exists in perimeter residences to meet the 45 dB CNEL interior standard. Supplemental ventilation (most likely air conditioning) is required in any livable space where window closure is needed to meet interior standards.

If window closure is a necessary condition to meet the interior standard, the building code requires provision of supplemental ventilation. The requirement can be met with a fresh air inlet duct on the return air plenum on the furnace fan. The recommended ventilation rate is 15 cubic feet per minute (CFM) per person of fresh make-up air as per Title 24 of the California Code of Regulations. Code compliance for ventilation must similarly be documented on building plans for any project with residential occupancies abutting arterial roadways. Mitigation Measure N-3 would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

N-3 Interior Noise Mitigation

- a. *Prior to issuance of a building permit for any residential structure adjacent to a perimeter roadway, the applicant shall submit an acoustical analysis demonstrating that interior noise levels will conform to the standard of 45 dBA CNEL. The analysis shall describe the structural measures necessary to meet the standard and shall be prepared by a qualified noise consultant in a manner meeting the approval of the Building Official. All required structural noise reduction measures shall be incorporated into building plans and permits in a manner meeting the approval of the Building Official.*
- b. *If determined necessary by the Building Official, prior to issuance of a certificate of occupancy for any structure for which an acoustical analysis was required, field testing shall be conducted by a qualified acoustical consultant to confirm that the required level of noise attenuation has been achieved. If the testing finds that noise levels*

exceed allowable standards, additional mitigation shall be required prior to issuance of the occupancy certificate, in a manner meeting the approval of the Building Official.

Level of Significance after Mitigation: Less than Significant.

ON-SITE NOISE GENERATION IMPACTS

La Floresta Village Site

The La Floresta Village development contains residential, commercial, and mixed-use areas. In areas where commercial and residential uses share a common property line, or where both commercial and residential uses occupy the same parcel, it is often not the overall magnitude of the noise that leads to conflict. It is more typically some unique aspect of the noise (music, amplified voice, whine or hum, etc.), or, most commonly, the time of day of the noise event that causes conflicts. Early morning deliveries, back-up alarms, rumbling and idling diesel trucks, late night fast-food outlet loudspeakers, young persons assembling in shopping center parking lots with loud car music late in the evening, or very early trash pick-up or parking lot sweeping, are sources that can cause noise conflicts in a mixed-use environment. Since planned commercial activities may be located near residences, nocturnal activities could be audible late at night when background noise levels are lowest.

Since the La Floresta Village development would include both commercial and residential uses, care must be taken to ensure that the residential areas are adequately shielded from the on-site commercial noise. Additionally, precautions must be taken to ensure that adjacent off-site residential areas are protected from noise generated by the proposed commercial development.

Residential uses require sufficient physical separation from commercial buildings to prevent heating, ventilation and air conditioning (HVAC) equipment from being a nuisance. If this is not possible, the equipment will need to be shielded. Loading docks for commercial/retail uses should be situated away from residences and may require time restrictions on deliveries. If fast food restaurants or drive-thru facilities are planned adjacent to residential uses, the sound boards where ordering takes place can be a nuisance, especially at night. Many fast food restaurants keep late hours or are open 24 hours. If the sound boards cannot be oriented away from potential nearby residences then sound walls may be needed around the order boards. Additionally, time restrictions may be necessary. These details must be dealt with during the design stage.

On all commercial sites, maintenance activities such as refuse collection or parking lot sweeping, or stacking or retrieval of temporary outdoor storage could be a noise nuisance for adjacent residences. Possible mitigation would include time restrictions on these activities or sound walls. These details also must be dealt with during the design stage.

Level of Significance: Potentially significant.

Mitigation Measures:

N-4 On-Site Noise Mitigation

- a. *Prior to approval of any final tract map, conditional use permit or site plan in La Floresta Village that includes non-residential use, the City shall retain an acoustical consultant at the applicant's expense to review the proposed final map or site plan and identify any potential noise conflicts, and provide recommendations for mitigating those conflicts. The analysis and recommendations shall be reviewed and approved by the Building Official and the City Planner, and shall be adopted as conditions of approval. A note shall be placed on the final map or site plan listing all noise mitigation conditions that will be required, as determined by the Building Official and City Planner.*
- b. *Prior to issuance of any building permit for a non-residential structure in La Floresta Village that is adjacent to an existing or planned residential use, the Building Official and the City Planner shall ensure that all feasible noise mitigation measures that were adopted as conditions of approval on the tentative map or site plan have been incorporated into the building plans.*

Level of Significance after Mitigation: Less than significant.

5.9.5 Cumulative Impacts

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

Both Sites

General Plan policies and applicable noise regulations guide the planning of proposed developments and the operational requirements for existing uses. Like all proposed developments in the city, the Project has complied with relevant policies through the preparation of this noise analysis, and will be required to comply with other applicable policies and ordinances during the development process and after Project completion. In consideration of these factors, the project's contribution to cumulative impacts would be rendered less than considerable and, therefore, less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

CONSTRUCTION NOISE IMPACTS

Both Sites

The impact area for construction noise is very localized, and cumulative impacts would only occur when other construction sites are in close proximity to the Project sites. As a result, the potential for cumulative construction noise impacts are very limited. All projects are required to adhere to the City's limitations on construction hours. In addition, recommended mitigation measures would further reduce the Project's construction noise impacts, and no significant project-specific impacts would occur. In consideration of these factors, the project's contribution to cumulative impacts would be rendered less than considerable and, therefore, less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

FILL HAULING IMPACTS

Both Sites

The geographic context for fill hauling noise impacts is other areas within the haul radius for the Project. The precise source of fill material and haul routes will not be identified until construction begins and available sources of fill material are found. Potential noise impacts due to truck traffic to and from the Project sites combined with other truck traffic from other construction sites could result in cumulative impacts. However, the noise analysis indicated that additional noise from fill hauling would be in the range of 0.1 to 0.2 dB adjacent to the Project sites, which is far below perceptible levels. Because Project impacts would be so small, it is highly unlikely that cumulative impacts from fill hauling would be significant. In consideration of the preceding factors, the project's contribution to cumulative impacts related to noise would be rendered less than considerable and, therefore, less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

LONG-TERM PROJECT-GENERATED VEHICULAR NOISE IMPACTS ON SURROUNDING AREAS

Both Sites

The context for cumulative long-term traffic noise impacts on surrounding areas includes the road network and adjacent properties affected by traffic noise generated by the Project and other existing and new development in the region. Since the focus of this

analysis is on cumulative impacts to which the Project could have a significant contribution, the geographic area of concern is the relatively limited area where Project-generated traffic would be substantial and noise levels exceed applicable standards. The noise analysis prepared for this EIR has analyzed both the project-specific impacts and the cumulative noise impacts of the proposed project in conjunction with projected regional growth in traffic noise and concluded that no significant impacts would occur, either individually or cumulatively. In consideration of the preceding factors, the project's contribution to cumulative impacts related to noise would be rendered less than considerable and, therefore, less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

LONG-TERM VEHICULAR NOISE IMPACTS ON THE PROJECT SITES

Both Sites

The noise analysis described in this chapter addresses long-term cumulative traffic noise impacts on the Project sites through the use of traffic projections that include regional growth. The analysis concluded that in some cases, sound walls may be necessary to shield sensitive uses from unacceptable traffic noise levels. With this mitigation, no cumulative significant impacts would occur.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measures N-2 and N-3.

Level of Significance after Mitigation: Less than significant.

ON-SITE NOISE GENERATION IMPACTS

La Floresta Village Site

The geographic context for on-site noise generation is limited to the Project sites themselves. The analysis presented in this chapter found that the recommended mitigation measures would reduce potential impacts to a level that is less than significant. In consideration of the limited area of these potential impacts and the recommended mitigation, no cumulative significant impacts would occur.

Level of Significance: Potentially significant.

Mitigation Measures: See Mitigation Measure N-4.

Level of Significance after Mitigation: Less than significant.

5.9.6 Significant Unavoidable Impacts

Both Sites

With the implementation of existing code requirements and the recommended mitigation measure, all potential impacts would be reduced to a level that is less than significant.

5.10 Population and Housing

5.10.1 Methodology

The potential for adverse impacts on population and housing was evaluated based on the anticipated growth that would result from project approval compared to existing and projected development.

5.10.2 Setting

POPULATION

According to the California Department of Finance (DOF), the City of Brea's population as of January 2006 was 39,560 persons, and the average household size was 2.778 persons⁶. The U.S. Census indicated that the City's population was 35,410⁷ in 2000.

HOUSING

According to the DOF, as of January 2006, Brea had 14,476 housing units, 9,542 (66%) of which were single-family homes (either detached or attached)⁸. Currently, both Project sites are uninhabited – the La Floresta Village site is vacant and the Birch Hills site is occupied by a golf course facility.

REGULATORY SETTING

City of Brea General Plan – Community Development Element Growth Forecast

Table 5.10-1 below presents the buildout growth forecast policy for the City of Brea and its sphere of influence (SOI) based on the current (2002) General Plan. This represents a population increase of 4,200 persons (11%) and a housing unit increase of 2,062 (14%) for the city compared to 2006 levels.

La Floresta Village Site

The La Floresta Village site is designated for “Mixed Use II” on the current City of Brea General Plan. The City also recently adopted a new MU-II Zone District in order to direct implementation of land use policy in mixed-use areas such as the La Floresta Village

⁶ DOF, Table 2: E-5 City/County Population and Housing Estimates, January 1, 2006

⁷ U.S. Census, Table P1. Total Population, City of Brea, 2000

⁸ DOF, Table 2: E-5 City/County Population and Housing Estimates, January 1, 2006

development. The proposed development would conform to MU-II permitted land uses and development intensity.

Birch Hills Site

The Birch Hills site is designated “Birch Hills Specific Plan” in the Brea General Plan. The proposed Birch Hills development would require a General Plan Amendment to change the current designation on the site from the Birch Hills Specific Plan to the appropriate land use designations. It is estimated that approximately 335 to 385 single-family dwelling units could be permitted on the 91.3-acre golf course under the Birch Hills Specific Plan. The more recent General Plan update and the EIR, however, assumed 263 single-family dwelling units on the Birch Hills site.

**Table 5.10-1
General Plan Land Use Projections**

Land Use Category	Projected Dwelling Units (2020)			Projected Population (2020)		
	City	Sphere of Influence	Total	City	Sphere of Influence	Total
Hillside Residential	262	986	1,248	693	2,609	3,302
Very Low Density Residential	410	4	414	1,086	10	1,096
Low Density Residential	5,805	1,464	7,269	15,360	3,872	19,233
Medium Density Residential	3,105	120	3,225	8,217	318	8,534
High Density Residential	5,119	0	5,119	13,545	0	13,545
Mixed Use I –Residential	232	0	232	614	0	614
Mixed Use II – Residential	1,326	0	1,326	3,508	0	3,508
Mixed Use III –Residential	279		279	738		738
Totals	16,538	2,573	19,112	43,760	6,809	50,570
Source: Brea General Plan, Table CD-3, December 2002						

5.10.3 Thresholds of Significance

According to the current CEQA Appendix G guidelines, impacts are considered potentially significant if they would:

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

Consistency with the City's General Plan growth forecast is also considered in the evaluation of impacts, therefore the following additional threshold is added.

- *Substantially conflict with applicable plans and regulations as presented in Section 5.10.2 under Regulatory Setting.*

The Initial Study prepared for the proposed project, which is contained in Appendix A, examined these criteria and determined that the proposed project could have potentially significant impacts regarding the inducement of population growth, but no impacts with regard to the displacement of people or housing, since neither site currently contains any housing.

5.10.4 Project Impacts and Mitigation Measures

Consistency with Applicable Regulations and Plans

City of Brea General Plan – Community Development Element

Both Sites

Based on the proposed Project (see Table 4.2-1 (page 4-3) and Table 4.2-2 (page 4-75)) and the City's average household size, the Birch Hills development would result in an additional 247 housing units and 686 persons, while the La Floresta Village development would add 1,088 housing units and 3,022 persons to the City. This represents 88% of the projected population growth and 65% of the projected housing increase for the City⁹. While the Project would represent a major portion of the City's expected growth, it is generally consistent with the level of development anticipated in the current General Plan (see also Section 5.8 – Land Use and Planning). Therefore, the Project would not result in a significant adverse impact with regard to population and housing.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

Growth Inducement

Both Sites

As noted above in the discussion of conformance with the General Plan, the Project would result in substantial growth in population and housing in relation to the City's projected growth. The Project would also have an indirect effect on population growth by providing employment opportunities in the La Floresta Village development. However, the sites are both urbanized infill-type locations, and the level of growth would be consistent with the City's adopted forecast, and therefore would not result in a significant adverse impact with regard to growth inducement.

⁹ DOF; Brea General Plan (calculations based on 2006 data and buildout projections)

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

5.10.5 Cumulative Impacts

Both Sites

The Project would contribute to growth in the City's housing stock and population, and along with other planned developments this growth would be substantial; however, adopted land use designations would result in an increase of 11% in the population and 14% in the housing stock of the City between 2006 and 2020. Since the proposed level of development is substantially similar to existing General Plan designations, the Project's contribution to cumulative impacts to population and housing would be rendered less than cumulatively considerable, and therefore less than cumulatively significant.

Level of Significance: Less than significant.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance after Mitigation: Not applicable.

5.10.6 Significant Unavoidable Impacts

Both Sites

No unavoidable significant adverse impacts would occur in the area of population and housing.

5.11 Public Services and Utilities

5.11.1 Methodology

The potential for adverse impacts on public services and utilities was evaluated based on information concerning current service levels and the ability of the service providers to accommodate the increased demand created by the La Floresta Development Proposal. Services questionnaires sent to agencies and responses received from service providers are contained in Appendix H. In addition, a Water Supply Assessment for the proposed project was conducted in March 2006 by Daniel Boyle Engineering under contract to the City of Brea. This study is contained in Appendix I.

5.11.2 Setting

PROJECT SITE CONDITIONS

The proposed La Floresta Development Proposal is located in a suburban area mostly surrounded by residential, commercial, and industrial uses. The sites are adjacent to existing improved roadways and utility systems that would provide for easy access to water, sewer, and other services. The key public services and utilities that would be required to service the proposed Project are described in the following sections. Refer to Appendix H for additional detail contained in correspondence with service agencies.

Fire Protection

Both Sites

The City of Brea Fire Department is an "all risk" type of department. The varied nature of emergency response requirements in Brea, and throughout the County, dictate that the Brea Fire Department utilize an all-risk, multi-function approach to emergency response management. Brea firefighters provide a diverse range of services to Brea residents and the working population including:

- Structural firefighting
- High angle rescue
- Wildland firefighting
- Trench rescue
- Hazardous materials response
- Swift water rescue
- Urban search and rescue
- Emergency medical response
- Fire prevention inspections
- Public education

The Fire Prevention Bureau is staffed by 1 Fire Marshall, 1 Fire Protection Analyst, and 1 Fire Prevention Specialist. Some of the services provided by Brea Fire Prevention include:

- Technical plan review
- Construction inspections
- Permit issuance
- Public education
- Fire investigation
- Code enforcement
- Annual fire inspections/company inspections
- Code development
- Weed abatement/fuel modification

The City has an Emergency Preparedness Coordinator on staff. The responsibilities of this position include planning, preparedness, response and recovery responsibilities for City staff specifically, and the City of Brea generally. Specific support and planning efforts for businesses or associations remains the responsibility of the individual property owner and/or tenant. This position resides in the Fire Services Department.

In the event of a large-scale incident, the City Fire Department relies on mutual aid agreements with the Orange County Fire Authority and other fire departments.

The City has four fire stations at the following locations:

- Station 1 – 555 N. Berry
- Station 2 – 200 N. Brea Blvd.
- Station 3 – 400 N. Kraemer
- Station 4 – 170 Olinda Place

Station 3 is the closest to the proposed project area. This station houses Engine 3 and a paramedic engine, and is staffed by a captain, one engineer, and one firefighter. Response time from this station to the project area is estimated to be 4 minutes, which meets current standards. The response time from Station 2 is estimated at 6 minutes and the response time from Station 1 is estimated at 8 minutes.

Police Protection

Both Sites

The City of Brea Police Department provides police protection services to the project area. The Police Department is located in the Brea Civic and Cultural Center at 1 Civic Center Circle. This facility is approximately 3 miles from the project area. The response time to the project area is approximately 3 to 5 minutes.

The Brea Police Department has mutual aid agreements with all Orange County law enforcement agencies, including the County Sheriff's Department.

School Services

Both Sites

The Birch Hills site and a portion of the La Floresta Village site are within the Brea-Olinda Unified School District (BOUSD). The southern portion of the La Floresta Village is currently within Placentia-Yorba Linda Unified School District (PYLUSD). The portion of the La Floresta Village site that is currently within the PYLUSD is proposed to be annexed to the Brea-Olinda Unified School District. In order to address the possibility that the proposed annexation may not occur, this EIR addresses potential impacts to both school districts with no changes assumed in existing district boundaries.

The following BOUSD schools would serve the Project sites:

Grades K-5

Olinda Elementary School
 109 Lilac Lane
 Brea, California
 Current enrollment – 319
 Current capacity - 333

Grades 6-8

Brea Junior High School
 400 N. Brea Boulevard
 Brea, California
 Current enrollment – 1,012
 Current capacity – 1,186

Grades 9-12

Brea-Olinda High School
 789 Wildcat Way
 Brea, California
 Current enrollment – 2,051
 Current capacity – 1,969

As these figures indicate, all BOUSD schools that would serve the Project are currently near or over capacity.

A new elementary school that would serve a portion of project area is currently under design at the corner of Birch Street and Valencia Avenue in Brea, however projected construction costs for Phase I exceed currently available funds.

La Floresta Village Site

A portion of the La Floresta Village site is located within the Placentia-Yorba Linda Unified School District (PYLUSD). The following schools would serve this area if no changes in existing school district boundaries occur.

Grades K-5

Rose Drive Elementary School
4700 Rose Drive
Yorba Linda, California
Current Enrollment – 347
Current capacity – 628

Grades 6-8

Yorba Linda Middle School
4777 Casa Loma Avenue
Yorba Linda, California
Current enrollment – 825
Current capacity – 850

Grades 9-12

El Dorado High School
1651 N. Valencia Avenue
Placentia, California
Current enrollment – 2,473
Current capacity – 2,475

As these figures indicate, Yorba Linda Middle School and El Dorado High School are currently near capacity, and there are no current plans for expansion or alteration of these facilities. Rose Drive Elementary School currently has available capacity.

Park Facilities and Recreational Services

Park Facilities

Brea benefits from an assortment of neighborhood, community, and regional parks distributed throughout the City. Passive open space and park areas account for five percent of the land area within the corporate City limits. Chino Hills State Park alone, a natural wilderness park with hiking, biking, and equestrian trails, encompasses 3,400 acres.

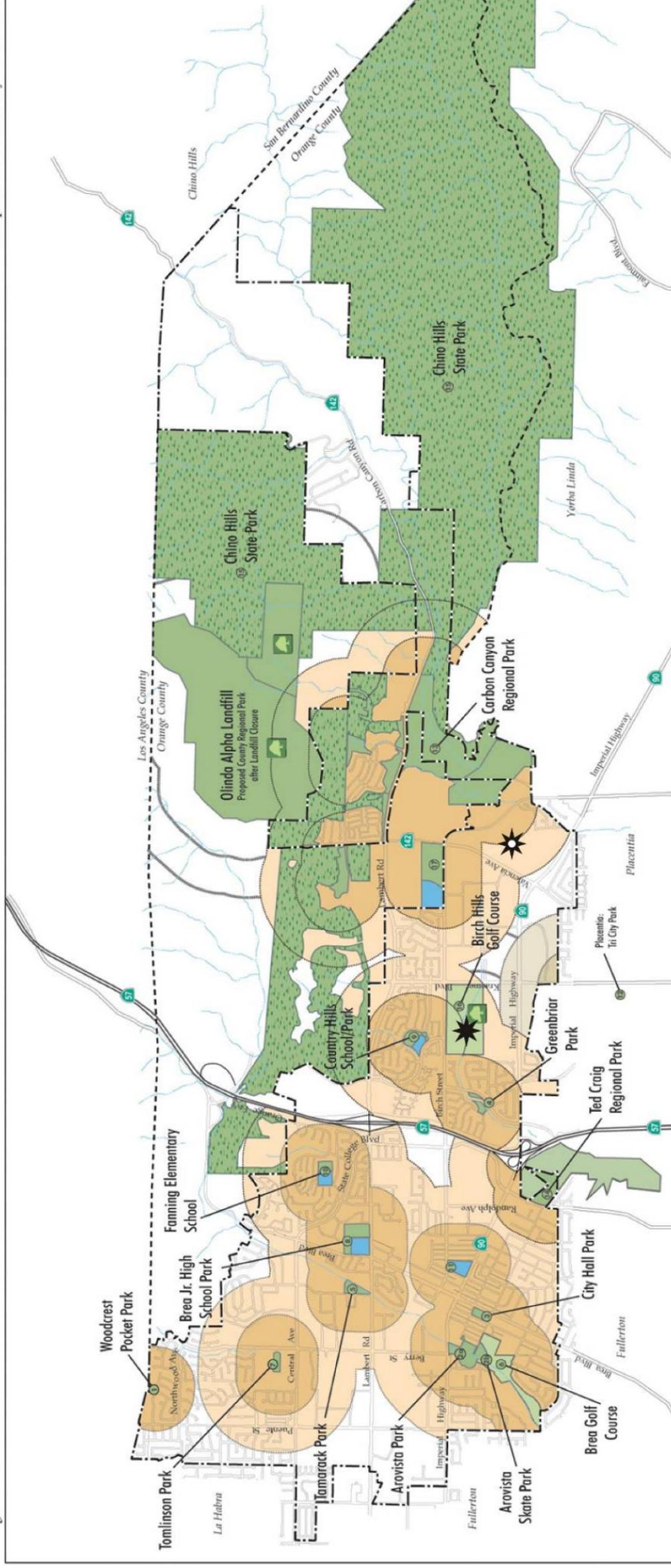
The Brea park system consists of public neighborhood parks, community parks, and school grounds with joint-use agreements. Carbon Canyon and Craig regional parks, although located at least partially within Brea, are owned and maintained by Orange County. The City owns, operates, and maintains 12 parks primarily designed and used for active recreation. Joint-use agreements with the Brea-Olinda Unified School District for use of school grounds and play areas provide residents with an additional 58 acres of park area. Exhibit 5.11-1 Illustrates the City's Parks and Open Space Plan as contained in the Community Resources Element of the General Plan.

Brea has established a service standard of 5 acres of park and recreation facilities per 1,000 residents. Based on Department of Finance estimates as of January 1, 2006, Brea has a population of 39,560 residents. Park acreage in the City totals approximately 331 acres. Utilizing these figures, the City has a ratio of 8.4 acres of parkland for every 1,000 residents.

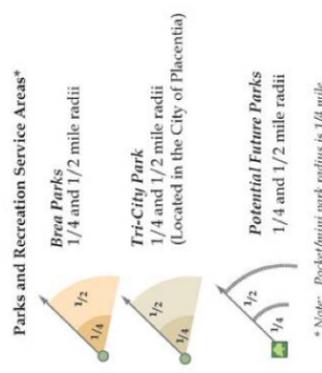
General Plan: Parks and Open Space Plan

Imagine Brea

Chapter 4: Community Resources



Source: City of Brea; Cotton/Bridges/Associates, 2002.



- Parks and Recreation Service Areas***
- Brea Parks**
1/4 and 1/2 mile radii
 - Tri-City Park**
1/4 and 1/2 mile radii
(Located in the City of Placentia)
 - Potential Future Parks**
1/4 and 1/2 mile radii
- * Note: Pocket/mini park radius is 1/4 mile.

- Park Names**
- Woodcrest Park
 - 2a. Arovista Park
 - 2b. Arovista Skatopark
 - City Hall Park
 - Greenbriar Park
 - Tamarack Park
 - Brea Golf Course
 - Tomlinson Park
 - Brea Junior High School Park
 - Country Hills School/Park
 - Fanning Elementary School
 - Lagos De Moreno Park
 - Tri-City Park
 - Carbon Canyon Regional Park
 - Ted Craig Regional Park
 - Chino Hills State Park
 - Birch Hills Golf Course
 - Brea Sports Park

- Parks and Recreation Facilities**
- Parks and Recreation Facilities
 - Open Space
 - Golf Course
 - Public Facilities (Schools)
 - Potential Future Parks

- ★ La Floresta Village
- ★ Birch Hills Golf Course

Source: City of Brea General Plan, August 19, 2003

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Trails

The City's Trails Plan is contained in the Community Resources Element of the General Plan, and is illustrated in Exhibit 5.11-2. Trails are identified in three general classification categories:

1. Regional Trails: Serve as service trails which are included in the Orange County Master Plan of Hiking and Riding Trails. Regional Trails double as major links in Brea's trail system. These are all multi-use trails suitable for hiking, mountain biking, and horse riding.
2. Community Trails: These multi-use trails that can be a service road, a rail right-of-way, a flood control channel right-of-way, or adjacent to a street right-of-way. They can also be used by equestrians or hikers. Some of these trails are in an urban setting, while others are in open space areas.
3. Local Trails: These are public trails that serve a local purpose. The trails are usually short and may connect to the major and regional trails. The trails could be dedicated to a single use such as hiking or riding.

As shown in the Trails Plan, the La Floresta Village site is bordered on all sides by designated urban walkway trails along Imperial Highway, Valencia Avenue and Rose Drive. Access to the Carbon Canyon Regional Trail is available across Rose Drive to the northeast.

In the Trails Plan, the Birch Hills site is traversed by the Fullerton Trail, a Community nature/wilderness trail that follows the Loftus Channel.

Bikeways

Brea has adopted three bikeway standards that parallel those presented in OCTA's *Bikeways Strategic Plan*.

1. Class I Bike Path: Provides for bicycle travel on a right-of-way completely separated from the street;
2. Class II Bike Lane: Provides a striped lane for one-way travel within the street; and
3. Class III Bike Routes: Provides routes that are signed but not striped.

The City's Bike Plan, as shown in Exhibit 5.11-3, includes an existing Class II Bike Lane along Rose Drive, and proposed Class I Bike Paths along Imperial Highway, Valencia Drive, and through the La Floresta Village site to connect the Carbon Canyon Bike Path to the Loftus Channel and the Fullerton Trail through the Birch Hills site.

Recreational Services

The Brea Community Services Department coordinates an array of recreational activities, classes, and programs. These include all types of leisure and self-improvement pursuits for all age groups, with a focus on meeting youth, adult, and senior citizen needs.

Programs include youth and teen after-school programs, adult and teen sports leagues, and fitness classes for all ages. The Department publishes a recreation schedule each quarter that provides residents with a guide to programs and activities at the Brea Community Center as well as other sites throughout the community. Program offerings are evaluated and adjusted as needed in response to identified needs and interests of Brea residents.

Library Services

The Orange County Public Library system provides services to the City of Brea at the Brea Branch Library in the Civic and Cultural Center at 1 Civic Center Circle. No expansion of this facility is currently planned.

Wastewater Treatment

The local sewage collection system provides wastewater collection services to all areas within the City's corporate boundaries, portions of unincorporated Orange County, and a small portion of Placentia. The gravity system consists of over 100 miles of pipe, the majority of which consist of vitrified clay pipe ranging in size from 8 to 27 inches in diameter. The service area consists of 10 major sewer drainage areas that flow into City trunk sewers, which in turn outlet to Orange County Sanitation District (OCSD) facilities. OCSD collects sewage from cities throughout Orange County and treats it at regional facilities in Fountain Valley and Huntington Beach.

In 2001, the City conducted an extensive analysis of the local sewer system to identify deficiencies in the existing system and to anticipate long-term needs as the City accommodates new residential and other uses. A sewer system model projected wastewater flows associated with build-out consistent with General Plan land use policy.

Ensuring adequate sewer service throughout the entire planning area will require replacement facilities and the extension of new infrastructure to serve new development. Exhibit 5.11-4 illustrates required sewer system improvements Citywide. Exhibit 4.2-12 (page 4-65) and 4.2-26 (page 4-103) illustrate planned sewer system improvements for the La Floresta Village and Birch Hills sites, respectively.

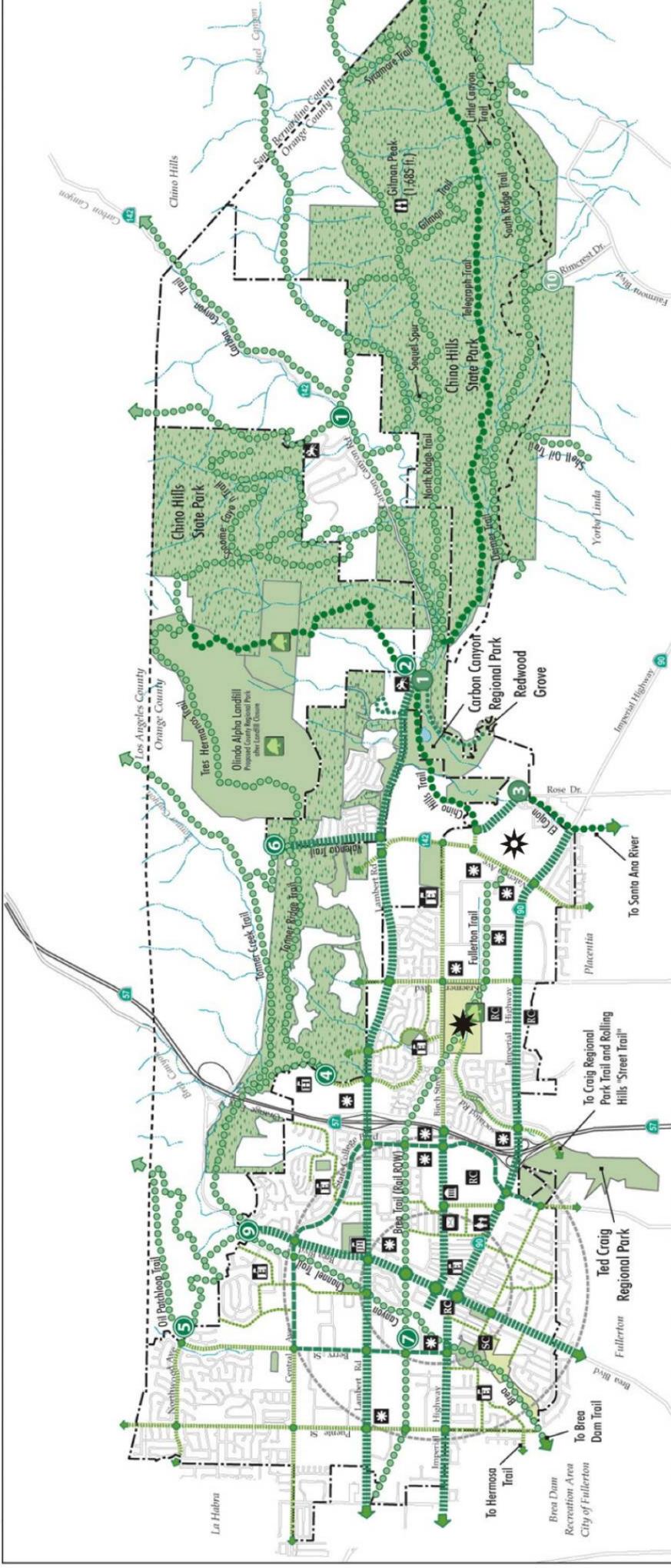
The Sewer Master Plan establishes the following priorities for recommended master plan capital improvements:

1. Facilities identified, as deficient under existing peak flow conditions shall be given high priority. For facilities known to require frequent maintenance, those facilities shall be considered of highest priority.
2. Facilities identified as deficient under ultimate conditions and dependent on future development shall be given a moderate priority.
3. Facilities affecting the greatest number of customers or which would cause the most damage in the event of failure are given higher priority rankings than those that do not. This means that downstream facilities with larger tributary flows receive higher priority than upstream facilities.

General Plan: Trails Plan

Imagine Brea

Chapter 3: Community Resources



Source: City of Brea, Cotton/Bridges/Associates, RTKL, and Brea Chamber of Commerce; 2002.

Legend

- City Boundary
- Sphere of Influence
- Creeks, Streams, and Drainage Channels

Parks and Recreation Facilities

- Parks and Recreation Facilities
- Open Space (Chino Hills State Park)
- Golf Course
- Potential Future Parks

Nature/Wilderness Trails
(Hiking, equestrian, and mountain biking)

- Regional Trail
- Community Trail
- Local Trail
- Staging Areas/Trail Head
(Hiking, equestrian, and mountain biking)
- Proposed Staging Areas/Trail Head
- Outside Brea's Planning Area
Staging Areas/Trail Head
(Hiking only - no equestrian or mountain biking access)

Urban Walkway Trails

- Landscaped Corridors
- Major Linkage (Downtown Circuit)
- Major Linkage
- Neighborhood Linkages

Activity Nodes

- Elementary School
- Junior High School
- High School
- Post Office
- Senior Center
- Equestrian Stables
- Civic and Cultural Center
(Includes City Hall, Civic Theatre, School District Offices, and Library)
- Brea Community Center
- Major Commercial Retail Center
(Over 500 employees)
- Major Employment Center

Radius from Downtown Brea

- 1/4 mile for minutes walking distance
- 1/2 mile for minutes walking distance

- ★ La Floresta Village
- ★ Birch Hills Golf Course

Source: City of Brea General Plan, August 19, 2003



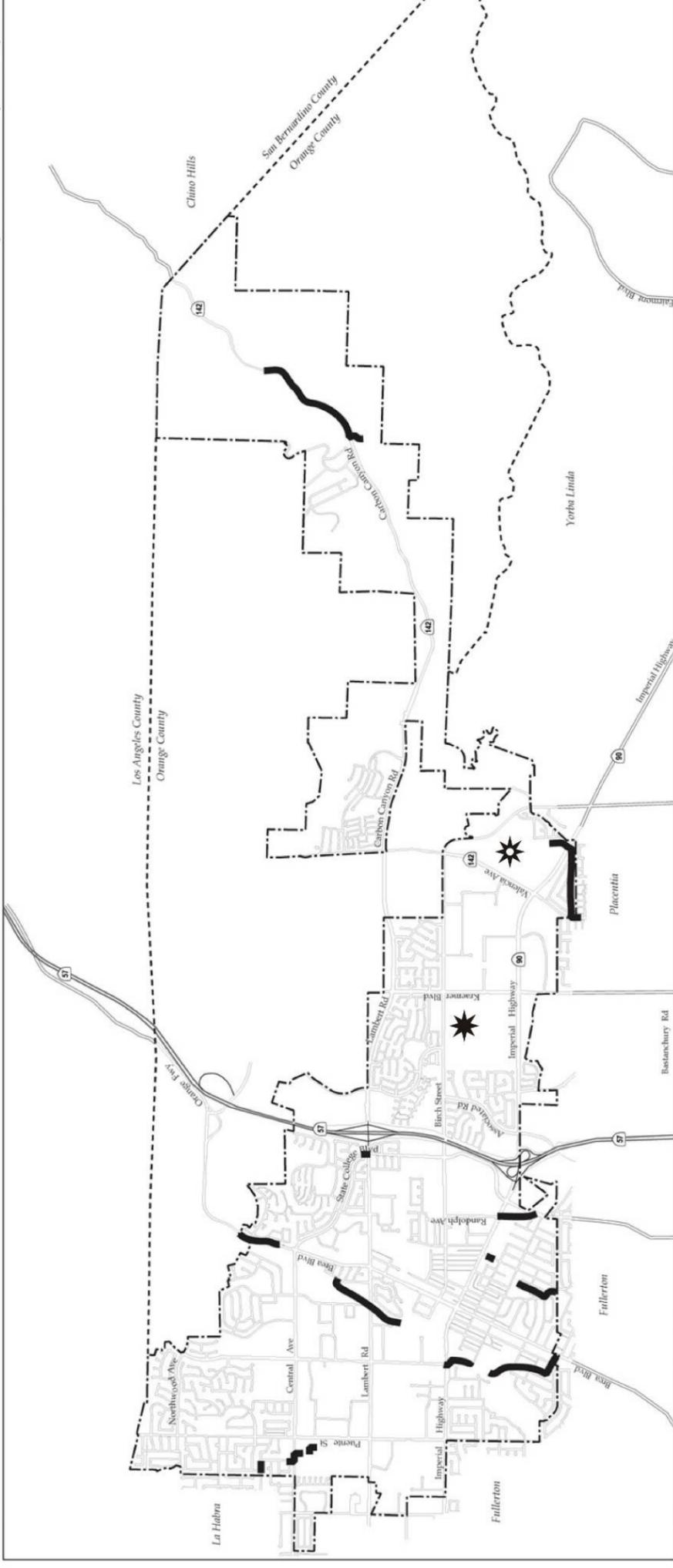
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General Plan: Sewer System Improvements

Imagine Brea

Chapter 2: Community Development



Source: City of Brea Sewer Master Plan Update, May 2001.



- Legend
- City Boundary
 - Sphere of Influence
 - █ Sewer System Improvements
 - ★ La Floresta Village
 - ★ Birch Hills Golf Course

Source: City of Brea General Plan, August 19, 2003

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OCSD operates two treatment plants. Plant #1 (Fountain Valley) has a capacity of 138 million gallons per day (MGD) and a current volume of 83 MGD. Plant #2 (Huntington Beach) has a capacity of 168 MGD and currently operates at 151 MGD. Sewer trunk lines currently have capacity to handle additional development. The trunk line that would serve the La Floresta Village site is projected to operate at less than 50% capacity in 2030 and the trunk line serving the Birch Hills site is projected to operate at 50-75% capacity in 2030. No improvements are planned prior to 2030. (Source: Adam Nazaroff, Cooperative Projects Engineer, OCSD, May 2006)

Water Supply and Distribution Services

Because the groundwater quality of the La Habra basin underlying Brea is poor, the City purchases water supplies from two agencies: the Metropolitan Water District of Southern California (MWD) and the California Domestic Water Company (CDWC). The one groundwater well owned by the City is used strictly for irrigation purposes. Brea's distribution facilities include supply connections to MWD and CDWC, as well as emergency connections with neighboring agencies. Water enters the distribution systems from transmission mains through various pressure reducing stations and the Berry Street Pumping Station. Water is stored in reservoirs in the hills and other functionally strategic locations, and the City also has storage capacity in the Orange County Reservoir, which is jointly owned by Brea, La Habra, and Fullerton.

In 2002, the City prepared a Water System Master Plan that analyzed the domestic water system to determine what improvements would be required over the long term to best serve established development, as well as requirements for new facilities based on the build-out of the General Plan land use plan. Over the long term, projected water demands are expected to increase from a 2002 baseline use of about 9.8 million gallons per day to 18.1 million gallons per day at build-out, an increase of 85 percent. To meet this anticipated demand, the City will be required to increase the capacity of the MWD OC-29 connection by five cubic feet per second. Also, low water pressure at higher elevations in Olinda Village and lack of sufficient pumping capacity at the Berry Street Booster Pumping Station will require upgrades to the pressure system. There are no major water system improvements needed or planned in the immediate vicinity of the proposed Project (Source: General Plan Figure CD-11 – Water System Improvements).

SB 221, passed by the state legislature in 2001, requires developers of projects with more than 500 residential units to verify that enough water supplies exist to support the projected population increase. SB 610 of 2001 (California Water Code §10910) requires water suppliers to assess their available water supplies and provide local water retailers with that information. The retail water suppliers must utilize that information when assessing the water needs of new projects, and provide the information to developers, which is required prior to approval of new projects. For projects subject to CEQA, a Water Supply Assessment (WSA) must be prepared to document the sufficiency of available water supplies to meet the projected demand from the new project, and analysis must be incorporated into all environmental impact reports. The City has conducted a WSA for the La Floresta Development Proposal, which is contained in Appendix I to this EIR.

Solid Waste Disposal

Solid waste disposal is provided in landfills operated by the Orange County Integrated Waste Management Department (IWMD). IWMD owns and operates three active landfills. The Frank R. Bowerman Landfill, located in northern Irvine, is scheduled to operate until approximately 2022. The Prima Deshecha Landfill, located in San Juan Capistrano, is scheduled to operate until 2067.

The La Floresta Development Proposal would be served by the Olinda Alpha Landfill, which is located at 1942 N. Valencia Avenue in unincorporated Orange County just north of the City of Brea. The landfill encompasses 565 acres of which 420 acres are permitted for waste disposal. The maximum daily permitted tonnage for this facility is 8,000 tons per day, although the landfill can only receive a maximum annual average daily tonnage of 7,000 tons per day. As of June 30, 2005, the Olinda Alpha Landfill had a remaining capacity estimated at 37.1 million cubic yards. The landfill is open from 6:00 a.m. to 4:00 p.m., Monday through Saturday, excluding the six major holidays, and is currently scheduled to close in approximately 2013. However, the County is currently considering an expansion to Olinda Alpha that would extend its lifespan to 2021. (Source: John Arnau, IWMD, May 2006).

REGULATORY SETTING

Fire Protection

Both Sites

City of Brea General Plan: Public Safety Element

The Public Safety Element contains the following fire protection policies that are relevant to the La Floresta Development Proposal

- *Policy PS-1.4: Work with the Fire Department to determine and meet community needs for fire protection and related emergency services. Ensure that sufficient stations, personnel, and equipment are provided to meet growth needs in the City.*
- *Policy PS-1.5: Maintain a maximum 4 to 6 minute emergency response time for fire safety services. Maintain a 3 to 5 minute response time from emergency police response services. Require that all new development be able to meet established standards for such response.*
- *Policy PS-1.6: Impose special conditions as needed on development projects to ensure that adequate fire protection measures are in place and maintained.*

Police Protection

Both Sites

City of Brea General Plan: Public Safety Element

The Public Safety Element contains the following police services policies that are relevant to the La Floresta Development Proposal:

- *Policy PS-1.1: Work with the Police Department to determine and meet community needs for law enforcement services.*
- *Policy PS-1.2: Provide up-to-date technology to the Brea Police and Fire Department.*
- *Policy PS-1.3: Continue to maintain and develop a community-based police strategy compatible with the needs and size of the community.*
- *Policy PS-1.5: Maintain a maximum 4 to 6 minute emergency response time for fire safety services. Maintain a 3 to 5 minute response time from emergency police response services. Require that all new development be able to meet established standards for such response.*
- *Policy PS-1.7: Incorporate the tenets of Community Oriented Policing into the design of crime prevention and enforcement programs.*
- *Policy PS-1.8: Use technology to improve crime prevention efforts.*

School Services

Both Sites

City of Brea General Plan: Community Services Element

The Community Services Element contains the following schools policies that are relevant to La Floresta Development Proposal:

- *Policy CS-3.2: Promote and support the quality public K-12 education system by working closely with the Brea Olinda Unified School District in determining and meeting community needs for public education and related activities.*
- *Policy CS-3.3: Work with the Brea Olinda Unified School District to investigate potential locations and funding sources for new schools.*

Park Facilities and Recreational Services

Both Sites

City of Brea General Plan: Community Services Element

The Community Resources Element of the General Plan contains the following parks, open space, trails, and recreation policies that are relevant to the La Floresta Development Proposal:

- *Policy CR-1.1: Develop a high-quality network of parks and recreational facilities that meet the needs of families, young adults, seniors, children, and disabled individuals.*
- *Policy CR-1.2: Provide a similar or equal level of parks and recreational facilities to all areas of the community.*
- *Policy CR-1.4: Incorporate into large-scale residential developments small neighborhood parks and greens suitable for unstructured play and passive recreation.*
- *Policy CR-1.6: Provide similar or equal attention to the development of facilities for individualized activities (casual park use, bicycling, walking, running, skating, and riding) as given to organized recreation and sports.*
- *Policy CR-2.1: Protect existing public parks and open space areas from non-recreational uses.*
- *Policy CR- 2.2: Ensure that sports facilities for organized sports do not displace existing casual use facilities and parks.*
- *Policy CR-3.5: Coordinate efforts with other public agencies regarding State and federal programs for existing and potential trails systems, recreational facilities and recreational programs.*
- *Policy CR-3.6: Encourage the development of recreational facilities by the private sector, including small parks and large-scale facilities requiring a high level of supporting services, supplies, and maintenance. Recreational facilities should be available to all members of the public.*
- *Policy CR-4.2: Select areas for open space preservation using an evaluation system that incorporates the following criteria: connectivity, access/recreations, sensitive areas, natural features, subdivision patterns, and buffer zones.*
- *Policy CR-5.1: Create an open space network that is part of both the natural and urban fabric of Brea and connects to the regional open space system.*
- *Policy CR-6.1: Create linkages to trails within Carbon Canyon and Chino Hills State Park existing and proposed trail system.*
- *Policy CR-6.3: Provide a useful, enjoyable, safe and efficient trail system for equestrians and hikers, with the following objectives and standards:*
 - Provide multi-purpose trails where possible to serve hikers, bicyclists, and horseback riders;
 - Link trails with adjacent City, County, and State trail systems;
 - Maintain trails in good condition, and free of litter and debris;
 - Design trails to be flexible and site-specific to minimize the impact on adjacent property and fragile habitats;
 - Provide a trail system with both short and long hikes and rides and serve the needs of both beginning and advanced hikers/riders;

- Utilize citizen volunteers to assist in the development, maintenance, and operation of trails and facilities;
 - Keep citizens aware of the trail system through publication of a trails map which also notes safety and courtesy tips;
 - Separate trails from automobile traffic when possible in order to provide safe conditions for riders and walkers;
 - Provide appropriate to mark all trails;
 - Design all trail entrances to prevent unwanted trail usage by motorized vehicles;
 - Locate trails to provide linkages between open space and the City greenway system.
- *Policy CR-6.4: Work to incorporate recreational amenities such as trail systems, bike paths and jogging paths with existing drainage ways, open space corridors and utility rights-of-ways so that natural resources are retained as assets in the community's recreational system and natural environment.*
 - *Policy CR-6.5: Coordinate with other public agencies regarding state and federal programs for existing and potential trail systems, recreational facilities and recreation programs.*
 - *Policy CR- 6.6: Develop the trail system illustrated in Figure CR-2. (Note: This is the Trails Plan shown in Exhibit 5.11-2, page 5.11-9, of this EIR.)*
 - *Policy CR-6.7: Require new developments to provide access and linkage to the citywide trail system; and*
 - *Policy CR-7.1: Encourage the development of landscaping, walkways and bike trails that provide direct pedestrian access between workplaces and residential neighborhoods.*

City of Brea General Plan: Community Development Element

The Community Development Element of the General Plan contains the following bicycle, trails and circulation policies that are relevant to the La Floresta Development Proposal:

- *Policy CD-11.3: Plan neighborhood streets, pedestrian walks, and bicycle paths as a system of fully connected routes throughout the City.*
- *Policy CD-12.6: Balance accommodations for automobiles, transit, bicycles, and pedestrians in the design of new streets and streetscape improvements.*
- *Policy CD-13.1: Develop and maintain a comprehensive and integrated system of bikeways that promotes bicycling riding for commuting and recreation.*
- *Policy CD-13.2: Provide for safe and convenient pedestrian connections to and from Downtown, other commercial districts, neighborhoods, and major activity centers within the City.*

- *Policy CD-13.4: Require new developments to provide for the use of alternative modes of transit via internal trails or travel ways – public or private – for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turnouts.*

Wastewater Treatment

Both Sites

The Community Development Element contains the following infrastructure policies that are relevant to the La Floresta Development Proposal:

- *Policy CD-14.1: Coordinate the demands of new development with the capacity of water and sewer systems.*
- *Policy CD-14.2: Implement the City's water and sewer master plans to correct known deficiencies.*
- *Policy CD-14.3: Require that new developments fund fair-share costs associated with City provision of water, sewer, and storm drain service.*
- *Policy CD-14.4: Work with developers to ensure that adequate funding and support for required infrastructure is provided or ensured via bonds.*

Water Supply

Both Sites

The Community Development Element contains the following policies that are relevant to the La Floresta Development Proposal:

- *Policy CD-14.1: Coordinate the demands of new development with the capacity of water and sewer systems.*
- *Policy CD-14.2: Implement the City's water and sewer master plans to correct known deficiencies.*
- *Policy CD-14.3: Require that new developments fund fair-share costs associated with City provision of water, sewer, and storm drain service.*
- *Policy CD-14.4: Work with developers to ensure that adequate funding and support for required infrastructure is provided or ensured via bonds.*

5.11.3 Thresholds of Significance

According to the current CEQA Appendix G guidelines, impacts are considered potentially significant if they would result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause

significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objective for any of the public services:

- Fire protection;
- Police protection;
- Schools;
- Parks; or
- Other public facilities.

This section of the EIR will also address Utilities and Service Systems issues. Checklist criteria applicable to this topic, which would be considered a significant impact, include:

- Exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Requirement for 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;
- Need for new or expanded water supply entitlements to serve the project;
- Determination by the wastewater treatment provider, which serves the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing and projected commitments;
- Determination by the provider of solid waste disposal that will serve the proposed project that it does not have a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Non-compliance with federal, state, or local statutes and regulations related to solid waste generation or disposal.

The Initial Study prepared for the proposed Project, which is contained in Appendix A, examined these criteria and determined that the proposed Project would have potentially significant impacts on all public services.

Public services and utility impacts could also be considered significant if aspects of the Project were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations presented in Section 5.11. 2 under Regulatory Setting in this EIR.*

5.11.4 Project Impacts and Mitigation Measures

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

Both Sites

The proposed Project incorporates necessary supporting physical infrastructure systems for La Floresta Village, as illustrated in Exhibits 4.2-5 through 4.2-15, and for the Birch Hills site as illustrated in Exhibits 4.2-19 through 4.2-29 contained in the Project Description

(Section 4.2). In addition, the La Floresta Development Proposal incorporates a system of trails and recreational facilities for the La Floresta Village site, as illustrated in Exhibits 4.2-10 and 11; and for the Birch Hills site as shown in Exhibits 4.2-24 and 25, in Section 4.2 – Project Description.

The City has been in the process of reviewing project design features for compliance with City policies and regulations, and various refinements have occurred in the proposed plans as a result. If additional adjustments are determined necessary during the public review process, they will be made during review of subsequent Precise Development Plans. In addition, the impact discussion under individual topics in the following sections demonstrates that the proposed Project would comply with the intent of General Plan policies outlined in the Section 5.11.2, primarily as a result of features incorporated in the proposed plans. Where this may not be the case, additional mitigation measures are outlined in the following sections. With mitigation measures outlined in the following sections under individual topics, no conflicts with pertinent policies of the City General Plan would occur with the proposed Project.

Level of Significance: Potentially significant.

Mitigation Measures: Mitigation measures necessary to eliminate any potential policy impacts are outlined in the following sections.

Level of Significance after Mitigation: Less than significant.

FIRE PROTECTION

Both Sites

The Brea Fire Department provides emergency response to wildland fires, hazardous materials incidents, urban fires, and emergency medical services (EMS). Wildland fire hazards would be less than significant since there is no undeveloped land surrounding the Birch Hills site, and the nearest wildland to the La Floresta Village site is across Rose Drive and the Project would be surrounded by greenbelts and trails. Hazardous materials issues are primarily related to the former oil wells and use of hazardous materials on the sites. These issues are addressed in Section 5.6.

The current response time for fire and paramedic services to both sites is approximately 4 minutes, which meets City standards. However, the proposed Project would increase traffic levels on the surrounding road network, which could cause an increase in emergency response times due to traffic congestion (Source: Dana Kemper, Brea Fire Marshall, April 2006).

The Project would also be expected to generate an increase in calls for service, especially EMS since the Project would include senior housing. Older persons typically have a higher rate of medical emergencies, which would result in additional demands on paramedic services. These impacts would be significant, and the provision of an additional engine company would be required on the east side of the City in order to ensure adequate fire protection and EMS. The City currently has no plans or budget for

an additional engine company, therefore the Project sponsor would be required to contribute to this expansion on a fair-share basis in order to mitigate this impact.

Level of Significance: Potentially significant.

Mitigation Measures:

PS-1 Fire Protection

Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Fire Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.

Level of Significance after Mitigation: Less than significant.

POLICE PROTECTION

Both Sites

Population increases and the addition of businesses typically generate additional calls for service in a community. In 2004, Brea Police Department (PD) responded to 19,233 calls for service. Of those, 6,735 originated from residences and 12,498 were from businesses. Police Department statistics indicate that residential units generate an average of 0.47 calls for service annually, while businesses generate an average of 4.07 calls per year. Based on these figures and an estimated 25 new businesses, the proposed Project would be expected to generate approximately 629 additional calls per year from residences and 102 additional calls from businesses, or a total of 731 annual calls for service. (Source: Captain Bill Hutchinson, Brea Police Department, April 2006)

The current service level is 663 annual service calls per patrol officer; therefore, the proposed Project would be expected to generate a need for one additional patrol officer.

City statistics also show that 0.466 investigative cases are generated for each service call. As a result, 340 additional cases would be expected based on 731 new service calls. The current level of service is 560 cases per investigator; therefore, the proposed Project would be expected to generate a need for 0.6 additional investigators.

Communications personnel are also impacted by increases in calls for service. Each dispatcher currently handles approximately 1,400 calls per year, therefore one additional half-time dispatcher would be needed to maintain current service levels.

Records support personnel handle approximately 800 items per person annually. Records technicians handle arrest packets for submission to the District Attorney, court filings, citation routing, false alarm permits and billings, and miscellaneous filing and customer service. It is expected that the proposed Project would generate the need for one additional part-time records technician.

These impacts would be significant unless additional staffing and equipment were provided. Therefore, the project sponsor would be required to contribute to this expansion on a fair-share basis in order to mitigate this impact.

Level of Significance: Potentially significant.

Mitigation Measures:

PS-2 Police Protection

Prior to issuance of each Certificate of Occupancy, the applicant shall pay fees to offset its fair-share of the cost of additional Police Department equipment and personnel needed to ensure adequate service levels. A community facilities district (CFD) may be established for this purpose.

Level of Significance after Mitigation: Less than significant.

SCHOOL SERVICES

Both Sites

Brea Olinda Unified School District (BOUSD)

The Brea-Olinda Unified School District is proposed to provide educational services to a portion of the La Floresta Village development project and the entire Birch Hills development project. As previously indicated, there are three schools that would serve the Project site including Olinda Elementary School, Brea Junior High School, and Brea-Olinda High School. These schools are currently near or over capacity according to school district officials.

Brea-Olinda Unified School District uses a student generation rate of 0.597 students per residential unit. According to the District's estimates, the portion of the proposed Project within BOUSD District boundaries would generate 197 elementary students, 71 junior high students and 121 high school students.

Current enrollments and capacities for each of the three schools serving the La Floresta Village site are shown in Table 5.11-1 below. Available capacity is then compared to the District's estimate of student generation. This analysis shows that the current capacity of both elementary and high schools would be exceeded with the proposed Project, while the junior high would remain below capacity (excluding other growth). These estimates include a number of planning areas that may be developed with age-restricted housing. As a result, estimates shown in Table 5.11-1 represent a worst case impact on the Brea Olinda School District.

**Table 5.11-1
Brea Olinda Unified School District –
School Impact Assessment with Project Development -
La Floresta Development Proposal**

School	Current Enrollment	Current Capacity	Existing Surplus (+) Deficit (-)	Estimated New Students from La Floresta Village	Projected Surplus (+) Deficit (-)
Olinda Elementary	319	333	+14	197	-183
Brea Jr. High	1,012	1,186	+174	71	+103
Brea-Olinda High School	2,051	1,969	-82	121	-203
Source: Brea-Olinda Unified School District, May 2006 Note: Estimates shown assume no change in current Brea Olinda School District boundaries.					

To offset impacts to school facilities, *Government Code* §5995 establishes an allowable school impact fee, which is assessed upon new development to offset its impacts to school facilities. Under state law, payment of school impact fees is considered full mitigation for all potential impacts to schools.

As noted above, the southern portion of the La Floresta Village site is within the Placentia-Yorba Linda school district. The Brea-Olinda Unified School district has initiated discussions with the Placentia-Yorba Linda District and the Orange County Committee on School District Organization regarding the realignment of the district boundaries so that the entire La Floresta Village site would be within the Brea-Olinda district. This is not considered a potentially significant impact, but the realignment would enable all La Floresta Village residents to attend the same schools, thereby enhancing community consistency and identity. For purposes of analysis, however, this impact assessment assumes that no change would in school district boundaries.

Level of Significance: Potentially significant.

Mitigation Measures:

PS-3 School Fees

Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Brea Olinda Unified School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Development Proposal located within BOUSD boundaries.

Level of Significance after Mitigation: Less than significant.

La Floresta Village Site

Placentia Yorba Linda Unified School District (PYLUSD)

The Placentia-Yorba Linda Unified School District would provide educational services to a portion of the La Floresta Village development project. As previously indicated, there are

three schools that would serve the area of the La Floresta Village site within existing PYLUSD boundaries, including the Rose Drive Elementary School, Yorba Linda Middle School and El Dorado High School. Yorba Linda Middle School and El Dorado High School are currently near or over capacity, according to information provided by school district officials.

The Placentia-Yorba Linda Unified School District uses a student generation rates of 0.5655 students per single family residential unit, and .3919 students per multiple – family residential unit. Utilizing these aggregate factors, it is estimated that the portion of the proposed La Floresta Village development within PYLUSD boundaries would generate a total of approximately 193 students, as illustrated in Table 5.11-2.

**Table 5.11-2
Estimated Student Generation –
Placentia-Yorba Linda Unified School District -
La Floresta Village Development**

Planning Area	Type of Dwelling Units	Estimated Number of Dwelling Units	Student Generation Rate	Estimated Student Generation
PA 4a	Townhomes @ 13 du/ac.	Although a very small portion of PA 4a may be in the PYLUSD, no units are assumed	n/a	-0-
PA 4b	Live/Work Townhomes @ 13.0 du/ac.	35 du (all of PA 4b is assumed to be within the PYLUSD although a small portion appears to be outside.)	.3719/du	13 students
PA 5	10 Live/Work Units; 140 Condominium Units	150 Total	.3719/du	56 students
PA 6	Live/Work SFD @ 4.6 du/ac.	23 du	.5655/du	13 students
PA 7	Townhomes @ 15.0 du/ac.	150 du	.3719/du	56 students
PA 8	Zero Lot Line SF @ 6 du/ac.	98 du	.5655/du	55 students
PA 9	Senior Living @ 28.5 du/ac.	200 du	No student generation is assumed.	-0-
PA 10	Active Adult SF @ 5 du/ac.	35 du (approx. 1/3 of the PA)	No student generation is assumed.	-0-
Total	n/a	691 dwelling units	n/a	193 Estimated Students

Sources: CONEXUS, November 2006; and PYLUSD, November 2006.

Current enrollments and capacities for each of the three schools serving the La Floresta Village site are shown in Table 5.11-3. Available capacity is then compared to the estimate of student generation. Because school district planners provided only aggregate student generation rates by type of dwelling unit, impacts to individual schools cannot be determined. Typically, however, student generation is highest per dwelling unit for the elementary school level and lowest for the high school level. As

shown in Table 5.11-3, Rose Drive Elementary School currently has substantial surplus capacity, thus it appears that the proposed La Floresta Village development would not result in the need for the physical expansion of this facility. Surplus capacity at the Yorba Linda Middle School and at El Dorado High School is more limited and the proposed La Floresta Village Development could impact these facilities adversely. As was noted previously, the project applicant has been in discussions with PYLUSD officials about the possibility of de-annexing the portion of the La Floresta Village Development currently within PYLUSD boundaries.

**Table 5.11-3
Placentia-Yorba Linda Unified School District
School Impact Assessment with Project Development Located in PYLUSD**

School	Current Enrollment	Current Capacity	Existing Surplus (+) Deficit (-)	Estimated New Students from La Floresta Village	Projected Surplus (+) Deficit (-)
Rose Drive Elementary	347	628	+283	not available	not available
Yorba Linda Middle School	825	850	+25	not available	not available
El Dorado High School	2473	2,475	+2	not available	not available
Note: Estimates assume no change in PYLUSD boundaries. Source: Placentia Yorba Unified School District, Facilities & Planning, November 2006					

In any event, *Government Code* §65995 establishes an allowable school impact fee, which is assessed upon new development to offset its impacts to school facilities. Under state law, payment of school impact fees is considered full mitigation for all potential impacts to schools.

Mitigation Measures:

PS-4 School Fees

Prior to issuance of each Certificate of Occupancy, the applicant shall pay school impact fees as negotiated with the Placentia Yorba Linda School District to offset its fair share of the cost of additional school facilities determined necessary to serve the portion of the La Floresta Village Development located within the PYLUSD boundaries.

Level of Significance after Mitigation: Less than significant.

PARK FACILITIES AND RECREATIONAL SERVICES

Park Facilities

La Floresta Village Site

The Illustrative Site Plan (Exhibit 4.2-2, page 4-7) and the Open Space Plan (Exhibit 4.2-11a, page 4-61) for La Floresta Village show an Active Adult Recreation Center encompassing 3.27 acres (PA 11). This center is proposed to include a pool, a spa, a

gym, a bocce ball court, picnic areas, gardens, a meeting room and restroom facilities, and would be reserved for residents and guests of the Active Adult communities planned within the La Floresta Village development. A 0.8-acre recreation center with a pool, spa and meeting room is also planned in Planning Area 8. A linear park would border the eastern boundary of the La Floresta Village site with the Vesuvius neighborhood. This park is proposed to be 50 feet wide and include a meandering paved trail as illustrated in Exhibit 4.2-11b, La Floresta Village–Linear Park Edge Conditions. Park acreage for La Floresta Village is detailed in Table 5.11-4.

**Table 5.11-4
Open Space and Recreation Acreage -
La Floresta Village**

Planning Area / Amenity	Acreage	
Linear Park	3.7	
Perimeter Trails	6.1	
PA 1	0.2	(Open Space)
PA 3	0.8	(Open Space)
PA 4	0.5	(Open Space)
PA 5	0.4	(Open Space)
PA 6	0.3	(Open Space)
PA 7	0.9	(Open Space)
PA 8	0.1	(Open Space)
	0.7	(Rec Center)
PA 11	4.3	(Open Space/Rec Ctr)
Total	18.0	
Source: EDAW, August 2006		

The City's standard for parkland is 5 acres per 1,000 population. Based on the proposed 1,088 residential units and an average household size of 2.78 persons per dwelling unit¹⁰, the La Floresta Village development project would generate approximately 3,025 persons at build-out, which would require 15.15 acres of parkland according to the City standard. The La Floresta Village plan would not comply if only linear park area is considered. If all open space, trails and recreation facilities illustrated in Table 5.11-4 are considered, however, the La Floresta Village plan would exceed the city standard by 2.85 acres. Consequently, no adverse impacts to park facilities as a result of the La Floresta Village plan are anticipated.

Birch Hills Site

The Birch Hills Illustrative Site Plan (Exhibit 4.2-17, page 4-79) shows a Community Facility with a clubhouse. This facility would be available for public community use. No new public parkland is proposed as part of the Birch Hills development, although the existing golf course would be preserved and re-configured (75.6 acres, or 83% of the site) as part of the planned development, as shown in Table 5.11-5. The golf course, which is presently

¹⁰ Source: California Department of Finance, Series E-5 City/County Population and Housing Estimates, 1/1/2006 (<http://www.dof.ca.gov/HTML/DEMOGRAP/E-5a.xls>)

operated by a Chevron concessionaire, would also be turned over to the City of Brea for operations and revenue generation.

Using the methodology described for the La Floresta Village development, the proposed 247 new residential units would yield 687 persons at build-out. According to the City's standard, 3.45 acres of parkland would be required as part of the Birch Hills development project. The Birch Hills plan therefore would exceed the standard by 61.45 acres, if only the golf course area is considered. If all other open space, trails and recreation facilities illustrated in Table 5.11-5 are considered, the Birch Hills plan would exceed the city standard by 66.45 acres. Consequently, no impacts to park facilities as a result of the Birch Hills plan are anticipated.

**Table 5.11-5
Open Space and Recreation Acreage -
Birch Hills**

Planning Area / Amenity	Acreage	
Golf Course	64.9	
Parkway	1.8	
Clubhouse	0.5	
Community Trail	1.4	
PA 12a	0.5	(Rec Center)
PA 12b	0.4	(Open Space)
	0.4	(Rec Center)
Total	69.9	
Source: EDAW, August 2006		

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Trails

La Floresta Village Site

Community multi-use trails and Class I bike paths, as shown on Exhibit 4.2-7 – La Floresta Village: Conceptual Pedestrian Circulation Plan (page 4-51), and Exhibit 4.2-8 –La Floresta Village: Conceptual Bicycle Circulation Plan (page 4-53), are proposed along the Imperial Highway and Valencia Avenue edges to connect with the regional Fullerton, Valencia, Chino Hills and El Cajon trails, as well as additional pedestrian and Class III bicycle trails for circulation within the La Floresta Village development.

Exhibits 4.2-10a and 10b illustrate the cross-sections of these trails. A ten-foot-wide dual-purpose walking/bike trail is proposed along Imperial Highway and Valencia Avenue, in addition to a five-foot meandering decomposed granite (D.G.) trail all within a 30-foot landscape setback area. Along Valencia Avenue, the La Floresta Village development project proposes a five-foot meandering D.G. trail and a ten-foot sidewalk within the 30-

foot landscape setback area. The trail proposed along Rose Drive would also provide a five-foot meandering D.G. trail and a six-foot sidewalk within a 30-foot landscape setback area. A five-foot-wide Class II Bike Lane also currently runs along Rose Drive.

Linear parks 50 to 52 feet in width are proposed along the La Floresta Village boundaries abutting the existing residential neighborhood located to the east of the La Floresta Village site, as illustrated in Exhibit 4.2-11a – La Floresta Village: Conceptual Open Space Plan (page 4-61). Block walls are proposed along the linear park edge, as illustrated in Exhibit 4.2-9 – La Floresta Village: Conceptual Wall and Fence Plan (page 4-55). The linear parks are proposed to contain a five-foot meandering paved trail to accommodate hiking and biking throughout the community. Many of the existing trees will remain along the meandering trail to provide a buffer for the existing Vesuvius neighborhood on the east. Additional tree and shrub planting will provide shaded areas along the walk. Benches and other amenities are also anticipated within the linear park area.

The La Floresta Village development plan is considered consistent with City trail policies and plans, therefore no impacts are anticipated to trails facilities and no mitigation other than compliance with City trails policies and standards is required.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

A community multi-use trail is planned to connect with the regional Fullerton trail through the Birch Hills site along the Loftus Flood Control Channel, which traverses the site, as shown in Exhibit 3.4-4 (page 3-15). In addition, the proposed Birch Hills development would result in the connection of the property with the regional Brea Trail system. This plan is consistent with City plans and policies; therefore, no trails impacts are anticipated and no mitigation is required.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Bikeways

La Floresta Village Site

Community multi-use trails and Class I bike paths, as shown on Exhibit 4.2-7 – La Floresta Village: Conceptual Pedestrian Circulation Plan (page 4-51), and Exhibit 4.2-8 – La Floresta Village: Conceptual Bicycle Circulation Plan (page 4-53), are proposed along the Imperial Highway and Valencia Avenue edges to connect with the regional Fullerton, Valencia, Chino Hills and El Cajon trails, as well as additional pedestrian and Class III bicycle trails for circulation within the La Floresta community. The General Plan

Bike Plan (Exhibit 5.11-3 on page 5.11-11) calls for a Class I trail through the La Floresta site to connect the regional trails to the east and west. The applicant proposes to provide approximately 2 miles of perimeter trails, as shown in Exhibit 4.2-8 – La Floresta Village: Conceptual Bicycle Circulation Plan (page 4-53), and Exhibits 4.2-10a and 10b – La Floresta Village – Typical Landscape Conditions, Imperial Highway, Valencia Avenue, and Rose Drive. These proposed trails are considered to implement the intent of the General Plan Bike Plan and Trails Plan. No significant bikeway impacts are anticipated.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The General Plan (Exhibit 5.11-3, page 5.11-11) shows two Class I Bike Paths through the Birch Hills site, one connecting to the Fullerton Trail and the other to Craig Regional Park. The Birch Hills development plan includes a community multi-use trail to connect with the regional Fullerton trail through the site along the Loftus Flood Control Channel, as shown in Exhibit 4.2-25 – Birch Hills: Conceptual Open Space Plan (page 4-101). In addition, the project proponents propose to connect this property with the regional Brea Trail system, as shown in Exhibit 4.2-22 – Birch Hills: Conceptual Bicycle Circulation (page 4-95). A pedestrian crossing would be provided at Birch Street and the entrance to the golf course is also proposed to be signalized to enhance safety of trail users.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Recreation Services

Both Sites

While the La Floresta Development Proposal would provide additional park and recreational facilities primarily intended to serve its residents, the increase in population would add to the demand for citywide recreation programs and services such as Family Resource Center services, senior services, parks and recreation programs, and cultural arts programs. These are considered to be potentially significant impacts. If the Birch Hills development project is approved and the City takes over the Birch Hills Golf Course, new revenues would be available to offset other possible cost increases such as those described above. With anticipated additional revenue, potential impacts to Recreation Services are considered less than significant.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

LIBRARY SERVICES

Both Sites

The La Floresta Development Proposal would increase the library user population by approximately 2,670 persons, according to the Orange County Librarian. The County's service standard is 0.2 square feet of facilities and 1.5 book volumes per capita. The increase in population would require physical expansion of 534 square feet and 4,000 book volumes in order to maintain service standards. No expansion of the branch library is currently planned. Funding would be required to provide the additional books to meet the service standard. This is considered to be a potentially significant impact. The following mitigation measure would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

PS-5 Library Fees

Prior to issuance of each Certificate of Occupancy, the applicant shall pay library impact fees to offset its fair-share of the City's cost of providing additional resources to Project residents.

Level of Significance after Mitigation: Less than significant.

WASTEWATER TREATMENT

La Floresta Village Site

Sewer trunk lines and treatment plant capacity are adequate to handle the proposed development (Source: Adam Nazaroff, Cooperative Projects Engineer, OCSD, May 2006). Under current conditions, the Brea and Placentia sewer mains cannot convey the estimated peak flows without upsizing a significant number of segments. A sewer lift station discharging directly into the OCSD trunk line in Rose Drive is proposed with the La Floresta Village development project. This pump station must be designed and operated so that its peak volume does not exceed the capacity of the trunk line. Approval of OCSD would be required for this connection. The mitigation measure listed below would reduce this impact to a level that is less than significant.

Level of Significance: Potentially significant.

Mitigation Measures:

PS-6 Sewer Facilities

- a. *Prior to approval of the first final subdivision map for La Floresta Village (except maps for financing purposes only, the applicant shall submit a sewer system improvement phasing plan for the La Floresta Village development project meeting the approval of the City Engineer and the Orange County Sanitation District.*
- b. *Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the City Engineer and the Orange County Sanitation District.*

Level of Significance after Mitigation: Less than significant.

Birch Hills Site

Planning Area 12a would be served by Kraemer Region 8 and Planning Area 12b would be served by Cypress Drainage Region 7. Adequate capacity currently exists in these systems. The following mitigation measure would ensure that adequate sewer facilities are provided to the Birch Hills development project.

Level of Significance: Potentially significant.

Mitigation Measures:**PS-7 Sewer Facilities**

- a. *Prior to approval of the first final subdivision map for Birch Hills (except maps for financing purposes only), the applicant shall submit a sewer system improvement phasing plan for the Birch Hills development project meeting the approval of the City Engineer and the Orange County Sanitation District.*
- b. *Prior to issuance of a certificate of occupancy, sewer system improvements shall be installed in a manner meeting the approval of the City Engineer and the Orange County Sanitation District.*

Level of Significance after Mitigation: Less than significant.

WATER SUPPLY**Both Sites**

As required by state law, a Water Supply Assessment was prepared for the La Floresta Development Proposal, which includes both the planned La Floresta Village and Birch Hills developments (see Appendix I). The WSA concluded that the City's water supply and reliability would be sufficient for the La Floresta Development Proposal through the next 20 years during normal, single dry and multiple dry year scenarios, and that the planned system improvements described in the 2002 Water Master Plan would ensure

adequate water service to the sites. Site improvements by the developer will be required to provide service connections to new homes and businesses.

Level of Significance: Potentially Significant.

Mitigation Measures:

PS-8 Water Facilities

- a. *Prior to approval of the first final subdivision map for either the La Floresta Village or Birch Hills site (except maps for financing purposes only) the applicant shall submit a water system improvement phasing plan for the development involved meeting the approval of the City Engineer.*
- b. *Prior to issuance of a certificate of occupancy, water system improvements shall be installed in a manner meeting the approval of the City Engineer.*

Level of Significance after Mitigation: Less than significant.

SOLID WASTE DISPOSAL

Both Sites

Although there are no formal General Plan policies applicable to solid waste disposal, an implementation program of the General Plan is to "Review development proposals for consistency with water, power, and solid waste disposal infrastructure requirements." (p. A-9) Solid waste disposal would be provided by the Orange County Integrated Waste Management Department (IWMD) at the Olinda Alpha Landfill, located north of the project area at 1942 N. Valencia Avenue. This landfill is estimated to have capacity to operate until 2013, and an expansion is being considered by the County that would allow it to operate until 2021. The La Floresta Development Proposal would not have a significant effect on the ability of IWMD to provide solid waste disposal. (Source: John Arnau, IWMD, May 2006)

Level of Significance before Mitigation: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.11.5 Cumulative Impacts

Both Sites

All new developments contribute to increased demand for public services and utilities. Generally, the various service agencies incorporate growth anticipated in the adopted General Plan into their long range planning programs, which has been considered the context for both project specific and cumulative assessment of services and utilities

impacts in this EIR. This of the EIR has analyzed the potential public service and utility impacts associated with the La Floresta Development Proposal, including fire and police protection, schools, parks and recreational facilities, libraries, wastewater treatment, water supply and distribution systems and solid waste disposal, and concluded that no significant impacts would occur. In consideration of the preceding factors, the contribution of the La Floresta Development Proposal to cumulative impacts related to public services and utilities is less than considerable and, therefore, less than cumulatively significant despite the fact that a General Plan amendment is requested for the Birch Hills development. (As noted in the Project Description, the General Plan Amendment for Birch Hills would simply replace the existing Birch Hills Specific Plan with the proposed Birch Hills development plan, which is considered consistent with the General Plan.)

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.11.6 Significant Unavoidable Impacts

Both Sites

With the implementation of existing requirements and the recommended mitigation measures, all potential service and utilities impacts would be reduced to a level that is less than significant.

5.12 Traffic and Circulation

5.12.1 Methodology

An analysis has been prepared by Austin–Foust and Associates, Inc. (AFA) to evaluate the traffic related impacts of the proposed Project. The entire technical study is contained in Appendix J to this EIR. This section summarizes key information and findings of that analysis.

The study area for the La Floresta traffic analysis comprises the roadways and intersections in the immediate Project area, and includes those locations that could potentially be impacted by Project traffic. The specific intersections identified for analysis includes all facilities where peak hour intersection volume/capacity ratios could increase by more than one percent as a result of the project. This is the impact threshold designated by the City of Brea for use in traffic impact studies.

The traffic impact analysis first provides an overview of existing traffic conditions in the study area, and an evaluation of Project impacts based on interim year conditions and build-out of the Project. The interim year analysis focuses on conditions at Project completion and uses 2012 as the reference time frame. The long-range analysis addresses a cumulative setting and evaluates year 2025 conditions with the La Floresta Development Proposal.

The analysis examines interim and long-range traffic conditions for the following six scenarios:

1. Interim Year – No Project
2. Interim Year – With Full Project (both Birch Hills and La Floresta Village sites)
3. Long-Range – No Project
4. Long-Range – With Birch Hills Project site only
5. Long-Range – With La Floresta Village Project site only
6. Long Range – With Full Project (both Birch Hills and La Floresta Village sites)

Peak hour intersection volumes are used to evaluate traffic performance at selected intersections, and a special analysis has been performed for Carbon Canyon Road.

The traffic forecast database used in this analysis was derived from the Tri-City Traffic Model (TCTM). This is a special subarea model derived from the Orange County Traffic Analysis Model (OCTAM), and is described further in Appendix J. This model has the ability to forecast peak hour intersection volumes and average daily traffic (ADT) link volumes within the study area circulation system. Detailed land use data used in modeling is contained in the Brea Technical Notebook for traffic zones within City Limits and the sphere of influence. (This study is available from the City of Brea, Development Services Department.) The TCTM was updated in December 2005 to include a

modification that affected how the Carbon Canyon volumes are forecast. The previous version of the model produced unconstrained demand forecasts through the canyon, and the update achieves a more realistic balance between forecast volume and capacity.

Through its derivation from the OCTAM parent model, the TCTM maintains consistency with the countywide regional traffic forecasting methodology and database. In particular, it projects future traffic volumes on the study area circulation system in a regional context, thereby reflecting future growth in the City and the surrounding areas. The interim forecasts presented in this EIR were derived by interpolation between existing and 2025 volumes, and represent a time frame of around 2012.

Evaluating the ability of the circulation system to serve the desired future land uses requires establishing suitable "performance criteria." These are the means by which future traffic volumes are compared to the future circulation system capacity, and the adequacy of that circulation system assessed.

Performance criteria have a policy component that establishes a desired level of service and a technical component that specifies how traffic forecast data can be used to measure the achievement of the criteria. The intent is to establish thresholds of acceptable traffic in relation to the ability of the circulation system to carry that traffic.

The performance criteria used for evaluating volumes and capacities on the City of Brea street system are based on peak hour intersection data and are summarized in Table 5.12-3 (page 5.12-16). Capacity needs tend to be most important at intersections, and the use of peak hour data enables intersection capacity needs to be evaluated. The detailed forecasting capability of the TCTM is used to provide a peak hour level of detail, with individual intersection turn movements being estimated. Based on these turn movement volumes, intersection capacity utilization (ICU) values are estimated for the AM and PM peak hours. The ICUs represent volume-to-capacity (V/C) ratios for the forecast volumes and the intersection lane configurations, and provide a detailed measure of system performance. Traffic flow quality for different V/C ranges is described in detail in Appendix J. As listed in Table 5.12-3, previously referenced, the City of Brea has level of service (LOS) "D" (ICU to not exceed .90) as a threshold standard. For Orange County Congestion Management Program (CMP) intersections, LOS "E" (maximum ICU of 1.00) is the threshold. The study area has four CMP intersections:

1. SR-57 southbound ramp at Imperial Highway (Brea)
2. SR-57 northbound ramp at Imperial Highway (Brea)
3. Valencia Avenue at Imperial Highway (Brea)
4. Rose Drive at Imperial Highway (Placentia)

These performance criteria are applied consistently for evaluating land use and circulation system changes and are the basis for the traffic study results presented in this EIR.

The build-out circulation system assumed for the study area reflects the City of Brea's recently adopted General Plan Circulation Element. This circulation system is similar to the

Orange County Master Plan of Arterial Highways (MPAH) with one major difference in this study area, which is the northward extension of Valencia Avenue to Tonner Canyon Road. This improvement is currently on the MPAH, but the General Plan Circulation Element proposes to eliminate this connection after the completion of the formal process required by OCTA for such deletions.

The City has a comprehensive program to fund long-range transportation improvements in the City, referred to as the Nexus Program as discussed in Section 5.12.2 under Regulatory Setting. Specific future improvements assumed in this traffic analysis are indicated in Appendix J. These improvements are considered committed and are currently funded and programmed for construction and have thereby been assumed as a baseline for this analysis, and include improvements in the Cities of Brea, Placentia, and Yorba Linda. The long-range build-out improvements in Brea are being considered for inclusion into the City's Nexus Program and are a combination of improvements in the current Nexus Program and mitigation measures presented in the City of Brea General Plan Traffic Study and EIR.

5.12.2 Setting

PROJECT SITE CONDITIONS

Traffic generation associated with the existing land uses currently located on each site is shown in Table 5.12-1 below. As shown, the existing land uses generate 2,233 daily trips, with 278 trips occurring in the AM peak hour and 299 trips in the PM peak hour.

**Table 5.12-1
Existing Conditions – Trip Generation Summary –
La Floresta Development Proposal**

Land Use	Amount	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
La Floresta Village								
11. Light Industrial	294,000 sq.ft.	223	47	270	35	253	288	2,049
22. Vacant Land	25.0 acres	0	0	0	0	0	0	0
Subtotal		223	47	270	35	253	288	2,049
Birch Hills								
22. Vacant Land	5.0 acres	0	0	0	0	0	0	0
29. Golf Course	18 holes	6	2	8	4	7	11	184
Subtotal		6	2	8	4	7	11	184
Total Existing Trips								
11. Light Industrial	294,000 sq.ft.	223	47	270	35	253	288	2,049
22. Vacant Land	30.0 acres	0	0	0	0	0	0	0
29. Golf Course	18 holes	6	2	8	4	7	11	184
Grand Total		229	49	278	39	260	299	2,233
Source: Austin-Foust Associates, November 2006								

5. Environmental Analysis

Peak hour intersection counts were conducted in October and November 2005 for these intersections and illustrate existing conditions. Table 5.12-2 below summarizes the existing ICU values. Detailed ICU calculations for each intersection can be found Appendix J. LOS "D" or better is the desirable threshold for the City of Brea, and LOS "E" is acceptable for all CMP locations as noted in the performance criteria presented earlier. As the peak hour LOS summary indicates, all study area intersections currently meet performance standards.

**Table 5.12-2
Existing Conditions – ICU and Level of Service Summary –
La Floresta Development Proposal**

Intersection	AM Peak Hour		PM Peak Hour		Count Date
	ICU	LOS	ICU	LOS	
City of Brea					
8. SR-57 SB Ramps & Lambert Rd	.72	C	.55	A	Nov. 2005
9. SR-57 NB Ramps & Lambert Rd	.74	C	.66	B	Nov. 2005
10. Pointe Dr & Lambert Rd.	.51	A	.63	B	Nov. 2005
11. Associated Rd & Lambert Rd	.69	B	.48	A	Nov. 2005
12. Kraemer Blvd & Lambert Rd	.65	B	.53	A	Oct. 2005
13. Valencia Ave & Lambert Rd	.55	A	.71	C	Oct. 2005
17. Associated Rd S. & Birch St	.79	C	.70	B	Oct. 2005
18. Associated Rd N. & Birch St	.53	A	.52	A	Oct. 2005
19. Kraemer Blvd & Birch St	.63	B	.65	B	Oct. 2005
20. Valencia Ave & Birch St	.70	B	.73	C	Oct. 2005
26. SR-57 SB & Imperial Hwy*	.62	B	.77	C	Nov. 2005
27. SR-57 NB & Imperial Hwy*	.86	D	.68	B	Nov. 2005
28. Associated Rd & Imperial Hwy	.89	D	.85	D	Nov. 2005
29. Placentia Ave & Imperial Hwy	.56	A	.58	A	Nov. 2005
30. Kraemer Blvd & Imperial Hwy	.62	B	.74	C	Nov. 2005
31. Valencia Ave & Imperial Hwy*	.62	B	.55	A	Nov. 2005
City of Placentia					
40. Kraemer Blvd & Golden Ave	.46	A	.49	A	Oct. 2005
41. Valencia Ave & Golden Ave	.36	A	.28	A	Oct. 2005
42. Rose Dr & Imperial Hwy*	.65	B	.93	E	July 2005
43. Placentia Ave & Bastanchury	.61	B	.75	C	Oct. 2005
44. Kraemer Blvd & Bastanchury	.62	B	.77	C	Oct. 2005
45. Valencia Ave & Bastanchury	.45	A	.51	A	Oct. 2005
City of Yorba Linda					
46. Rose Dr & Bastanchury	.55	A	.55	A	Nov. 2005
*LOS "E" is acceptable at this location (Congestion Management Program (CMP) intersection). LOS "D" is the performance standard for all other intersections. Level of service ranges: .00 - .60 A .61 - .70 B .71 - .80 C .81 - .90 D .91 - 1.00 E Above 1.00 F Source: Austin-Foust Associates, November 2006					

The existing circulation system and recent average daily traffic volumes are shown in Exhibit 5.12-3 – Existing 2005 Average Daily Traffic (ADT) Volumes (page 5.12-11). Existing Average Daily Traffic (ADT) volumes are shown for comparison with projected future ADT volumes presented in following sections. The intersections studied in this analysis are illustrated in Exhibit 5.12-4 – Intersection Location Map (page 5.12-13).

REGULATORY SETTING

City of Brea General Plan: Circulation Element

The Circulation Element of the General Plan contains policies that are applicable to the proposed project, as identified below.

- *Policy CD-11.1: Maintain a circulation system that is based upon and is in balance with the Land Use Element of the General Plan.*
- *Policy CD-11.3: Plan neighborhood streets, pedestrian walks, and bicycle paths as a system of fully connected routes throughout the City.*
- *Policy CD-11.4: Protect residential streets from arterial street traffic.*
- *Policy CD-11.9: Consider establishing landscaped center medians on arterial streets such as Imperial Highway, Birch Street, and South Brea Boulevard.*
- *Policy CD-12.5: Require new developments to incorporate transit-oriented design features, as appropriate.*
- *Policy CD-13.4: Require new developments to provide for the use of alternative modes of transit via internal trails and travel ways- public or private- for pedestrians and vehicles other than cars. New developments shall include such features as well-designed sidewalks and parkways, bike lanes and paths, and dedicated bus turn-outs.*

City of Brea – NEXUS Program

Both Sites

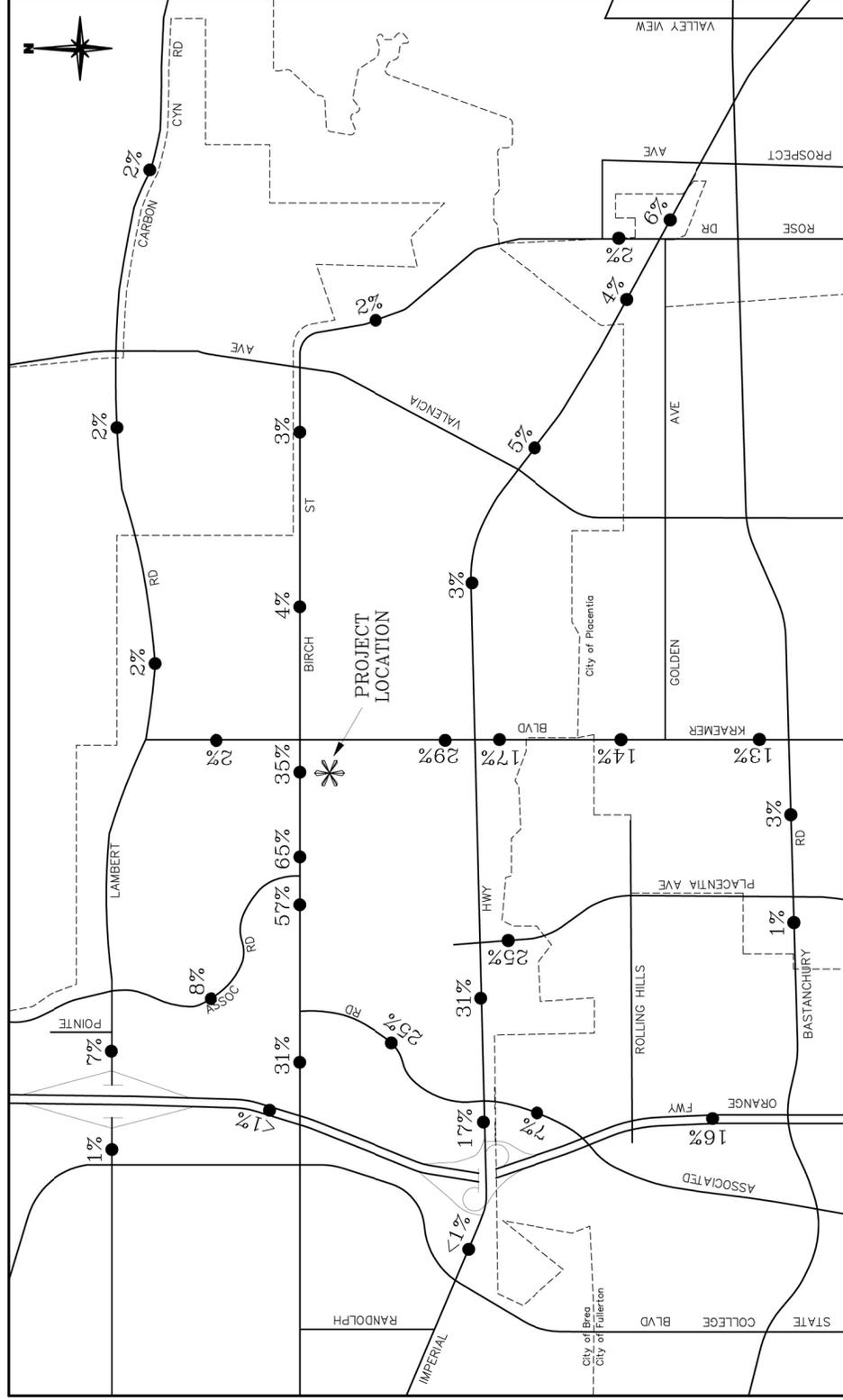
The City of Brea maintains a Nexus Program, which funds transportation improvements throughout the City. The Nexus procedures satisfy the AB1600 legislative requirement that development fees are based on a demonstrated relationship between new development and future traffic impacts. The Nexus Program ensures that every project contributes on a fair share basis to these improvements by means of the fee program, which manages the collection of fees and the implementation of improvements.

In this way, capacity improvements occur in an orderly and systematic manner, with all future development contributing on a fair share basis. The improvements include intersection enhancements at selected locations. An update to that program is currently underway and should be completed by the end of 2006. At that time, improvements will be incorporated into that program that will result in all of the intersections meeting the City's adopted performance criteria.

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Birch Hills: Trip Distribution Patterns

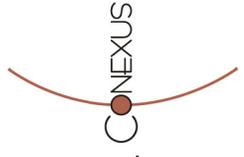


Legend

- City Limits

Source: Austin-Foust Associates, Inc., November 2006

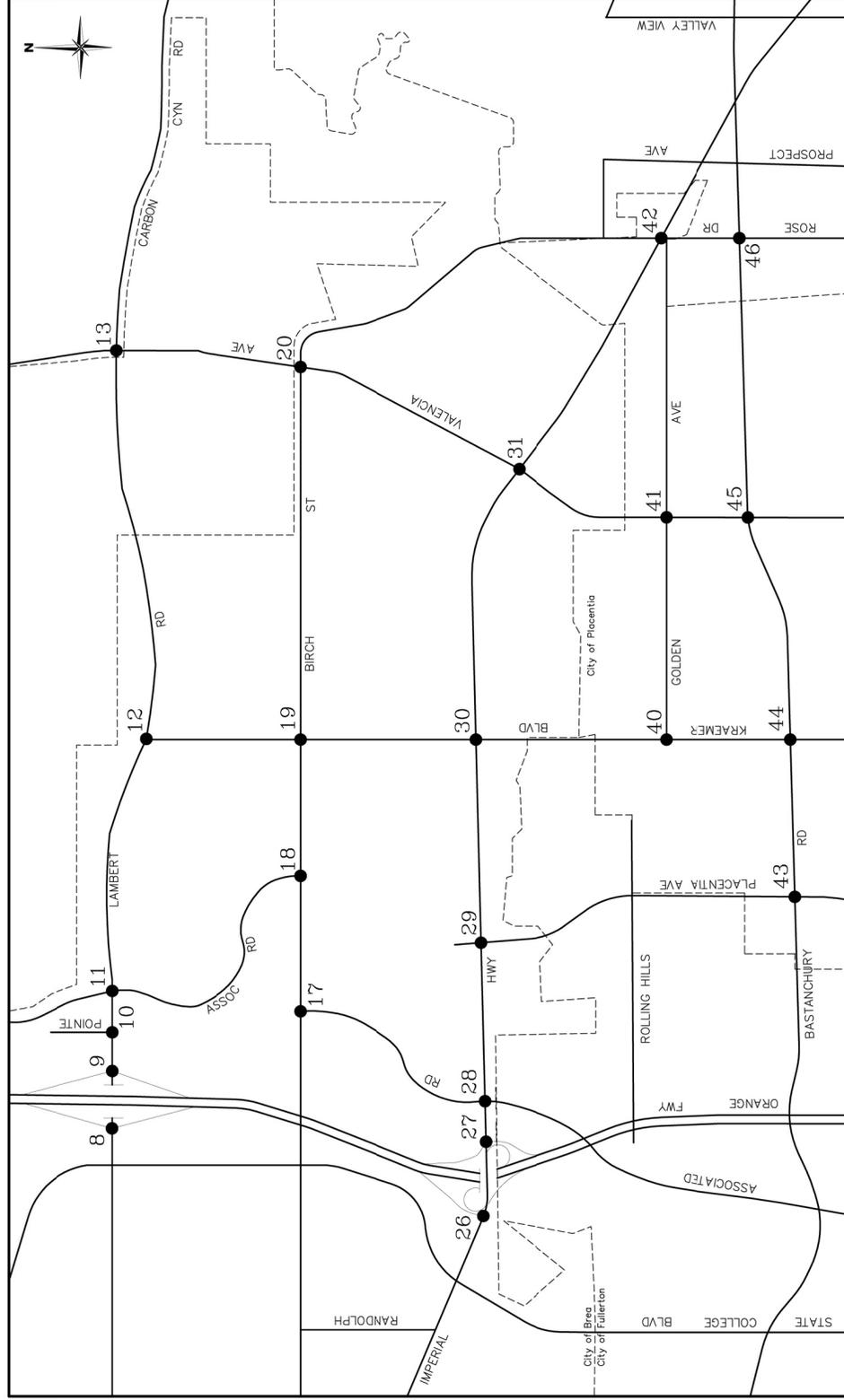
▲ Not to Scale
 □ Exhibit 5.12-2



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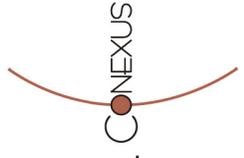
Intersection Location Map



Legend	
-----	City Limits

Source: Austin-Foust Associates, Inc., November 2006

▲ Not to Scale
 Exhibit 5.12-4



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5.12.3 Thresholds of Significance

Evaluation conducted in the Initial Study identified potentially significant impacts relative to the following issues. Would the Project:

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity?

Table 5.12-3 presents performance criteria utilized for comparing volumes and capacities on the analysis area street system. These criteria are used to assess project impacts in identified above.

Traffic and circulation impacts could also be considered significant if aspects of the Project were found to be inconsistent with applicable plans and policies as outlined in the preceding sub-section. Thus the following threshold is added:

- *Substantially conflict with applicable plans and regulations as presented in Section 5.12.2 under Regulatory Setting.*

**Table 5.12-3
Circulation System Performance Criteria –
La Floresta Development Proposal**

<p>I. Peak Hour Intersection Volumes Intersection capacity utilization (ICU) values calculated as follows: Saturation flow rate 1,700 vehicles per hour (VPH) Clearance interval .05 ICU</p>															
<p>Performance Standards</p> <ul style="list-style-type: none"> - Arterial intersections to achieve level of service D or better (ICU to not exceed .90) - CMP designated intersections to achieve level of service E or better (ICU not to exceed 1.00) 															
<p>Level of Service Level of service ranges for ICU values are:</p>															
<table border="1"> <thead> <tr> <th align="center">ICU</th> <th align="center">Level of Service (LOS)</th> </tr> </thead> <tbody> <tr> <td align="center">0.00-0.60</td> <td align="center">A</td> </tr> <tr> <td align="center">0.61-0.70</td> <td align="center">B</td> </tr> <tr> <td align="center">0.71-0.80</td> <td align="center">C</td> </tr> <tr> <td align="center">0.81-0.90</td> <td align="center">D</td> </tr> <tr> <td align="center">0.91-1.00</td> <td align="center">E</td> </tr> <tr> <td align="center">above 1.00</td> <td align="center">F</td> </tr> </tbody> </table>	ICU	Level of Service (LOS)	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	
ICU	Level of Service (LOS)														
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														
<p>Project Impact A significant project impact occurs when the ICU value increases by greater than .01 and achieves level of service E or worse. For CMP intersections, the ICU value increases by more than .03 and achieves LOS F.</p>															
<p>II. Carbon Canyon Road Highway Capacity Manual (HCM) procedure for two-lane rural highways, modified to reflect the unique character of this roadway. The flow rates (one direction) for different levels of service are as follows:</p>															
<table border="1"> <thead> <tr> <th align="center">Peak Hour Volumes</th> <th align="center">Level of Service (LOS)</th> </tr> </thead> <tbody> <tr> <td align="center">< 720</td> <td align="center">A</td> </tr> <tr> <td align="center">720-1,079</td> <td align="center">B</td> </tr> <tr> <td align="center">1,080-1,439</td> <td align="center">C</td> </tr> <tr> <td align="center">1,440-1,619</td> <td align="center">D</td> </tr> <tr> <td align="center">1,620-1,800</td> <td align="center">E</td> </tr> <tr> <td align="center">>1,800</td> <td align="center">F</td> </tr> </tbody> </table>	Peak Hour Volumes	Level of Service (LOS)	< 720	A	720-1,079	B	1,080-1,439	C	1,440-1,619	D	1,620-1,800	E	>1,800	F	
Peak Hour Volumes	Level of Service (LOS)														
< 720	A														
720-1,079	B														
1,080-1,439	C														
1,440-1,619	D														
1,620-1,800	E														
>1,800	F														
<p>Performance Standard: Level of Service D This CMP roadway shows a significant project impact if the one-way volume increases by more than 3 percent and achieves Level of Service F.</p>															
<p>Source: Austin-Foust Associates, November 2006</p>															

5.12.4 Project Impacts and Mitigation Measures

This section evaluates the estimated traffic that would be generated by the proposed Project during construction activities, as well as after site occupancy, and possible impacts on the area circulation system. Impacts are examined under several scenarios addressing existing and projected future conditions through the Year 2025. These scenarios are examined to account for other known and reasonably foreseeable development that could contribute to impact the circulation system throughout the life of the project. Scenarios analyzed include Year 2012 – No Project, Year 2012 – With Full Project, Year 2025 – No Project, Year 2025 – With Birch Hills, Year 2025 – With La Floresta Village, and Year 2025 – With Full Project. Impacts related to project and emergency access, and adopted policies, plans, or programs supporting alternative transportation modes are also examined. Methodologies utilized to assess traffic and circulation impacts are cumulative in nature. Traffic and circulation impacts that would be generated by the Project are compared with existing conditions (no development) and other possible alternatives in Section 7.0, Project Alternatives.

CONSISTENCY WITH APPLICABLE REGULATIONS AND PLANS

City of Brea General Plan: Circulation Element

La Floresta Village Site

The site plan for La Floresta Village is in compliance with relevant policies of the Circulation Element as outlined in Section 5.12.2 under Regulatory Setting, in that:

- The circulation improvements proposed are appropriate for the proposed land, and any changes in adjacent streets from which the Project would take access have been identified as mitigation measures in this EIR. No significant impacts would remain in the City of Brea after recommended mitigation. An unavoidable significant cumulative impact would, however, remain at the intersection of Bastanchury Road and Placentia Avenue and at Bastanchury Road and Kraemer Avenue in the City of Placentia (see Section 5.12.5 – Cumulative Impacts for discussion).
- The La Floresta Village project does not involve a General Plan Amendment, and proposed uses are consistent with the recently adopted Mixed Use II (MU-II) Zone.
- The La Floresta Village site plan provides for an internal system of public and private local streets, pedestrian circulation, and bicycle circulation. Community multi-use trails and Class I bike paths, as shown on Exhibit 4.2-7 – La Floresta Village: Conceptual Pedestrian Circulation Plan, and Exhibit 4.2.8 – La Floresta Village: Conceptual Bicycle Circulation Plan, are proposed along the Imperial Highway and Valencia Avenue edges to connect with the regional Fullerton, Valencia, Chino Hills and El Cajon trails, as well as additional pedestrian and Class III bicycle trails for circulation within the La Floresta community. Access to portions of the planned development would be gated,

and major entry points along Valencia Avenue and Imperial Highway are to be signalized.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

The site plan for Birch Hills is in compliance with relevant policies of the Circulation Element of the City of Brea as outlined in Section 5.12.2 under Regulatory Setting, in that:

- The circulation improvements proposed are appropriate for the proposed land, and any changes in adjacent streets from which the project would take access have been identified as mitigation measures in this EIR.
- The Birch Hills project involves a General Plan Amendment, but only to replace the Birch Hills Specific Plan with the proposed land use pattern. The proposed Birch Hills project is consistent with planned land use in the Birch Hills Specific Plan.
- The Birch Hills site plan provides for private local streets and pedestrian circulation, as well as a community multi-use trail link through the site along the Loftus Channel, which would connect with the existing Fullerton Trail along Birch Street and the Brea Trail system along Kraemer Boulevard.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

City of Brea – Nexus Program

Specific future improvements assumed in this traffic analysis are indicated in Appendix J. These improvements are considered committed and are currently funded and programmed for construction and have been assumed as a baseline for this analysis. They include improvements in the Cities of Brea, Placentia, and Yorba Linda. The long-range build-out improvements in Brea are being considered for inclusion into the City's Nexus Program and are a combination of improvements in the current Nexus Program and mitigation measures presented in the City of Brea General Plan Traffic Study and EIR. La Floresta project mitigation measures would be the responsibility of the project applicant, as identified in Table 5.12-8 and Table 5.12-9. Where the applicant would implement mitigation measures or contribute a "fair share" toward any mitigation improvement, these actions would be candidates for receiving a fee credit under the Nexus program.

INTERIM YEAR 2012 TRAFFIC IMPACTS

Both Sites

This section provides analysis results where project impacts are identified by comparing the No-Project/Existing Conditions scenario to the With Project scenario in what is called the interim Year 2012. The interim year examines the full project only, whereas the long-range analysis presented in the following section examines the impacts of the Birch Hills and La Floresta Village developments individually, along with the cumulative impact of the full Project in the Year 2025, which represents the of assumed General Plan build-out.

Table 5.12-4 provides a land use and trip generation summary for the La Floresta Development Proposal. As can be seen, the entire proposed Project would result in 15,216 daily trips, 989 in the AM peak hour and 1,465 in the PM peak hour. When the existing uses are accounted for, the increment of added trips is 12,983 daily trips, 711 in the AM peak hour and 1,166 in the PM peak hour. Interim Year ADT volumes for the 2012 circulation system with the proposed Project and without the proposed Project are shown in Exhibit 5.12-5 and Exhibit 5.12-6, respectively. The "with project" volumes include both the Birch Hills and La Floresta Village sites.

Separate trip distribution patterns were derived for the La Floresta Village site and the Birch Hills site, and illustrated in Exhibit 5.12-1 – La Floresta Village: Trip Distribution Patterns and Exhibit 5.12-2 – Birch Hills: Trip Distribution Patterns, respectively. For the La Floresta Village site, approximately 34% of the project trips are oriented to/from the east on Imperial Highway, and approximately 27% of the trips are oriented to/from the west on Imperial Highway. About 18% of the trips are oriented to/from the south on Valencia Avenue, 8% to/from the north on Valencia Avenue, and about 4% to/from the west on Birch Street. The project trip distribution for the Birch Hills site is approximately 65% to/from the west on Birch Street, 29% to/from the south on Kraemer Boulevard, 4% to/from the east on Birch Street, and 2% to/from the north on Kraemer Boulevard.

A comparison of Interim Year (2012) ICU values for the No Project and the With Full Project conditions is provided in Table 5.12-5. As discussed earlier, a significant Project impact occurs when the ICU value increases by greater than .01 and achieves level of service E or worse. For CMP intersections, the ICU value increases by more than .03 and achieves LOS F. Locations that show a significant Project impact are noted by shading in Table 5.12-5. As shown, a significant Project impact occurs at the intersection of Kraemer Boulevard at Bastanchury Road (Placentia) in the PM peak hour.

**Table 5.12-4
Project Trip Generation Summary –
La Floresta Development Proposal**

Land Use	Amount	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
La Floresta Village								
4. Medium Density Residential	398.00 DU	52	199	251	211	111	322	3,224
5. High Density Residential	540.00 DU	43	232	275	227	108	335	3,580
16. Mixed Use Residential ¹	150.00 DU	12	65	77	63	30	93	995
17. Mixed Use Commercial ¹	156,800 sq.ft.	174	45	219	220	298	518	5,137
30. Public Facility ²	5.30 acres	0	0	0	0	0	0	0
Subtotal		281	541	822	721	547	1,268	12,936
Existing Trips for La Floresta Project		223	47	270	35	253	288	2,049
La Floresta Village Project Increment		58	494	552	686	294	980	10,887
Birch Hills								
5. High Density Residential	247.00 DU	20	106	126	104	49	153	1,638
29. Golf Course ³	18 holes	6	2	8	4	7	11	184
31. Community Center	20,000 sq.ft.	20	13	33	10	23	33	458
Subtotal		46	121	167	118	79	197	2,280
Existing Trips for Birch Hills Project		6	2	8	4	7	11	184
Birch Hills Project Increment		40	119	159	114	72	186	2,096
Full Project Total								
4. Medium Density Residential	398.00 DU	52	199	251	211	111	322	3,224
5. High Density Residential	787.00 DU	63	338	401	331	157	488	5,218
14. Natural Open Space	75.60 acres	0	0	0	0	0	0	0
16. Mixed Use Residential	150.00 DU	12	65	77	63	30	93	995
17. Mixed Use Commercial	156,800 sq.ft.	174	45	219	220	298	518	5,137
29. Golf Course ³	18 holes	6	2	8	4	7	11	184
30. Public Facility (Adult)	5.30 acres	0	0	0	0	0	0	0
31. Community Center	20,000 sq.ft.	20	13	33	10	23	33	458
Grand Total		327	662	989	839	626	1,465	15,216
Existing Trips for both La Floresta/Birch Hills		229	49	278	39	260	299	2,233
Full Project Total Project Increment		98	613	711	800	366	1,166	12,983
Trip Rates								
4. Medium Density Residential	DU	0.13	0.50	0.63	0.53	0.28	0.81	8.10
5. High Density Residential	DU	0.08	0.43	0.51	0.42	0.20	0.62	6.63
14. Natural Open Space	AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16. Mixed Use Residential	DU	0.08	0.43	0.51	0.42	0.20	0.62	6.63
17. Mixed Use Commercial	TSF	1.11	0.29	1.40	1.40	1.90	3.30	32.76
30. Public Facility (Adult)	AC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31. Community Center	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes:								
1 Village Core area. Commercial uses include 111,300 sq ft of retail/restaurant and 45,500 sq ft of office.								
2 Active adult recreation center.								
3 Existing golf course is reconfigured, but retains the same number of trips.								
Abbreviations: DU – dwelling unit								
Source: Austin-Foust Associates, November 2006.								

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**Table 5.12-5
ICU and LOS Summary – Interim Year (2012)
(Existing/No Project with Full Project Comparison)**

Intersection	Existing						Interim Year							
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour				
	ICU	LOS	ICU	LOS	ICU	LOS	AM Peak Hour	LOS	ICU	LOS	AM Peak Hour	LOS	ICU	LOS
City of Brea														
8. SR-57 SB Ramps & Lambert	.72	C	.55	A	.81	D	.60	A	.81	D	.60	A	.81	D
9. SR-57 NB Ramps & Lambert	.74	C	.66	B	.80	C	.75	C	.80	C	.75	C	.80	C
10. Pointe Dr & Lambert	.51	A	.63	B	.56	A	.69	B	.57	A	.69	B	.57	A
11. Associated & Lambert	.69	B	.48	A	.76	C	.56	A	.77	C	.56	A	.77	C
12. Kraemer Blvd & Lambert	.65	B	.53	A	.75	C	.69	B	.75	C	.69	B	.75	C
13. Valencia & Lambert	.55	A	.71	C	.60	A	.56	A	.60	A	.60	A	.70	B
17. Associated (S) & Birch	.79	C	.70	B	.75	C	.61	B	.77	C	.61	B	.77	C
18. Associated (N) & Birch	.53	A	.52	A	.55	A	.58	A	.59	A	.58	A	.61	B
19. Kraemer Blvd & Birch	.63	B	.65	B	.79	C	.73	C	.80	C	.73	C	.74	C
20. Valencia & Birch/Rose	.70	B	.73	C	.57	A	.72	C	.57	A	.72	C	.73	B
26. SR-57 SB Ramps & Imperial ¹	.62	B	.77	C	.70	B	.67	B	.70	B	.70	B	.67	B
27. SR-57 NB Ramps & Imperial ¹	.86	D	.68	B	.77	C	.80	C	.76	C	.76	C	.80	C
28. Associated & Imperial Hwy	.89	D	.85	D	.68	B	.74	C	.68	B	.68	B	.77	C
29. Placentia & Imperial Hwy	.56	A	.58	A	.65	B	.65	B	.65	B	.65	B	.68	B
30. Kraemer & Imperial Hwy	.62	B	.74	C	.68	B	.72	C	.68	B	.72	C	.68	B
31. Valencia & Imperial Hwy ¹	.62	B	.55	A	.62	B	.57	A	.65	B	.57	A	.63	B
City of Placentia														
40. Kraemer & Golden	.46	A	.49	A	.53	A	.54	A	.54	A	.54	A	.56	A
41. Valencia & Golden	.36	A	.28	A	.39	A	.32	A	.42	A	.32	A	.36	A
42. Rose Dr & Imperial Hwy ¹	.65	B	.93	E	.68	B	.80	C	.70	B	.80	C	.87	D
43. Placentia & Bastanchury	.61	B	.75	C	.78	C	.83	D	.80	C	.83	D	.84	D
44. Kraemer & Bastanchury ²	.62	B	.77	C	.72	C	.92	E	.75	C	.92	E	.96	E
45. Valencia & Bastanchury	.45	A	.51	A	.54	A	.61	B	.56	A	.61	B	.61	B
City of Yorba Linda														
46. Rose & Bastanchury	.55	A	.55	A	.64	B	.61	B	.66	B	.61	B	.66	B

Notes:

- 1 LOS E is acceptable at this location (Congestion Management Program (CMP)) intersection. LOS D is the performance standard for all other intersection locations analyzed.
- 2 This location is forecast to operate deficiently in the AM and/or PM peak hour (i.e., the LOS is worse than the adopted LOS performance standard).

Note: Gray shading denotes project impact.

Source: Austin-Foust Associates, November 2006

LONG-RANGE TRAFFIC IMPACTS

Both Sites

The long-range analysis provides a cumulative setting for identifying project impacts. As discussed in the methodology section, the traffic forecasts are based on buildout of the Citywide General Plan and year 2025 demographic forecasts for the remainder of the County and region. Long-range ADT volumes for the future circulation system under the four scenarios analyzed are illustrated in Exhibit 5.12-7 through Exhibit 5.12-10. It should be noted that the volumes on Valencia Avenue north of Lambert Road are generated by the adjacent land uses and truck traffic related to the Olinda-Alpha landfill, since this roadway is not assumed to extend to Tonner Canyon Road.

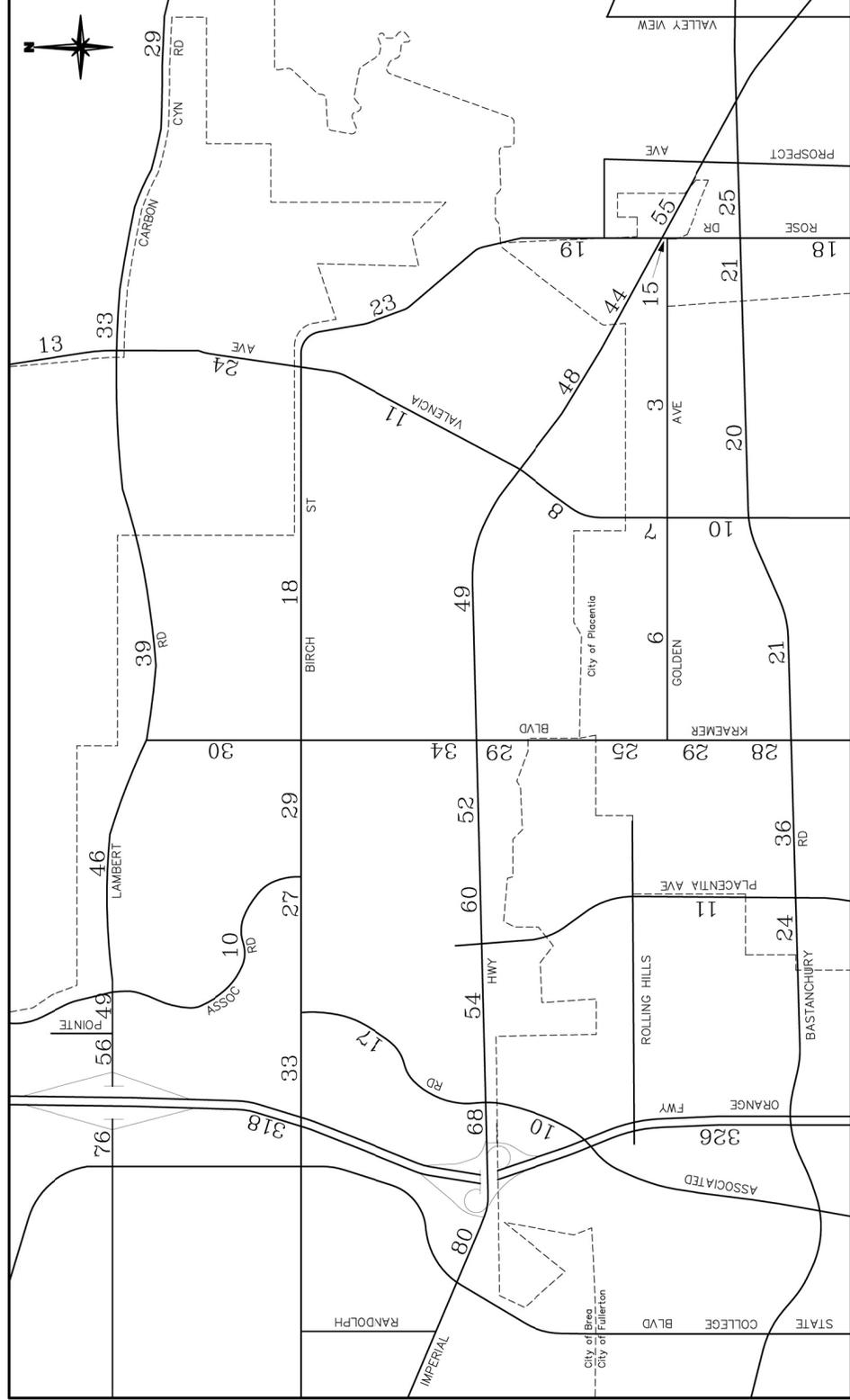
The 2025 peak hour ICU values for the study area intersections are summarized in Table 5.12-6 for each scenario analyzed. An intersection location map is provided in Exhibit 5.12-4. Detailed ICU calculations are included in Appendix J. A significant project impact occurs when the ICU value increases by greater than .01 and achieves Level of Service E or worse. For CMP intersections, the ICU value increases by more than .03 and achieves LOS F. Locations that show a significant project impact are noted by shading. As can be seen, a number of intersections do not meet the performance criteria under the currently committed improvements, as listed below.

- | | |
|---------------------------------|--|
| 8. SR-57 SB Ramps & Lambert Rd | 20. Valencia Ave. & Birch St./Rose Dr. |
| 9. SR-57 NB Ramps & Lambert Rd | 28. Associated Rd & Imperial Highway |
| 11. Associated Rd & Lambert Rd | 30. Kraemer Blvd & Imperial Highway |
| 12. Kraemer Blvd & Lambert Rd | 43. Placentia Ave & Bastanchury Rd |
| 19. Kraemer Blvd & Birch Street | 44. Kraemer Blvd & Bastanchury Rd |

Of these intersections, ICU values improve for two locations under the future build-out intersection improvements. As discussed in Section 5.12.1, Methodology, build-out improvements are those being considered for inclusion into the Nexus Program update.

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2025 Average Daily Traffic Volumes (ADT) with Birch Hills Project

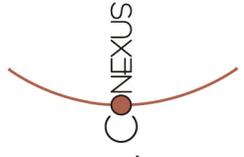


Legend

- City Limits
- Average Daily Traffic (ADT): thousands per day

Source: Austin-Foust Associates, Inc., November 2006

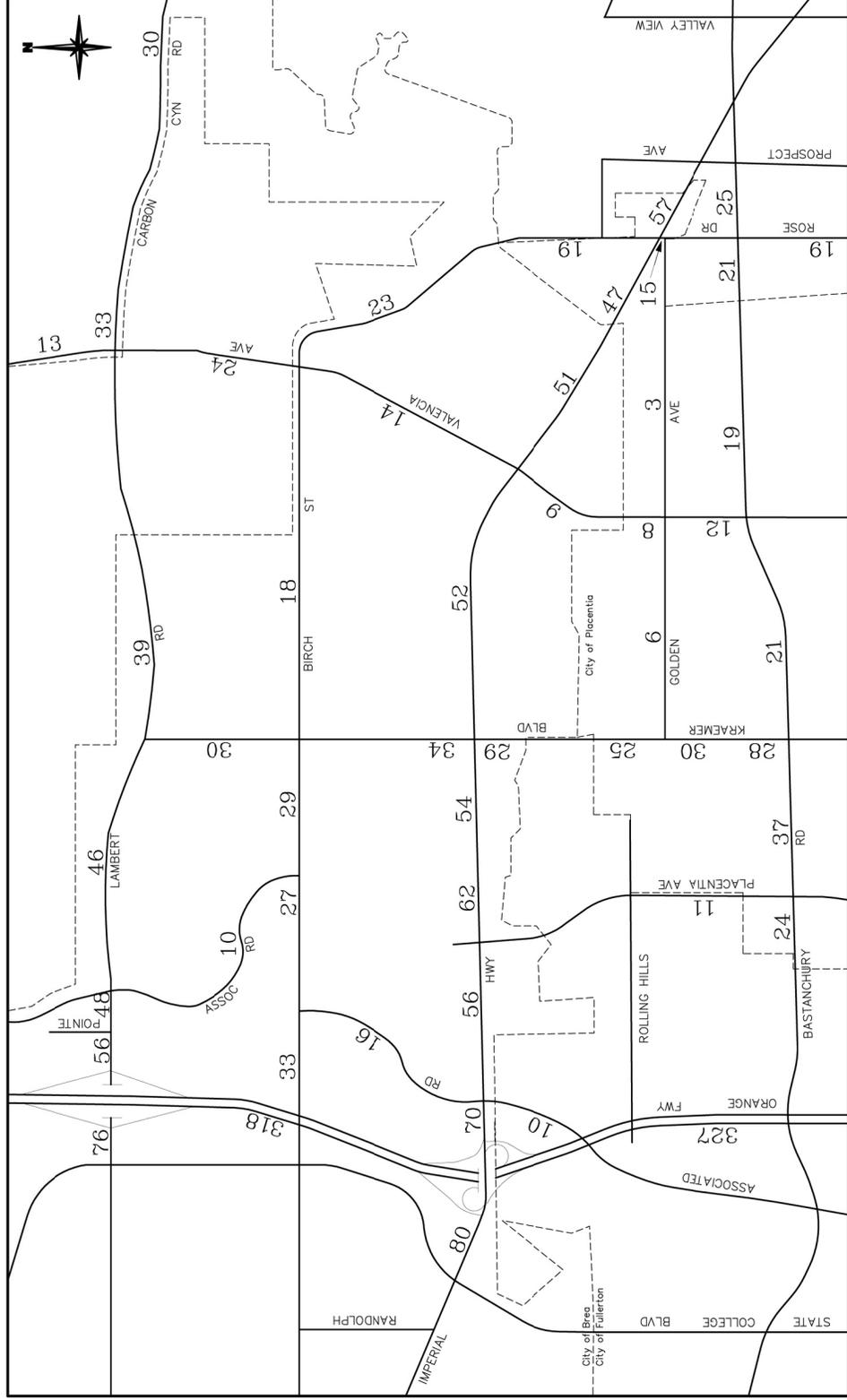
▲ Not to Scale
 Exhibit 5.12-8



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2025 Average Daily Traffic Volumes (ADT) with Full Project

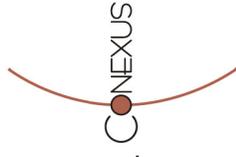


Legend

- City Limits
- Average Daily Traffic (ADT): thousands per day
- Note: Full Project = Birch Hills plus La Floresta Village

Source: Austin-Foust Associates, Inc., November 2006

▲ Not to Scale
 Exhibit 5.12-10



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**Table 5.12-6
ICU and LOS Summary 2025
(No Project, with Birch Hills, with La Floresta Village, and with Full Project Comparison) –
La Floresta Development Proposal**

Intersection	2025 No Project						2025 With Birch Hills						2025 With La Floresta Village						2025 With Full Project (Birch Hills and La Floresta Village)					
	AM Peak Hr		PM Peak Hr		LOS		AM Peak Hr		PM Peak Hr		LOS		AM Peak Hr		PM Peak Hr		LOS		AM Peak Hr		PM Peak Hr		LOS	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
I. City of Brea																								
With Committed Improvements																								
8. SR-57 SB Ramps & Lambert ²	1.01	F	.70	B	1.02	F	.71	C	1.02	F	.71	C	1.02	F	.71	C	1.02	F	.71	C	1.02	F	.71	C
9. SR-57 NB Ramps & Lambert ²	.92	E	.94	E	.92	E	.94	E	.92	E	.94	E	.92	E	.94	E	.92	E	.94	E	.92	E	.94	E
10. Pointe Dr & Lambert	.65	B	.80	C	.65	B	.80	C	.65	B	.80	C	.65	B	.80	C	.65	B	.80	C	.65	B	.80	C
11. Associated & Lambert ²	.90	D	.72	C	.90	D	.73	C	.90	D	.73	C	.90	D	.73	C	.90	D	.73	C	.90	D	.73	C
12. Kraemer Blvd & Lambert ²	.95	E	.98	E	.95	E	.98	E	.95	E	.98	E	.95	E	.98	E	.95	E	.98	E	.95	E	.98	E
13. Valencia & Lambert	.71	C	.69	B	.71	C	.70	B	.72	C	.70	B	.72	C	.70	B	.72	C	.70	B	.72	C	.70	B
17. Associated (S) & Birch	.81	D	.63	B	.83	D	.64	B	.81	D	.64	B	.83	D	.64	B	.83	D	.64	B	.83	D	.64	B
18. Associated (N) & Birch	.62	B	.68	B	.64	B	.71	C	.62	B	.68	B	.65	B	.70	B	.62	B	.68	B	.65	B	.70	B
19. Kraemer Blvd & Birch ²	1.26	F	1.11	F	1.27	F	1.12	F	1.27	F	1.11	F	1.27	F	1.11	F	1.27	F	1.11	F	1.27	F	1.11	F
20. Valencia & Birch/Rose ²	.65	B	.90	D	.65	B	.92	E	.65	B	.92	E	.65	B	.92	E	.65	B	.92	E	.65	B	.92	E
26. SR-57 SB Ramps & Imperial ¹	.83	D	.81	D	.83	D	.81	D	.83	D	.81	D	.83	D	.81	D	.83	D	.81	D	.83	D	.81	D
27. SR-57 NB Ramps & Imperial ¹	.87	D	.88	D	.87	D	.88	D	.88	D	.88	D	.88	D	.88	D	.88	D	.88	D	.88	D	.88	D
28. Associated & Imperial Hwy ²	.85	D	.94	E	.85	D	.94	E	.86	D	.95	E	.86	D	.95	E	.86	D	.95	E	.86	D	.95	E
29. Placentia & Imperial Hwy	.68	B	.73	C	.68	B	.73	C	.68	B	.74	C	.68	B	.74	C	.68	B	.74	C	.68	B	.74	C
30. Kraemer & Imperial Hwy ²	.84	D	.90	D	.84	D	.91	E	.85	D	.91	E	.85	D	.91	E	.85	D	.91	E	.85	D	.91	E
31. Valencia & Imperial Hwy ¹	.77	C	.76	C	.77	C	.75	C	.79	C	.78	C	.79	C	.78	C	.79	C	.78	C	.79	C	.78	C
With Buildout Improvements																								
12. Kraemer Blvd & Lambert	.62	B	.77	C	.62	B	.77	C	.62	B	.78	C	.62	B	.78	C	.62	B	.77	C	.62	B	.77	C
19. Kraemer Blvd & Birch ²	.93	E	.85	D	.93	E	.86	D	.93	E	.86	D	.93	E	.86	D	.93	E	.86	D	.93	E	.86	D
30. Kraemer & Imperial Hwy	.83	D	.87	D	.83	D	.87	D	.85	D	.89	D	.85	D	.89	D	.85	D	.89	D	.85	D	.89	D
City of Placentia																								
40. Kraemer & Golden	.77	C	.67	B	.77	C	.68	B	.77	C	.67	B	.77	C	.67	B	.77	C	.67	B	.77	C	.68	B
41. Valencia & Golden	.44	A	.43	A	.44	A	.42	A	.47	A	.48	A	.47	A	.48	A	.47	A	.48	A	.47	A	.48	A
42. Rose Dr & Imperial Hwy (a)	.85	D	.93	E	.86	D	.94	E	.87	D	.95	E	.87	D	.95	E	.87	D	.95	E	.87	D	.95	E
43. Placentia & Bastanchury (b)	1.09	F	.96	E	1.09	F	.97	E	1.09	F	.99	E	1.09	F	.99	E	1.10	F	.99	E	1.10	F	.99	E
44. Kraemer & Bastanchury (b)	.92	E	1.11	F	.92	E	1.12	F	.93	E	1.16	F	.93	E	1.16	F	.93	E	1.16	F	.93	E	1.16	F
45. Valencia & Bastanchury	.68	B	.70	B	.67	B	.70	B	.71	B	.71	B	.71	B	.71	B	.71	B	.71	B	.71	B	.71	B
City of Yorba Linda																								
46. Rose & Bastanchury	.80	C	.79	C	.80	C	.80	C	.82	D	.82	D	.82	D	.82	D	.82	D	.82	D	.82	D	.82	D

Notes:
 1. LOS E is acceptable at this location (Congestion Management Program (CMP) intersection). LOS D is the performance standard for all other intersection locations that are analyzed.
 2. This location is forecast to operate deficiently in the AM and/or PM peak hour (i.e., the LOS is worse than the adopted LOS performance standard).
 Shaded entries denote significant project impacts.
 Source: Austin-Foust Associates, November 2006

Table 5.12-7 below summarizes the locations that show a project impact. As shown, three intersections are impacted in the City of Brea and two in the City of Placentia. The Brea intersections show a direct project impact, and the Placentia intersections show a cumulative project impact. Mitigation of these traffic impacts is discussed in Section 5.12.5 – Cumulative Impacts.

**Table 5.12-7
Intersections with Significant Project Impacts – 2025 –
La Floresta Development Proposal**

Intersection	With Birch Hills		With La Floresta Village		With Full Project	
	AM	PM	AM	PM	AM	PM
City of Brea						
11. Associated Road & Lambert Road	--	--	--	--	X	--
20. Valencia Avenue & Birch St/Rose Ave.	--	X	--	X	--	X
30. Kraemer Avenue & Imperial Hwy	--	X	--	X	--	X
City of Placentia						
43. Placentia Ave & Bastanchury Road	--	--	--	X	--	X
44. Kraemer Avenue & Bastanchury Road	--	--	--	X	--	X

Source: Austin-Foust Associates, November 2006

ACCESS AND ON-SITE CIRCULATION

La Floresta Village Site

A network of private roadways will handle circulation for the La Floresta Village site with primary vehicle access made via two perimeter streets, at two locations on Imperial Highway (defined as a “Major” street pursuant to Brea’s Master Plan of Arterial Highways) and at three locations on Valencia Avenue (defined as a “Primary” roadway). Two of the locations on Valencia Avenue are currently signalized and signalization is proposed at all other planned access points. A signal warrant analysis has been conducted for the three proposed new signal locations, and each was determined to meet requirements. Signalization will require agreement with Caltrans. Exhibit 5.12-12 La Floresta Village: Proposed Lane Configurations Illustrates the intersection controls and lane configurations for the La Floresta Village development project entryways.

Table 5.12-8 illustrates the peak hour ICU and LOS for each of the five planned entry points to the La Floresta Village development. As shown, planned entryways are forecast to operate at an acceptable Level of Service (LOS). ICU worksheets can be found in the Traffic Report located in Appendix J to this EIR. Table 5.12-9 summarizes recommended turn pocket lengths for planned entryways. None of the forecast peak hour turn volumes exceed 150 vehicles per hour and these are minimum desirable pocket lengths for a major highway. A typical transition length would be 90 feet.

**Table 5.12-8
ICU Summary – La Floresta Village Entryways –
La Floresta Development Proposal**

Intersection	AM	LOS	PM	LOS
1. Valencia & Access 1	.52	A	.56	A
2. Valencia & Access 2	.56	A	.56	A
3. Valencia & Access 3	.30	A	.58	A
4. Access 4 & Imperial Hwy	.66	B	.89	D
5. Access 5 & Imperial Hwy	.72	C	.88	D
Source: Austin-Foust Associates, November 2006				

**Table 5.12-9
Recommended Turn Pocket Lengths – La Floresta Village -
La Floresta Development Proposal**

Intersection	Direction	Number of Lanes	Turn Pocket (Feet)
1. Valencia & Access 1	SBL	1	150'
2. Valencia & Access 2	SBL	1	150'
3. Valencia & Access 3	SBL	1	150'
4. Access 4 & Imperial Hwy	EBL	1	150'
5. Access 5 & Imperial Hwy	EBL	1	150'
Source: Austin-Foust Associates, November 2006			

The La Floresta Development Project also features two gate-controlled entries that service Planning Areas 1, 2 and 10. These two gated entries are located at the end of Streets "D" and "R" as shown in Tentative Tract Map 16934. These three planning areas are designated for active adult (age restricted) communities with a maximum density of 269 units. The seven remaining planning areas are served by roads that are not gated. The project further provides two controlled emergency access roads that will be utilized by emergency vehicles (police, fire, and paramedic) as a secondary entry during emergency response calls. These emergency access points are located in proximity to Street "S" in Planning Area 1 and Street "K" in Planning Area 10 (as noted on Tentative Tract Map 16934) and directly connect to Rose Drive. Secondary access is primarily meant for emergency access by fire and police. These access points may also be used to evacuate residents from the project should an emergency need arise. All proposed streets in the La Floresta development will be designed to City standards with a minimum of two 12-foot-wide clear travel lanes so emergency access is properly maintained.

As a result of these access and roadway design features, no significant project impacts related to emergency access or internal circulation would occur.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

Vehicle circulation and emergency access to the Birch Hills site is accomplished through three private access roads along the west side of Kraemer Boulevard (a "Major Modified" roadway in the MPAH) just south of Birch Street and approximately 1,000 feet north of Imperial Highway (a "Major" roadway). This planning area encompasses two communities with a maximum density of 247 units. The primary access way to Planning Area 12a is provided via two drive aisles from Kraemer Boulevard connecting to several private lanes that internally serve the project. Planning Area 12b is reached from a single, primary access road that lies just south of the Loftus Diversion Channel along the west side of Kraemer Boulevard. This intersection will be signalized. A secondary controlled emergency access way at the northwest corner of Planning Area 12b is also provided, which ultimately connects to Birch Street. This emergency access will be utilized by emergency vehicles (police, fire, paramedic) as a secondary ingress/egress pathway to provide emergency services to Planning Area 12b. The proposed street network in the Birch Hills development will be designed to City standards with a minimum of two 12-foot-wide clear travel lanes so emergency access is properly maintained.

As a result of these access and roadway design features, no significant project impacts related to emergency access or internal circulation would occur.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Parking

La Floresta Village Site

All parking in the La Floresta Village project must comply with the City of Brea Municipal Code and provide for all project parking needs within the project site. Shared parking is proposed in Planning Area 5, where commercial, office and residential uses are planned. No adverse impacts due to parking are therefore anticipated. No mitigation measures beyond code compliance are necessary.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

Birch Hills Site

All parking in the Birch Hills project must comply with the City of Brea Municipal Code and provide for all project parking needs within the project site. No adverse impacts due to parking are therefore anticipated. No mitigation measures beyond code compliance are necessary.

Level of Significance: Less than significant.

Mitigation Measures: None are required.

Level of Significance after Mitigation: Not applicable.

5.12.5 Cumulative Impacts

Both Sites

The long-range analysis provides the cumulative setting for identifying project impacts. As discussed in 5.12.1 – Methodology, the traffic forecasts are based on buildout of the Citywide General Plan and year 2025 demographic forecasts for the remainder of the County and region.

The short-range analysis presented in the discussion of Year 2012 shows the effect of adding project-related traffic to the existing roadway system, in addition to existing traffic and some ambient growth. When impacts occur solely due to the addition of project-related traffic, the Project is fully responsible for mitigation. For impacts that are the result of the cumulative effect of project-related traffic together with cumulative growth, the Project is responsible for a fair share cost of the mitigation. This is the situation at the intersection at Kraemer Boulevard/Bastanchury Road in Placentia, where the Project contributes to a deficiency, but does not cause the deficiency.

In the long-range (Year 2025) analysis, the City of Brea Nexus Program assures that all future development contributes to future capacity needs on a fair share basis. The payment of Nexus fees would mitigate the Project impact at affected intersections within the City of Brea.

Within the City of Placentia, the proposed Project contributes to a cumulative impact at one intersection. The mitigation improvements are necessary under build-out conditions as a result of cumulative traffic growth as well as the proposed Project. The Project is, therefore, responsible for its fair share of the improvements which would be paid to the City of Placentia towards future improvements to be implemented by that jurisdiction.

Table 5.12-10 summarizes mitigation measures for the interim year (2012), and Table 5.12-11 summarizes the long-range improvements (2025) needed to mitigate future deficiencies at locations where the Project has been determined to have a significant contribution. In both tables, the project responsibility is also identified. For the locations within the City of Brea, the payment of Nexus fees represents the Project obligation for its share of the future deficiencies. Within Placentia, the Project responsibility would be to pay a share of improvements to the City of Placentia, as noted previously.

**Table 5.12-10
Proposed Mitigation – 2012
(Intersections with Significant Project Impacts) –
La Floresta Development Proposal**

Intersection	With Full Project	Project Responsibility
City of Placentia		
44. Kraemer Blvd. & Bastanchury Road	Add second eastbound left turn lane Add second northbound left turn lane	Share
Source: Austin-Foust Associates, November 2006		

Table 5.12-12 lists the deficient intersection locations and shows the LOS with and without the proposed improvements in both Years 2012 and 2025. As indicated, the proposed improvements result in acceptable levels of service at each improvement location with two exceptions. For the intersections of Placentia Avenue at Bastanchury Road and Kraemer Boulevard at Bastanchury Road, the mitigation does not allow the intersections to reach an acceptable LOS but it does mitigate the project impact. Exhibit 5.12-11 illustrates the location of these intersections.

For the most part, the proposed mitigation measures can be accommodated within the planned ultimate right-of-way of the roadway arterials. A final determination of potential right-of-way needs is made when the design studies are carried out. For the purposes of this EIR, a preliminary assessment has been made as to where additional right-of-way may be needed. The mitigation of the Placentia Avenue/Bastanchury Road intersection may require additional right-of way, which will require coordination with the City of Placentia. In the City of Brea, the mitigation of Kraemer Boulevard/Imperial Highway may require additional right-of-way. Please refer to Section 5.8.5 – Land Use and Planning - Cumulative Impacts, for additional discussion of potential right-of-way takes for traffic mitigation measures.

Level of Significance: Significant, at specific intersections identified in Table 5.12-10 and Table 5.12-11.

Mitigation Measures: See Tables 5.12-10 and 5.12-11 for improvements required at specific intersections and project responsibility.

Level of Significance after Mitigation: Less than significant.

**Table 5.12-11
Proposed Mitigation – 2025
(Intersections with Significant Project Impacts) –
La Floresta Development Proposal**

Intersection	With Birch Hills	With La Floresta Village	With Full Project	Project Responsibility
City of Brea				
11. Associated Road & Lambert Road	None required.	None required.	Add westbound de facto right turn lane.	Nexus Fees
20. Valencia Avenue & Birch St/Rose Ave	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Provide westbound right-turn overlap with southbound left turn movement.	Nexus Fees
30. Kraemer Blvd. & Imperial Hwy	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Add northbound de facto right turn lane. Add separate eastbound right turn lane.	Nexus Fees
City of Placentia				
43. Placentia Avenue & Bastanchury Road	None required	Add separate northbound right turn lane.	Add separate northbound right turn lane.	Share
44. Kraemer Blvd. & Bastanchury Road	None required	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Add third southbound through lane. Add third westbound through lane. Add second eastbound left turn lane. Add second northbound left turn lane.	Share

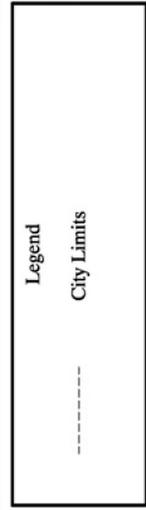
Note: A de facto right turn lane is an unstriped right-turn (typically with a width of 19 feet from curb to outside of through lane) that is wide enough to separately serve both through and right-turn traffic.

Source: Austin-Foust Associates, November 2006

**Table 5.12-12
ICU Summary – Before and After Mitigation –
La Floresta Development Proposal**

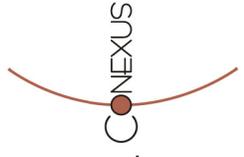
Locations	Before Mitigation				After Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
Year 2012								
City of Placentia								
44. Kraemer & Bastanchury	.75	C	.96	E	.72	C	.86	D
Year 2025 - With Birch Hills								
City of Brea								
20. Valencia & Birch/Rose	.65	B	.92	E	.65	B	.87	D
30. Kraemer & Imperial Hwy	.84	D	.91	E	.83	D	.87	D
Year 2025 - With La Floresta Village								
City of Brea								
20. Valencia & Birch/Rose	.65	B	.92	E	.65	B	.87	D
30. Kraemer & Imperial Hwy	.85	D	.95	E	.85	D	.89	D
City of Placentia								
43. Placentia & Bastanchury	1.09	F	.99	E	1.03	F	.90	D
44. Kraemer & Bastanchury	.93	E	1.16	F	.90	D	1.03	F
Year 2025 - With Birch Hills and La Floresta Village								
City of Brea								
11. Associated & Lambert	.91	E	.73	C	.88	D	.72	C
20. Valencia & Birch/Rose	.65	B	.92	E	.65	B	.87	D
30. Kraemer & Imperial Hwy	.85	D	.95	E	.85	D	.89	D
City of Placentia								
43. Placentia & Bastanchury	1.10	F	.99	E	1.04	F	.90	D
44. Kraemer & Bastanchury	.93	E	1.16	F	.90	D	1.03	F
Source: Austin-Foust Associates, November 2006								

Location of Intersections Requiring Additional Rights-of-Way



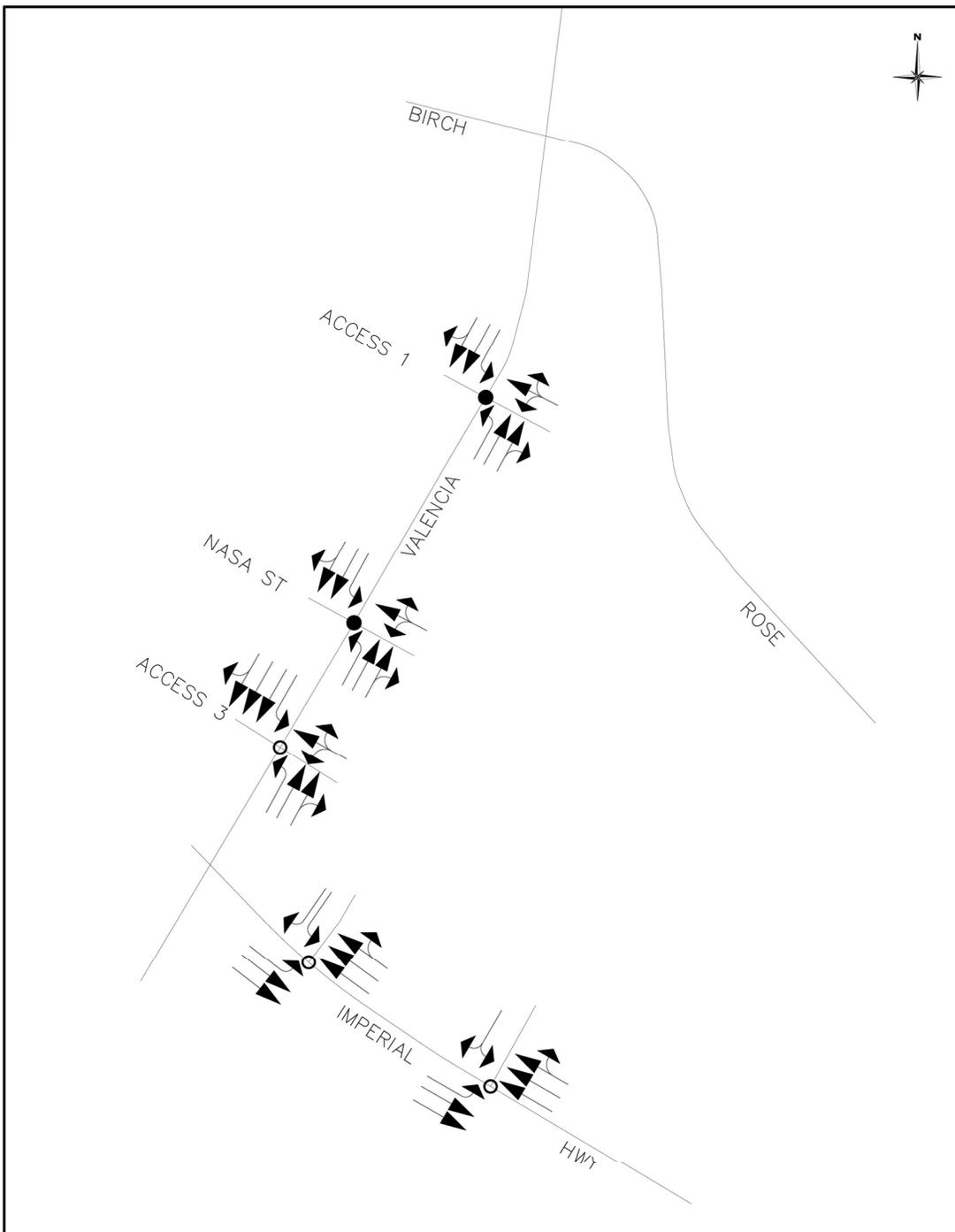
Source: Austin-Foust Associates, Inc., November 2006

▲ Not to Scale
 Exhibit 5.12-11



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La Floresta Village: Proposed Lane Configurations



Legend
Signalized intersection

Source: Austin-Foust Associates, Inc., November 2006

▲ Not to Scale
Exhibit 5.12-12



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Carbon Canyon Road Analysis

A special analysis was made of Carbon Canyon Road between Olinda Drive and the County line. Current conditions are such that volumes are at theoretical capacity during peak periods. The capacity issue in this case is not the ability of signalized intersections to carry the traffic, (there are no signalized intersections) but for the two lane road to carry a continuous flow of traffic.

The volumes along Carbon Canyon Road reflect the associated increase in traffic when compared to the No-Project conditions. This increase in traffic can be measured at two locations: Carbon Canyon Road west of the park entrance and at Carbon Canyon Road at the County line. Table 5.12-13 summarizes the ADT volumes for these two locations and provides a comparison against the existing conditions for this roadway. As can be seen from the table, the proposed Project (Birch Hills/La Floresta Village) will generate an additional 250 daily trips west of the park entrance and an additional 250 trips at the County line.

Table 5.12-14 summarizes the peak hour volumes and LOS values for Carbon Canyon Road for the same scenarios discussed above. Also provided here is a comparison against the existing conditions. The forecast demand for this facility shows Carbon Canyon Road to operate at level of service "E" or "F" in the peak direction for all scenarios.

At the section of Carbon Canyon Road west of the park entrance, the proposed project adds 15 trips during the AM peak hour peak direction and 30 trips during the PM peak hour peak direction. The three percent criteria for a CMP roadway at this location is 60 or more trips added. The proposed project thereby does not cause a significant impact.

Table 5.12-13
Summary of Carbon Canyon Road Traffic –
La Floresta Development Proposal

Location/Scenario	ADT Volume
Existing Conditions	
1. Carbon Canyon Road west of park entrance	18,000
2. Carbon Canyon Road at Orange County border	16,000
Forecast ADT	
1. Carbon Canyon Road west of park entrance	
• No Project	29,400
• With Proposed Project (Birch Hills/La Floresta)	29,650
Difference	250
2. Carbon Canyon Road at Orange County border	
• No Project	17,250
• With Proposed Project (Birch Hills/La Floresta)	17,500
Difference	250
Source: Austin-Foust Associates, November 2006	

**Table 5.12-14
Comparison of One-Way Peak Hour Volumes
Carbon Canyon Road Analysis –
La Floresta Development Proposal**

Location/Scenario	AM Peak Hour				PM Peak Hour			
	EB	LOS	WB	LOS	EB	LOS	WB	LOS
Existing Conditions								
1. Carbon Canyon Road west of park entrance	710	A	1,730	E	1,700	E	790	B
2. Carbon Canyon Road at Orange County border	650	A	1,750	E	1,520	D	720	B
2025 Forecast Demand								
1. Carbon Canyon Road west of park entrance								
• No Project	740	B	1,880	F	1,850	F	810	B
• With Proposed Project	770	B	1,895	F	1,880	F	850	B
Difference	30		15		30		40	
2. Carbon Canyon Road at Orange County border								
• No Project	680	A	1,645	E	1,620	E	740	B
• With Proposed Project	710	A	1,660	E	1,650	E	780	B
Difference	30		15		30		40	
Source: Austin-Foust Associates, November 2006								

Level of Significance: Less than significant.

Mitigation Measures: None required.

Level of Significance after Mitigation: Not applicable.

5.12.6 Significant Unavoidable Impacts

With the implementation of mitigation measures, no significant project specific or cumulative traffic and circulation impacts would occur.

6. Long-Term Implications of the Proposed Project

6.1 Growth-Inducing Impacts of the Proposed Project

6.1.1 Introduction

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) discuss the ways in which a project could directly or indirectly foster economic or population growth, or the construction of additional housing. Direct growth-inducing impacts are generally associated with the provision of urban services and the extension of infrastructure to an undeveloped area. The extension of services and facilities to an individual site can reduce development constraints for other nearby areas and can serve to induce further development in the vicinity. Indirect or secondary growth inducing impacts consist of growth induced in the region by the additional demands for housing, employment, and goods and services associated with population increase caused by, or attracted to, new development.

6.1.2 Regional Impacts

The Southern California Association of Governments (SCAG) does not provide a specific methodology for establishing the consistency of a project with regional growth forecasts. Guidelines issued by the Southern California Air Quality Management District (SCAQMD), however, state that a proposed project is considered consistent with regional planning forecasts if the project is consistent with the local General Plan in force at the time of adoption of the regional forecast. Although the proposed Project would require approval of an amendment to the Land Use Element of the General Plan on the Birch Hills site to remove it from the Birch Hills Specific Plan, as described in Section 5.8: Land Use and Planning, it is not considered inconsistent with this plan, and would, in fact, result in less intense development than could be allowed under existing designations.

Section 5.10 of this EIR examines the potential Population and Housing impacts of the proposed Project and has concluded that the La Floresta Development Proposal would contribute to creating a better balance of jobs and housing in a sub-region that is presently considered to be "job-rich." The development of both Project sites also represents in-fill within an existing urban area that has adequate infrastructure to serve the Project without the need for the extension or expansion of any regional or master plan systems that would provide excess or potentially growth inducing capacity. The La Floresta Development Proposal would result in employment generation; however, this is not considered a significant adverse impact that would conflict with regional planning policy. In addition, the La Floresta Development Proposal is not anticipated to create a substantial increase in demand for goods and services as a result of the population increase estimated to be associated with project build-out.

6.1.3 Local Area Impacts

Section 5.8 – Land Use and Relevant Planning discusses the existing General Plan and the Birch Hills Specific Plan, which pertain to the La Floresta Development Proposal. As has been noted, the proposed Project would require amendments to the City of Brea General Plan - Land Use Element and the Birch Hills Specific Plan. These amendments would result in the designation of the Project sites for development purposes compatible with the proposed Project. While policy amendments are necessary to accommodate the proposed Project, the changes required are not anticipated to trigger or induce unanticipated growth in any adjacent or surrounding area. Existing designations on both sites could theoretically allow more intense development than has been proposed.

The Project sites are located in an urbanized region and are generally surrounded by developed or developing area. A limited amount of vacant and/or underutilized land potentially available for large-scale commercial and residential development remains in the vicinity and generally within the City of Brea. The proposed La Floresta Village project would provide a range of commercial services to the surrounding area. The long-term intent of the General Plan is that both properties be converted to urban use. The proposed Project is consistent with that intent.

The La Floresta Development Proposal does not conflict with local or sub-regional growth forecasts. No major alterations in off-site infrastructure would be necessary to accommodate the Project. Development of the Project sites would require the extension of streets, sewer, water, storm drainage facilities, and various utilities within the Project area. These facilities and systems are designed to provide capacity to meet only the needs of the proposed Project. Regardless of the availability of infrastructure, market forces will ultimately dictate development of any vacant remaining properties in the Project vicinity. The La Floresta Development Proposal is not anticipated to either induce, or result in, any substantial increase in development pressure in the City of Brea.

6.2 Unavoidable and Irreversible Commitment of Resources

Implementation of the proposed Project would result in the irreversible and irretrievable commitment of the following resources:

- Construction of the proposed Project would require the commitment of building materials such as concrete, asphalt, lumber and wood products, glass, and other materials typically utilized for the construction of residential buildings and developments. These types of materials are considered readily available and in sufficient quantity in the region. Consumption of these materials is considered a less than significant impact.
- Construction and operation of the proposed Project would require the commitment of energy resources including gasoline, diesel fuel, natural gas, and electricity. No significant constraints in energy supply are known to exist at

the present time. The Proposed Project would require the normal extension of utility systems to service structures on both development sites. No significant adverse impacts to physical systems are, however, anticipated.

- The construction and operation of the proposed Project would result in the elimination of existing agricultural operations on a 21.3-acre portion of the La Floresta-site. These uses are, however, considered temporary uses by the City of Brea as has been described in Section 5.2 of this EIR. Existing operations are limited in scope and intensity. Elimination of this area of agricultural use is not considered a significant impact.

6.3 Summary of Significant Cumulative Impacts

Each chapter of Section 5.0 addresses cumulative impacts by topic. Unavoidable significant cumulative impacts have been identified with respect to short-term construction related air quality impacts; long-term air quality impacts; and traffic generation at the intersections of Kraemer Boulevard and Bastanchury Road, and at Placentia Avenue and Bastanchury Road. The Project contribution to these cumulative traffic impacts has, however, been mitigated to a level that is less than significant. All air quality impacts noted would remain significant, even after all mitigation measures are implemented.

6.4 Unavoidable Significant Impacts of the Proposed Project

The following impact areas would have unavoidable and significant effects with full implementation of the La Floresta Development Proposal: Project-specific construction related and long-term air pollutant emissions from mobile sources as well as cumulatively significant air quality impacts from the same activities.

7. Project Alternatives

7.1 Introduction

The California Environmental Quality Act (CEQA) requires that Environmental Impact Reports "...describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (Guidelines §15126(d)). The CEQA Guidelines direct that the selection of alternatives be governed by "a rule of reason." The alternatives selected for detailed review in the EIR must be limited to those that "would avoid or substantially lessen any of the significant effects of the project" and would "feasibly attain most of the basic objectives of the project." The selection of alternatives and their discussion must "foster meaningful public participation and informed decision making" (Guidelines §15126(d)(5)).

CEQA requires the evaluation of the "No Project Alternative." The purpose of describing and analyzing a No Project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving a project. The CEQA Guidelines suggest that the No Project alternative include two scenarios: 1) existing conditions – i.e., a comparison of the environmental effects of the property remaining in its existing state against the environmental effects that would occur if the project is approved; and 2) future conditions that would reasonably be expected to occur based on current plans, available infrastructure and community services.

CEQA also requires the consideration of alternative locations on which the project could be developed if significant impacts have been identified that could be avoided or substantially lessened if the project were put in another location. The EIR has identified both project-specific and cumulative air quality impacts (both from short-term construction and long-term operational emissions) as the only project impacts that are significant and unavoidable. After consideration of all factors, the City of Brea as lead agency has determined that these air quality impacts would not be avoided or substantially lessened by transferring development to another site, and therefore, consideration of locating the entire Project on an alternative site is not considered in this EIR. The following sections present a range of reasonable alternatives in compliance with the requirements of CEQA.

CEQA Guidelines §15126.4(f) states that the range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice and which, in the opinion of the lead agency, could feasibly attain most of the basic objectives of the project. Among the factors that may be taken into account when evaluating the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, and jurisdictional boundaries.

This EIR considers the following alternatives to the project:

- No Project Alternative: Continuation of Existing Uses
- No Project Alternative: Development According to the Existing General Plan
- Reduced Development

An EIR must also identify an “environmentally superior” alternative among those examined, and where the No Project Alternative is identified as environmentally superior, the EIR must identify an environmentally superior alternative from among the other alternatives. The environmental impacts of each alternative are compared to the proposed project and evaluated as to whether their impacts would be similar to the proposed project, greater, or less than the proposed project. With respect to the proposed Project, only project impacts involving air quality have been found to be significant and unavoidable, as noted previously. Section 7-17 identifies the environmentally superior alternative.

7.2 Alternative A: No Project/No Development

This Alternative would retain the existing golf course on the Birch Hills site while the La Floresta Village site would remain vacant. None of the infrastructure improvements envisioned with the proposed Project would occur.

7.2.1 Aesthetics

The No Project/No Development Alternative would not result in the alteration of the existing visual character of either project site, or the generation of any additional light and glare. No significant visual impacts have been identified in association with the proposed Project at either the Birch Hills or La Floresta Village site. The proposed Project would, however, substantially alter the existing visual environment from a vacant undeveloped character to a developed character on the La Floresta Village site, and intensify development on the Birch Hills site. This Alternative is consequently considered superior to the proposed Project with respect to aesthetic impacts.

7.2.2 Agricultural Resources

This Alternative would avoid any impacts to existing agricultural activities on the La Floresta Village site. These activities are, however, not consistent with planned land use and have been considered an interim use by the City of Brea for many years, and the discontinuation of these activities is not considered a significant impact from a policy standpoint. The existing agricultural operation on the La Floresta Village site is also limited in size (21.3 acres). The Birch Hills site contains no agricultural activities, thus this topic is not applicable to that site. No significant impacts to agricultural resources have been identified with respect to the proposed Project. The No Project/No Development Alternative is, nonetheless, considered superior to the proposed Project in that no physical loss of agricultural land would occur.

7.2.3 Air Quality

The No Project/No Development Alternative would avoid all construction air quality impacts since no new construction would occur on either site. At the time the NOP was published, demolition activities were still underway at the La Floresta Village site, and under the No Project/No Development Alternative demolition activities would be completed as with the proposed Project. Construction emissions for the proposed Project were determined to be significant even with mitigation; therefore, the No Project/No Development alternative would reduce impacts during construction.

Operational emissions would be substantially less for this Alternative as compared to the proposed Project since no new residential use would be developed at the Birch Hills site and the La Floresta Village site would remain vacant. Operational emissions were

determined to be significant and unavoidable for the proposed Project; therefore, the No Project/No Development would result in a substantial reduction in impacts as compared to the Project, and is considered superior to the proposed Project with respect to all air quality impacts.

7.2.4 Cultural Resources

This Alternative would not result in the alteration of the existing use of either project site. No significant impacts to cultural resources have, however, been identified in association with the proposed Project at either the Birch Hills or La Floresta Village site. The Birch Hills development plan would actually result in the enhancement of remaining historical remnants of the Pacific Electric Railway line that traverses the site. Consequently, this Alternative is considered inferior to the proposed Project with respect to cultural resources.

7.2.5 Geology and Soils

No grading activities would occur with the No Project/No Development Alternative; therefore, no associated impacts would occur. Since the La Floresta Village site would remain vacant, however, erosion could occur unless preventative steps were taken. Under the Alternative, no new habitable structures would be built on either Project site. As a result, there would be no increase in various risks from exposure to seismic activity as compared to the proposed Project. No unmitigable significant impacts related to geology and soils were identified for the proposed Project. The No Project/No Development scenario would, however, result in reduce impacts associated with geology and soils. The No Project/No Development Alternative is therefore considered superior to the Proposed Project with respect to soils and geology impacts.

7.2.6 Hazards and Hazardous Materials

Remediation of site contamination that has been identified on the La Floresta Village site would be required by existing regulations even if no development occurred. Since no development would occur with this Alternative, there would, however, be no potential exposure of construction workers or future residents to hazardous materials. No unmitigable significant impacts related to hazards and hazardous materials were identified for the proposed Project. Impacts associated with hazards and hazardous materials would be reduced under the No Project/No Development scenario as noted. The No Project/No Development Alternative is therefore considered superior to the Proposed Project with respect to hazards and hazardous materials impacts.

7.2.7 Hydrology and Water Quality

The No Project/No Development Alternative would result in no changes to existing drainage and water quality conditions. The proposed Project would have potentially significant impacts from erosion and siltation during construction, but these can be

mitigated to a level that is less than significant. The proposed Project would also introduce potential pollutants from urban runoff into drainage courses, but these impacts would also be mitigated to a level of insignificance through standard requirements and mitigation measures. The proposed Project would expose occupants of La Floresta Village to risk of flooding in the event of a failure of Carbon Canyon Dam, but this would be mitigated to a less than significant level through the preparation and implementation of an La Floresta Village emergency response plan. Because potential impacts for this Alternative would be reduced as compared to the proposed Project, it is considered superior to the proposed Project with respect to hydrology and water quality impacts.

7.2.8 Land use and Planning

The existing land uses and planning entitlements would remain in place on both project sites under the No Project/ No Development Alternative. This Alternative would eliminate the proposed affordable workforce housing from the Birch Hills site, which would prevent the City from making progress toward its Housing Element objectives and other land use objectives contained in the General Plan which could be considered a significant impact. Consequently, the No Project/No Development Alternative is considered inferior to the proposed Project with respect to land use and planning impacts.

7.2.9 Noise

This Alternative would avoid all construction noise impacts since no new construction would occur on either site. Construction noise for the proposed Project was, however, determined to be less than significant with mitigation.

Long-term operational noise generated off-site by Project traffic would be substantially less for this Alternative as compared to the proposed Project since no new residential use would be developed at the Birch Hills site and the La Floresta Village site would remain vacant. Off-site traffic noise was not determined to be significant for the proposed Project. The No Project/No Development would, however, result in a reduction in off-site noise impacts as compared to the proposed Project.

Noise impacts to sensitive on-site uses such as homes from traffic on adjacent arterials and from proposed on-site commercial development in the La Floresta Village development would no longer be relevant with this Alternative since no new construction would occur on either site. With mitigation, impacts to sensitive receptors on-site were not identified as a significant impact with the proposed Project. The No Project/No Development would, however, eliminate such noise impacts compared to the proposed Project.

In summary, the No Project/No Development Alternative would reduce or eliminate all noise impacts associated with the proposed Project. Consequently, it is considered superior to the proposed Project with respect to noise

7.2.10 Population and Housing

No increase in population or housing would occur under this Alternative. This Alternative would eliminate the proposed affordable workforce housing from the Birch Hills site, which would prevent the City from making progress toward its Housing Element objectives and improving the jobs/housing balance, which could be considered a significant impact. Consequently, the No Project/No Development would be considered inferior to the proposed Project.

7.2.11 Public Services and Utilities

No increase in population or housing would occur under the No Project/No Development Alternative, thus no increase in demand for public services or utilities would occur. Public services and utilities impacts were identified as less than significant for the proposed Project. The No Project/No Development Alternative would, however, eliminate all services and utilities impacts associated with the proposed Project. Consequently, it is considered superior to the proposed Project with respect to these impacts.

7.2.12 Traffic and Circulation

Under the No Project/No Development Alternative, no change in land use would occur, thus no additional traffic would be generated. Existing conditions would continue. No significant traffic impacts have been identified in association with the proposed Project after mitigation measures are implemented. The No Project/No Development Alternative would, however, eliminate all traffic generation related to the proposed Project. Consequently, it is considered superior to the proposed Project with respect to traffic impacts.

7.3 Alternative B: No Project/Existing General Plan Entitlements

Alternative B describes the level of development that could occur on the sites under the existing General Plan entitlements. The Birch Hills site is designated for High-Density residential uses (12 to 24 units per acre) and 9.46 acres of open space. However, the General Plan EIR assumed 213 Low Density Residential Units; therefore, that assumption is also used for this Alternative.

The La Floresta Village site is designated Mixed-Use II in the General Plan. For purposes of this analysis it is assumed that 646 units of Mixed Use Residential and 515,400 square feet of mixed use commercial could be developed.

With both sites considered, this Alternative would result in 476 fewer residential units (1,335 – 859) but 358,600 square feet more commercial floor area (515,400 – 156,800) than the proposed Project.

7.3.1 Aesthetics

This Alternative would result in the alteration of the existing visual character of the La Floresta Village site in a manner similar to the proposed Project. Commercial development on the La Floresta Village site would, however, comprise a larger portion of the project under General Plan assumptions. Due the increased commercial intensity, aesthetic and light and glare impacts could thus be somewhat greater than the proposed Project.

Development permitted under the General Plan on the Birch Hills site would eliminate the existing golf course and replace it with single family housing over the majority of the site. This would substantially alter the existing visual character of the site, which could be considered a significant aesthetic impact. Generation of new light and glare would also increase. Alternative B would, thus, be considered inferior to the proposed project relative to aesthetics impacts.

7.3.2 Agricultural Resources

The No Project/Existing General Plan Alternative would result in the same impacts to existing agricultural activities on the La Floresta Village site as the proposed Project. Existing agricultural activities would be eliminated. These activities are, however, not consistent with planned land use and have been considered an interim use by the City of Brea for many years. Their discontinuation is not considered a significant impact. The Birch Hills site contains no agricultural activities, thus this topic is not applicable to that site. Alternative B is not considered either inferior or superior to the proposed Project relative to agricultural resources.

7.3.3 Air Quality

Alternative B would allow substantially more commercial development than the proposed project, which would generate approximately 60% more traffic and thus more pollutant emissions than the proposed Project. It is assumed that a similar amount of land area would be disturbed by grading on both sites, but approximately 117,000¹¹ less square feet of building construction would occur. Emissions due to construction activities would therefore be marginally less than for the proposed Project. Long-term operational emissions would be substantially greater than the proposed Project due to increased commercial development intensity and resulting traffic. Overall, this Alternative would be considered inferior to the proposed Project with respect to air quality impacts.

7.3.4 Cultural Resources

The No Project/Existing General Plan Alternative would allow development more intense than the proposed project; however, impacts to cultural resources are location specific and not driven by development intensity. Impacts due to grading and site preparation would be similar to the proposed Project. It is assumed that preservation of the historical remnants of the Pacific Electric Railway on the Birch Hills site would still occur under Alternative B in order to be consistent with General Plan policies. No unmitigable significant impacts related to cultural resources were identified for the proposed Project. Alternative B is not considered either inferior or superior to the proposed Project relative to cultural resources.

7.3.5 Geology and Soils

This Alternative would allow development more intense than the proposed Project, however, impacts to geology and soils are location-specific and not directly affected by development intensity. Therefore, Impacts due to geology and grading would be considered similar to the proposed Project. No unmitigable significant impacts related to geology and soils were identified for the proposed Project. Alternative B is not considered either inferior or superior to the proposed Project relative to cultural resources.

7.3.6 Hazards and Hazardous Materials

The No Development/Existing General Plan Alternative would allow development more intense than the proposed Project; however, impacts regarding hazards and hazardous materials are location-specific and not directly affected by development intensity. Therefore, impacts regarding hazardous materials and remediation would be similar to the proposed Project. No unmitigable significant impacts related to hazards and hazardous materials were identified for the proposed Project. Alternative B is not considered either inferior or superior to the proposed Project relative to impacts associated with hazards and hazardous materials.

¹¹ Assuming an average residential unit size of 1,000 square feet.

7.3.7 Hydrology and Water Quality

Alternative B would allow commercial development that is more intense than the proposed Project. Also, low-density residential development in the Birch Hills site would be expected to result in more developed area than the clustered high-density housing in the proposed Project. Impacts to hydrology and water quality could therefore be greater than the proposed project due to the increased development area and greater proportion of impervious surfaces that would be expected with increased commercial development and lower density residential development. This alternative would be considered inferior to the proposed Project with respect to hydrology and water quality.

7.3.8 Land Use and Planning

It is assumed that this Alternative would also provide affordable workforce housing on one or the other project site. Consequently, the housing policy impacts of Alternative B would be similar to the proposed Project. No other land use or housing policy impacts would occur under this Alternative. No adverse or significant land use or housing policy impacts have been identified in association with the proposed Project

Alternative B would result in a substantially more intense commercial development in Planning Area 5 on the La Floresta Village site and fewer residential dwellings. While this would not be inconsistent with land use policy, increased commercial development could generate adverse impacts such as increased light and glare, traffic, noise, and visual impacts in comparison with the proposed Project.

Development permitted under the General Plan on the Birch Hills site would eliminate the existing golf course and replace it with single family housing over the majority of the site. While this would not be inconsistent with land use policy, it could generate adverse land use driven impacts such as increased light and glare, traffic, noise, and visual impacts in comparison with the proposed Project. This Alternative would be considered inferior to the proposed Project relative to land use, planning and housing impacts.

7.3.9 Noise

This Alternative would allow development that is more intense than the proposed Project. Noise due to construction activities would not, however, be substantially different than the proposed Project.

Long-term operational noise impacts resulting from project-related traffic on surrounding roadways would be greater for this Alternative than the proposed Project due to higher traffic generation. Noise impacts to on- or off-site sensitive uses from commercial development would be similar to the proposed Project. None of these were identified as significant impacts of the proposed Project, and this Alternative would be considered inferior to the proposed Project with respect to noise generation.

7.3.10 Population and Housing

Alternative B would result in 476 fewer housing units than the proposed Project, with a corresponding reduction in resident population. The higher level of commercial development on the La Floresta Village site compared to the Project would generate more employment and related housing demand, however, partially offsetting this reduction. This Alternative would not offer the benefits to regional jobs-housing balance provided by the Project, nor would it be expected to provide any affordable workforce housing. In consideration of these factors, this alternative would be deemed inferior to the proposed Project relative to population and housing.

7.3.11 Public Services and Utilities

The No Project/ Existing General Plan Alternative would allow commercial development that is substantially more intense than the proposed Project. However, in terms of most public service needs, impacts would be similar to the proposed Project. School impacts would be reduced, while demand for police and fire protection could increase due to more intense commercial development. No significant impacts with regard to public services were, however, identified for the proposed Project. Alternative B is not considered either inferior or superior to the proposed Project relative to impacts to public services and utilities.

7.3.12 Traffic and Circulation

Austin Foust Associates has estimated trip generation for Alternatives B and C, as illustrated in Table 7.3-1, and compared them with the proposed project. As shown, Alternative "B" would result in substantially greater traffic generation than the proposed Project (approximately 60%). Although this analysis has not been taken to the level of ICU impacts, it can be safely assumed that the increased traffic generation associated with Alternative "B" would also significantly impact additional intersections. This could also result in land use impacts if impacted intersections required right-of-way acquisition that would encroach on existing uses to mitigate increased traffic impacts. For these reasons, this Alternative is considered inferior to the proposed Project relative to traffic and circulation impacts.

**Table 7.3-1
Project Alternatives – Land Use and Trip Generation Summary –
La Floresta Development Proposal**

Land Use	Amount	Unit	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
Alternative B									
La Floresta Village Site									
13. Parks/Rec/O.S.	9.46	AC	2	0	2	0	0	0	15
16. Mixed Use Res	646.00	DU	52	277	329	271	129	400	4,283
17. Mixed Use Comm. I	515.40	TSF	572	149	721	722	979	1,701	16,885
Subtotal			626	426	1,052	993	1,108	2,101	21,183
Birch Hills Site									
3. Low Density Res	213.00	DU	40	119	159	138	77	215	2,038
Project Totals									
3. Low Density Res	213.00	DU	40	119	159	138	77	215	2,038
13. Parks/Rec/O.S.	9.46	AC	2	0	2	0	0	0	15
16. Mixed Use Res	646.00	DU	52	277	329	271	129	400	4,283
17. Mixed Use Comm. I	515.40	TSF	572	149	721	722	979	1,701	16,885
GRAND TOTAL			666	545	1,211	1,131	1,185	2,316	23,221
Proposed Project			301	647	948	825	596	1,421	14,574
Difference (Alt. B – Proposed Project)			365	102	263	306	589	895	+8,647
Alternative C									
La Floresta Village Site									
4. Medium Density Res	398.00	DU	52	200	252	211	112	323	3,224
5. High Density Res	540.00	DU	43	233	276	227	108	335	3,580
13. Parks/Rec/O.S.	16.00	AC	3	0	3	1	1	2	26
30. Public Facility (Adult)	5.30	AC	0	0	0	0	0	0	0
SUB-TOTAL			98	433	531	439	221	660	6,830
Birch Hills Site									
3. Low Density Res	28.00	DU	5	16	21	18	10	28	268
5. High Density Res	132.00	DU	11	57	68	55	26	81	875
14. Natural Open Space	75.60	AC	0	0	0	0	0	0	0
31. Community Center	20.00	TSF	0	0	0	0	0	0	0
SUB-TOTAL			16	73	89	73	36	109	1,143
Project Totals									
3. Low Density Res	28.00	DU	5	16	21	18	10	28	268
4. Medium Density Res	398.00	DU	52	200	252	211	112	323	3,224
5. High Density Res	672.00	DU	54	290	344	282	134	416	4,455
13. Parks/Rec/O.S.	16.00	AC	3	0	3	1	1	2	26
14. Natural Open Space	75.60	AC	0	0	0	0	0	0	0
30. Public Facility (Adult)	5.30	AC	0	0	0	0	0	0	0
31. Community Center	20.00	TSF	0	0	0	0	0	0	0
GRAND TOTAL			114	506	620	512	257	769	7,973
Proposed Project			301	647	948	825	596	1,421	14,574
Difference (Alt. C – Proposed Project)			-187	-141	-328	-313	-339	-652	-6,571
Abbreviations: Comm. – commercial TSF – thousand square feet DU – dwelling unit AC - acres									

7.4 Alternative C: Reduced Development

Alternative C – Reduced Density envisions 28 single-family residential units (6 du/gross acre) in Sub-Area 12a of the Birch Hills site rather than 115 very-high-density workforce units. The remaining planning areas on the Birch Hills site would be identical to the proposed Project, with 132 high-density residential units in Sub-Area 12b and a new 20,000-square-foot community center, retention of the existing 5,500-square-foot clubhouse, and 75.6 acres of open space (golf course) in Sub-area 13. It is assumed that preservation of the historical remnants of the Pacific Electric Railway on the Birch Hills site would not occur under Alternative C.

For the La Floresta Village site, the commercial and mixed-use development in Planning Area 5 (156,800 square feet) would be replaced with a public park facility or open space in this Alternative. As shown in the Table 7.4-1, a total of 938 residential units would be built rather than 1,088 as in the proposed Project. Total residential units for both sites under this alternative would be 966 compared to 1,335 for the proposed Project (a 28% reduction).

**Table 7.4-1
Alternative C: Reduced Density Assumptions –
La Floresta Village Site**

Planning Area	Land Use	Acreage (acres)	Net Density (du/ac)	Total Dwelling Units (du)
1	Residential-Medium Density	6.8	14.5	99
2	Residential- Low Density	13.0	5.0	65
3	Residential-Low Density	12.1	8.5	107
4a	Residential- Medium Density	4.3	13.0	56
4b	Residential-Medium Density	2.7	13.0	35
5	Park/OS	16.0		
6	Residential-Low Density	4.6	5.0	23
7	Residential-High Density	10.0	15.0	150
8	Residential- Low Density	16.2	6.0	98
9	Residential-Medium High Density	7.0	28.5	200
10	Residential-Low Density	21.0	5.0	105
11	Public Facility	5.3	--	--
La Floresta Village Site Total		119.0	--	938

7.4.2 Aesthetics

This Alternative would result in the alteration of the existing visual character of both project sites in a manner similar to the proposed Project, with the exception of Planning Area 5 of the La Floresta Village site, which would be utilized for a public park of an unspecified nature. The type and degree of visual impacts would vary in Planning Area 5, however, depending on the type of park facility (active vs. passive uses) that might be built. The visual intensity of most park/recreational uses would be less than the proposed commercial/office development incorporated in the proposed Project. If active sports facilities were involved, however, there could be significant impacts such as light and glare, as well as possible structures that could have adverse visual effects.

The developed area on the Birch Hills site would be the same as the proposed Project, but the intensity of residential development would be decreased in Planning Area 12a from high-density to low-density residential. This would diminish visual impacts along Kraemer Boulevard to some degree. Industrial land uses are located across Kraemer Boulevard, however, which are not considered sensitive viewers. Any aesthetic change is, thus, not considered significant.

No significant visual or light and glare impacts have been identified in association with the proposed Project at either the Birch Hills or La Floresta Village site. Alternative C is not considered either inferior or superior to the proposed Project relative to potential aesthetics impacts.

7.4.3 Agricultural Resources

Alternative C would result in the same impacts to existing agricultural activities on the La Floresta Village site as the proposed Project. Existing agricultural activities would be eliminated. These activities are, however, not consistent with planned land use and have been considered an interim use by the City of Brea for many years. Their discontinuation is not considered a significant policy impact. The Birch Hills site contains no agricultural activities, thus this topic is not applicable to that site. Alternative C is not considered either inferior or superior to the proposed Project relative to impacts to agricultural resources.

7.4.4 Air Quality

The Reduced Development Alternative would allow development that is substantially less intense than the proposed Project. Since the area of disturbance from grading and construction activities would be similar to the Project, emissions due to construction activities would not be substantially different than the proposed Project. Long-term operational emissions would be expected to be substantially less than the proposed Project due to the 28% decrease in residential development, the elimination of 156,800 square feet of commercial area, and a corresponding 45% reduction in traffic generation. If an active park were developed in PA-5 of the La Floresta Village site; however, some portion of this reduction in air pollutant emissions would be offset. Overall,

this Alternative would be considered superior to the proposed project with respect to air quality.

7.4.5 Cultural Resources

Alternative C would allow development less intense than the proposed Project; however, impacts to cultural resources are location specific and not driven by development intensity. Therefore, Impacts due to grading and site preparation would be similar to the proposed Project. It is assumed that preservation of the historical remnants of the Pacific Electric Railway on the Birch Hills site would not occur under Alternative C. No unmitigable significant impacts related to cultural resources were identified for the proposed project. This Alternative would be considered inferior to the proposed Project relative to cultural resources impacts.

7.4.6 Geology and Soils

This Alternative would allow somewhat less intense development than the proposed Project, however, impacts to geology and soils are location-specific and not directly affected by development intensity. Therefore, impacts due to geology and grading would be considered similar to the proposed Project. No unmitigable significant impacts related to geology and soils were identified for the proposed Project. Alternative C is not considered either inferior or superior to the proposed Project relative to impacts associated with geology and soils.

7.4.7 Hazards and Hazardous Materials

Alternative C would allow somewhat less intense development than the proposed Project; however, impacts to hazards and hazardous materials are location-specific and are not directly affected by development intensity. Therefore, impacts related to hazardous materials and remediation would be similar to the proposed Project. No unmitigable significant impacts related to hazards and hazardous materials were identified for the proposed project. Alternative C is not considered either inferior or superior to the proposed Project relative to impacts associated with hazards and hazardous materials.

7.4.8 Hydrology and Water Quality

The Reduced Development Alternative would eliminate all commercial development in PA-5 of the La Floresta Village site and replace it with open space (park). Impacts to hydrology and water quality could be less than the proposed Project due to the nature of uses that could occur within commercial development, and increased permeable area that would occur in PA-5 with open space. No unmitigable significant impacts related to hydrology and water quality were identified for the proposed Project. This alternative would, however, still be considered marginally superior to the proposed Project with respect to hydrology and water quality.

7.4.9 Land Use and Planning

It is assumed that this Alternative would not provide the proposed affordable workforce housing at the Birch Hills or the La Floresta Village site, which would prevent the City from making progress toward its Housing Element objectives and could be considered a significant impact. In addition, this Alternative would not fulfill a variety of General Plan Land Use policies adopted specifically for the La Floresta Village site. These include "Policies for the Creation of a Sense of Place" and "Policies for Creating Connections," which are listed in Section 5.1-2 under Regulatory Setting. Additional citywide urban design policies that would not be fulfilled by this alternative are also listed in Section 5.1-2, Regulatory. These focus on encouraging mixed use development.

This Alternative would result in less intense development in Planning Area 5 on the La Floresta Village site and fewer residential dwellings. Removal of the commercial support services would be inconsistent with land use policy established for the La Floresta Village site. It could, however, result in less intense land use driven impacts such as light and glare, traffic, noise, and visual impacts in comparison with the proposed Project.

The developed area on the Birch Hills site would be the same as the proposed Project, but the intensity of residential development would be decreased in Planning Area 12a from high-density to low-density residential. Land use driven light and glare, traffic, noise, and visual impacts would be similar or less in comparison with the proposed Project.

No significant land use or housing impacts have been identified in association with the proposed Project at either the Birch Hills or La Floresta Village site. This alternative would be considered inferior to the proposed Project relative to land use and housing impacts in that it would not fulfill important housing policies.

7.4.10 Noise

Alternative C would allow development that is less intense than the proposed Project. Since construction would occur on both sites, noise due to construction activities would not be substantially different than the proposed Project.

Long-term operational noise impacts resulting from project-related traffic on surrounding roadways would be less than the proposed Project, but would not eliminate a significant impact. Similarly, traffic noise impacts on the proposed development from adjacent roadways would be very similar to the proposed Project. Noise impacts to on- or off-site sensitive uses from commercial development would be eliminated however, since this Alternative contains no non-residential uses. No significant noise impacts have been identified relative to the proposed Project. In consideration of these factors, Alternative C is not considered either inferior or superior to the proposed Project relative to noise impacts.

7.4.11 Population and Housing

This Alternative would result in 369 fewer housing units than the proposed Project, with a corresponding reduction in resident population. It is assumed that this Alternative would

not provide affordable workforce housing at the Birch Hills site, which would prevent the City from making progress toward its Housing Element objectives and could be considered a significant impact. This Alternative would also result in reduced benefits to regional jobs-housing balance compared to the proposed Project. In consideration of these factors, this alternative would be deemed inferior to the Project.

7.4.12 Public Services and Utilities

This Alternative would allow development that is substantially similar to the proposed Project in terms of public service needs. No significant impacts with regard to public services were identified for the proposed Project. Alternative C is not considered either inferior or superior to the proposed Project relative to impacts to public services and utilities.

7.4.13 Traffic and Circulation

Austin Foust Associates has estimated trip generation for Alternatives B and C, as illustrated in Table 7.3-1 (page 7-11), and compared them with the proposed Project. As shown, Alternative "C" would result in substantially less traffic generation than the proposed Project (approximately 45%). This analysis has assumed a passive park use in PA-5 of La Floresta Village.

Although this analysis has not been taken to the level of ICU impacts, it can be safely assumed that the reduced traffic generation associated with Alternative "C" would also reduce impacts to specific intersections. For these reasons, this alternative is considered superior to the proposed Project relative to traffic and circulation impacts.

7.5 Environmentally Superior Alternative

The proposed Project would not result in any significant impacts that could not be mitigated to less than significant levels by recommended mitigation, except for air quality impacts. The No Project/No Development Alternative would eliminate environmental impacts associated with the proposed project, but would not be consistent with any General Plan policies nor would it fulfill any objectives of the project applicant, and it is therefore rejected.

Alternative "B" (No Project Alternative/Existing General Plan Entitlements) would create greater impacts than the proposed Project, as illustrated in Table 7.5-1, in the areas of aesthetics, air quality, hydrology and water quality, land use and planning, noise, and traffic. Consequently, this Alternative is also rejected.

Alternative "C" (Reduced Development) could diminish impacts related to hydrology & water quality and traffic. The majority of impacts associated with the proposed Project, however, were not found to be significant. If traffic estimates for Alternative "C" assumed an active park facility in PA-5 of the La Floresta Village site, traffic impacts could be similar if not greater than the proposed project. Alternative "C", in addition, would not fulfill important General Plan policies such as provision of workforce housing and urban design policies that encourage creation of an "urban village" and a "sense of place" on the La Floresta Village site to the degree that the proposed Project does.

Neither Alternatives "B" nor "C" would avoid or substantially lessen the unavoidable impacts of the proposed Project. In consideration of these factors, none of the development Alternatives is considered to be substantially environmentally superior to the proposed Project.

**Table 7.5-1
Comparison of Impacts of Project Alternatives –
La Floresta Development Proposal**

Impact	Alternative "A"-No Project/No Development	Alternative "B"- No Project/Existing General Plan Entitlements	Alternative "C"-Reduced Development
Aesthetics	Superior to the Proposed Project	Inferior to Proposed Project	Similar to Proposed Project
Agricultural Resources	Superior to the Proposed Project	Similar to Proposed Project	Similar to Proposed Project
Air Quality	Superior to the Proposed Project	Inferior to Proposed Project	Superior to Proposed Project
Cultural Resources	Inferior to the Proposed Project	Similar to Proposed Project	Inferior to Proposed Project
Geology & Soils	Superior to the Proposed Project	Similar to Proposed Project	Similar to Proposed Project
Hazards & Hazardous Materials	Superior to the Proposed Project	Similar to Proposed Project	Similar to Proposed Project
Hydrology & Water Quality	Superior to the Proposed Project	Inferior to Proposed Project	Marginally Superior to the Proposed Project
Land Use and Planning	Inferior to the Proposed Project	Inferior to Proposed Project	Inferior to Proposed Project
Noise	Superior to the Proposed Project	Inferior to Proposed Project	Similar to Proposed Project
Population & Housing	Superior to the Proposed Project	Inferior to Proposed Project	Inferior to Proposed Project
Public Services & Utilities	Superior to the Proposed Project	Similar to Proposed Project	Similar to Proposed Project
Traffic & Circulation	Superior to the Proposed Project	Inferior to Proposed Project	Superior to the Proposed Project

8. Organizations and Individuals Contacted

Community Services Department City of Brea 1 Civic Center Circle Brea, CA 92821-5732	Scott Malkemus, Director
City of Brea Fire Department 1 Civic Center Circle Brea, CA 92821-5732	Dana Kemper, Fire Marshall
City of Brea Library Services 1 Civic Center Circle Brea, CA 92821-5732	Cheryl Nakaji, Librarian
City of Brea Maintenance Services Department 1 Civic Center Circle Brea, CA 92821-5732	Bill Higgins, Director
City of Brea Police Department 1 Civic Center Circle Brea, CA 92821-5732	Mike Messina, Police Chief
City of Brea Development Services Department Engineering Division 1 Civic Center Circle Brea, CA 92821-5732	Tony Olmos, City Engineer
Brea – Olinda Unified School District Business Services 1 Civic Center Circle Brea, CA 92821-5732	Skip Roland, Assistant Superintendent
Placentia Yorba Linda Unified School District 1301 Orangethorpe Avenue Placentia, CA 92870	Sheri Roussin, Facilities Planner Mike Bailey, Director of Facilities and Planning
Orange County Integrated Waste Management Department 320 N. Flower Street, Suite 400 Santa Ana, CA 92703-5000	Janice V. Goss, Director

8. Organizations and Individuals Contacted

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2. City of Brea General Plan, December 2002.
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10.11 Section 5.11 – Services and Utilities

The primary source of analysis presented in Section 5.11 is service correspondence and follow-up consultations. Please refer to Appendix H for Service Questionnaires and responses. In addition, the following references were utilized:

1. Daniel Boyle Engineering, "City of Brea, Water Master Plan Update," December 2002.
2. Daniel Boyle Engineering, "Water Supply Assessment – La Floresta Village and Birch Hills Golf Course Projects," March, 2006.

10.12 Section 5.12 – Traffic and Circulation

1. Austin-Foust Associates, "City of Brea - La Floresta: Traffic Study," November, 2006.

11. Acronyms and Abbreviations

LETTER A

AA	Administering Agency
AA	Alternatives Analysis
AASA	American Association of School Administrators
AB 1807	Tanner Process for Identifying and Controlling Air Toxics, Health & Safety Code §39650 et seq., Agriculture Code §14021 et seq.
AB 2185	Hazardous Materials Release Response Plans and Inventory, 2189 Health & Safety Code §25500 et. seq.
AB 2588	Air Toxics “Hot Spots” Information and Assessment Act, H&S Code §44300 et. seq.
AB 2595	California Clean Air Act, Health & Safety Code §39000 et seq.
AB 2926	Leroy F. Greene State School Building Lease-Purchase Law of 1976
AB 3777	Risk Management and Prevention Plans for Acutely Hazardous Materials, Health & Safety Code §25531 et seq.
ACE	Any Credible Evidence
ADA	Americans with Disabilities Act (1990)
APA	American Planning Association
AB	Assembly Bill (California)
ACBM	Asbestos Containing Building Material
ACM	Asbestos Containing Material
ACW	Asbestos Containing Waste
AEP	Association of Environmental Professionals
ADR	Alternative Dispute Resolution
ADT	Average Daily Traffic (or Average Daily Trips)
ADU	Accessory Dwelling Unit
AFT	American Farmland Trust
AG	Attorney General
AGST	Above Ground Storage Tank
AHERA	Asbestos Hazard Emergency Response Act, 1986 (see TSCA)
AHM	Acutely Hazardous Materials
AHW	Acutely Hazardous Waste
AICP	American Institute of Certified Planners
AICUZ	Air Installation Compatible Use Zones
ALARA	As Low As Reasonably Achievable
ALJ	Administrative Law Judge
AO	Administrative Order
APA	Administrative Procedure Act, 5 USC §551 et seq.; Government Code §11340 et. seq.
APA	American Planning Association
APCD	Air Pollution Control District (California)
APCO	Air Pollution Control Officer, Health and Safety Code §40750 et seq. (California)
APFO	Adequate Public Facilities Ordinance
APHA	American Public Health Association
API	American Petroleum Institute
APWA	American Public Works Association
AQCR	Air Quality Control Region
AQMD	Air Quality Management District (California)
AQMP	Air Quality Management Plan
ARAR	Applicable or Relevant and Appropriate Requirements (CERCLA)
ARB	Air Resources Board

11. Acronyms and Abbreviations

ASCE	American Society of Civil Engineers
ASHAA	Asbestos in Schools Hazard Abatement Act
ASHRAE	American Society of Heating, Refrigeration & Air Conditioning Engineers
ASPIS	Abandoned Site Program Information System
AST	Aboveground Storage Tanks
ASTM	American Society for Testing and Materials
ATCM	Air Toxics Control Measure
ATSDR	Agency for Toxic Substances and Disease Registry
ADA	Average Daily Attendance
ADA	Americans with Disabilities Act
AVO	Average Vehicle Occupancy
AVR	Average Vehicle Ridership
LETTER B	
BACT	Best Available Control Technology
BAMM	Best Available Mitigation Measures
BAT	Best Available Technology
BATEA	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BLM	Bureau of Land Management (US)
BMP	Best Management Practice
BOD	Biochemical or Biological Oxygen Demand
BOE	Board of Equalization (California)
BPT	Best Practicable Control Technology Currently Available (CCAA)
BTS	Bureau of Transportation Statistics
LETTER C	
CAA	Clean Air Act, 42 USC §7401 et seq. (federal); H&S Code §39000 et seq.
CAA	Clean Air Act Amendments
CAD	Computer Aided Design
CADD	Computer Aided Drafting and Design
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Division of Occupational Safety and Health
CALINE	California Line Source Model
CAMU	Corrective Action Management Units (RCRA)
CAO	Corrective Action Order (RCRA)
CAP	Capacity Assurance Plan (RCRA)
CAPCOA	California Air Pollution Control Officers Association
Caltrans	California Department of Transportation
CalARP	California Accidental Release Prevention Program
CASBO	California Association of School Budget Officers
CASH	Coalition for Adequate School Housing (California)
CBD	Central Business District
CBD	Commerce Business Daily
CBEDS	California Basic Educational Data System
CBI	Confidential Business Information
CDBG	Community Development Block Grant
CCAA	California Clean Air Act, H&S Code §39000 et seq.
CCD	Census County Division
CCR	California Code of Regulations
CC&Rs	Conditions, Covenants and Restrictions
CDE	California Department of Education
CE	Categorical Exclusion (Federal)
CE	Categorical Exemption (CEQA)

CEC	California Energy Commission
CEG	Certified Engineering Geologist
CEM	Continuous Emission Monitoring
CEQ	Council on Environmental Quality (federal)
CEQA	California Environmental Quality Act, Public Resources Code §21000 et seq.; Title 14 CCR §15000 et seq.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Federal Superfund), 42 USC §9601 et seq., 40 CFR; California Superfund H&S Code §25300 et seq., see HSA
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CESQG	Conditionally Exempt Small Quantity Generators
CFD	Community Facilities District
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CGL	Comprehensive General Liability Insurance
CHP	Certified Health Professional
CHP	California Highway Patrol
CIAQ	Council on Indoor Air Quality
CIH	Certified Industrial Hygienist
CIP	Capital Improvements Plan (or Program)
CM	Construction Manager
CMP	Congestion Management Program
CMSA	Consolidated Metropolitan Statistical Area (see also MSA, SMSA, PMSA)
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO	Certificate of Occupancy
CO	Change Order
CO ₂	Carbon Dioxide
COD	Chemical Oxygen Demand
COE	Corps of Engineers
COG	Council of Governments
COPS	Certificates of Participation
CPI	Consumer Price Index
CRTs	Cathode Ray Tubes
CRWQCB	California Regional Water Quality Control Board
CSP	Certified Safety Professional
CSR	Class Size Reduction
CSWMP	County Solid Waste Management Plan (California)
CTC	California Transportation Commission
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act or FWPCA, 33 USC §1251 et seq. California Water Code §13200 et seq. (Porter-Cologne Act)
CWPCA	California Water Pollution Control Association
CZMA	Coastal Zone Management Act of 1972
LETTER D	
dB	Decibel
dB(A)	Decibel, A weighted

11. Acronyms and Abbreviations

DOAS	Differential Optical Absorption Spectroscopy
DOH	Department of Housing
DCO	Document Control Officer
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
DFA	Department of Food and Agriculture (California)
DFG	Department of Fish and Game (California)
DDT	DichloroDiphenylTrichloroethane
DGS	Department of General Services (California)
DHS, DOHS	Department of Health Services (California)
DO	Dissolved Oxygen
DoD	Department of Defense (Federal)
DOE	Department of Energy (Federal)
DOJ	Department of Justice (California or Federal)
DOI	Department of the Interior (Federal)
DOT	Department of Transportation (Federal)
DPR	Department of Pesticide Regulation (Cal-EPA)
DRE	Destruction/Removal Efficiency
DSA	Division of the State Architect (California)
DTSC	Department of Toxic Substances Control (Cal-EPA)
DU	Dwelling Unit
LETTER E	
EA	Environmental Assessment (NEPA)
EA	Environmental Audit
EA	Endangerment Assessment
EA	Enforcement Agreement
EC	Education Code
EER	Excess Emission Reports
EF	Electric Field
EHS	Extremely Hazardous Substance
EIA	Environmental Impact Assessment
EIL	Environmental Impairment Liability Insurance
EIR	Environmental Impact Report (CEQA)
EIS	Environmental Impact Statement (NEPA)
EMF	Electric and Magnetic Field
EO	Executive Officer
EO	Executive Order
EOA	Environmental Oversight Agreement (DTSC)
EPA	Environmental Protection Agency (Federal)
EPA #	Generator # for RCRA manifesting (Federal)
EPBs	Empty Pesticide Bag(s)
EPCRTKA	Emergency Planning and Community Right-to-Know Act of 1986, more commonly known as SARA Title III or EPCRA, 42 USC §11001 et seq., 40 CFR Part 372
EP TOX	Extraction Procedure Toxicity Test (RCRA)
ERA	Environmental Risk Assessment (for EIL)
ERC	Emissions Reduction Credit
ERRIS	Emergency and Remedial Response Inventory System
ESA	Environmental Site Assessment
ESA	Endangered Species Act, 15 USC §1531 et seq.
ESH	Environmental Health and Safety
ESP	Electrostatic Precipitators
EZ	Enterprise Zone

LETTER F

F	Fahrenheit
FAA	Federal Aviation Administration
FAR	Floor Area Ratio
FCAA	Federal Clean Air Act
FCC	Federal Communications Commission
FDA	Food and Drug Administration (Federal)
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHA	Federal Housing Administration
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC §136 et seq.
FID	Facility Inventory Database
FIP	Final Implementation Plan
FIRE	Finance, Insurance and Real Estate
FMHA	Farmers Home Administration
FMP	Facilities Management Plan
FNMA	Federal National Mortgage Administration (or Fannie Mae)
FOIA	Freedom of Information Act (Federal)
FONSI	Findings of No Significant Impact (NEPA)
FP	Fine Particulate
FR	Federal Register
FR	Federal Rulemaking
FS	Feasibility Study (CERCLA)
FS	Forest Service (Federal)
FTA	Federal Transit Administration
FTC	Federal Trade Commission
FTIR	Fourier Transform Infrared
FTU	Fixed Treatment Unit
FWPCA	Federal Water Pollution Control Act, (CWA) 33 USC §12251 et seq.
FWS	Fish and Wildlife Services

LETTER G

GACT	Generally Available Control Technology
GAO	General Accounting Office (Federal)
GC	Government Code
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GFA	Gross Floor Area
GIS	Geographic Information System
GLA	Gross Leasable Area
GM	Growth Management
GMP	Growth Management Plan
GOB	General Obligation Bonds
GO Bonds	General Obligation Bonds
GNP	Gross National Product
GPA	General Plan Amendment
GPAD	Gallons per Acre per Day
GPM	Gallons per Minute
GPS	Global Positioning System
GS	Geological Survey

11. Acronyms and Abbreviations

GW	Ground Water
GWPS	Ground Water Protection Standard
LETTER H	
HA	Hazard Assessment
HAPs	Hazardous Air Pollutants
HAZOP	Hazard and Operability Study
HAZMAT	Hazardous Materials
HCD	Housing and Community Development, Department of
HCFCs	Hydrochlorofluorocarbons
HCS	Hazard Communication Standard (OSHA)
HDV	Heavy Duty Vehicle
HH&E	Human Health and the Environment
HHS	Health and Human Services, Department of
HHW	Household Hazardous Waste
HMBP	Hazardous Materials Business Plans, H&S Code §25504 et seq.
HMTA	Hazardous Materials Transportation Act, 49 USC §1801 et seq.; 49 CFR
HMTC	Hazardous Materials Technical Center (DOT)
HOC	Halogenated Organic Compounds
HOV	High Occupancy Vehicle
HP	Horse Power
HPLC	High Performance Liquid Chromatography
HR	House Report (Federal bill originated in the House of Representatives)
HRS	Hazard Ranking System
HS	Hazardous Substance
HAS	Hazardous Substance Account of the California Superfund, H&S Code §25300 et seq.
HSCAP	Hazardous Substance Cleanup Arbitration Panel, H&S Code §25356.1 et seq.
HSWA	Hazardous and Solid Waste Amendments (to RCRA)
HUD	Department of Housing and Urban Development (Federal)
HVAC	Heating, Ventilation and Air Conditioning
HW	Hazardous Waste
HWCL	Hazardous Waste Control Law (California RCRA's counterpart H&S Code §25100 et seq.)
HWIS	Hazardous Waste Information System (DTSC)
HWMU	Hazardous Waste Management Units (RCRA)
HWTC	Hazardous Waste Treatment Council
LETTER I	
IAQ	Indoor Air Quality
ICMA	International City/County Managers Association
IEQ	Indoor Environmental Quality
IMS	Ion Mobility Spectrometry
INUR	Inventory Update Rule
IOR	Inspector of Record
IPCC	Intergovernmental Panel on Climate Control
IPM	Integrated Pest Management
IS	Initial Study (CEQA)
IS	Interim Status (for a TSDF)
ISD	Interim Status Document
ISO	International Organization for Standardization
ISR	Indirect Source Rule
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers

IWMB	California Integrated Waste Management Board (Cal-EPA)
LETTER J	
J	Journal of Air Pollution Control Association
JPA	Joint Powers Authority
LETTER K	
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt Hour
LETTER L	
LAER	Lowest Achievable Emission Rate
LAFCO	Local Agency Formation Commission
LAO	Legislative Analyst Office
lb	Pound
LD50	Lethal Dose Level 50%
Ldn	Day-night Average Sound Level
LDR	Land Disposal Restrictions (RCRA)
LDT	Light Duty Truck
LEA	Local Enforcement Agency
LLRWPA	Low Level Radioactive Waste Policy Act, 42 USC §2021(b)
LOIS	Loss of Interim Status (for TSDF)
LOS	Level of Service (traffic flow rating)
LPP	Lease-Purchase Program (California)
LRV	Light Rail Vehicle
LQHUW	Large Quantity Handlers Universal Waste
LUFT	Leaking Underground Fuel Tank
LULU	Locally Unwanted Land Use
LUFT	Leaking Underground Fuel Tank
LUST	Leaking Underground Storage Tank
LETTER M	
M3	Cubic Meter
MACT	Maximum Available Control Technology
MBE	Minority Business Enterprise
MCL	Maximum Concentration Limits or Maximum Contaminant Levels (SDWA)
MCLGs	Maximum Contaminant Level Goals (SDWA)
MEA	Master Environmental Assessment (CEQA)
MEIR	Master Environmental Impact Report (CEQA)
MELLO-ROOS	Mello-Roos Community Facilities Act of 1982 (Chapter 2.5, Division 2 of Title 5, Government Code, §53311 and following)
MF	Magnetic Field
MF	Multifamily
MGD	Millions of Gallons per Day
MH	Manufactured Housing
MND	Mitigated Negative Declaration (CEQA)
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MPRSA	Marine Protection, Research and Sanctuaries Act, 16 USC §1431 et seq.
MS	Mass Spectrometry
MSA	Metropolitan Statistical Area (see also CMSA, PMSA, SMSA)
MSDS	Material Safety Data Sheets, 29 CFR §1910.1200(c); Labor Code §6374
MTBE	Methyl tert-Butyl Ether
MTU	Mobile Treatment Unit

MTYRE	Multi-track year-round education
MW	Megawatt
LETTER N	
NA	Non-attainment
NAA	Non-Attainment Areas (CAA and California CAA)
NAAQS	National Ambient Air Quality Standards (CAA)
NAEP	National Association of Environmental Professionals
NAHB	National Association of Home Builders
NAHMMA	North American Hazardous Materials Management Assoc.
NAHRO	National Association of Housing & Redevelopment Officials
NBAR	Nonbinding Allocation of Responsibility
NCP	National Contingency Plan (CERCLA)
NCRIC	National Chemical Response and Information Center
ND	Negative Declaration (CEQA)
NDDB	Natural Diversity Database
NEIC	National Enforcement Investigations Center (US EPA)
NEPA	National Environmental Policy Act, 42 USC §4321
NESHAPs	National Emission Standards for Hazardous Air Pollutants (CAA)
NFA	No Further Action
NFIP	National Flood Insurance Program
NFS	National Forest Service
NHPA	National Historic Preservation Act
NIMBY	“Not In My Backyard” Syndrome
NIMTOO	Not in My Term of Office
NIOSH	National Institute for Occupational Safety & Health
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOAA	National Oceanographic and Atmospheric Agency
NOC	Notice of Commencement
NOC	Notice of Completion (CEQA)
NOD	Notice of Determination (CEQA)
NOE	Notice of Exemption (CEQA)
NOI	Notice of Intent to Adopt Negative Declaration
NOP	Notice of Preparation (CEQA)
NOV	Notice and Violation
NOx	Oxides of Nitrogen, H&S Code §43101.5, 43610-43612, 43654
NPDES	National Pollutant Discharge Elimination System (CWA) NPL National Priority List (CERCLA)
NRC	National Response Center (Federal)
NRC	Nuclear Regulatory Commission (Federal)
NSPS	New Source Performance Standards (CWA and CAA)
NSR	New Source Review (California CAA)
NTHP	National Trust for Historic Preservation
NTIS	National Technical Information Service
NTP	National Toxicology Project
NWPA	Nuclear Waste Policy Act, 42 USC §10101 et seq.
LETTER O	
Ox	Total Oxidants
O2	Oxygen
O3	Ozone
OAH	Office of Administrative Hearings (California)
OAL	Office of Administrative Law (California)

OECM	Office of Enforcement and Compliance Monitoring (US EPA)
OEHHA	Office of Environmental Health Hazard Assessment (Cal-EPA)
OES	Office of Emergency Services (California)
O&M	Operation and Maintenance
OMB	Office of Management and Budget (Federal)
ONWI	Office of Nuclear Waste Isolation (Federal)
OPR	Office of Planning and Research (California)
OPSC	Office of Public School Construction (California)
ORM	Other Regulated Material (DOT terminology)
ORV	Off-Road Vehicle
OSA	Office of the State Architect (California)
OSHA	Occupational Safety and Health Administration (Federal)
OSWER	Office of Solid Waste and Emergency Response (US EPA)
OTA	Office of Technology Assessment (US Congress)
LETTER P	
PAH	Polynuclear Aromatic Hydrocarbons
Part A	The overview portion of a TSDf HW permit application, under RCRA
Part B	The detailed portion of a TSDf HW permit application, under RCRA
PA/SI	Preliminary Assessment/Site Investigation
Pb	Lead
PBR	Permit by Rule
PC	Planning Commission
PCA	Property Clearance Assessment
PCB	Polychlorinated Biphenyl
PCD	Planned Commercial Development
PCDF	Polychlorinated Dibenzofurans
PCE	Perchloroethylene
PCO	Proposed Change Order
PCS	Personal Communication Services
PDR	Purchase of Development Rights
PE	Professional Engineer
PEA	Preliminary Endangerment Assessment
PEL	Permissible Exposure Limits (OSHA)
PHT	Peak Hour Traffic (or Peak Hour Trips)
PID	Planned Industrial Development
PL	Public Law (Federal)
PMN	Premanufacture Notice
PM10	Particulate Matter less than 10 microns in diameter
PMSA	Primary Metropolitan Statistical Area
POTW	Publicly-Owned Treatment Works
ppb	Parts per billion
ppm	Parts per million
PRC	Public Resources Code (California)
Proposition 65	Safe Drinking Water and Toxic Enforcement Act, H&S Code §25249.5 et seq.
PRD	Planning Residential Development
PRP	Potentially Responsible Party (Superfunds)
PSA	Permit Streamlining Act
PSA	Preliminary Site Assessment
PSD	Prevention of Significant Deterioration (CAA)
PS&E	Plans, Specifications and Estimate
psi	Pounds per Square Inch
PSI	Pollution Standards Index (Air)

11. Acronyms and Abbreviations

PUC	Public Utilities Commission
PUD	Planned Unit Development
P&Z	Planning and Zoning
LETTER Q	
QA/QC	Quality Assurance/Quality Control
QOL	Quality of Life
LETTER R	
RA	Risk Assessment
RAP(s)	Remedial Action Plan(s)
RAW(s)	Removal Action Workplan(s)
RCRA	Resource Conservation and Recovery Act (Federal), 42 USC §6901, 40 CFR R&D Research and Development
RD/RA	Remedial Design/Remedial Action
REA	Registered Environmental Assessor (California)
RECLAIM	Regional Clean Air Incentives Market
REHS	Registered Environmental Health Specialist (California, formerly Registered Sanitarian)
RFA	RCRA Facilities Assessment
RFI	Request of Information
RFP	Requests for Proposals
RFQ	Requests for Qualifications
RG	Registered Geologist
RI/FS	Remedial Investigation/Feasibility Study
RMP	Regional Mobility Plan
RMPP	Risk Management and Prevention Plan, H&S Code §25531
ROD	Record of Decision (CERCLA; NEPA)
ROG	Reactive Organic Gases
ROW	Right of Way
RP	Responsible Party (CERCLA), 42 USC §9607(a)
RQ	Reportable Quantity (under DOT CERCLA and SARA Title III)
RQG	Reduced Quantity Generator (100-1000 kg/mo)
RSU	Regulatory Structure Update
RTIP	Regional Transportation Improvement Program
RTK	Right-to-Know
RV	Recreational Vehicle
RVP	Reid Vapor Pressure
RWQCB	Regional Water Quality Control Board (California)
LETTER S	
SAB	State Allocation Board (California)
SARA	Superfund Amendments and Reauthorization Act of 1986 (CERCLA)
SARA Title III	Emergency Preparedness and Community Right-to-Know Section of SARA, aka EPCRTKA
SB	Senate Bill (California)
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District (Southern California)
SDC	Special Day Class (California)
SDWA	Safe Drinking Water Act (Federal), 42 USC §300 et seq.
SEDAB	Southeast Desert Air Basin
SEL	Sound Exposure Level
SF	Single Family
SFD	Single Family Dwelling

SFP	School Facility Program
SFPD	School Facilities Planning Division
S&H Code	Streets and Highways Code
SIC	Standard Industrial Classification
SIP	State Implementation Plan (CAA)
SITE	Superfund Innovative Technology Evaluation
SLAPP	Strategic Lawsuits Against Public Participation
SMSA	Standard Metropolitan Statistical Area
SNUR	Significant New Use Rule (TSCA)
SO ₂	Sulfur Dioxide
SOB	Sexually Oriented Business
SOP	Standard Operating Procedures
SOR(s)	Statement of Reason(s)
SOV	Single Occupancy Vehicle
SO _x	Oxides of Sulfur, H&S Code §41514.5
SPCC	Spill, Prevention, Containment and Countermeasures
SPL	Sound Pressure Level
SRA	Source Receptor Area
SRO	Single Room Occupancy
SQG	Small Quantity Generator (less than 100 kg/mo)
SQHUUW	Small Quantity Handlers Universal Waste
SR	Senate Report (Federal bill originated in Senate)
SRP	Scientific Review Panel (California)
SSE	Stationary Source Enforcement
STIP	State Transportation Improvement Program
STEL	Short Term Exposure Limit
STP	Standard Temperature and Pressure
SUD	Safe Use Determination
SWA	Solid Waste Act (aka RCRA)
SWANA	Solid Waste Association of North America
SWAT	Solid Waste Assessment Test
SWIS	Solid Waste Information System
SWMP	Stormwater Monitoring Program
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board (Cal-EPA)
LETTER T	
TAC	Toxic Air Contaminant, 42 USC Section 7412; H&S Code §39655; Food & Agriculture Code §14021
TAZ	Traffic Analysis Zone
TCA	Trade and Commerce Agency (California)
TCDD	Tetrachlorobenzo-p-dioxin
TCLP	Toxicity Characteristic Leaching Procedure (RCRA)
TCE	Trichloroethylene
TDM	Transportation Demand Management
TDR	Transfer of Development Rights
TDS	Total Dissolved Solids
TIF	Tax Increment Financing
TIP	Transportation Improvement Program
TISE	“Take It Somewhere Else”
Title III	(of SARA) Community Right-to-Know and Emergency Response Provisions (aka EPCRTKA)

11. Acronyms and Abbreviations

TMA	Transportation Management Association (also Transportation Management Area)
TME	Test Marketing Exemption
TOC	Total Organic Carbon
TOD	Transit Oriented Design
TPCA	Toxic Pits Cleanup Act, H&S Code §25208 et seq.
TPQ	Threshold Planning Quantity (SARA Title III)
TPY	Tons per Year
TRANS	Tax and Revenue Anticipation Notes
TRI	Toxic Release Inventory
TRO	Trip Reduction Ordinance
TSCA	Toxic Substance Control Act (Federal), 15 USC §2601 et seq.
TSD	Treater, Storer, Disposer Health & Safety Code §25123.3
TSDF	Treatment, Storage, Disposal Facility (hazardous waste)
TSM	Transportation System Management
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
TTU	Transportable Treatment Unit
TQM	Total Quality Management
TZ	Treatment Zone
LETTER U	
UBC	Uniform Building Code
UFC	Uniform Fire Code
UGI	Underground Injection
ug/m3	Micrograms Per Cubic Meter
UGST	Underground Storage Tank
UGT	Underground Tank
UIC	Underground Injection Control, H&S Code §25159.10, SDWA, RCRA
ULI	Urban Land Institute
UM	Uniform Manifest
USC	United States Code
USDA	US Department of Agriculture
USDW	Underground Source of Drinking Water (SDWA)
USDI	US Department of the Interior
USEPA	United States Environmental Protection Agency
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UST	Underground Storage Tank
UWR	Universal Waste Rule
LETTER V	
VE	Vehicle Emissions
VEO	Visible Emissions Observation
VHAP	Volatile Hazardous Air Pollutant
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound, H&S Code §25123.6
VP	Vapor Pressure
LETTER W	
WDR	Waste Discharge Requirements
WHO	World Health Organization
WQA	Water Quality Act of 1987 (Federal, FWPCA)
WQMP	Water Quality Management Plan

WSRA	Wild and Scenic Rivers Act
WWTP	Wastewater Treatment Plant
LETTER X	
LETTER Y	
YRE	Year Round Education
YTD	Year to Date
LETTER Z	
Z List	OSHA list of hazardous chemicals (29 CFR 1910 Subpart Z, Worker Right-To-Know)
ZEV	Zero Emissions Vehicle
ZLL	Zero Lot Line
ZO	Zoning Ordinance
ZRL	Zero Risk Level