SPRINGBROOK ESTATES
SPECIFIC PLAN NO. 330
FINAL
ENVIRONMENTAL IMPACT REPORT NO. 448
AND
RESPONSE TO COMMENTS

NOVEMBER 2005

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VOLUME I

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SECTION III
SUMMARY

A. PROJECT SUMMARY

1. Project Description

The Springbrook Estates Specific Plan is a master planned residential development located in the community of Highgrove, within the Sphere of Influence of the City of Riverside. Figure III-1 depicts the *Vicinity Map*, while Figure III-2 depicts the *Regional Topographic Map*. The subject property is located northeast of the City of Riverside, generally along the north and south sides of Spring Street, easterly and westerly of Mount Vernon Avenue. The property has been assembled from large contiguous properties, formerly operated as citrus ranches, forming a total of approximately 183.95 acres. The project site is located immediately west and contiguous to the Spring Mountain Ranch Specific Plan No. 323. Springbrook Wash is located immediately south of the subject site. Regional access to the project site is provided by the 60 and 91 Freeways located approximately two miles to the west of the project. Locally, the project site can be accessed by Center Street, Spring Street, Palmyrita Avenue and Mount Vernon Avenue.

Springbrook Estates has been planned for the development of a single family residential community, incorporating neo-traditional architecture and site planning techniques, interlaced with abundant landscaping and open spaces. As jointly determined by the Applicant and the County of Riverside, a Development Agreement, pursuant to Government Code Section 65864 et seq., may be desirable to implement the project.

Table III-1 summarizes the Springbrook Estates land uses.

Land Use Summary
Table III-1

LAND USE	ACRES	DWELLING UNITS
Residential	92.27	650
Streets	40.28	-
Public Facilities	1.38	-
Open Space/Parks	50.02	-
TOTALS	183.95	650

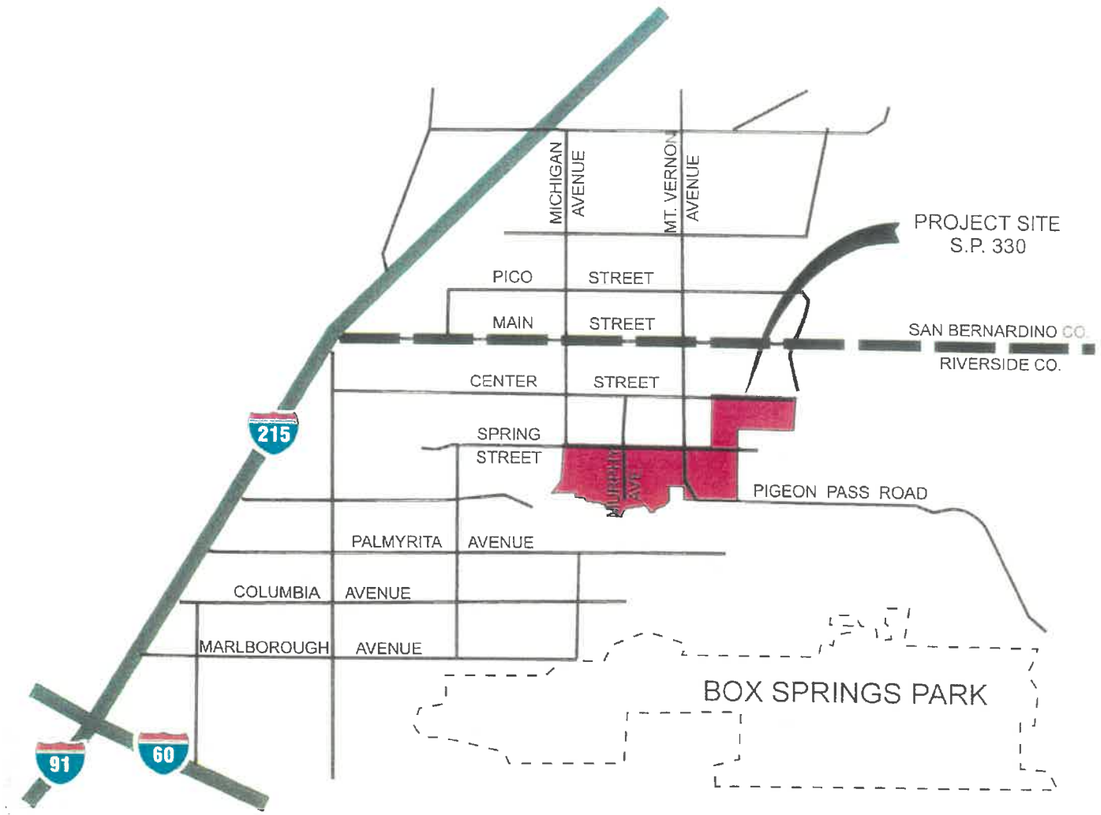
The project is depicted in Figure III-3, the *Illustrative Site Plan*.

SECTION III
SUMMARY

Springbrook Estates Specific Plan No. 330 consists of the following Assessor's Parcels:

APN	ACRES
255-130-001	9.00
255-130-002	9.20
255-130-003	9.20
255-130-004	8.50
255-130-005	2.35
255-130-008	9.70
255-130-009	9.70
255-130-010	9.50
255.130-016	5.28
255-110-011	9.75
255-140-001	5.88
255-140-020	4.81
255-190-008	20.49
255-190-009	18.80
255-190-010	0.34
255-170-006	9.55
255-170-007	9.54
255-170-008	12.50
255-170-009	12.50

(Note: Acreage based upon Riverside County Assessor Parcel Maps.)



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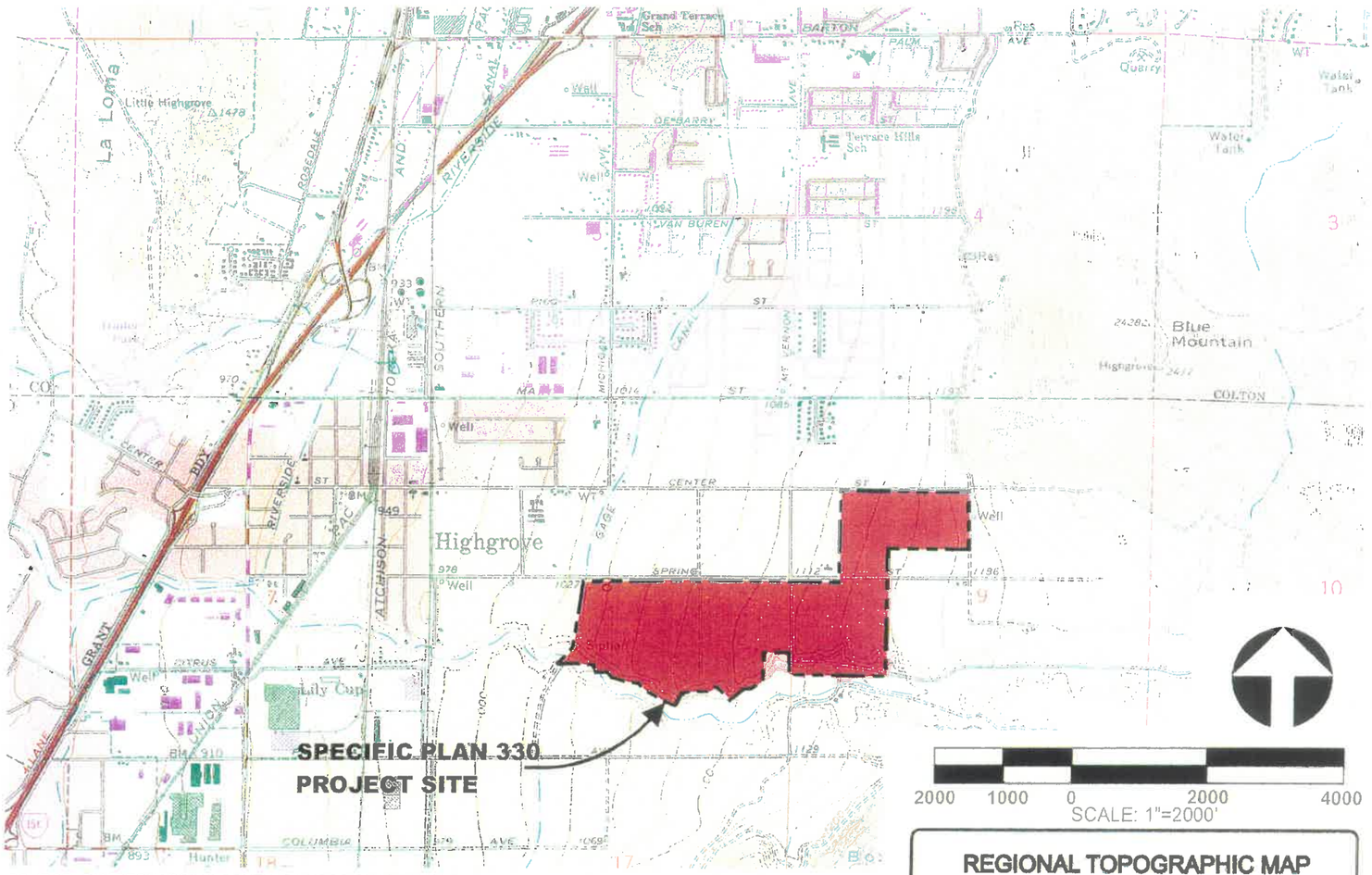
VICINITY MAP

SPRINGBROOK ESTATES	EXHIBIT NO.: III-1
	SPECIFIC PLAN No. 330



SOURCE: SAN BERNARDINO SOUTH, CA USGS QUADRANGLE

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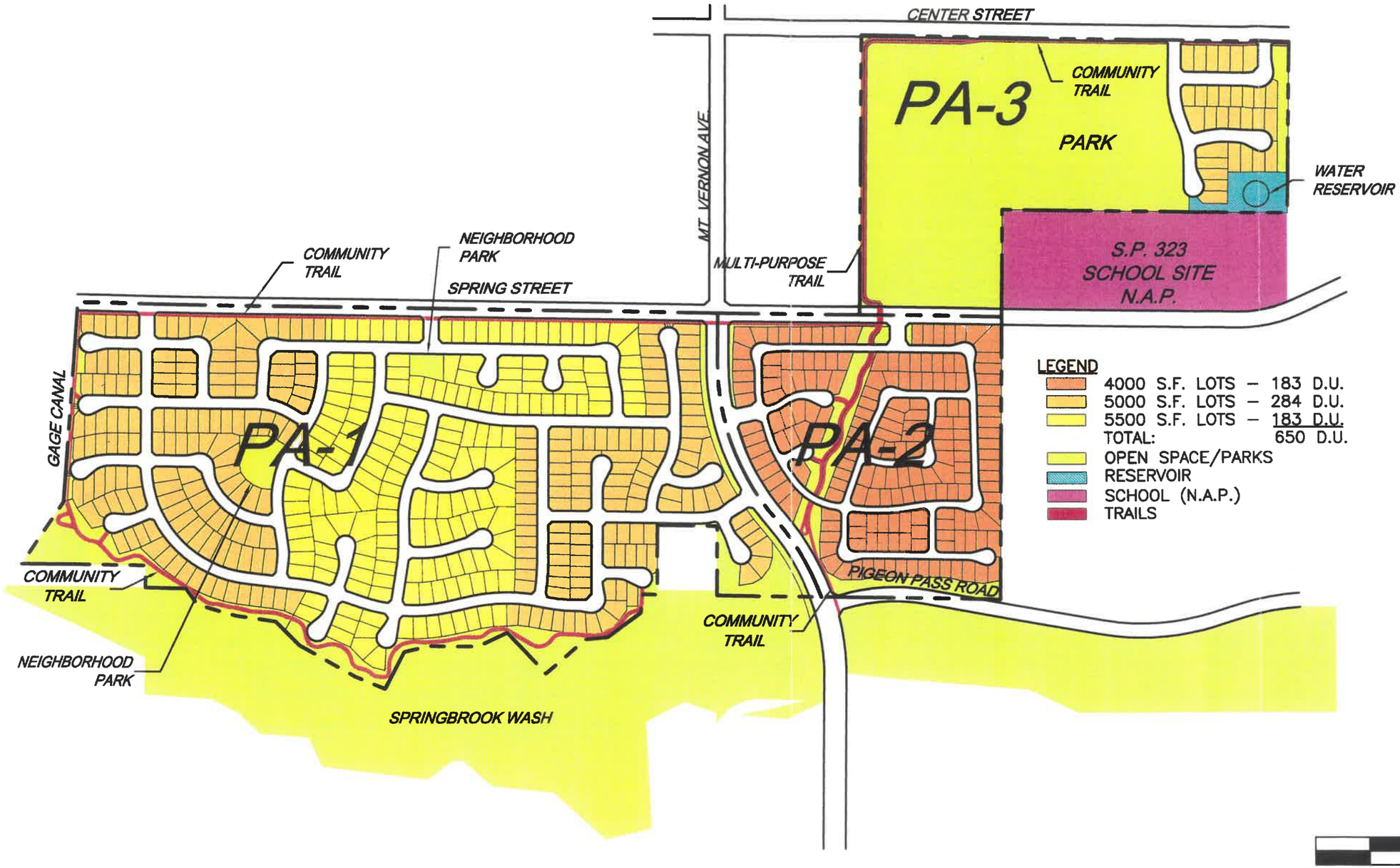
TKC

PROJECT LOCATION

REGIONAL TOPOGRAPHIC MAP

SPRINGBROOK ESTATES	EXHIBIT NO.: III-2
	SPECIFIC PLAN No. 330



500 250 0 500 1000
SCALE: 1"=500'

ILLUSTRATIVE SITE PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: III-3

SPECIFIC PLAN No. 330

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B. EIR/Issues Matrix

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
Section VI.A.1 - Land Use and Planning				
Implementation of the Springbrook Estates Specific Plan will result in transforming 183.95-acres of orchards and undeveloped land to residential, parkland/open space, and school uses.	No mitigation measures are required.	Not Applicable.	Not Applicable.	Less than Significant.
The proposed project is zoned as RA-20,000 (Residential-Agricultural with a 20,000 sq. ft. minimum lot size), R1-20,000 (Single Family Dwelling with 20,000 sq. ft. minimum lot size), and A1-10 (light agriculture, 10-acre minimum lot size).	1. The proposed project shall include an application for a change of zone from RA-20,000, R1-20,000, and A1-10 to Specific Plan.	County of Riverside Planning Department.	Upon certification of the EIR.	Less than Significant.
Section VI.A.2 – Circulation and Traffic				
The proposed project is projected to generate a total of 7,389 daily vehicle trips at buildout. Of this total, approximately 1,199 are AM peak hour trips and 878 are PM peak hour trips.	**Roadway Improvements** 1. Construct Center Street from the west project boundary to the east project boundary at its ultimate half-section width as a 66-foot Collector in conjunction with development. 2. Construct Spring Street from the west project boundary to Mount Vernon Avenue at its ultimate half-section width as a 66-foot Collector in conjunction with development. 3. Construct a paved two-lane extension of Spring Street from Mount Vernon Avenue to the east project boundary in conjunction with development	County of Riverside Transportation Department.	Review and approval of improvement plans and final subdivision maps.	Less than Significant.

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	to provide site access, with a minimum 34-foot pavement section for interim conditions. 4. Construct Spring Street (east of Mount Vernon Avenue) within the project at its ultimate cross-section width as a 66-foot Collector in conjunction with development. 5. Construct Pigeon Pass Road from Mount Vernon Avenue to the east project boundary at its ultimate half-section width as a 66-foot Collector in conjunction with development. 6. Construct Mount Vernon Avenue from the north project boundary to the south project boundary at its ultimate cross-section width as an Industrial Collector in conjunction with development. 7. Construct Mount Vernon Avenue from the south project boundary to Pigeon Pass Road at its ultimate half-section width as an Industrial Collector in conjunction with development. 8. Participate in the phased construction of off-site traffic signals through payment of established fees. 9. On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project site. 10. Sight distance at each project access roadway should be reviewed with respect to standard City of Riverside, Caltrans and County of Riverside sight distance standards at the time of preparation			

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	of final grading, landscape and street improvement plans. 11. The project shall participate in the funding or construction of the identified off-site cumulative improvements. 12. The project shall participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway improvement needs. 13. Freeway interchange improvements, railroad grade separations and arterial widening projects are being considered for inclusion into the Transportation Uniform Mitigation Fee (TUMF) program being developed in Western Riverside County. The TUMF process is identifying a network of regional facilities and endeavors to spread the cost on a regional basis through participation of the County and individual cities. If adopted, it would provide another potential funding source for General Plan improvements in this area. **Off-site Improvements** 14. La Cadena Drive West (NS) at: • Stephens Avenue (EW) – Traffic signal – Northbound left turn lane • Interchange Street (EW) – Traffic signal • Highgrove Place (EW) – Traffic signal • I-215 Northbound Ramps (EW)			

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	– Traffic signal – Northbound left turn lane – Convert northbound through lane to a shared through-left lane • Columbia Avenue (EW) – Northbound left turn lane – Southbound left turn lane – Westbound right turn lane 15. Highgrove Place (NS) at: • Center Street (EW) – Traffic signal 16. Iowa Avenue (NS) at: • Main Street (EW) – Traffic signal – Second northbound through lane – Southbound left turn lane • Center Street (EW) – Eastbound left turn lane 17. Michigan Avenue (NS) at: • Center Street (EW) – Traffic signal 18. Mount Vernon Avenue (NS) at: • Main Street (EW) – Traffic signal – Northbound left turn lane – Southbound left turn lane • Center Street (EW) – Traffic signal – Northbound left turn lane			

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	– Southbound left turn lane – Eastbound left turn lane – Westbound left turn lane • Spring Street (EW) – Traffic signal – Northbound left turn lane – Southbound left turn lane – Eastbound left turn lane – Westbound left turn lane – Westbound through lane • Pigeon Pass Road (EW) – Traffic signal – Northbound through lane – Southbound left turn lane – Southbound through lane – Westbound left turn lane – Westbound right turn lane			
Section VI.A.3 – Air Quality				
During the short-term construction phase, the proposed project is forecasted to result in NOx, CO, and ROC emissions that exceed SCAQMD thresholds.	**Construction Impacts – Short Term** 1. Water site and clean equipment morning and evening to comply with the AQMP Fugitive Dust Measures BCM-03 and BCM-06. As part of the conditions of grading permit approval, the project shall water the construction site and unpaved haul roads (with use of reclaimed water or chemical soil binder, where feasible) twice daily. 2. Water unpaved haul roads during construction at least three times per day. As part of the conditions of grading permit approval, unpaved construction haul roads shall be watered (with use of reclaimed	Riverside County Building and Safety Department and the South Coast Air Quality Management District.	Review of all monthly inspection reports of grading operations.	Significant and Unavoidable.

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	water or chemical soil binder, where feasible) three times daily. 3. Wash off trucks leaving the site to comply with the AQMP Fugitive Dust Measure BCM-01. As part of the conditions of grading permit approval, the project shall wheel wash construction equipment and cover dirt in trucks during on-road hauling. Haul trucks leaving the site also are required to have a minimum freeboard distance of 12", or to cover payloads. 4. Spread soil binders on site, unpaved roads and parking areas. SCAQMD Rule 403 requires that "every reasonable precaution (is taken) to minimize fugitive dust emissions" from grading operations to control particulate emissions. 5. Apply chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas which remain inactive for 96 hours). 6. Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less. 7. Suspend grading operations during first and second stage smog alerts. 8. Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour. 9. Maintain construction equipment engines by keeping them tuned. 10. Provide temporary traffic control (flag person) during construction. During construction of the			

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	proposed improvements, temporary traffic control (e.g. flag person) shall be provided during transport activities. The contractor shall be advised not to idle trucks on site for more than ten minutes. 11. Apply paints using either high volume low pressure (HVLP) spray equipment or by hand application.			
Springbrook Estates Specific Plan will contribute to the regional inability to attain the ozone standard based on SCAQMD's recommended significance levels. Project related emission levels for two primary exhaust pollutants (CO and ROC) exceed the significant threshold.	**Regional Air Quality - Long Term** 12. Schedule truck deliveries and pickups at schools during off-peak hour. 13. Provide adequate ingress and egress at all entrances to public school facilities to minimize vehicle idling at curbsides. 14. Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways. 15. Synchronize project area roadway traffic signals. 16. Improve thermal integrity of the school buildings and reduce thermal load with automated time clocks or occupant sensors. 17. Install energy efficient street lighting. 18. Provide lighter color roofing and road materials and tree planning programs to comply with the AQMP Miscellaneous Sources MSC-01 measure. 19. Provide bicycle lanes, storage areas, and amenities, and ensure efficient parking management.	Riverside County Building and Safety Department and the South Coast Air Quality Management District.	Prior to the issuance of Building Permits.	Significant and Unavoidable.

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	20. Encourage the use of alternative fuel or low emission vehicles to comply with the AQMP On-Road Mobile M2 measure, and Off-Road Mobile Sources M9 and M10 measures. 21. Introduce window glazing, wall insulation, and efficient ventilation methods.			
Section VI.A.4 – Noise				
The proposed project will result in noise impacts during the short-term construction phase.	**Short-Term Construction Activities** 1. All construction and general maintenance activities, except in an emergency, shall be limited to the hours of 7 AM to 7 PM, and prohibited on Sundays and all legally proclaimed holidays. 2. All construction equipment should use properly operating mufflers, and no combustion equipment such as pumps or generators shall be allowed to operate within 500 feet of any occupied residence from 7 PM to 7 AM unless the equipment is surrounded by a noise protection barrier. 3. All construction staging should be performed as far as possible from occupied dwellings. 4. The project applicant shall submit to the County of Riverside Department of Environmental Health a construction noise related mitigation plan in accordance with the County standards.	Riverside County Building and Safety Department.	Review and approval of monthly inspections reports of grading operations.	Less than Significant.
The proposed development of the Springbrook Estates Specific Plan project will generate approximately 7,389 vehicle trips; however, the project related	**Long Term Noise Impacts** No mitigation measures are required.	Not Applicable.	Not Applicable.	Less than Significant.

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vehicle trips will not result in exceeding established noise thresholds.				
Section VI.A.5 – Biological Resources				
Development of the study area will contribute to the regional loss of open space and natural resources. Potential impacts are primarily associated with direct impacts such as increased habitat loss (32.65-acres of Non-Native Grasslands 0.5-acres of Southern cottonwood-willow Riparian Forest, and 6.0-acres of Riversidean Sage Scrub), as well as with a range of indirect impacts such as increased human presence in the area, predation by domestic animals, levels of ambient noise and light and, potentially, contaminated urban runoff.	1. The impacts to the 0.5-acres of southern cottonwood-willow riparian forest shall be mitigated at a ratio determined by CDFG (typically 3:1) through preservation off-site in a conserved area by purchasing or restoring similar habitat at a County-approved off-site conservation area. Funding of this mitigation shall be provided by the project applicant prior to the issuance of grading permits. 2. The non-native grasslands may support burrowing owls. A focused survey shall be conducted approximately 30 days prior to initial grading activites. CDFG requires that burrows being used by burrowing owls be mitigated at a ratio of 2:1 off-site. Prior to the issuance of a grading permit, a qualified biologist shall construct artificial burrows off-site and coordinate and oversee the passive and/or active relocation of the owls. Compliance with this mitigation measure will reduce project related burrowing owl impacts to less than significant. 3. Development of the subject property will need to be mitigated under the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County. Typically, mitigation requirements state that fees should be $500.00 per acre of the total project size. The project proponent shall contact the County of Riverside, Building and	USACE, USFWS, CDFG, and the Riverside County Planning Department.	Prior to the issuance of Grading Permits.	Less than Significant.

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	Safety Department regarding the HCP to determine the cost and process of mitigation as it pertains to the specific property. Fee compliance with the County of Riverside will result in less than significant impacts to the Stephens' kangaroo rat. 4. The applicant shall pay a fee ranging from $800.00 per unit to $1600.00 per unit depending on density, in addition to complying with all applicable provisions of the MSHCP 5. Nesting bird and raptor nests are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. If tree removal occurs during the nesting season (February to July), prior to the commencement of tree removal all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist. If any active nests are detected, the area shall be flagged and avoided until the nesting cycle is complete. Tree removal and grading could be delayed to the non-breeding season (August to January), to ensure that no active nests will be disturbed. Implementation of appropriate mitigation measures during the nesting season or the avoidance of tree removal during the months of February to July will result in less than significant impacts to nesting birds. 6. A biological monitor shall be on-site during initial grading activities of any suitable Los Angeles			

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	pocket mouse, orange-throated whiptail and San Diego horned lizard habitat.			
Section VI.A.6 – Hydrology, Flooding, and Drainage				
Impacts from construction activity include: cleaning, grading, or excavation that results in the disturbance of at least five acres of total land area, or activity which is part of a larger common plan of development of five acres or greater.	1. Drainage and flood control improvements shall be provided in accordance with RCFCWCD requirements. 2. Major constructed drainage facilities located within the project site, including the Spring Street storm drain and Center Street storm drain shall be maintained by the RCFCWCD. Local drainage devices including inlets/catch basins and storm drains shall be constructed in roadway rights-of-way and drainage easements shall be maintained by the Riverside County Transportation Department. The Master Homeowners' Association shall maintain drainage inlet facilities outside of street rights-of-way, and between and behind lots.	Riverside County Flood Control and Water Conservation District.	Prior to issuance of Grading Permits.	Less than Significant.
Section VI.A.7 – Water Quality				
Implementation of the Springbrook Estates Specific Plan will result in grading cut and fill operations that will result in short-term erosion and sedimentation impacts.	**Surface Water** 1. Pursuant to requirements of the California State Water Resources Control Board, a Statewide general NPDES construction permit shall apply to all construction activities associated with the proposed project. Construction activities include clearing, grading, or excavation that results in the disturbance of at least five acres of total land area or activity which is part of a larger common plan of development of five acres or greater. Therefore, the developer or builder for the Springbrook Estates, shall be required to obtain	Riverside County Building and Safety and the California State Water Quality Control Board.	Prior to issuance of Grading Permit.	Less than Significant.

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Implementation of the project will also alter the composition of the surface runoff by grading the site surfaces; by construction of impervious streets, roofs and parking facilities; and by irrigation of landscaped areas. This runoff typical of urban uses, will contribute to the incremental degradation of the water quality downstream.	the appropriate State NPDES permits prior to commencing grading activities. 2. The project shall comply with the requirements of the SARWQCB (WRR) for wastewater producers and users. **Groundwater** 3. The project shall comply with the requirements of the SARWQCB Water Reclamation Requirements for wastewater producers and users.	Riverside County Building and Safety and the California State Water Quality Control Board.	Prior to issuance of Grading Permit.	Less than Significant.
Section VI.A.8 – Geology and Seismicity				
Project implementation will require site grading and earth moving activities and result in introducing habitable structures in a seismically active area, which may be subject to groundshaking and secondary seismic impacts.	**General Site Grading** 1. The grading plan shall be reviewed by the geotechnical engineer and the engineering geologist. No clearing or grading operations shall be performed without the presence of a representative of the geotechnical engineer. An onsite pre-job meeting with the developer, the contractor, and the geotechnical engineer shall occur prior to all grading related operations. 2. All areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials shall be removed from the site for disposal.	County of Riverside Geologist.	Prior to the issuance of Grading and Building Permits.	Less than Significant.

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	Initial Site Preparation 3. If encountered during construction, uncontrolled fills shall be completely removed and after cleaning of deleterious materials, the fill may be reused as compacted fill. 4. In order to prepare the ground to receive fill, a mandatory subexcavation operation in all areas to be graded shall be performed. This subexcavation operation (at least the upper five feet of the loose to medium dense soils and maximum removal on the order of twenty-five feet in the area of younger alluvium) shall include observation and testing of the exposed surface by the engineering geologist or geotechnical engineer prior to the processing for fill placement. If unsuitable soils are still present, then further removal shall be required. **Preparation of Fill Areas** 5. Prior to placing the fill and after the mandatory subexcavation, the approved surfaces of all areas to receive fill shall be scarified to a depth of approximately twelve inches. The scarified soils shall be brought to between optimum moisture content and two percent above and recompacted to a relative compaction of at least ninety-five percent in accordance with ASTM D 1557-91. **Preparation of the Footing Areas** 6. All footings and post-tensioned slabs shall rest entirely on at least eighteen inches of properly compacted fill material. In areas where the			

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	required thickness of compacted fill is not accomplished by the mandatory subexcavation operation and by the site rough grading, the footing areas shall be subexcavated to a depth of at least eighteen inches below the proposed footing base grade, with subexcavation extending at least five feet beyond the footing lines. The bottom of the excavation shall then be scarified to a depth of at least twelve inches, brought to between optimum moisture content and two percent above, and recompacted to at least ninety-five percent relative compact in accordance with ASTM D 1557-91, prior to refilling the excavation at grade as properly compacted fill. 7. Footings shall not be allowed to span from shallow to deep fill soil conditions. Should grading result in a situation where footings of a single structure bear on a fill depth differential of more than ten feet, such as along transition areas and younger alluvium removal areas within drainages, the subexcavation of the building pad shall be deepened as necessary to provide a relatively uniform fill mat below the bottom of the footing. This deepening of the subexcavation may involve additional removals of older alluvium areas. The resultant fill shall not vary in thickness from one side of the building area to the other by more than ten feet. **Compacted Fills** 8. Provided that the onsite soils are free from roots and other deleterious materials, they should			

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	provide adequate fill material. Rock or similar irreducible material, such as asphalt concrete and Portland cement concrete, with a maximum dimension greater than eight inches shall not be buried or placed in fills. Rock materials greater than six inches shall not be placed in the upper three feet. 9. Import fill, if required, shall be inorganic, non-expansive, granular soils free from rocks or lumps greater than six inches in maximum dimension. Sources of import fill shall be observed and approved by the geotechnical engineer. **Shrinkage and Subsidence** 10. Final grades shall be adjusted and/or contingency plans to import or export material shall be made to accommodate possible variations in actual values for shrinkage and subsidence (in relation to those estimated and presumed in the geotechnical report) during site grading. **Cut Slope Construction** 11. Slopes cut in alluvium up to twenty-five feet in height shall be constructed no steeper than 2:1 (horizontal to vertical). Undocumented fill or collapse prone alluvial soils are considered unsuitable for slope construction and shall be removed and replaced with properly compacted fill as recommended. Cut slopes higher than twenty-five feet, if proposed, shall be evaluated by the engineering geologist and the geotechnical engineer prior to and during construction. Slopes			

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	shall be terraced and provided with drainage as per the current edition of the UBC. **Fill Slope Construction** 12. Fill slopes shall be constructed in accordance with the current UBC requirements in regard to benching and drainage and shall be constructed no steeper than 2:1. Fill slopes shall be over-filled during construction and then cut back to expose fully compacted soils. **Structure Setback from Descending Slopes** 13. All structures proposed above steep slopes shall be set back an adequate distance from the top of the slope. At a minimum, the recommended setback for structures is a plane projected upward at a 2:1 inclination from the toe of the slope or the steepest part of the slope, whichever is greater. Areas where unsuitable materials such as colluvium and undocumented fill will remain at the top of the slope or where erosion may occur along the toe of the slope may need to be setback further. All slope setbacks shall be reviewed on a lot-by-lot basis by the engineering geologist and geotechnical engineer. **Improvement Setbacks** 14. Roadways and retaining walls shall be set back in accordance with the recommended 2:1 inclination. **Slope Protection** 15. Remaining non-vegetated slopes shall be planted with drought resistant native vegetation. If			

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	watering is necessary to sustain plant growth on the slopes, the watering shall be minimized, maintained, and monitored to assure proper operation of the water system to prevent over-watering. 16. Surface water shall be prevented from flowing over slope faces. Additional erosion control measures may be required along the project's interface with the Springbrook Wash east of Mount Vernon Avenue. Homeowner's shall be cautioned not to alter the proper drainage characteristics of their lots. **Expansive Soils** 17. During grading operations the geotechnical engineer shall conduct additional examinations for soil expansion potential. **Soluble Sulfates** 18. Additional testing for soluble sulfates shall be performed when the final foundation bearing soils are in place. **Foundation Design** 19. If the site is prepared as recommended, the proposed structure, in areas where the maximum fill thickness is less than thirty feet and the fill depth differential across the structure is less than ten feet, may be safely founded on conventional spread foundations. The foundations shall consist of either individual spread footings and/or continuous wall footings, bearing either a			

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	minimum of eighteen inches of compacted fill. Footings shall be a minimum of twelve inches wide and shall be established at a minimum depth of twelve inches below the lowest adjacent final subgrade level. 20. For the minimum width and depth, footings shall be designed for a maximum safe soil bearing pressure of two thousand pounds per square foot (psf) for dead plus live loads. This allowable pressure may be increased by 400 psf for each additional foot of width and by 700 psf for each additional foot of depth to a maximum safe soil bearing pressure of three thousand psf for dead plus live loads. These bearing values may be increased by one-third for wind or seismic loading. 21. Structure footings shall be set back from all natural and constructed slopes in accordance with the recommendations in the current UBC. **Foundation Design (Post-Tensioned Slabs)** 22. If the site is prepared as recommended, the proposed residential structures in the area of deeper fills (greater than thirty feet) may be safely founded on post-tensioned slab foundations. The compacted fill shall not vary in thickness from one side of the building pad area to the other by more than ten feet. Post-tensioned slabs shall be designed in accordance with Section 1819 of the 1997 UBC for a maximum differential settlement of 1 in 480. Thickened slab edges shall be a minimum of twelve inches wide and shall be			

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	established at a minimum depth of twelve inches below the lowest adjacent final subgrade level. The post-tensioned slab shall be designed for a maximum safe soil bearing pressure of 1,700 psf for dead plus live loads. This value may be increased by one-third for seismic loading. **Lateral Loading** 23. Resistance of lateral loads shall be provided by passive earth pressure and base friction. For footings bearing against compacted fill, base friction shall be computed at 0.45 times the normal load. 24. For preliminary retaining wall design purposes of footings, bearing against compacted fill, the passive at-rest, and active earth pressures may be utilized for backfills at different locations as recommendations by C.H.J., Inc. 25. Foundation concrete shall be placed in neat excavations with vertical sides or concrete shall be formed and the excavations properly backfilled as recommended fill for the site. **Slab on Grades** 26. Concrete slabs-on-grade shall bear a minimum of eighteen inches of compacted soil. The soils shall be compacted to ninety-five percent relative compaction. The final pad surfaces shall be rolled to provide smooth dense surfaces. 27. Slabs to receive moisture-sensitive coverings shall be provided with a moisture-vapor barrier. This			

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	barrier shall consist of an impermeable membrane. Two inches of sand over the membrane will reduce punctures and aid in obtaining a satisfactory concrete cure. The sand shall be moistened just prior to the placement of the concrete. **Settlement Monitoring** 28. Settlement monitoring shall be performed immediately following grading in all fills over thirty feet in thickness. 29. To verify completion of compression of the fill, an initial reading of the settlement monitors shall be taken immediately after construction. The fill shall then be monitored on consecutive months until two consecutive settlement readings do not differ by more than 0.002 feet. 30. The settlement monitors shall be placed at three different levels within the fill: one at the bottom; one at mid-height, and one at the top. All fills greater than thirty feet deep shall be monitored. 31. Locations of settlement monitors shall be clearly marked and readily visible (red flagged). Clearance shall be maintained from heavy equipment operations. The fills placed within the clearance areas shall be hand compacted to project specifications in vertical increments not to exceed eight inches. A two-inch diameter PVC sleeve or approved equivalent shall be placed around the riser pipe before placing backfill.			

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	Geologic In-Grading Observation. 32. In-grading observation shall be performed as necessary by the engineering geologist. **Construction Observation** 33. All grading operations, including site clearing and stripping shall be observed by a representative of the geotechnical engineer. The presence of the geotechnical engineer's representative is for providing observation and field testing, and it will not include supervising or directing of the actual work of the contractor, employees, or agents.			
Section VI.A.9 – Landform and Topography/Slopes and Erosion				
Project implementation will result in the creation of manufactured slopes throughout the development area. Recontouring and landscaping of manufactured slopes will be required to mitigate the potential for impacts to landform and topography.	**Site Preparation** 1. Prior to development within any planning area of the Specific Plan, an overall Conceptual Grading Plan for the planning area in process shall be submitted for Planning Department approval. The Grading Plan for each planning area shall be used as a guideline for subsequent detailed grading plans for individual stages of development within that planning area, and shall include: 1) techniques employed to prevent erosion and sedimentation during and after the grading process, 2) approximate timeframes for grading; 3) identification of areas that may be graded during high probability rain months (January through March), and 4) preliminary pad and roadway elevations. Grading on the project site shall conform to County regulations. If County	Riverside County, Planning Department and Building and Safety Department.	Prior to issuance of Grading Permits.	Less than Significant.

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	regulations conflict with the Conceptual Grading Plan, County regulations shall take precedence. 2. All grading procedures shall be in compliance with the Riverside County Grading Standards, including requirements for erosion control during rainy months. The requirements for compliance with Riverside County Grading Standards shall be noted on all grading plans. 3. Prior to issuance of grading permits, a soils report and geotechnical study shall be performed to further analyze on-site soil conditions and slope stability and shall include the appropriate measures to control erosion and dust as mentioned in the first mitigation measure. 4. Where cut and fill slopes are created higher than three feet, detailed Landscaping and Irrigation Plans shall be submitted to the Planning Department prior to grading permit issuance. The plans shall be reviewed for type and density of ground cover, shrubs, and trees to ensure that plant material will be effective as erosion control and that all slopes will be landscaped per County Ordinance No. 457. 5. All streets shall have a gradient not to exceed 15 percent. 6. Slopes steeper than 2:1 or higher than ten feet are allowed provided they are recommended to be safe in a slope stability report prepared by the soils engineer or engineering geologist. The slope stability report shall also contain			

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	recommendations for landscaping and erosion control. The Uniform Building Code, County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in Riverside County shall be observed. 7. Potential brow ditches, terrace drains, or other minor swales, determined necessary by the County of Riverside at future stages of project review, shall be lined with natural erosion control materials or concrete. 8. Graded but undeveloped land shall be maintained weed-free and planted with interim landscaping within 90 days of completion of grading, unless building permits are obtained. 9. All grading shall be conducted in conformance with recommendations contained within the Geotechnical Report included as Appendix B of this EIR. **Unconsolidated Deposits** 10. On-site soils are sufficiently granular to preclude any potential for expansion. Thus, specialized construction procedures, such as the inclusion of steel reinforcement in footings and slabs and the moisture-treatment of the slab subsurface, are not anticipated. The soils engineer should perform additional evaluations for soil expansion potentials during later site-specific investigations and grading operations. 11. When construction encounters clay-bearing colluvium, an attempt should be made to mix it			

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	with more granular onsite material prior to placement. Colluvium on slope faces should be removed prior to construction of fill slopes. Future site-specific geotechnical investigations will further evaluate the expansion potential of these deposits. 12. Remediation techniques for hydroconsolidation of younger alluvium include, among others, removal and replacement. The hydroconsolidation potential and appropriate remediation for a specific site will need to be addressed during the later site-specific, detailed geotechnical investigations. 13. All fill material encountered during site-specific geotechnical investigations and construction should be completely removed. After being cleaned of deleterious material, these fill materials should provide suitable fill and backfill material. **Natural Slopes** 14. Loose colluvium and undocumented fills typically cover alluvial terrace slopes on the site. Future detailed investigations for construction near these slopes will need to address the gross and surficial stability of these slopes, as well as remediation methods. Remediation measures might include careful selection of building sites and/or construction of diversion or containment structures.			

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	Subdrains 15. Subdrains shall be emplaced in the deepest part of planned fills, where this condition occurs. Appendix B of this report includes a typical subdrain design. 16. If encountered, springs and seeps in cut areas shall be evaluated on a case-by-case basis as to the most practical mitigation recommendations. At the time of grading, the engineering geologist shall make recommendations regarding subdrains or alternative mitigation. It is imperative that free water on or near building pad areas be mitigated prior to placement of structures. **Potential Erosion** 17. The potential for erosion shall be mitigated by proper drainage design. Water shall not be allowed to flow over graded areas or natural areas so as to cause erosion. Graded areas shall be planted or otherwise protected from wind and water erosion. **General Site Grading** 18. It is imperative that no clearing and/or grading operations be performed without the presence of a representative of the soils engineer. An onsite pre-job meeting of the developer, the contractor, and the soils engineer shall occur prior to all grading-related operations. Operations under-taken at the site without the presence of the soils engineer may result in exclusions of affected areas from the final compaction report for the project.			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	19. At a minimum, grading of the site shall be performed in accordance with the recommendations noted above and those emanating from future site-specific investigations, as well as with applicable portions of the current Uniform Building Code and the Riverside County Grading Ordinance (RCGO). The following recommendations should assist in establishing proper grading criteria. a. In general, all areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials shall be removed from the site for disposal. Undocumented fills shall be completely removed, and after cleaning of significant deleterious materials, may be reused as compacted fill. In order to determine the suitability of the ground to receive fill, subexcavation of all fill areas will be mandatory. This operation shall include removal of at least the upper two feet of the existing substratum and observation of the newly exposed surface by the engineering geologist or geotechnical engineer prior to processing for fill placement. b. The on-site deposits shall provide adequate quality fill material provided they are free from roots and other deleterious materials. Rock or similar irreducible material with a maximum dimension greater than 6 inches shall not be buried or placed in fills.			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	Import fill, if required, shall be inorganic, non-expansive, granular material free of rocks or clumps greater than 6 inches in maximum dimension. Sources for import fill shall be observed and approved by the soils engineer prior to their use. It is anticipated that the areas of deep fill will be in canyon bottom areas underlain by younger alluvium with the potential for significant hydroconsolidation. Future site-specific investigations shall address methods of mitigating potential hydroconsolidation settlement in these alluvial deposits. Such mitigation measures could involve complete removal. In addition, the deep fill requires specialized grading techniques to minimize potential settlement. These methods typically consist of (1) bringing the fill to 3% above optimum moisture prior to compaction, (2) compressing the fill to 90% relative compaction (ASTM 1557), and (3) adopting a program of settlement monitoring following the grading operation. Structure placement should avoid areas with large fill depth differentials, in accordance with the RCGO. c. Slopes cut in granitic rock or firm, dense older alluvium up to 30 feet in height shall be constructed no steeper than 2:1 (~26°). Undocumented fill shall be considered unsuitable for slope construction and shall be removed and			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	replaced with properly compacted fill as recommended. Significant amounts of colluvium exposed in cut slopes should be removed. Prior to and during construction, the engineering geologist and geotechnical engineer shall evaluate all cut slopes higher than 30 feet. Slopes shall be terraced and provided with drainage as per the current edition of the Uniform Building Code (International Conference of Building Officials, 1997) and RCGO. The final investigation of the site shall provide more specific data on slope stability, once the location and height of the slopes are known. d. Fill slopes shall be constructed no steeper than 2:1 (two horizontal to one vertical). Fill slopes shall be overfilled during construction and then cut back to expose the fully compacted material. A suitable alternative would be the compaction and rolling of slopes to provide dense, erosion-resistant surfaces. Where fills are to be placed against existing slopes steeper than 5:1, the existing slopes shall be terraced into competent native materials, thereby removing the compressive and permeable veneer and providing a series of level benches on which to seat the fill. The benches should be a minimum of 8 feet in width, constructed at approximately 2-foot vertical intervals. In addition, a shear key shall be constructed across the toe of the slope. The shear key shall be a minimum of			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	15 feet wide and should penetrate a minimum of 2 feet beneath the toe of the slope into firm, competent material (see Appendix B). The hydroconsolidation potential of these sediments shall be mitigated as necessary. e. In as much as the native materials are susceptible to erosion by running water, it shall be necessary that all slopes at the project be planted as soon as possible after completion. The use of succulent ground covers, such as iceplant or sedum is not recommended. If irrigation is necessary to sustain plant growth on slopes, the system shall be monitored to assure proper operation and to prevent overwatering. Measures shall be taken to prevent surface water from flowing over slope faces. f. Preliminary indications are that residential structures may be founded on conventional spread foundations, either individual spread footings and/or continuous wall footings, utilizing a compacted fill mat or direct embedment of footings into dense, undisturbed materials. A compacted fill mat will most likely consist of a minimum of 18 inches of compacted fill beneath the footings. The geotechnical engineer must approve the suitability of any natural deposit that will support a foundation. Footings must not span from cut to fill, or from deep fill to shallow fill.			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	Foundation design shall accommodate liquefaction-prone substrates. Determination of allowable bearing pressure and lateral earth pressures shall be based on the results of supplemental geotechnical investigation data. For planning purposes, however, the following bearing values may be utilized. Utilizing a minimum width of 12 inches and depth of 12 inches, preliminary footings probably can be designed for a maximum safe soil-bearing pressure of at least 1,800 pounds per square foot for dead plus live loads, with allowable bearing pressure increases of 400 pounds per square foot for each additional foot of width, and with 800 pounds per square foot for each additional foot of depth, to a maximum safe soil-bearing pressure of 3,000 pounds per square foot for dead plus live loads. In addition, increases of one-third may be considered for wind or seismic loading. Footings shall be setback from all natural and constructed slopes in accordance with the recommendations shown in Appendix B of this report, and in accordance with detailed investigations conducted after formulation of specific development plans. g. Once the initial planning for the site has been completed, a complete site-specific investigation shall be performed for each development phase. The reports developed from such site-			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	specific investigations can be utilized to provide final design geotechnical and geological parameters for planned construction.			
Section VI.A.10 – Soils And Agriculture				
Project implementation will result in the erosion of on-site soils.	**Soils** 1. Prior to any onsite grading activities, a soil report and geotechnical study shall be prepared to further analyze site conditions, including slope stability and permeability. The study shall be submitted to the County of Riverside Planning Department and shall include analyses of 1) soils engineering qualities of underlying soils and rock conditions (e.g., soil bearing, consolidation, expansion, etc.), 2) seismic refraction traverses to determine rippability characteristics of crystalline rock units, and 3) seismic parameters for building construction. 2. To minimize the potential for occurrence of erosion and sedimentation on-site and downstream of the site, the following measures shall be implemented: a. All cut and fill slopes shall be landscaped to prevent erosion and sedimentation from occurring. Detailed Landscaping and Irrigation Plans shall be submitted to the County Planning Department prior to Grading Plan approval. The plans shall be reviewed for type and density of groundcovers, shrubs, and trees to ensure that selected plant material will be effective as erosion control and that all	County of Riverside, Planning and Development and County of Riverside Geologist.	Prior to the issuance Grading Permits.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	slopes shall be landscaped per County Ordinance No. 457. b. Slopes steeper than 2:1 or higher than ten feet are permitted, provided they are recommended to be safe in a slope stability report prepared by the soils engineer or engineering geologist. The slope stability report shall also contain recommendations for landscaping and erosion control. The Uniform Building Code, County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in Riverside County shall be observed. c. Graded, but undeveloped land, shall be maintained and planted with interim landscaping within 90 days of completion of grading activities, unless building permits are obtained from the County. d. In order to minimize erosion and sedimentation concerns on the property and downstream, potential brow ditches, terrace drains, or other minor swales determined necessary by the County of Riverside at future stages of project review shall be lined with natural erosion control materials or concrete.			
Project Implementation will result in urban development in the area identified as Prime Farmland and Farmland of Statewide Importance.	**Agriculture** The proposed project would have a significant impact on agriculture. The project site is not in an Agricultural Preserve and other Agricultural Preserves in the surrounding area have already filed for a Notice	Not Applicable.	Not Applicable.	Significant and Unavoidable.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	of Non-Renewal and disestablishment. However, there are no feasible mitigation measures for the loss of Prime Farmland and Farmland of Statewide Importance.			
Section VI.A.11 – Aesthetics, Visual Analysis, Light, and Glare				
Implementation of the Springbrook Estates project will result in the transformation of the vacant site into a planned community.	1. Prior to the issuance of grading permits, the project applicant shall prepare landscape plans for the project area to provide visual relief from project structures.	Riverside County Planning Department.	Prior to the issuance of Grading Permits.	Less than Significant.
Project implementation will result in introducing new sources of light and glare into the project area.	2. Prior to the issuance of building permits, the project applicant shall outline specifications for outdoor lighting locations and other intensely lighted areas. The specifications shall identify minimum lighting intensity needs and design lights to be directed towards intended uses. Methods to reduce light impacts and spill over lighting may include low-intensity light fixtures and hooded shields. 3. Prior to the issuance of building permits, the project applicant shall submit and obtain County approval of lighting plans. The lighting plans shall verify that outdoor lighting on private residences is designed so that all direct rays are confined to the site and that adjacent residences are protected from substantial light and glare.	Riverside County Planning Department.	Prior to issuance of Building Permits.	Less than Significant.
Section VI.A.12 - Population and Housing				
The proposed project will result in introducing approximately 1,594 persons into the project area and 613 residential	No mitigation measures are required.	Not Applicable.	Not Applicable.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
units. Individually, this is consistent with local and regional growth projections				
Section VI.A.13 – Cultural Resources				
There are six known historic archeological sites located within the project site. Careful observations of the project area, with reference to previous studies, revealed that the original upper two to four feet of topsoil in the study area has been completely altered by man during the last 100 years. However, there is the potential for yet unknown buried portions of these sites to be impacted.	**Historic Archaeological Resources** 1. The proposed project would have a significant impact on agriculture. The project site is not in an Agricultural Preserve and other Agricultural Preserves in the surrounding area have already filed for a Notice of Non-Renewal and disestablishment. However, there are no feasible mitigation measures for the loss of Prime Farmland and Farmland of Statewide Importance. 2. Prior to issuance of a grading permit, a qualified archaeologist will develop a mitigation plan and a discovery clause/treatment plan, which will be implemented during earth moving on the parcel. The treatment plan will allow for the recovery and subsequent treatment of any archaeological remains and associated data uncovered by brushing, grubbing or earth moving. 3. Archaeological monitoring by a qualified archaeologist of any earthmoving of the upper limits of the soil will be conducted. Monitoring will be conducted on a full-time basis until the project archaeologist determines that additional resources are not likely to be encountered.	Riverside County Planning Department	Prior to the issuance of Grading Permits.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	4. If archaeological remains are found by the archaeological monitor, earth moving will be diverted temporarily around the deposits until they have been evaluated, recorded, excavated and/or recovered as necessary. Earth moving will be allowed to proceed through the site when the archaeological supervisor determines the artifacts are recovered and/or site mitigated to the extent necessary. 5. If a previously unknown site is encountered and it requires additional mitigation, a plan or proposal will be submitted to the client outlining the plan of action that needs to be implemented in an attempt to mitigate the site. 6. Any recovered archaeological resources will be identified, sites recorded, mapped and artifacts catalogued as required by standard archaeological practices. Examination by an archaeological specialist will be included where necessary, dependent upon the artifacts, features or sites that are encountered. Specialists will identify, date and/or determine significance potential. 7. A final report of findings will be prepared by the archaeologist for submission to the client, Eastern Information Center and the County of Riverside. The report will describe parcel history, summarize field and laboratory methods used, if applicable, and include any testing or special analysis information conducted to support findings.			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	8. If human remains are unearthed during earth moving activities, earth moving activities shall be immediately halted and no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to CEQA regulations and Public Resources Code Section 597.9			
A paleontologic records search revealed that, the Springbrook Estates property has no documented fossil localities; however, Pleistocene horses and camels have been recovered from alluvial deposits exposed along the Santa Ana River five miles to the west.	**Paleontological Resources** 1. If human remains are unearthed during earth moving activities, earth moving activities shall be immediately halted and no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to CEQA regulations and Public Resources Code Section 597.9 2. Prior to issuance of a grading permit, the project paleontologist will develop a mitigation plan and a discovery clause/treatment plan to be implemented during earth moving in the parcel. The treatment plan will allow for the recovery and subsequent treatment of any fossil remains and associated data uncovered by earth moving. 3. Prior to any clearing and grubbing and/or earth moving activities on the parcel, a qualified paleontologist retained by the project proponent and approved by the County of Riverside shall review the approved development plan. The paleontologist shall participate in a pre-construction project meeting with the development staff to ensure an understanding of	Riverside County Planning Department.	Approval of individual tentative maps.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	the mitigation measures required during construction. 4. Paleontologic monitoring of earth moving will be conducted by a monitor in areas of the parcel underlain by previously undisturbed sedimentary rock that will be disturbed by earth moving. Earth moving in areas of the parcel where previously undisturbed rock will be buried but not otherwise disturbed will not be monitored. 5. Monitoring will be conducted on a full-time basis in areas of the parcel underlain by rock units in which there is a high potential for fossil remains being encountered by earth moving, on a half-time basis in areas in which there is a moderate or an undetermined potential, and on a quarter-time basis in areas in which there is a low potential. 6. If the monitor discovers fossil remains, earth moving will be diverted temporarily around the fossil site until the remains have been recovered. Earth-moving can then proceed through the area only after approval by the monitor. If fossil remains are found in an area underlain by a rock unit where there is a low or moderate/undetermined potential for fossil remains being encountered by earth moving, the level of monitoring will be increased to half or full time, respectively. On the other hand, if too few fossil remains are found after 50% of earth moving in those areas of the parcel underlain a particular rock unit has been completed,			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	monitoring can be reduced or discontinued in those areas at the project paleontologists direction. 7. In the event that any fossil remains are encountered by earth moving when the monitor is not present, earth moving will be diverted around the fossil site and the monitor called immediately to recover the remains. 8. If fossil remains are found, up to 6,000 pounds of fossiliferous sedimentary rock will be recovered from the fossil site and processed to allow for the recovery of smaller fossil remains. The total weight of all processed samples from the fossil-bearing rock unit will not exceed 6,000 pounds. 9. Any recovered fossil remains will be prepared to the point of identification and identified to the lowest taxonomic level possible by knowledgeable paleontologists. The remains then will be curated (assigned and labeled with museum repository fossil specimen numbers and corresponding fossil site numbers, as appropriate; placed in specimen trays and, if necessary, vials with completed specimen data cards) and catalogued. Associated specimen data and corresponding geologic and geographic site data will archived (specimen and site numbers and corresponding data entered into appropriate museum repository catalogs and computerized data bases) at the museum repository by a laboratory technician. The remains then will be accessioned into the museum repository fossil collection, where they will be permanently stored			

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	and maintained. The associated specimen and site data will be made available for future study by qualified investigators. 10. A final report of findings will be prepared by the project paleontologist for submission to the County of Riverside Planning Department and the museum repository following accessioning of the specimens into the museum repository fossil collection. The report will describe parcel geology/stratigraphy, summarize field and laboratory methods used, include a faunal list and an inventory of curated/catalogued fossil specimens, evaluate the scientific importance of the specimens, and discuss the relationship of any newly recorded fossil site in the parcel to relevant fossil sites previously recorded from other areas.			
Section VI.A.14 - Public Services and Utilities				
Fire Services The proposed project will result in an increase in population within the project area and hence, an increased demand for fire services.	1. The applicant shall participate in the Development Impact Fee program as approved by the County Board of Supervisors and provide for the funding of the project's fair share toward the improvement of fire protection services. 2. As described in Section 1503 of the Uniform Building Code, construction of all on-site structures shall be with fire retardant roof materials and the use of wood shingles is prohibited within the Springbrook Estates project area.	Riverside County Building and Safety and Fire Departments.	Review and approval of final subdivision maps.[1]	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	3. Achieve fuel modification zones by establishing a minimum 100-foot zone consisting of four (4) zones with a range of 50-100 percent vegetation removal. This will allow for a graduated transition from native vegetation into the irrigated landscaped building areas of the project. Maintenance of the fuel modification zone shall be the responsibility of a homeowners association or maintenance district. Prior to the approval of any development plans for lands adjacent to open space areas, the project applicant shall submit a Fire Protection/Vegetation Management Plan to the County Fire Department for review and approval. 4. All water mains and fire hydrants providing required fire flows shall be constructed in accordance with the appropriate sections of Riverside County Ordinance No. 460 and/or No. 546, subject to the approval by Riverside County Fire Department. Fire flows over 3,500 gallons per minute shall be for two hours duration.			
Sheriff Services				
The Springbrook Estates project will result in a population increase of 1,594 residents in northern Riverside County. The proposed project will contribute incrementally to population growth in the Highgrove region, which also will result in an incremental increase in criminal activity such as burglaries, thefts, auto thefts, and vandalism.	1. The applicant will pay fees in accordance with the provisions of Ordinance No. 659 to offset the cost of any new facilities required as the need arises. 2. The project applicant will inform the Crime Prevention Unit of the Sheriff's Department of all new Homeowner's Associations. These associations can be used as the foundation for establishing Neighborhood Watch Programs.	Riverside County Building and Safety Department.	Prior to issuance of Building Permits.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
Water and Sewer Services				
The average annual water demand/wastewater disposal for the proposed project is estimated to be 308,952 gallons per day.	1. The RHWC requires that the project proponent pay an impact fee and/or construct infrastructure to develop local water to meet the project demands.	Riverside Highland Water Company.	Prior to the issuance of Building Permits.	Less than Significant.
Solid Waste				
Ultimate project development, as well as the construction phase of the proposed project, will increase the amount of solid waste generated in the area; in turn, shorten the life spans of the affected landfills, as well as increase the demand upon haulers.	1. Recycle construction waste through available methods, such as onsite grinders and/or wood waste recycling facilities. 2. Coordinate with franchise waste hauler to provide for commercial recycling and curbside recycling within residential areas, for pickup of aluminum, paper, plastic, and green waste. 3. Use mulch and/or compost in the development and maintenance of common landscaping areas. 4. For green waste/woody waste generated from maintenance of common landscape areas, either compost onsite or send to a compost facility. For grass only, consider grass recycling, where lawn clippings from a mulching type mower are left on the lawn. 5. Project-related public facilities, shall provide an area for the loading and collection of recyclable materials. 6. The project applicant shall promote participation in the county Department of Environmental Health mobile household hazardous waste collection program.	Riverside County Waste Management Department.	Prior to issuance of Occupancy Permits and ongoing.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
Schools				
Implementation of this Specific Plan will result in the construction of 613 dwelling units (single family residential units). By applying generation rates supplied by the Riverside Unified School District, the project will result in approximately 405 school age children.	1. The applicant shall be required to pay statutory SB-50 fees at the time of building permit issuance.[1] 2. As warranted, the proposed school site shall be sold to RUSD for the construction of a school. 3. A Communities Facility District may be established to pay for school services and facilities.	Riverside Unified School District.	Prior to issuance of Building Permits and ongoing.	Less than Significant.
Libraries				
Library staff has indicated, through correspondence, that development of the proposed project will adversely affect existing library conditions. The increase in population to be served will require an increase of funding to the County Library to maintain the current level of service.	1. The project shall be subject to the payment of mitigation fees in accordance with the provisions of the Riverside County Ordinance No. 659. A portion of these fees may be utilized by the County to provide additional library facilities and staff.	Riverside County Building and Safety.	Prior to issuance of Occupancy Permits.	Less than Significant.
Health Services				
Adverse impacts to health services are not anticipated as a result of the implementation of the Springbrook Estates project. There are multiple health service options in the area of the project site. The closest facility to the project site is the Riverside	No mitigation measures are required.	Not Applicable.	Not Applicable.	Less than Significant.

[1] Riverside Unified School District recently approved their SB-50 "School Facilities Needs Analysis for Consideration for Alternative School Fees." The Alternative No. 2 Fee is established at $2.23 per square foot of residential units.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
Community Hospital. Also servicing the area are: Kaiser Permanente Hospital; Parkview Hospital; and Riverside County Regional Medical Center.				
Parks, Recreation and Open Space				
Development of the Springbrook Estates Specific Plan is estimated to generate a population of approximately 1,594 persons. This project proposes a variety of recreational amenities to serve residents of both the project and surrounding communities. The project will exceed the Quimby Act requirements by approximately 45 acres.	1. Implementation of the Springbrook Estates project would provide 50.24 acres of open space/parks, which includes an approximate 36-acre community park, two neighborhood parks and a multi-purpose trail system that traverses throughout the project site.	Not Applicable.	Not Applicable.	Less than Significant.
Energy Resources and Conservation				
Implementation of the Springbrook Estates Specific Plan will result in the conversion of the subject site from agricultural land uses to urban land uses. This transition will increase the demand upon existing energy sources; however the proposed uses are not considered energy intensive land uses.	1. Development plans shall be provided to SCE and The Gas Company as they become available in order to facilitate engineering, design, and construction improvements necessary to provide electrical and natural gas service to the project site. 2. The applicant shall comply with guidelines provided by SCE and The Gas Company regarding easement restrictions, construction guidelines, and potential amendments to right-of-way in the areas of any existing utility easements.	Not Applicable.	Not Applicable.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
Section VI.A.15 – Toxic Substances/Hazardous Wastes				
There is the potential that previously unknown hazardous materials contamination from the historical use of the property may be encountered during project development activities.	1. Prior to the issuance of grading permits, the grading plans shall specify that in the event that hazardous waste is discovered during site preparation or construction, the property owner/developer shall ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5) and according to the California Administrative Code, Title 30, Chapter 22. 2. Prior to the issuance of grading permits, the five USTs, one AST, four 55-gallon drums and two 5-gallon waste oil containers shall be removed under the guidance of the County of Riverside Department of Environmental Health. Soil sampling shall be conducted in the area of these tanks to evaluate the potential for hydrocarbon soil and/or groundwater contamination. In the event that soil sampling reveals contamination beyond accepted levels for residential park and education land uses, further remediation shall occur as determined by the Regional Water Quality Control Board. 3. Once the orchards have been cleared and the surficial soils have been disturbed, additional soil sampling shall be conducted in the areas where elevated levels of DDE and dieldrin were detected to evaluate the presence of residual pesticides in the near surface soils. Soil sampling shall be done	Riverside County Health Department.	Prior to the issuance of Grading Permits.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	in accordance with and under the guidance of the County of Riverside Department of Environmental Health. 4. In the event that groundwater is to be utilized for project development, a groundwater characterization study shall be conducted. 5. Prior to the issuance of a grading permit, an asbestos survey shall be performed on the residential structure found on APN 255-130-018. If asbestos containing materials are present, removal and disposal shall be in accordance with all applicable state, local, and federal laws.			
Section VI.C – Mandatory CEQA Topics – Cumulative Impacts				
Circulation and Traffic Project related traffic will contribute to a degradation of level of service on the project-area circulation system and contribute to cumulative impacts.	1. Mitigation Measures. In addition to the improvements identified in Section VI.A.2, of this EIR, the project proponent shall participate in the funding or construction of the following offsite improvements: a. La Cadena Drive (NS) at: • Columbia Avenue - Second westbound through lane b. Iowa Avenue (NS) at: • Center Street (EW) - Eastbound right turn lane • Palmyrita Avenue (EW) - Westbound left turn lane • Columbia Avenue (EW) - Second eastbound through lane.	County of Riverside Transportation Department.	Review of approval of improvement plans and final subdivision map.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	2. Level of Significance After Mitigation. With the implementation of the mitigation measures outlined in Section VI.A.2 of this EIR and the mitigation measures above, the proposed project will have less than significant cumulative circulation and traffic impacts.			
Air Quality The proposed project will contribute to cumulative NOx, CO, and ROC emissions.	There are no feasible mitigation measures to reduce the impacts.	Not Applicable.	Not Applicable.	Significant and Unavoidable.
Noise Project-related traffic will contribute to cumulatively exceeding noise thresholds.	3. The designed noise screening shall be at least 3.5 pounds per square foot of face area. The screening shall have no decorative cut outs or line of site openings between shielded areas and roadways. The noise control barrier may be constructed with masonry block, stucco veneer over wood framing (or one inch tongue and groove wood of sufficient weight per square foot), glass or other transparent material (one-quarter inch thick or of sufficient weight per square foot) earthen berm, or any combination of the materials thereof. 4. To obtain the interior noise level of 45 dBA, as required by the County of Riverside, homes facing Mount Vernon Road and Spring Street will require a mechanical ventilation system that will permit a "windows closed" condition. The mechanical ventilation system shall supply two air changes per hour for each habitable room, with a minimum of 15 cubic feet per minute of outside air per occupant. The fresh air inlet duct shall be of sound attenuating construction and shall consist	Riverside County Building and Safety Department.	Prior to the issuance of Building Permits.	Less than Significant.

Impacts	Mitigation Measures	Responsible Party/ Monitoring Party	Implement Stage	Level of Significance After Mitigation
	of a minimum of ten feet of straight or curved duct or six feet plus one sharp ninety-degree bend.			

ORDINANCE NO. 348.4290

AN ORDINANCE OF THE COUNTY OF RIVERSIDE

AMENDING ORDINANCE NO. 348 RELATING TO ZONING

The Board of Supervisors of the County of Riverside Ordains as Follows:

Section 1. Section 4.2 of Ordinance No. 348, and Official Zoning Plan Map No. 5.018, as amended, are further amended by placing in effect in the University District the zone or zones as shown on the map entitled, "Change of Official Zoning Plan Amending Ordinance No. 348, Map No. 5.018, Change of Zone Case No. 6702," which map is made a part of this ordinance.

Section 2. Article XVIIa of Ordinance No. 348 is amended by adding thereto a new Section 17.100 to read as follows:

SECTION 17.100. SP ZONE REQUIREMENTS AND STANDARDS FOR SPECIFIC PLAN NO. 330.

a. Planning Area 1.

(1) The uses permitted in Planning Area 1 of Specific Plan No. 330 shall be the same as those uses permitted in Article VI, Section 6.1 of Ordinance No. 348. In addition, the permitted uses identified under Section 6.1 shall also include parks, open space and trails.

(2) The development standards for Planning Area 1 of Specific Plan No. 330 shall be the same as those development standards contained in Article VI, Section 6.2 of Ordinance No. 348, except that the development standards set forth in Article VI, Section 6.2.b.; c.; and e.(1), (2) and (3) shall be deleted and replaced by the following:

A. Lot area shall be not less than five thousand (5,000) square feet. The minimum lot area shall be determined by excluding that portion of a lot that is used solely for access to the portion of a lot used as a building site.

B. The minimum average width of that portion of a lot to be used as a building site shall be fifty feet (50') with a minimum average depth of eighty feet (80'). That portion of a lot used for access on "flag" lots shall have a minimum width of twenty feet (20').

C. The front yard shall be not less than eight feet (8'), except that front facing

garage doors shall be set back twenty feet (20'), measured from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure.

D. Side yards on interior and through lots shall be not less than five feet (5') in width. Side yards on corner and reversed corner lots shall be not less than ten feet (10') from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure, upon which the main building sides, except that where the lot is less than fifty feet (50') wide, the yard need not exceed twenty percent (20%) of the width of the lot.

E. The rear yard shall be not less than fifteen feet (15'), except that garages located in the rear yard shall be permitted within five feet (5') of the rear property line for single story homes and with ten feet (10') of the rear property line for two story homes.

In addition, the following standards shall also apply:

AA. Where a zero lot line design is utilized, the alternate side yard shall be not less than ten feet (10') in width.

BB. "Z" lot designs shall also be permitted. Where a "Z" lot design is utilized, the alternate side yard shall be not less than seven feet (7') in width and the shared side yard shall be not less than five feet (5') in width incorporating a reciprocal use easement, if necessary, in order to simulate a zero lot line design.

(3) Except as provided above, all other zoning requirements shall be the same as those requirements identified in Article VI of Ordinance No. 348.

b. Planning Area 2.

(1) The uses permitted in Planning Area 2 of Specific Plan No. 330 shall be the same as those uses permitted in Article VI, Section 6.1 of Ordinance No. 348. In addition, the permitted uses identified under Section 6.1 shall also include parks, open space and trails.

(2) The development standards for Planning Area 2 of Specific Plan No. 330 shall be the same as those development standards contained in Article VI, Section 6.2 of Ordinance No. 348,

except that the development standards set forth in Article VI, Section 6.2.b.; c.; and e.(1), (2) and (3) shall be deleted and replaced by the following:

A. Lot area shall be not less than four thousand (4,000) square feet. The minimum lot area shall be determined by excluding that portion of a lot that is used solely for access to the portion of a lot used as a building site.

B. The minimum average width of that portion of a lot to be used as a building site shall be fifty feet (50') with a minimum average depth of seventy-five feet (75'). That portion of a lot used for access on "flag" lots shall have a minimum width of twenty feet (20').

C. The front yard shall be not less than eight feet (8'), except that front facing garage doors shall be set back twenty feet (20'), measured from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure.

D. Side yards on interior and through lots shall be not less than five feet (5') in width. Side yards on corner and reversed corner lots shall be not less than ten feet (10') from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure, upon which the main building sides, except that where the lot is less than fifty feet (50') wide, the yard need not exceed twenty percent (20%) of the width of the lot.

E. The rear yard shall be not less than fifteen feet (15'), except that garages located in the rear yard shall be permitted within five feet (5') of the rear property line for single story homes and within ten feet (10') of the rear property line for two story homes.

In addition, the following standards shall also apply:

AA. Where a zero lot line design is utilized, the alternate side yard shall be not less than ten feet (10') in width.

BB. "Z" lot designs shall also be permitted. Where a "Z" lot design is utilized, the minimum average width of the lot shall be fifty feet (50') with a minimum average depth of eighty feet (80'). In addition, the alternate side yard shall be not less than seven feet (7')

in width and the shared side yard shall be not less than five feet (5') in width incorporating a reciprocal use easement, if necessary, in order to simulate a zero lot line design.

(3) Except as provided above, all other zoning requirements shall be the same as those requirements identified in Article VI of Ordinance No. 348.

c. Planning Area 3.

(1) The uses permitted in Planning Area 3 of Specific Plan No. 330 shall be the same as those uses permitted in Article VI, Section 6.1 of Ordinance No. 348. In addition, the permitted uses identified under Section 6.1 shall also include parks, open space and trails.

(2) The development standards for Planning Area 3 of Specific Plan No. 330 shall be the same as those development standards contained in Article VI, Section 6.2 of Ordinance No. 348, except that the development standards set forth in Article VI, Section 6.2.b.; c.; and e.(1), (2) and (3) shall be deleted and replaced by the following:

A. Lot area shall be not less than five thousand five hundred (5,500) square feet. The minimum lot area shall be determined by excluding that portion of a lot that is used solely for access to the portion of a lot used as a building site.

B. The minimum average width of that portion of a lot to be used as a building site shall be fifty feet (50') with a minimum average depth of eighty feet (80'). That portion of a lot used for access on "flag" lots shall have a minimum width of twenty feet (20').

C. The front yard shall be not less than ten feet (10'), except that front facing garage doors shall be set back twenty feet (20'), measured from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure.

D. Side yards on interior and through lots shall be not less than five feet (5') in width. Side yards on corner and reversed corner lots shall be not less than ten feet (10') from the existing street line or from any future street line as shown on any Specific Plan of Highways, whichever is nearer the proposed structure, upon which the main building sides, except that where the lot is less than fifty feet (50') wide, the yard need not exceed twenty percent (20%) of the width of the lot.

E. The rear yard shall be not less than fifteen feet (15'), except that garages located in the rear yard shall be permitted within five feet (5') of the rear property line for single story homes and within ten feet (10') of the rear property line for two story homes. In addition, the following standards shall also apply:

AA. Where a zero lot line design is utilized, the alternate side yard shall be not less than ten feet (10') in width.

BB. "Z" lot designs shall also be permitted. Where a "Z" lot design is utilized, the alternate side yard shall be not less than seven feet (7') in width and the shared side yard shall be not less than five feet (5') in width, incorporating a reciprocal use easement, if necessary, in order to simulate a zero lot line design.

(3) Except as provided above, all other zoning requirements shall be the same as those requirements identified in Article VI of Ordinance No. 348.

Section 3. This Ordinance shall take effect thirty (30) days after its adoption.

BOARD OF SUPERVISORS OF THE COUNTY OF
RIVERSIDE, STATE OF CALIFORNIA

By: Marion Ashley
Marion Ashley, Chairman

ATTEST:

NANCY ROMERO
Clerk of the Board

By: Janice Klemmer
Deputy

(SEAL)

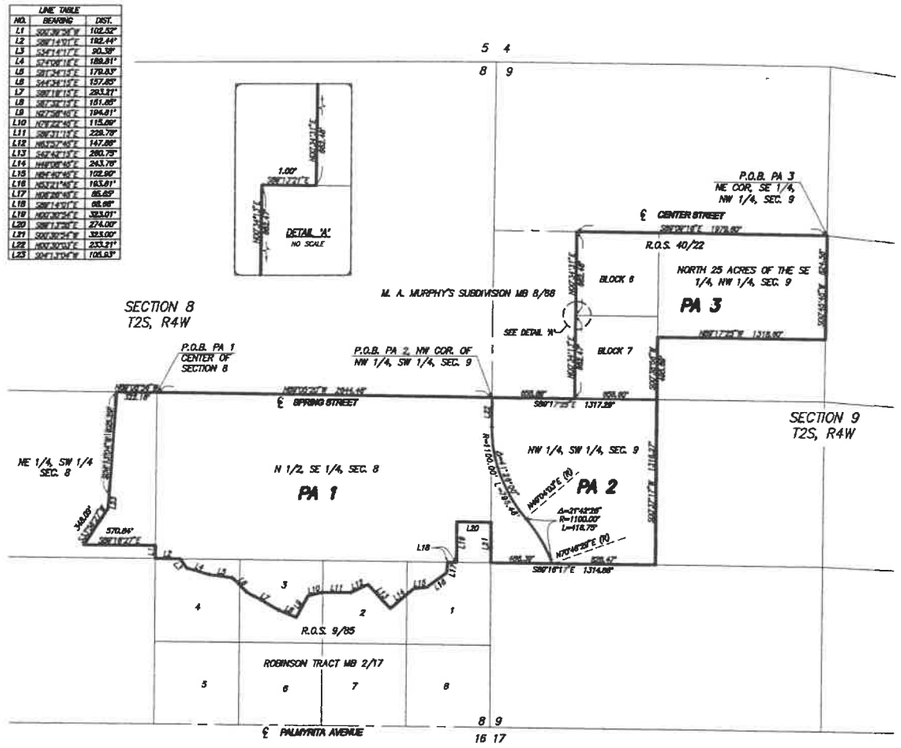
APPROVED AS TO FORM:
November 30, 2004

By: Karin Watts-Bazan
KARIN WATTS-BAZAN
Deputy County Counsel

G:\Property\MDKing\kwb\ORDINANCES\SPECIFIC PLAN ZONING ORDINANCES\SP 330.110804.doc

SEC. 8 & 9, T. 2 S., R. 4 W., S.B.M.

LINE TABLE		
NO.	BEARING	DIST.
L1	S55°26'36"E	102.52'
L2	S28°14'51"E	182.44'
L3	S34°14'17"E	90.39'
L4	S74°08'18"E	189.91'
L5	S81°24'13"E	179.53'
L6	S44°34'15"E	157.85'
L7	S80°18'15"E	283.91'
L8	N61°16'43"E	151.88'
L9	N27°58'46"E	194.91'
L10	N79°22'46"E	115.86'
L11	S86°31'13"E	229.79'
L12	N63°57'46"E	147.89'
L13	S67°42'13"E	280.75'
L14	N48°08'46"E	243.76'
L15	N84°46'46"E	102.56'
L16	N52°21'46"E	163.91'
L17	S06°26'46"E	85.65'
L18	S86°14'01"E	66.66'
L19	N52°30'24"E	323.01'
L20	S86°13'36"E	274.00'
L21	S00°30'24"W	323.00'
L22	N52°30'24"E	233.91'
L23	S84°13'04"W	105.53'



LEGEND

SP ZONE — SPECIFIC PLAN (SP330)

MAP NO. 5.018
CHANGE OF OFFICIAL ZONING PLAN
UNIVERSITY DISTRICT

N

GRAPHIC SCALE

500 0 250 500 1000

(IN FEET)
1 inch = 500 ft.

CHANGE OF ZONE CASE NO. 6702
ADOPTED BY ORDINANCE NO. 348.4290
APRIL 19, 2005
RIVERSIDE COUNTY BOARD OF SUPERVISORS

APNS: 255-110-011, 255-130-001, 255-130-002, 255-130-003, 255-130-004, 255-130-005, 255-130-008, 255-130-009, 255-130-010, 255-130-011, 255-130-016, 255-140-001, 255-140-020, 255-170-006, 255-170-007, 255-170-008, 255-170-009, 255-190-008, 255-190-009, 255-190-010

JOB NO. 160160
DECEMBER 20, 2004

\160160.02\Dwg\Maps\SPRINGBROOK ZONING.dwg
Dec 12, 2005 - 4:06pm

STATE OF CALIFORNIA)
) ss.
COUNTY OF RIVERSIDE)

I HEREBY CERTIFY that at a regular meeting of the Board of Supervisors of said county held on April 19, 2005, the foregoing ordinance consisting of 3 Sections was adopted by the following vote:

AYES: Buster, Tavaglione, Stone, Wilson, and Ashley

NAYS: None

ABSENT: None

DATE: April 19, 2005

NANCY ROMERO
Clerk of the Board
BY: Janice Schlemmer
Deputy

Seal

Board of Supervisors **County of Riverside**

RESOLUTION NO. 2005-155
ADOPTING
SPECIFIC PLAN NO. 330
(SPRINGBROOK ESTATES)

WHEREAS, pursuant to the provisions of Government Code Section 65450 et seq., public hearings were held before the Riverside County Board of Supervisors in Riverside, California on December 21, 2004 and March 29, 2005, and before the Riverside County Planning Commission in Riverside, California on August 25, 2004, October 6, 2004 and October 20, 2004,

to consider Specific Plan No. 330 (Springbrook Estates); and,

WHEREAS, all the procedures of the California Environmental Quality Act and the Riverside County Rules to Implement the Act have been met, and Environmental Impact Report (EIR) No. 448, prepared in connection with Specific Plan No. 330 and related cases (referred to alternatively herein as "the project"), is sufficiently detailed so that all the potentially significant effects of the project on the environment and measures necessary to avoid or substantially lessen such effects have been evaluated in accordance with the above referenced Act and Rules; and,

WHEREAS, the matter was discussed fully with testimony and documentation presented by the public and affected government agencies; now, therefore,

BE IT RESOLVED, FOUND, DETERMINED, AND ORDERED by the Board of Supervisors of the County of Riverside, in regular session assembled on April 19, 2005, that:

FORM APPROVED
COUNTY COUNSEL
MAR 31 2005
BY

A. Specific Plan No. 330 is a specific plan of land use on approximately 183.95 acres located northeast of the City of Riverside, generally along the north and south sides of Spring Street, easterly and westerly of Mount Vernon Avenue. Specific Plan No. 330 proposes the construction of 650 dwelling units, a 33.45-acre regional park, two pocket parks, and open space areas with community trails throughout the project site. Total open space is approximately 50.24 acres.

B. Specific Plan 330 is associated with Change of Zone No. 6702, which was considered concurrently at the public hearings before the Planning

Commission. Change of Zone No. 6702 is a proposal to change the zoning classification of the subject property from R-1-20,000 (One Family Dwelling, 20,000 square foot minimum lot size), R-A-20,000 (Residential Agriculture, 20,000 square foot minimum lot size) and A-1-10 (Light Agriculture, 10 acre minimum lot size), to SP (Specific Plan). The SP zoning designation would establish those development standards required to implement Specific Plan No. 330.

BE IT FURTHER RESOLVED by the Board of Supervisors that the following environmental impacts associated with Specific Plan No. 330 are potentially significant unless otherwise indicated, but each of these impacts will be avoided or substantially lessened by the identified mitigation measures:

A. Seismic Safety

1. Impacts:

Project implementation will require site grading and earth activities and will result in introducing habitable structures in a seismically active area, which may be subject to ground shaking and secondary seismic impacts.

2. Mitigation:

The grading plan shall be reviewed by the geotechnical engineer and the engineering geologist. No clearing or grading operations shall be performed without the presence of a representative of the geotechnical engineer. An on-site pre-job meeting with the developer, the contractor, and the geotechnical engineer shall occur prior to all grading related operations. All areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials shall be removed from the site for disposal. If encountered during construction, uncontrolled fills shall be completely removed and after cleaning of deleterious materials, the fill may be reused as compacted fill. In order to prepare the ground to receive fill, a mandatory sub-excavation operation in all areas to be graded shall be performed. This

sub-excavation operation (at least the upper five feet of the loose to medium dense soils and maximum removal on the order of twenty-five feet in the area of younger alluvium) shall include observation and testing of the exposed surface by the engineering geologist or geotechnical engineer prior to the processing for fill placement. If unsuitable soils are still present, then further removal shall be required. Prior to placing the fill and after the mandatory sub-excavation, the approved surfaces of all areas to receive fill shall be scarified to a depth of approximately twelve inches. The scarified soils shall be brought to between optimum moisture content and two percent above and re-compacted to a relative compaction of at least ninety-five percent in accordance with American Society for Testing and Materials D 1557-91. All footing and post-tensioned slabs shall rest entirely on at least eighteen inches of properly compacted fill material. In areas in which the required thickness of compacted fill is not accomplished by the mandatory sub-excavation operation and by the site rough grading, the footing areas shall be sub-excavated to a depth of at least eighteen inches below the proposed footing base grade, with sub-excavation extending at least five feet beyond the footing lines. The bottom of the excavation shall then be scarified to a depth of at least twelve inches, brought to between optimum moisture content and two percent above and re-compacted to at least ninety-five percent relative compaction, in accordance with American Society for Testing and Materials D 1557-91, prior to refilling the excavation at grade as properly compacted fill. Footings shall not be allowed to span from shallow to deep fill soil conditions. Should grading result in a situation where footings of a single structure bear on a fill depth differential of more than ten feet, such as along transition areas and younger alluvium removal areas within drainages, the sub-excavation of the building pad shall be deepened as necessary to provide a relatively uniform fill mat below the bottom of the footing. This deepening

of the sub-excavation may involve additional removals of older alluvium areas. The resultant fill shall not vary in thickness from one side of the building area to the other by more than ten feet. Provided that the on-site soils are free from roots and other deleterious materials, they should provide adequate fill material. Rock or similar irreducible material, such as asphalt concrete and Portland cement concrete, with a maximum dimension greater than eight inches shall not be buried or placed in fills. Rock materials greater than six inches shall not be placed in the upper three feet. Import fill, if required, shall be inorganic, non-expansive, granular soils free from rocks or lumps greater than six inches in maximum dimension. Sources of import fill shall be observed and approved by the geotechnical engineer. Final grades shall be adjusted and/or contingency plans to import or export material shall be made to accommodate possible variations in actual values for shrinkage and subsidence (in relation to those estimated and presumed in the geotechnical report) during site grading. Slopes cut in alluvium up to twenty-five feet in height shall be constructed no steeper than 2:1 (horizontal to vertical). Undocumented fill or collapse prone alluvium soils are considered unsuitable for slope construction and shall be removed and replaced with properly compacted fill as recommended. Cut slopes higher than twenty-five feet, if proposed, shall be evaluated by the engineering geologist and the geotechnical engineer prior to and during construction. Slopes shall be terraced and provided with drainage as per the current edition of the Uniform Building Code (hereinafter "UBC"). Fill slopes shall be constructed in accordance with the current UBC requirements in regards to benching and drainage and shall be constructed no steeper than 2:1. Fill slopes shall be over-filled during construction and then cut back to expose fully compacted soils. All structures proposed above steep slopes shall be set back an adequate distance from the top of the slope. At a minimum, the

recommended setback for structures is a plane projected upward at a 2:1 inclination from the toe of the slope or the steepest part of the slope, whichever is greater. Areas where unsuitable materials, such as colluvium and undocumented fill, will remain at the top of the slope. Areas in which erosion may occur along the toe of the slope may need to be setback further. All slope setbacks shall be reviewed on a lot-by-lot basis by the engineering geologist and geotechnical engineer. Roadways and retaining walls shall be set back in accordance with the recommended 2:1 inclination. Remaining non-vegetated slopes shall be planted with drought resistant native vegetation. If watering is necessary to sustain plant growth on the slopes, the watering shall be minimized, maintained, and monitored to assure proper operation of the water system to prevent over-watering. Surface water shall be prevented from flowing over slope faces. Additional erosion control measures may be required along the project's interface with the Springbrook Wash east of Mount Vernon Avenue. Homeowners shall be cautioned not to alter the proper drainage characteristics of their lots. During grading operations the geotechnical engineer shall conduct additional examinations for soil expansion potential. Additional testing for soluble sulfates shall be performed when the final foundation bearing soils are in place. If the site is prepared as recommended, the proposed structures, in areas where the maximum fill thickness is less than thirty feet and the fill depth differential across the structure is less than ten feet, may be safely founded on conventional spread foundations. The foundations shall consist of either individual spread footings and/or continuous wall footings, bearing either a minimum of eighteen inches of compacted fill. Footings shall be a minimum of twelve inches wide and shall be established at a minimum depth of twelve inches below the lowest adjacent final sub-grade level. For the minimum width and depth, footings shall be designed for a maximum safe soil bearing

pressure of two thousand pounds per square foot (psf) for dead plus live loads. This allowable pressure may be increased by 400 psf for each additional foot of width and by 700 psf for each additional foot of depth to a maximum safe soil bearing pressure of three thousand psf for dead plus live loads. These bearing values may be increased by one-third for wind or seismic loading. Structure footings shall be set back from all natural and constructed slopes in accordance with the recommendations in the current UBC. If the site is prepared as recommended, the proposed residential structures in the area of deeper fills (greater than thirty feet) may be safely founded on post-tensioned slab foundations. The compacted fill shall not vary in thickness from one side of the building pad area to the other by more than ten feet. Post-tensioned slabs shall be designed in accordance with Section 1819 of the 1997 UBC for a maximum differential settlement of 1 in 480. Thickened slab edges shall be established at a minimum depth of twelve inches below the lowest adjacent final sub-grade level. The post-tensioned slab shall be designed for a maximum safe soil bearing pressure of 1,700 psf for dead plus live loads. This value may be increased by one-third for seismic loading. Resistance of lateral loads shall be provided by passive earth pressure and base friction. For footings bearing against compacted fill, base friction shall be computed at 0.45 times the normal load. For preliminary retaining wall design purposes of footings bearing against compacted fill, the passive at-rest, and active earth pressures may be utilized for backfills at different locations as recommended by the geotechnical engineer. Foundation concrete shall be placed in neat excavations with vertical sides or concrete shall be formed and the excavations properly backfilled as recommended fill for the site. Concrete slabs on grade shall bear a minimum of eighteen inches of compacted soil. The soils shall be compacted to ninety-five percent relative compaction. The final pad surfaces

shall be rolled to provide smooth dense surfaces. Slabs to receive moisture-sensitive coverings shall be provided with a moisture-vapor barrier. This barrier shall consist of an impermeable membrane. Two inches of sand over the membrane will reduce punctures and aid in obtaining a satisfactory concrete cure. The sand shall be moistened just prior to the placement of the concrete. Settlement monitoring shall be performed immediately following grading in all fills over thirty feet in thickness. To verify completion of compression of the fill, an initial reading of the settlement monitors shall be taken immediately after construction. The fill shall then be monitored on consecutive months until two consecutive settlement readings do not differ by more than 0.002 feet. The settlement monitors shall be placed at three different levels within the fill: one at the bottom; one at mid-height; and one at the top. All fills greater than thirty feet deep shall be monitored. Locations of settlement monitors shall be clearly marked and readily visible (red flagged). Clearance shall be maintained from heavy equipment operations. The fills placed within the clearance areas shall be hand compacted to project specifications in vertical increments not to exceed eight inches. A two-inch diameter PVC sleeve or approved equivalent shall be placed around the riser pipe before placing backfill. In-grading observation shall be performed as necessary by the engineering geologist. All grading operations, including site clearing and stripping shall be observed by a representative of the geotechnical engineer. The presence of the geotechnical engineer's representative is for providing observation and field testing, and it will not include supervising or directing of the actual work of the contractor, employees or agents.

B. Slopes and Erosion

1. Impacts:

Project implementation will result in the creation of manufactured slopes

throughout the development area. Re-contouring and landscaping of manufactured slopes will be required to mitigate the potential for impacts to landform and topography.

2. Mitigation:

Prior to any development within any planning area of the Specific Plan, an overall Conceptual Grading Plan for the planning area in process shall be submitted for Planning Department approval. The Grading Plan for each planning area shall be used as a guideline for subsequent detailed grading plans for individual stages of development within that planning area, and shall include: 1) techniques employed to prevent erosion and sedimentation during and after the grading process; 2) approximate timeframes for grading; 3) identification of areas which may be graded during high probability rain months (January through March); and 4) preliminary pad and roadway elevations. Grading on the project site shall conform to County Regulations. If County regulations conflict with the Conceptual Grading Plan, County regulation shall take precedence. All grading procedures shall be in compliance with the Riverside County Grading Standards, including requirements for erosion control during rainy months. The requirements for compliance with Riverside County Grading Standards shall be noted on all grading plans. Prior to issuance of grading permits, a soils report and geotechnical study shall be performed to further analyze on-site soil conditions and slope stability and shall include the appropriate measures to control erosion and dust as mentioned in the first mitigation measure. Where cut and fill slopes are created higher than three feet, detailed Landscaping and Irrigation Plans shall be submitted to the Planning Department prior to grading permit issuance. The plans shall be reviewed for type and density of ground cover, shrubs, and trees to ensure that plant material will be effective as erosion control and that all slopes will be landscaped per County

Ordinance No. 457. All streets shall have a gradient not to exceed 15 percent. Slopes steeper than 2:1 or higher than ten feet are allowed provided they are recommended to be safe in a slope stability report prepared by the soils engineer or engineering geologist. The slope stability report shall also contain recommendations for landscaping and erosion control. The Uniform Building code, County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in Riverside County shall be observed. Potential brow ditches, terrace drains, or other minor swales, determined necessary by the County of Riverside at future stages of project review, shall be lined with natural erosion control materials or concrete. Graded but undeveloped land shall be maintained weed-free and planted with interim landscaping within 90 days of completion of grading, unless building permits are obtained. All grading shall be conducted in conformance with recommendations contained within the Geotechnical Report included as Appendix B of EIR No. 448. On-site soils are sufficiently granular to preclude any potential for expansion. Thus, specialized construction procedures, such as the inclusion of steel reinforcement in footings and slabs and the moisture-treatment of the slab subsurface, are not anticipated. The soils engineer shall perform additional evaluations for soils expansion potentials during later site-specific investigations and grading operations. When construction encounters clay-bearing colluvium, an attempt shall be made to mix it with more granular on-site material prior to placement. Colluvium on slope faces shall be removed prior to construction of fill slopes. Future site-specific geotechnical investigations will further evaluate the expansion potential of these deposits. Remediation techniques for hydro-consolidation of younger alluvium include, among others, removal and replacement. The hydro-consolidation potential and appropriate remediation for a specific site will need to be addressed during the later site-specific,

detailed geotechnical investigations. All fill material encountered during site-specific geotechnical investigations and construction shall be completely removed. After being cleaned of deleterious material, these fill materials shall provide suitable fill and backfill material. Loose colluvium and undocumented fills typically cover alluvial terrace slopes on the site. Future detailed investigations for construction near these slopes will need to address the gross and surficial stability of these slopes, as well as remediation methods. Remediation measures might include careful selection of building sites and/or construction of diversion or containment structures. A potential exists for boulders to be seismically dislodged from the steeper portions of the hillside in the southern portions of the site. Remediation measures might include careful selection of building sites and/or removal of precarious boulders. Sub-drains shall be emplaced in the deepest part of planned fills. Appendix B of EIR No. 448 includes a typical sub-drain design. If encountered, springs and seeps in cut areas shall be evaluated on a case-by-case basis as to the most practical mitigation recommendations. At the time of grading, the engineering geologist shall make recommendations regarding sub-drains or alternative mitigation. It is imperative that free water on or near building pad areas be mitigated prior to placement of structures. The potential for erosion shall be mitigated by proper drainage design. Water shall not be allowed to flow over graded areas or natural areas so as to cause erosion. Graded areas shall be planted or otherwise protected from wind and water erosion. It is imperative that no clearing and/or grading operations be performed without the presence of a representative of the soils engineer. An on-site pre-job meeting of the developer, the contractor, and the soils engineer shall occur prior to all grading-related operations. Operations undertaken at the site without the presence of the soils engineer may result in exclusions of affected areas from the final compaction report for the project.

At a minimum, grading of the site shall be performed in accordance with the recommendations noted above and those emanating from future site-specific investigations, as well as with applicable portions of the current Uniform Building Code and the Riverside County Grading Ordinance (RCGO). In general, all areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials will need to be removed from the site for disposal. Undocumented fills shall be completely removed, and after cleaning of significant deleterious materials, may be reused as compacted fill. In order to determine the suitability of the ground to receive fill, sub-excavation of all fill areas will be mandatory. This operation shall include removal of at least the upper two feet of the existing substratum and observation of the newly exposed surface by the engineering geologist or geotechnical engineer prior to processing for fill placement. The on-site deposits shall provide adequate quality fill material provided they are free from roots and other deleterious materials. Rock or similar irreducible material with a maximum dimension greater than 6 inches shall not be buried or placed in fills. Import fill, if required, shall be inorganic, non-expansive, granular material free of rocks or clumps greater than 6 inches in maximum dimension. Sources for import fill shall be observed and approved by the soils engineer prior to their use. It is anticipated that the areas of deep fill will be in canyon bottom areas underlain by younger alluvium with the potential for significant hydro-consolidation. Future site-specific investigations shall address methods of mitigating potential hydro-consolidation settlement in these alluvial deposits. Such mitigation measures could involve complete removal. In addition, the deep fill requires specialized grading techniques to minimize potential settlement. These methods typically consist of (1) bringing the fill to 3% above optimum moisture prior to compaction, (2) compressing the fill to 90% relative

compaction (ASTM 1557), and (3) adopting a program of settlement monitoring following the grading operation. Structure placement shall avoid areas with large fill depth differentials, in accordance with the RCGO. Slopes cut in granitic rock or firm, dense older alluvium up to 30 feet in height shall be constructed no steeper than 2:1 (~26°). Undocumented fill shall be considered unsuitable for slope construction and shall be removed and replaced with properly compacted fill as recommended. Significant amounts of colluvium exposed in cut slopes shall be removed. Prior to and during construction, the engineering geologist and geotechnical engineer shall evaluate all cut slopes higher than 30 feet. Slopes shall be terraced and provided with drainage as per the current edition of the Uniform Building Code (International Conference of Building Officials, 1997) and RCGO. The final investigation of the site shall provide more specific data on slope stability, once the location and height of the slopes are known. Fill slopes shall be constructed no steeper than 2:1 (two horizontal to one vertical). Fill slopes shall be overfilled during construction and then cut back to expose the fully compacted material. A suitable alternative would be the compaction and rolling of slopes to provide dense, erosion-resistant surfaces. Where fills are to be placed against existing slopes steeper than 5:1, the existing slopes shall be terraced into competent native materials, thereby removing the compressive and permeable veneer and providing a series of level benches on which to seat the fill. The benches shall be a minimum of 8 feet in width, constructed at approximately 2-foot vertical intervals. In addition, a shear key shall be constructed across the toe of the slope. The shear key shall be a minimum of 15 feet wide and shall penetrate a minimum of 2 feet beneath the toe of the slope into firm, competent material (see Appendix B of EIR No. 448). The hydro-consolidation potential of these sediments shall be mitigated as necessary. In as much as the native materials are susceptible to erosion by

running water, it shall be necessary that all slopes at the project be planted as soon as possible after completion. The use of succulent ground covers, such as ice plant or sedum is not recommended. If irrigation is necessary to sustain plant growth on slopes, the system shall be monitored to assure proper operation and to prevent over-watering. Measures shall be taken to prevent surface water from flowing over slope faces. Preliminary indications are that residential structures may be founded on conventional spread foundations, either individual spread footings and/or continuous wall footings, utilizing a compacted fill mat or direct embedment of footings into dense, undisturbed materials. A compacted fill mat will most likely consist of a minimum of 18 inches of compacted fill beneath the footings. The geotechnical engineer must approve the suitability of any natural deposit that will support a foundation. Footings must not span from cut to fill, or from deep fill to shallow fill. Foundation design will need to accommodate liquefaction prone substrates. Determination of allowable bearing pressure and lateral earth pressures shall be based on the results of supplemental geotechnical investigation data. For planning purposes, however, the following bearing values may be utilized: Utilizing a minimum width of 12 inches and depth of 12 inches, preliminary footings probably can be designed for a maximum safe soil-bearing pressure of at least 1,800 pounds per square foot for dead plus live loads, with allowable bearing pressure increases of 400 pounds per square foot for each additional foot width, and with 800 pounds per square foot for each additional foot of depth, to a maximum safe soil-bearing pressure of 3,000 pounds per square foot for dead plus live loads. In addition, increases of one-third may be considered for wind or seismic loading. Footings shall be setback from all natural and constructed slopes in accordance with the recommendations shown in Appendix B of EIR No. 448, and in accordance with detailed investigations conducted after formulation of

specific development plans. Once the initial planning for the site has been completed, a complete site-specific investigation shall be performed for each development phase. The reports developed from such site-specific investigations can be utilized to provide final design geotechnical and geological parameters for planned construction.

C. Soils and Erosion

1. Impacts:

Project implementation will result in the erosion of on-site soils.

2. Mitigation:

Prior to any on-site grading activities, a soils report and geotechnical study shall be prepared to further analyze site conditions, including slope stability and permeability. The study shall be submitted to the County of Riverside Planning Department and shall include analysis of (1) soils engineering qualities of underlying soils and rock conditions (e.g., soil bearing, consolidation, expansion, etc.), (2) seismic refraction traverses to determine rip-ability characteristics of crystalline rock units, and (3) seismic parameters for building construction. All cut and fill slopes shall be landscaped to prevent erosion and sedimentation from occurring. Detailed Landscaping and Irrigation Plans shall be submitted to the County Planning Department prior to Grading Plan approval. The plans shall be reviewed for type and density of groundcovers, shrubs, and trees to ensure that selected plant material will be effective as erosion control and that all slopes shall be landscaped per County Ordinance No. 457. Slopes steeper than 2:1 or higher than ten feet are permitted, provided they are recommended to be safe in a slope stability report prepared by the soils engineer or engineering geologist. The slope stability report shall also contain recommendations for landscaping and erosion control. The Uniform Building Code, County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in

Riverside County shall be observed. Graded, but undeveloped land, shall be maintained and planted with interim landscaping within 90 days of completion of grading activities, unless building permits are obtained from the County. In order to minimize erosion and sedimentation concerns on the property and downstream, potential brow ditches, terrace drains, or other minor swales determined necessary by the County of Riverside at future stages of project review shall be lined with natural erosion control materials or concrete.

D. Biological Resources

1. Impacts:

Development of the study area will contribute to the regional loss of open space and natural resources. Potential impacts are primarily associated with direct impacts such as increased habitat loss (33.2 acres of non-native grasslands, 0.5 acres of Southern cottonwood-willow riparian forest, and 6.1 acres of Riversidean sage scrub), as well as with a range of indirect impacts such as increased human presence in the area, predation by domestic animals, levels of ambient noise and light and, potentially, contaminated urban runoff.

2. Mitigation:

The impacts to 6.1 acres of Riversidean sage scrub shall be mitigated at a ratio of 1:1, through preservation off-site in a conserved area. The impacts to the 0.5 acres of southern cottonwood-willow riparian forest shall be mitigated at a ratio of 1:1 through preservation off-site in a conserved area. The non-native grasslands may support burrowing owls. California Department of Fish and Game requires that burrows being used by burrowing owls be mitigated at a ratio of 2:1 off-site. A qualified biologist shall construct artificial burrows off-site and coordinate and oversee the passive and/or active relocation of the owls. Compliance with this mitigation measure will reduce project related burrowing owl impacts to less than significant.

Development of the subject property will need to be mitigated under the Habitat Conservation Plan for the Stephen's Kangaroo Rat in Western Riverside County. Typically, mitigation requirements state that fees should be $500.00 per acre of the total project size. The project proponent shall contact the County of Riverside, Building and Safety Department, regarding the HCP to determine the cost and process of mitigation as it pertains to the specific property. Fee compliance with the County of Riverside will result in less than significant impacts to the Stephen's kangaroo rat. The applicant shall pay a fee ranging from $800.00 per unit to $1600.00 per unit depending on density, in addition to complying with all applicable provisions of the MSHCP. Nesting bird and raptor nests are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. If tree removal occurs during the nesting season (February-July), prior to the commencement of tree removal all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist. If any active nests are detected, the area shall be flagged and avoided until the nesting cycle is complete. Tree removal and grading could be delayed to the non-breeding season (August-January), to ensure that no active nests will be disturbed. Implementation of appropriate mitigation measures during the nesting season or the avoidance of tree removal during the months of February to July will result in less significant impacts to nesting birds. A biological monitor shall be on-site during initial grading activities of any suitable Los Angeles pocket mouse, orange-throated whiptail and San Diego horned lizard habitat.

E. Cultural and Scientific Resources

1. Impacts:

There are six known historic archeological sites located within the project site. Careful observations of the project area, with reference to previous

studies, revealed that the original upper two to four feet of topsoil in the study area has been completely altered by man during the last 100 years. However, there is the potential for yet unknown buried portions of these sites to be impacted. A paleontologic records search revealed that the Springbrook Estates property has no documented fossil localities; however, Pleistocene horses and camels have been recovered from alluvial deposits exposed along the Santa Ana River five miles to the west.

2. Mitigation:

Historic Archaeological Resources: In the event that any of the six known historic archeological sites reveal unknown buried features that are uncovered during earth moving activities, those features shall be documented and the appropriate Department of Parks and Recreation 523 forms shall be updated to include any new information. Paleontological Resources: Prior to the issuance of grading permits for the construction of the Springbrook Estates project, the landowner or designee shall provide written evidence to the County that a certified paleontologist has been retained to intermittently inspect excavations and to salvage and document fossils as necessary. The paleontologist shall be present at the pre-grading conference, and shall establish, in cooperation with the project developer, procedures for temporarily halting or redirecting work to permit the evaluation and, if necessary, salvage of resources encountered. If major paleontologic resources are discovered, which require long-term halting or redirecting of grading, the paleontologist will report such findings to the landowner or designee, as appropriate, and to the County. The paleontologist shall determine appropriate actions, in cooperation with the landowner, which ensure proper exploration and/or salvage. Excavated finds will be offered to the landowner or designee, on a first-refusal basis. The landowner or designee may retain said finds if written assurance is provided that they will

be properly preserved in Riverside County, unless said finds are of special significance, or a museum in Riverside County indicates a desire to study and/or display them at this time, in which case items shall be donated to the county, or designee. These actions, as well as final mitigation and disposition of the resources, will be subject to the approval of the County. The paleontologist will submit a report for review and approval by the County, which shall include the period of site inspection, a catalog and analysis of recorded fossils, and repository of the collection. If human remains are unearthed during earth moving activities, earth moving activities shall be immediately halted and no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to CEQA regulations and Public Resources Code Section 597.98.

F. Fire Services

1. Impacts:

The proposed project will result in an increase in population within the project area and hence, an increased demand for fire services.

2. Mitigation:

The applicant shall participate in the County's Development Impact Fee program as approved by the County Board of Supervisors and provide for the funding of the project's fair share toward the improvement of fire protection services. All structures on-site shall be constructed with fire retardant roofing material as described in Section 1503 of the Uniform Building Code. All roof materials shall be a Class "B" rating and shall be approved by the County Fire Department prior to installation. All water mains and fire hydrants providing required fire flows shall be constructed in accordance with the appropriate sections of Riverside County Ordinance No. 460 and/or No. 546, subject to the approval by the Riverside County Fire Department. Fire flows over 3,500 gallons per minute shall be for two hours duration.

Fuel modifications shall be achieved by establishing a minimum 100-foot zone consisting of four zones with a range of 50-100 percent vegetation removal. This will allow for a graduated transition from native vegetation into the irrigated landscaped building areas of the project. Maintenance of the fuel modification zone shall be the responsibility of a homeowner's association or maintenance district. Prior to the approval of any development plans for lands adjacent to open space areas, a Fire Protection/Vegetation Management Plan shall be submitted to the County Fire Department for review and approval.

G. Sheriff Services

1. Impacts:

The Springbrook Estates project will result in a population increase of 1,690 residents in northwestern Riverside County. The proposed project will contribute incrementally to population growth in the Highgrove region, which also will result in an incrementally increase in criminal activity such as burglaries, thefts, auto thefts and vandalism.

2. Mitigation:

The applicant will pay fees in accordance with the provisions of Ordinance No. 659 to off-set the cost of any new facilities required as the need arises. The project applicant will inform the Crime Prevention Unit of the Sheriff's Department of all new homeowner's associations. These associations can be used as the foundation for establishing Neighborhood Watch Programs.

H. Water and Sewer Services

1. Impacts:

The average annual water demand for the proposed project is estimated to be 168,480 gallons per day for sewage disposal and treatment and 336,592 gallons per day of potable water.

2. Mitigation:

The Riverside-Highland Water Company requires that the project proponent pay an impact fee and/or construct infrastructure to develop local water to meet the project demands.

I. Solid Waste

1. Impacts:

Ultimate project development, as well as the construction phase of the proposed project, will increase the amount of solid waste generated in the area; in turn, shorten the life spans of the affected landfills, as well as increase the demand upon haulers.

2. Mitigation:

Recycle construction waste through available methods, such as on-site grinders and/or wood waste recycling facilities. Coordinate with franchise waste hauler to provide for commercial recycling and curbside recycling within residential areas, for pick-up of aluminum, paper, plastic and green waste. Use mulch and/or compost in the development and maintenance of common landscaping areas. For green waste/woody waste generated from maintenance of common landscape areas, either compost on-site or send to a compost facility. For grass only, consider grass recycling, where lawn clippings from a mulching type mower are left on the lawn. Project related public facilities shall provide an area for the loading and collection of recyclable materials. The project applicant shall promote participation in the County Department of Environmental Health mobile household hazardous waste collection program.

J. Schools

1. Impacts:

Implementation of this Specific Plan will result in the construction of 650 single family dwelling units. By applying generation rates supplied by the Riverside Unified School District, the project will result in approximately

428 school age children.

2. Mitigation:

The applicant shall be required to pay statutory SB-50 fees in place at the time of building permit issuance. Payment of SB-50 fees would reduce direct and cumulative impacts of the project on public education to below a level of significance. Environmental effects relating to the development of the elementary/middle school site is provided in conjunction with the mitigation measures for the project development. As warranted, the proposed school site shall be sold to Riverside Unified School District for the construction of a school. A Community Facilities District may be established to pay for school facilities.

K. Libraries

1. Impacts:

Library staff has indicated, through correspondence, that development of the proposed project will adversely affect existing library conditions. The increase in population to be served will require an increase in funding to the County Library to maintain the current level of service.

2. Mitigation:

The project shall be subject to the payment of mitigation fees in accordance with the provisions of the Riverside County Ordinance No. 659. A portion of these fees may be utilized by the County to provide additional library facilities and staff.

L. Health Services

1. Impacts:

Adverse impacts to health services are not anticipated as a result of the implementation of the Springbrook Estates project. There are multiple health service options in the area of the project site. The closest facility to the project site is the Riverside Community Hospital. Also servicing the area are

Kaiser Permanente Hospital, Parkview Hospital and Riverside County Regional Medical Center.

2. Mitigation:

No mitigation is required.

M. Parks, Recreation and Open Space

1. Impacts:

Development of the proposed project is estimated to generate a population of approximately 1,690 persons. This project proposes a variety of recreational amenities to serve residents of both the project and surrounding communities. The Quimby Act requirements will be met by the project.

2. Mitigation:

No mitigation is required

N. Energy Resources and Conservation

1. Impacts:

Implementation of the Springbrook Estates Specific Plan will result in the conversion of the subject site from agricultural land uses to urban land uses. This transition will increase the demand upon existing energy sources; however, the proposed uses are not considered energy intensive land uses.

2. Mitigation:

No mitigation is required

O. Toxic Substances/Hazardous Wastes

1. Impacts:

There is the potential that previously unknown hazardous materials contamination from the historical use of the property may be encountered during project development activities.

2. Mitigation:

Prior to the issuance of grading permits, the grading plans shall specify that in the event that hazardous waste is discovered during site preparation or

construction, the property owner/developer shall ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5) and according to the California Administrative Code, Title 30, Chapter 22. Prior to the issuance of grading permits, the five USTs, one AST, four 55-gallon drums and two 5-gallon waste oil containers shall be removed under the guidance of the County of Riverside Department of Environmental Health. Soil sampling shall be conducted in the area of these tanks to evaluate the potential for hydrocarbon soil and/or groundwater contamination. In the event that soil sampling reveals contamination beyond accepted levels for residential, park and education land uses, further remediation shall occur as determined by the Regional Water Quality Control Board. Once the orchards have been cleared and the surficial soils have been disturbed, additional soil sampling shall be conducted in the areas where elevated levels of DDE and dieldrin were detected to evaluate the presence of residual pesticides in the near surface soils. Soil sampling shall be done in accordance with and under the guidance of the County of Riverside Department of Environmental Health. In the event that groundwater is to be utilized for project development, a groundwater characterization study shall be conducted. Prior to the issuance of a grading permit, an asbestos survey shall be performed on the residential structure found on APN 255-130-018. If asbestos containing materials are present, removal and disposal shall be in accordance with all applicable state, local, and federal laws.

P. Land Use and Planning

1. Impacts:

Implementation of the Springbrook Estates Specific Plan will result in transforming 184.5 acres of orchards and undeveloped land to residential,

park/open space and school uses.

2. Mitigation:

No mitigation measures are required.

Q. Circulation and Traffic

1. Impacts:

The proposed project is projected to generate a total of 5,514 daily vehicle trips at build-out. Of this total, approximately 500 are AM peak hour trips and 742 are PM peak hour trips.

2. Mitigation:

Center Street shall be constructed from the west project boundary to the east project boundary at its ultimate half-section width as a Collector in conjunction with development. Spring Street shall be constructed from the west project boundary to Mount Vernon Avenue at its ultimate half-section width as a Collector in conjunction with development. A paved two-lane extension of Spring Street from Mount Vernon Avenue to the east project boundary in conjunction with development to provide site access shall be constructed, with a minimum 34-foot pavement section for interim conditions. Spring Street (east of Mount Vernon Avenue) shall be constructed within the project at its ultimate cross-section width as a Collector in conjunction with development. Pigeon Pass Road shall be constructed from Mount Vernon Avenue to the east project boundary at its ultimate half-section width as a Collector in conjunction with development. Mount Vernon Avenue shall be constructed from the north project boundary to the south project boundary at its ultimate cross-section width as an Industrial Collector in conjunction with development. Mount Vernon Avenue shall be constructed from the south project boundary to Pigeon Pass Road at its ultimate half-section width as an Industrial Collector in conjunction with development. Participation in the phased construction of

off-site traffic signals through payment of established fees shall occur. On-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project site. Sight distance at each project access roadway shall be reviewed with respect to standard City of Riverside, Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape and street improvement plans. The project shall participate in the funding or construction of the identified off-site cumulative improvements. The project shall participate in an area-wide funding program to provide phased implementation of the long-range future (build-out)roadway improvement needs. Freeway interchange improvements, railroad grade separations and arterial widening projects are being considered for inclusion into the Transportation Uniform Mitigation Fee (TUMF) program being developed in Western Riverside County. The TUMF process is identifying a network of regional facilities and endeavors to spread the cost on a regional basis through participation of the County and individual cities. If adopted, it would provide another potential funding source for General Plan improvements in this area. The described off-site improvements shall be constructed at the following intersections with La Cadena Drive West (NS): Traffic signal and northbound left turn lane at Stephens Avenue (EW); Traffic signal at Interchange Street (EW); Traffic signal at Highgrove Place (EW); Traffic signal, northbound left turn lane, and convert northbound through lane to a shared through-left lane at I-215 Northbound Ramps (EW); Northbound left turn lane, southbound left turn lane and westbound right turn lane at Columbia Avenue (EW); A traffic signal at the intersection of Highgrove Place (NS) and Center Street (EW) shall be constructed. The described off-site improvements at the following intersections with Iowa Avenue (NS) shall be constructed. Traffic signal, second northbound through lane, and southbound left turn lane at Main Street (EW); Eastbound left turn

lane at Center Street (EW); The project shall construct a traffic signal at the intersection of Michigan Avenue (NS) and Center Street (EW). The project shall construct the described off-site improvements at the following intersections with Mount Vernon Avenue (NS). Traffic signal, northbound left turn lane, and southbound left turn lane at Main Street (EW); Traffic signal, northbound left turn lane, southbound left turn lane, eastbound left turn lane, westbound left turn lane at Center Street (EW); Traffic signal, northbound left turn lane, southbound left turn lane, eastbound left turn lane, westbound left turn lane, and westbound through lane at Spring Street (EW). Traffic signal, northbound through lane, southbound left turn lane, southbound through lane, westbound left turn lane, and westbound right turn lane at Pigeon Pass Road (EW).

R. Noise

1. Impacts:

The proposed project will result in noise impacts during the short-term construction phase. The proposed development of the Springbrook Estates Specific Plan project will generate approximately 5,514 vehicle trips; however, individually the project related vehicle trips will not result in exceeding established noise thresholds.

2. Mitigation:

Construction and general maintenance activities, except in an emergency, shall be limited to the hours of 7:00 AM to 7:00 PM and prohibited on Sundays and all legally proclaimed holidays unless approved by Riverside County Building and Safety. All construction equipment shall use properly operating mufflers, and no combustion equipment such as pumps or generators shall be allowed to operate within 500 feet of any occupied residence from 7:00 PM to 7:00 AM unless the equipment is surrounded by a noise protection barrier. All construction staging shall be performed as far as

possible from occupied dwellings. The project applicant shall submit to the County of Riverside Department of Environmental Health a construction noise related mitigation plan in accordance with the County standards. No mitigation is required for long term noise impacts.

S. Hydrology, Flooding and Drainage

1. Impacts:

Impacts from construction activity include cleaning, grading, or excavation that results in the disturbance of at least five acres of total land area, or activity which is part of a larger common plan of development of five acres or greater.

2. Mitigation:

Drainage and flood control drainage systems shall be provided in accordance with Riverside County Flood Control and Water Conservation District (hereinafter "RCFCWCD") requirements. On-site open channel and natural drainage systems shall be maintained by the Master Homeowner's Association in conjunction with a nature conservancy or other public or quasi-public agency responsible for overseeing and protecting sensitive habitats. Major constructed drainage facilities located within the project site, including the Spring Street storm drain and Center Street storm drain shall be maintained by the RCFCWCD. Local drainage devices including inlets, catch basins and storm drains shall be constructed in roadway rights-of-way and drainage easements shall be maintained by the Riverside County Transportation Department. The Master Homeowner's Association shall maintain drainage inlet facilities outside of street rights-of-way, and between and behind lots.

T. Water Quality

1. Impacts:

Implementation of the Springbrook Estates Specific Plan will result in

grading cut and fill operations that will result in short-term erosion and sedimentation impacts. Implementation of the project will also alter the composition of the surface runoff by grading the site surfaces, by construction of impervious streets, roofs and parking facilities, and by irrigation of landscaped areas. This runoff, typical of urban uses, will contribute to the incremental degradation of the water quality downstream.

2. Mitigation:

Pursuant to requirements of the State Water Resources Control Board, a State-wide general NPDES construction permit shall apply to all construction activities associated with the proposed project. The project shall comply with the requirements of the California State Water Quality Control Board, Santa Ana Region (hereinafter "SARWQCB"). The project shall comply with the requirements of the SARWQCB Water Reclamation Requirements for wastewater producers and users.

U. Aesthetics, Visual Analysis, Light and Glare

1. Impacts:

Implementation of the Springbrook Estates project will result in the transformation of the vacant site into a planner community. Project implementation will result in introducing new sources of light and glare into the project area.

2. Mitigation:

Prior to the issuance of grading permits, the project application shall prepare landscape plans for the project area to provide visual relief from project structures. Prior to the issuance of building permits, the project applicant shall outline specifications for outdoor lighting locations and other intensely lighted areas. The specifications shall identify minimum lighting intensity needs and design lights to be directed towards intended uses. Methods to reduce light impacts and spill over lighting may include low-intensity light

fixtures and hooded shields. Prior to the issuance of building permits, the project applicant shall submit and obtain County approval of lighting plans. The lighting plans shall verify that outdoor lighting on private residences is designed so that all direct rays are confined to the site and that adjacent residences are protected from substantial light and glare.

V. Population and Housing

1. Impacts:

The proposed project will result in introducing approximately 1,690 persons into the project area and 650 residential units. Individually, this is consistent with local and regional growth projections.

2. Mitigation:

No mitigation measures are required.

BE IT FURTHER RESOLVED by the Board of Supervisors that the following impacts potentially resulting from the adoption of Specific Plan No. 330 cannot be fully mitigated and will be only partially avoided or lessened by the mitigation measures hereinafter specified; a statement of overriding findings is therefore included herein:

A. Air Quality - Project Specific and Cumulative

1. Impacts:

During the short-term construction phase, the proposed project is forecasted to result in NOx, CO, and ROC emissions that exceed SCAQMD thresholds. In addition, Springbrook Estates will contribute to the regional inability to attain the ozone standard based on SCAQMD's recommended significance levels. Project related emission levels for two primary exhaust pollutants (CO and ROC) exceed the significant threshold.

2. Mitigation:

Water site and clean equipment morning and evening shall comply with the AQMP Fugitive Dust Measures BCM-03 and BCM-06. As part of the conditions of grading permit approval, the project shall water the construction

site and unpaved haul roads (with use of reclaimed water or chemical soil binder, where feasible) twice daily. Water unpaved haul roads during construction at least three times per day. As part of the conditions of grading permit approval, unpaved construction haul roads shall be watered (with use of reclaimed water or chemical soil binder, where feasible) three times daily. Wash off trucks leaving the site in accordance with the AQMP Fugitive Dust Measure BCM-01. As part of the conditions of grading permit approval, the project shall wheel wash construction equipment and cover dirt in trucks during on-road hauling. Haul trucks leaving the site also are required to have a minimum freeboard distance of 12", or to cover payloads. Spread soil binders on-site, unpaved roads and parking areas. SCAQMD Rule 403 requires that "every reasonable precaution (is taken) to minimize fugitive dust emissions" from grading operations to control particulate emissions. Apply chemical soil stabilizers according to manufacture's specifications to all inactive construction areas (previously graded areas which remain inactive for 96 hours). Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less. Suspend grading operations during first and second stage smog alerts. Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour. Maintain construction equipment engines by keeping them tuned. Provide temporary traffic control (flag person) during construction of the improvements; temporary traffic control (flag person) shall be provided during transport activities. The contractor shall be advised not to idle trucks on-site for more than ten minutes. Apply paints using either high volume, low pressure (HVLP) spray equipment or by hand application. Regional Air Quality – Long Term: Schedule truck deliveries and pick-ups during off-peak hours. This will alleviate traffic congestion, therefore, emissions during the peak hours. Provide adequate ingress and egress at all entrances to public facilities to

minimize vehicle idling at curbsides. Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways. Synchronize traffic signals at project area roadway intersections. Improve thermal integrity of the school building and reduce thermal load with automated time clocks or occupant sensors. Install energy efficient street lighting. Provide lighter color roofing and road materials and tree planting programs to comply with the AQMP Miscellaneous Sources MSC-01 measure. Provide local shuttle and transit shelters, and ride matching services. Provide bicycle lanes, storage areas and amenities, and ensure efficient parking management. Encourage the use of alternative fuel or low emission vehicles to comply with the AQMP On-Road Mobile M2 measure, and Off-Road Mobile Sources M9 and M10 measures. Introduce window glazing, wall insulation and efficient ventilation methods.

B. Agriculture

1. Impacts:

Project implementation will result in urban development in an area identified as Prime Farmland and Farmland of Statewide Importance.

2. Mitigation:

The proposed project would have a significant impact on agriculture. The project site is not in an Agricultural Preserve and other Agricultural Preserves in the surrounding area have already filed for a Notice of Non-Renewal and disestablishment. However, the project would result in the loss of "Prime Farmland" and no feasible mitigation measures for this loss are available.

BE IT FURTHER RESOLVED by the Board of Supervisors that it has considered the following alternatives identified in EIR No. 448 in light of the environmental impacts which cannot be avoided or substantially lessened and has rejected those alternatives as infeasible for the reasons hereinafter stated:

A. No Build Alternative

The No Build Alternative assumes that there are no project approvals in effect, and no future development of the project site would occur. Development of the project site would be limited to the former agricultural uses, and the following is the analysis of the environmental impacts of the No Build Alternative.

1. Land use and planning impacts are considered to be less than significant with the implementation of the proposed project. However, the No Build Alternative may result in inconsistencies with the policies of the County of Riverside General Plan and the Highgrove Area Plan (HAP), which: promote the development of infill development and underutilized parcels that are located in Community Development areas; encourage the development of single and multi-family residential units in areas appropriately designated by the General Plan and area plan land use maps; and support a land use mix at the countywide and area plan levels based on projected need. Therefore, the proposed project is considered superior to the No Build Alternative in relation to land use and planning.

2. Under the No Build Alternative, no additional traffic would be generated therefore this alternative would not result in contributions of traffic on existing and planned roadways. However, implementation of the No Build Alternative would not provide for additional construction of important circulation element roadways that are part of Riverside County's Master Plan of Arterial Highways. There may be a reduced need for these roadways, since no further traffic would be associated with the No Build Alternative. Under the No Build Alternative funding for any of these Circulation Element roadways would then become the responsibility of other developers in the area or the County, which may delay improvements. Since the project will reduce project related traffic and circulation impacts to levels that are considered less than significant and contribute to the construction of

important circulation element roadways, thus the proposed project is considered superior to the No Build Alternative in relation to traffic and circulation.

3. Although the No Build Alternative would not eliminate cumulative air quality impacts, it would avoid air quality impacts associated with the proposed project and would be, therefore, superior to the proposed project in relation to air quality.

4. The No Build Alternative would not result in an increase in project area traffic generation and thus this Alternative would not result in a contribution to project area traffic related noise levels. Compared with the proposed project, the No Build Alternative would be superior with regard to noise.

5. Under the No Build Alternative, impacts to on-site biological resources would be avoided. However, there are no sensitive species located on the project site. As such, the No Build Alternative is considered nominally superior to the proposed project in relation to biological resources.

6. Relative to hydrology and flooding, the No Build Alternative would have similar characteristics as the proposed project. Relative to drainage, the No Build Alternative would not require controlling of run-off through storm drains. Run-off would flow across the site uncontrolled. Since the site is generally flat, run-off due to heavy rains would not likely result in flooding and uncontrolled drainage through the undeveloped site that would be regarded as significant. In relation to hydrology, flooding and drainage, the No Build Alternative and the proposed project are considered to have similar impacts; thus, neither scenario is considered relatively superior.

7. The No Build Alternative would eliminate impacts to water quality. No urban pollutants would be generated to avoid impacts to downstream water bodies. However, fertilizers, pesticides and other chemical activities used by agricultural operations would continue to be used on-site. Thus, the No Build

Alternative would be marginally superior to the proposed project relative to water quality impacts.

8. Implementation of the No Build Alternative would avoid introducing new structures or populations to the project area. Thus, this alternative eliminates the potential for human injury or damage of structures associated with seismic impacts. However, the project's required adherence to the standards conditions of approval and the Uniform Building Code, reduce project related geology and seismic impacts to a level that is considered less than significant. Yet, since the No Build Alternative would not introduce new populations or structures into a seismically active area, this alternative is considered superior to the proposed project in relation to geology and seismicity.

9. Implementation of the No Build Alternative would not alter the existing physical state of the project site, thus impacts associated with landform, topography and slopes and erosion would be avoided. The No Build Alternative would eliminate erosion hazards associated with grading. Natural erosion of soils associated with agricultural activities would occur at a rate and intensity similar to present conditions. Therefore, the No Build Alternative is considered superior to the proposed project in relation to landform and topography/slopes and erosion.

10. The No Build Alternative would not result in a significant impact to agricultural soils and is therefore considered superior to the proposed project in relation to soils and agriculture.

11. The No Build Alternative would result in a continuation of the existing conditions at the project site. New sources of lighting would not be introduced, avoiding further effects on dark skies. Hence, the No Build Alternative is considered superior to the proposed project with regard to aesthetics, visual analysis, light and glare.

12. The No Build Alternative would not result in introducing new populations or housing into the project area. Since the proposed project will contribute to cumulatively exceeding the current projections, the No Build Alternative is considered to be superior to the proposed project in relation to population and housing.

13. The No Build Alternative avoids the potential to impact limited cultural resources on-site and, therefore, would be marginally superior to the proposed project in relation to cultural resources.

14. Since new populations and infrastructure would not be introduced into the project site under the No Build Alternative, impacts to fire and sheriff services would be avoided, and the No Build Alternative would be regarded as superior to the proposed project in relation to fire and sheriff services. The No Build Alternative would not require the provision of water and sewer service and would not result in an incremental increase in water use in the area. Therefore, the No Build Alternative would be superior to the proposed project relative to water and sewer services. The No Build Alternative would avoid the generation of solid waste and thereby eliminate the project's effect, albeit insignificant, on local landfills. In this manner, the No Build Alternative would be superior to the proposed project in relation to solid waste. The No Build Alternative would not result in the relocation or introduction of school-age children within the project site or the allocation of land for a future school site. As the project related school facilities are expected to serve developments in the surrounding area, as well as the Springbrook Estates project, the No Build Alternative could result in the need to locate future school sites in other areas. Thus, while the No Build Alternative would not create a need for additional school facilities, this Alternative would not provide for the allocation of land for future school sites, for which there is an existing demonstrated need. Therefore, neither

development scenario is considered relatively superior in relation to school services. The No Build Alternative would not generate additional demand for library services. Thus, while the project's library service impacts are less than significant, the No Build Alternative is considered superior to the proposed project in relation to library services. Since no land uses would be generated under the No Build Alternative, the need for health services would be eliminated. Thus, the No Build Alternative would be superior to the proposed project in relation to health services. The No Build Alternative would eliminate development on the project site, avoiding the need to provide parks and recreational facilities and retaining the majority of the site as open space. However, under the No Build Alternative, the public accessibility to the site would be limited, since this alternative would not result in the development of the community and multi-purpose trail. Therefore, the ability to utilize the recreational open space is constricted. Thus, neither development alternative is considered relatively superior in relation to park and recreational services. The No Build Alternative would avoid energy use as no land uses would be constructed and the property would remain vacant. Thus, the No Build Alternative would be superior to the proposed project in relation to energy resources and conservation. The No Build Alternative would result in the potential to generate toxic substances associated with the existing agricultural uses. Such toxic substances may include the use and storage of pesticides and fuel (e.g., diesel). Therefore, neither development scenario is considered relatively superior in relation to toxic substances and hazardous waste.

B. No Project Alternative (Existing Entitlement)

1. This alternative would result in development consistent with the County of Riverside zoning designation for the site. Overall, this alternative would result in a reduction of 400 dwelling units on the project site. This alternative

would be able to achieve the objective of some of the policies of the County of Riverside General Plan and the Highgrove Area Plan; however, development at a reduced density would promote the development of housing in other areas of the Highgrove Community to accommodate planned growth. Such a reduction would reduce open space and promote sprawl, which is inconsistent with the Area Plan policies. As with the proposed project, this alternative would be compatible with the existing and planned land use pattern within the project area. While the proposed project is considered to have less than significant land use and planning impacts, this alternative would not require a zone change or General Plan amendment. However, the No Project Alternative (Existing Entitlement) may result in a reduction in open space and promote sprawl; thus, neither scenario is considered to be superior in relation to land use and planning.

2. The proposed project is anticipated to result in 5,514 vehicle trips per day. The No Project Alternative (Existing Entitlement) would result in an incremental decrease in trip generation proportionate to this alternative's reduction in development intensity. However, implementation of the No Project Alternative (Existing Entitlement) would not provide for additional construction of important circulation element roadways that are part of Riverside County's Master Plan of Arterial Highways. Under the No Project Alternative (Existing Entitlement) funding for any of these Circulation Element roadways would then become the responsibility of other developers in the area or the County, which may delay improvements. The project will reduce project related traffic and circulation impacts to levels that are considered less than significant and contribute to the construction of important circulation element roadways, thus the proposed project is considered superior to the No Project Alternative (Existing Entitlement) in relation to traffic and circulation.

3. Air quality impacts associated with the No Project Alternative (Existing Entitlement) would incrementally decrease with the decrease in development intensity. However, traffic generated by the No Project Alternative (Existing Entitlement) would still contribute to the cumulative significant unadvoidable air quality impacts within the project area; yet not to the extent of the proposed project. Therefore, the No Project Alternative (Existing Entitlement) is the superior alternative in relation to air quality.

4. Under the No Project Alternative (Existing Entitlement), noise impacts will be incrementally reduced in proportion to the reduction in development. Therefore, the No Project Alternative (Existing Entitlement) is considered superior to the proposed project in relation to noise.

5. Since under this alternative the entire project site could be graded, the No Project Alternative (Existing Entitlement) would result in similar impacts to biological resources as those discussed within Sections VI.A,5 of EIR No. 448. Therefore, neither alternative is considered relatively superior in relation to biological resources.

6. Under the No Project Alternative (Existing Entitlement), due to reduced intensity of residences, the non-point source pollutants would be decreased. Both the proposed project and the No Project Alternative (Existing Entitlement) would require upgrades and extensions to the existing drainage system. Moreover, both development scenarios would be subject to the conditions of a NPDES permit. However, since the No Project Alternative (Existing Entitlement) would result in generating less non-point source pollutants, this alternative is considered nominally superior to the proposed project in relation to hydrology, flooding and drainage.

7. Both the No Project Alternative (Existing Entitlement) and the proposed project result in residential development and the potential for urban pollutants associated with the construction of impervious surfaces and irrigation of

landscaped areas. It is assumed that the proposed project would have a greater amount of impervious surfaces than the No Project Alternative (Existing Entitlement); thus, the No Project Alternative (Existing Entitlement) is superior to the proposed project relative to water quality impacts.

8. Both the No Project Alternative (Existing Entitlement) and the proposed project would be subject to the same level of impact relative to the potential for seismic events. Development associated with the No Project Alternative (Existing Entitlement) would be required to adhere to the Uniform Building Code and other applicable County and/or State regulations to minimize structural damage and safety hazards associated with the project site's location in a denser site development in relation to the No Project Alternative (Existing Entitlement), hence, increasing the number of people which could be affected by seismic activity. Therefore, the No Project Alternative (Existing Entitlement) is superior to the proposed project in relation to geology and seismicity.

9. The proposed project as well as the No Project Alternative (Existing Entitlement) require contour grading and preservation of natural landforms when possible. Generally, both scenarios will result in the grading of the majority of the project site. However, the proposed project includes approximately 50 acres of parkland and open space/flood control lands. In comparison, the No Project Alternative (Existing Entitlement) may result in the entire site being developed with residential and agricultural uses. The proposed project's provision of parkland and open space/flood control offers a greater opportunity to incorporate contour grading and the preservation of landforms. Therefore, the proposed project is an environmentally superior project to the No Project Alternative (Existing Entitlement) in relation to landform and topography/slopes and erosion.

10. The project site is identified as Prime Farmland and Farmland of Statewide Importance; however, the project site is not within an Agricultural Preserve. Similar to the proposed project, the No Project Alternative (Existing Entitlement) would also result in significant unavoidable adverse impacts associated with the removal of Prime Farmland and Farmland of Statewide Importance. Thus, neither development scenario is considered superior in relation to soils and agriculture.

11. As with the proposed project, the No Project Alternative (Existing Entitlement) would transform the project site from agricultural to into residential neighborhoods, educational uses and parkland. While development intensity would be less under the No Project Alternative (Existing Entitlement), overall the visual impacts would be similar to those of the proposed project. The No Project Alternative (Existing Entitlement) and the proposed project would both require the implementation of streets and roads, which would require some degree of street lighting for safety purposes. The number of homes constructed as well as the amount of traffic generated would be less in the No Project Alternative (Existing Entitlement); thus, the amount of light transmitted from the No Project Alternative (Existing Entitlement) would be less than the proposed project. However, the No Project Alternative (Existing Entitlement) would not result in the allocation of parkland, which is considered aesthetically beneficial. Thus, the No Project Alternative (Existing Entitlement) would be slightly superior to the proposed project with regard to aesthetics, visual analysis, light and glare.

12. The No Project Alternative (Existing Entitlement) would result in the development of 213 dwelling units and introduce approximately 553 persons into the project area. Similar to the proposed project, the No Project Alternative (Existing Entitlement) would not result in individual impacts; however, it would contribute to the cumulative impact, although to a lesser

extent than the proposed project. The General Plan Amendment associated with the Springbrook Estates Specific Plan would accurately identify the long-term population of the project site for inclusion into regional growth projection forecasts. Thus, the No Project Alternative (Existing Entitlement) is considered to be marginally superior to the proposed project in relation to population and housing.

13. Due to the location of the historic resources found on-site, the No Project Alternative (Existing Entitlement) and the proposed project would result in generally the same impacts. Moreover, both development scenarios have the potential to impact yet unknown cultural resources that could be unearthed during grading activities. Thus, neither development scenario is considered superior in relation to cultural resources.

14. Fire and sheriff services are required for implementation of both the No Project Alternative (Existing Entitlement) and the proposed project. Using the County of Riverside population generation factor of 2.6 persons per single-family residential unit, the No Project Alternative (Existing Entitlement) would result in a project site population of 553; in comparison, the proposed project is anticipated to result in 1,690 persons residing within the project site. Due to the fact that increased crime and emergencies are directly correlated to increased population, the proposed project will have a greater impact upon fire and sheriff services in relation to the No Project Alternative (Existing Entitlement). However, the proposed project will contribute mitigation fees to assist in the construction of facilities and the allocation of staff. Yet, since the No Project Alternative (Existing Entitlement) will not generate as great a demand for fire and sheriff services, this alternative is considered to be superior in relation to fire and sheriff services. The provision of water and sewer service would be required for both the proposed project and the No Project Alternative (Existing

Entitlement). However, it is expected that the proposed project, due to its higher density, will have a greater demand for water and sewer services. Thus, the No Project Alternative (Existing Entitlement) is considered the superior alternative in relation to water and sewer services. Due to the decreased amounts of materials used during construction and the decrease in development intensity, the No Project Alternative (Existing Entitlement) is the superior alternative to the proposed project regarding solid waste. The number of students generated by the proposed project will be approximately 287 more than that associated with the No Project Alternative (Existing Entitlement). The proposed project will provide one school site that will be offered to the Riverside Unified School District (hereinafter "RUSD") as warranted, while both the proposed project and the alternative will pay school mitigation fees to the RUSD. Since the proposed project will provide an on-site school site, the proposed project is superior to the No Project Alternative (Existing Entitlement) regarding schools. The Highgrove Library is the local library that will serve the project site. While the Highgrove Library itself is relatively small, the library has access to all of the collections available throughout the entire County library system. The County Department of Library Services has the ability to adequately meet the needs of either the proposed project or the No Project Alternative (Existing Entitlement). Additionally, while the Highgrove Library may experience a greater demand for services, department-wide the demand for services may remain relatively unchanged. Since the staff of the County Department of Libraries has identified no project related significant impacts, neither alternative scenario is considered relatively superior in relation to library services. Health services are available in the area to serve development of the project site under either the No Project Alternative (Existing Entitlement) or the proposed project. Impacts to health services would be similar. Yet, the No Project Alternative

(Existing Entitlement) would generate less of a demand for health services; thus, the No Project Alternative (Existing Entitlement) is considered superior to the proposed project in relation to health services. The No Project Alternative (Existing Entitlement) requires that each dwelling unit pay a Quimby Act fee but due to the small amount of funds that would be produced under this alternative, it is unlikely that any parks would be located within the project area. Moreover, the No Project Alternative (Existing Entitlement) may not necessarily retain a greater amount of open space, since residential lots will be larger. Furthermore, the proposed project retains natural open space amenities, such as the Springbrook Wash. Hence, the proposed project is superior to the No Project Alternative (Existing Entitlement) in regard to parks, recreation and open space. The No Project Alternative (Existing Entitlement) would require the resources to construct and maintain 213 residential units. However, the infrastructure for these facilities must be built to serve either project regardless of the respective housing densities. Therefore, the No Project Alternative (Existing Entitlement) is marginally superior to the proposed project in relation to energy resources and conservation. Like the proposed project, the No Project Alternative (Existing Entitlement) would result in the toxic substances such as household cleaning and janitorial products, herbicides, insecticides and solvents. The use of such toxic substances would incrementally decrease with the decrease in development intensity. However, the use of such substances is generally not considered to create a potential environmental threat. Therefore, the No Project Alternative (Existing Entitlement) is marginally superior to the proposed project in relation to toxic substances.

C. No Project-Development under the General Plan Alternative

Under the No Project-Development under the General Plan Alternative ("General Plan Alternative"), the project site would be developed with single family residential

land uses consistent with the maximum density allowed under the General Plan Medium Density Residential land use designation. Under this alternative, a total of approximately 139 acres of the 183.95-acre project site would be available for residential development. Additionally, this alternative assumes that neither the school site nor the parkland would be developed as envisioned under the Specific Plan. Specifically, this alternative would result in the development of 695 residential units.

1. The General Plan Alternative would result in development consistent with the County of Riverside General Plan designation for the site. Under this alternative, the General Plan designation would allow for approximately 139 acres of the project site to be developed with single-family residential land uses. In comparison, the proposed project will preserve approximately 50 acres of parkland and open space. Therefore, neither development scenario is considered to be superior in relation to land use and planning.

2. The General Plan Alternative would result in the development of 695 residential units, slightly more residential units than the proposed project. The increased development intensity would result in an incremental increase in traffic generation and thus greater traffic impacts. Therefore, the proposed project is considered to be superior to the General Plan Alternative in relation to the circulation and traffic.

3. The General Plan Alternative would result in an incremental increase in the degradation of regional air quality, in relation to the increased site density and the increased traffic associated with this alternative. Moreover, construction related air quality impacts would be incrementally increased due to an increase in construction activity from a greater number of lots being developed. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to air quality.

4. Suburban noise impacts are typically associated with traffic. In comparison to the proposed project, the General Plan Alternative would result in an incremental increase in traffic generation in relation to the increase in development intensity. Residential land uses adjacent to circulation roadways anticipated to carry heavy traffic volumes would require noise-attenuating measures. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to noise.

5. The General Plan Alternative would result in similar impacts to upland habitat types. Similar to the proposed project, this alternative would have impacts on Riversidean Sage Scrub, Southern Cottonwood Willow Riparian Forest, and Non-Native Grassland habitats in the site's natural open space. It is anticipated that like the proposed project, this alternative would preserve the natural open space amenities of Springbrook Wash. Therefore, neither alternative is considered relatively superior in relation to biological resources.

6. Neither the General Plan Alternative nor the proposed project would significantly affect hydrology in the area. Both projects would minimize drainage impacts. The project site is not subject to significant flooding under either the proposed project or this alternative. Run-off would be conveyed via storm drains and drainage easements. Both the proposed project and the alternative propose detention basins on-site. However, the proposed project provides approximately 50 acres of parkland and open space; thus, retaining some permeable surfaces. In comparison, the General Plan Alternative would not retain the parkland, resulting in an increase in impermeable surfaces in relation to the proposed project. Thus, the proposed project is considered superior to the General Plan Alternative in relation to hydrology, flooding and drainage.

7. Both the General Plan Alternative and the proposed project result in urban development and the potential for urban pollutants associated with the

construction of impervious surfaces and irrigation of landscaped areas. Grading activities could potentially increase the amount of sediment contained in run-off. Water quality impacts associated with the General Plan Alternative could incrementally increase in relation to the proposed project. Thus, the proposed project is considered superior to the General Plan Alternative relative to water quality.

8. Both the proposed project and the General Plan Alternative would be subject to the same level of impact relative to the potential for seismic events. Development associated would be required to adhere to the Uniform Building Code and other applicable County and/or State regulations to minimize structural damage and safety hazards associated with the project site's location in an area subject to ground shaking and seismic events. The General Plan Alternative would result in an overall increase in development intensity in relation to the proposed project, potentially increasing the number of people and amount of structures which would be affected by a seismic event. Therefore, the proposed project is considered to be superior to the General Plan Alternative in relation to geology and seismicity.

9. An increase in land disturbance would occur under the General Plan Alternative, since more area is proposed for development and less natural open space would be preserved. This alternative would result in an incremental increase in graded area, resulting in an increase of earth exposed to erosion. Therefore, the proposed project is an environmentally superior project to the General Plan Alternative in relation to landform and topography/slopes and erosion.

10. The project site is identified as Prime Farmland and Farmland of Statewide Importance; however, the project site is not within an Agricultural Preserve. Similar to the proposed project, the General Plan Alternative would also result in significant unavoidable adverse impacts associated with the removal

of Prime Farmland and Farmland of Statewide Importance. Thus, neither development scenario is considered superior in relation to soils and agriculture.

11. Similar types of land uses are proposed under both projects. However, the proposed project would introduce more parks and open space, which is considered to be aesthetically beneficial. Moreover, the proposed project will provide parkland and open space in the northern portion of the site, which will act as a buffer between development of the project site and Blue Mountain. The General Plan Alternative would increase the number of dwelling units, thereby increasing the potential for light and glare impacts. Thus, the proposed project is considered to be superior in relation to aesthetics, visual analysis, light and glare.

12. The General Plan Alternative would result in the development of 695 dwelling units and introducing approximately 1,807 persons into the project area. Similar to the proposed project, the General Plan Alternative would not result in individual impacts; however, it would contribute to a greater cumulative impact as compared to the proposed project. Thus, the proposed project is considered superior to the General Plan Alternative in relation to population and housing.

13. Both the General Plan Alternative and the proposed project will result in the disturbance of the project site. Similar to the proposed project, archaeological sites would be mitigated before development began, thereby, not impacting cultural resources of the area. As such, neither development scenario is considered to be superior in relation to cultural resources.

14. Fire and sheriff services are required for implementation of both the General Plan Alternative and the proposed project. Using the County of Riverside population generation factor of 2.6 persons per single-family residential unit, the General Plan Alternative would result in a project site population of 1807;

in comparison, the proposed project is anticipated to result in slightly lower persons residing within the project site. Due to the fact that increased crime and emergencies are directly correlated to increased population, the General Plan Alternative would have a greater impact upon fire and sheriff services in relation to the proposed project. However, both this alternative and the proposed project will contribute mitigation fees to assist in the construction of facilities and the allocation of staff. Yet, since the proposed project will not generate as great a demand for fire and sheriff services, the proposed project is considered to be superior in relation to fire and sheriff services. The provision of water and sewer service would be required for both the proposed project and the General Plan Alternative. However, the General Plan Alternative would result in an increased demand for water and sewer usage. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to water and sewer services. Solid waste generated by the General Plan Alternative would be somewhat greater than that of the proposed project, increasing impacts upon County landfills. Both projects would be required to implement recycling and trash reduction measures as specified by the county and State. The proposed project would be slightly superior to the General Plan Alternative in relation to solid waste. The General Plan Alternative would result in an increase in student generation in comparison to the proposed project. One school site will be constructed under the proposed project, but not under the alternative; thus, the proposed project is considered superior to the General Plan Alternative in relation to school services. Development of the project site under the General Plan Alternative or the proposed project would have adverse impacts on local libraries. The General Plan Alternative impacts would be similar, although slightly greater, since the population of the alternative would be greater than that of the proposed project. Thus, the proposed project is considered to be

superior to the General Plan Alternative in relation to library services. Health services are available in the area to serve development of the project site under either the General Plan Alternative or the proposed project. Yet, since the General Plan Alternative would introduce more people into the project area, this alternative would generate a greater demand health services; thus, the proposed project is considered superior to the General Plan Alternative in relation to health services. The General Plan Alternative would require each dwelling unit pay a Quimby Act fee; however, only three acres of parkland would be required per 1,000 persons. Thus, the General Plan Alternative would be required to provide a fractional amount of parkland as compared to the proposed project. Hence, the proposed project is superior to the General Plan Alternative in regard to parks, recreation and open space. In comparison to the proposed project, the General Plan Alternative will result in an increase in development density and subsequently an increase in energy consumption. Energy conserving measures would be incorporated into both scenarios, avoiding the potential for significant impacts. However, because the proposed project will consume less energy, the proposed project is considered to be superior to the General Plan Alternative in relation to energy resources and Conservation. As with the proposed project, it is assumed that the General Plan Alternative would result in the removal of the existing on-site underground and above ground storage tanks, which is considered to be a beneficial impact. Similar to the proposed project, the General Plan Alternative would result in the use of typical household substances such as janitorial supplies, solvents, and pesticides and herbicides. As with the proposed project, no impacts associated with toxic substances would be expected under this alternative. Neither development scenario is considered to be superior in relation to toxic substances and hazardous wastes.

15. The "No Build" Alternative is the Environmentally Superior Alternative. Of the remaining alternatives, development under the No Project Alternative (Existing Entitlement) would be considered the environmentally superior alternative to the proposed project; however, this alternative would not meet the objectives of the proposed project and would not result in the various improvements, such as the allocation of parkland. Additionally, this alternative would not be in synchronization with the County General Plan's intent to continue to preserve open space amenities and promote efficient growth by allowing higher density development to occur in areas where services and infrastructure exist or will exist in the near future.

BE IT FURTHER RESOLVED by the Board of Supervisors that it has balanced the benefits of Specific Plan No. 330 against the unavoidable adverse environmental effects thereof, and has determined that each of the following benefits, either individually or collectively, outweighs and renders acceptable those environmental effects:

A. The project will create a master-planned community, thereby providing necessary infrastructure, desired amenities, and common open space, landscape and design elements that fulfill the goals and objectives of the County General Plan, and that would not be possible if the property were developed on a parcel-by-parcel basis.

B. The project would provide a variety of housing types affordable to persons in a wide range of income levels.

C. The project would provide a variety of recreational amenities including approximately 50 acres of on-site open space, including a variety of active and passive, park and open space, all serving project and area residents.

D. The project would provide traffic mitigation measures to address project specific and cumulative circulation impacts, thereby contributing to improvements at critical intersections and roadways in and throughout the Highgrove area and surrounding communities, and would create circulation roadways in accordance with the County Master Plan of Arterial Highways.

E. The project would provide funding for various elements of regional infrastructure through the County's mitigation fee programs.

F. The project would provide drainage facilities to better contain and direct the flow of stormwater runoff, thereby minimizing flooding and related hazards both on-site and downstream.

G. The project would provide sewer service to an area that would otherwise be served by septic systems, thereby eliminating potential impacts to Springbrook Wash and the surrounding community.

H. The project would provide protection and enhancement to a substantial amount of open space, including Springbrook Wash.

BE IT FURTHER RESOLVED by the Board of Supervisors that the State CEQA Guidelines (Section 15126 (g)) requires an EIR to discuss how a proposed project could directly or indirectly lead to economic, population, or housing growth. A project may be growth inducing if it removes obstacles to growth, taxes community service facilities, or encourages other activities that cause significant environmental effects. The discussion is as follows:

A. Economic, Population Or Housing Growth

The Springbrook Estates Specific Plan proposes a total of 650 dwelling units. It is anticipated that a population of approximately 1690 persons, based upon population generation factors of 2.59 persons per single family dwelling unit, will be generated by the ultimate development of the Springbrook Estates Specific Plan.

B. Removal Of An Impediment To Growth

The results of development of a master planned community are growth impacts to support systems that would support such a community, including the road system, utilities and services, community and economic institutions which are demanded by a new community, as well as additional medical, educational and cultural needs, such as hospital, school systems and museums and libraries. Some of these needs will be met though the development of the Springbrook Estates Specific Plan which includes housing, recreational and open space land uses. Project phasing over a five (5) year

period is also expected to help regulate growth. Development of the Springbrook Estates Specific Plan will include provision or extension of roadways as well as utility and energy systems which could eliminate potential constraints for development and serve as a growth-inducement on adjacent lands.

C. Precedent - Setting Effects

The Springbrook Estates Specific Plan project site is located in a transitional area between urbanizing land uses to the north and west of the project site and open space land uses to the south and east. Urbanizing uses to the west include the approved Hunter Business Park and the University Tech Park, while urbanizing land uses to the northwest include single family residential, between 2-4 units per acre. Undeveloped areas to the south as well as areas to the east and southeast are planned for residential development, commercial and open space land uses.

BE IT FURTHER RESOLVED by the Board of Supervisors that Specific Plan No. 330 will implement applicable elements of the Riverside County General Plan as follows:

A. Land Use Element

The project is within an area that exhibits characteristics conducive to accommodating growth. More specifically, in terms of available and proposed infrastructure, and the approved pattern of urban development, the subject site meets the General Plan land use policies. Factors pertaining to circulation, flooding, school generation rates, sewer and water availability and utilities have been addressed through development standards, mitigation measures and the conditions of approval. The project is participating in regional transportation improvements and other major circulation improvements in the area. Project related employment opportunities, recreational facilities, open space, flood control facilities, water and sewer facilities, and residential uses are intended to serve the future residents of the Land Use Planning Area and the Highgrove Community Plan area.

B. Regional Element

The Regional Element requires major land use projects to be consistent with

Southern California Association of Governments (hereinafter "SCAG") sub-regional population forecasts or to provide mitigation of regional public services and facilities impacts. Additionally, the Regional Element sets forth policies for achieving a jobs/housing balance within these sub-regions. The project represents less than one percent of the housing and population growth projected for the sub-region under the adopted growth forecasts, and is consistent with population forecasts. The ratio of project jobs to project housing is below the performance ratio established by SCAG for this sub-region. However, the cumulative area-wide projected growth, which includes the project, achieves a jobs/housing ratio of 1.2, which exceeds the 0.96 ratio established for the year 2010 and the 1.0 ratio established for the year 2020.

C. Public Facilities and Services Element

The project includes a comprehensive public services and facilities program for circulation, water, sewer, police and fire protection, schools, parks, and other services.

D. Housing Element

The project promotes the Housing Element goal of providing a selection of housing that is decent, safe, sound, in close proximity to jobs and daily activities, and which varies by location, type, design, and price.

E. Environmental Hazards and Resources Element

EIR No. 448 assessed the full range of concerns associated with the project, and proposed mitigation for each of the potentially significant impacts. Overriding findings are required for impacts to agricultural resources and project related and cumulative air quality impacts.

BE IT FURTHER RESOLVED by the Board of Supervisors that the project is consistent with the Riverside County Comprehensive General Plan as amended by Comprehensive General Plan Amendment No. 539.

BE IT FURTHER RESOLVED by the Board of Supervisors that it has reviewed and considered EIR No. 448 in evaluating the project, that EIR No. 448 is an accurate and objective

statement that complies with the California Environmental Quality Act and reflects the County's independent judgment, and that EIR No. 448 is incorporated herein by this reference.

BE IT FURTHER RESOLVED by the Board of Supervisors that it **CERTIFIES** EIR No. 448, **ADOPTS** the Mitigation Monitoring Plan specified therein.

BE IT FURTHER RESOLVED by the Board of Supervisors that Specific Plan No. 330, on file with the Clerk of the Board, including the final conditions of approval and exhibits, is hereby adopted as the Specific Plan of Land Use for the real property described and shown in the plan, and said real property shall be developed substantially in accordance with the plan, unless the plan is amended by the Board.

BE IT FURTHER RESOLVED by the Board of Supervisors that copies of Specific Plan No. 330 shall be placed on file in the Office of the Clerk of the Board, in the Office of the Planning Director, and in the Office of the Building and Safety Director, and that no applications for subdivision maps, conditional use permits or other development approvals shall be accepted for the real property described and shown in the plan, unless such applications are substantially in accordance therewith.

BE IT FURTHER RESOLVED by the Board of Supervisors that the custodians of the documents upon which this decision is based are the Clerk of the Board of Supervisors and the County Planning Department, and that such documents are located at 4080 Lemon Street, Riverside, California.

ROLL CALL:

Ayes: Buster, Tavaglione, Stone, Wilson and Ashley
Nays: None
Absent: None
Abstain: None

The foregoing is certified to be a true copy of a resolution duly adopted by said Board of Supervisors on the date therein set forth.
NANCY ROMERO Clerk of said Board
By _____ Deputy

SECTION III
SUMMARY

A. PROJECT SUMMARY

1. Project Description

The Springbrook Estates Specific Plan is a master planned residential development located in the community of Highgrove, within the Sphere of Influence of the City of Riverside. Figure III-1 depicts the *Vicinity Map*, while Figure III-2 depicts the *Regional Topographic Map*. The subject property is located northeast of the City of Riverside, generally along the north and south sides of Spring Street, easterly and westerly of Mount Vernon Avenue. The property has been assembled from large contiguous properties, formerly operated as citrus ranches, forming a total of approximately 183.95 acres. The project site is located immediately west and contiguous to the Spring Mountain Ranch Specific Plan No. 323. Springbrook Wash is located immediately south of the subject site. Regional access to the project site is provided by the 60 and 91 Freeways located approximately two miles to the west of the project. Locally, the project site can be accessed by Center Street, Spring Street, Palmyrita Avenue and Mount Vernon Avenue.

Springbrook Estates has been planned for the development of a single family residential community, incorporating neo-traditional architecture and site planning techniques, interlaced with abundant landscaping and open spaces. As jointly determined by the Applicant and the County of Riverside, a Development Agreement, pursuant to Government Code Section 65864 et seq., may be desirable to implement the project.

Table III-1 summarizes the Springbrook Estates land uses.

Land Use Summary
Table III-1

LAND USE	ACRES	DWELLING UNITS
Residential	92.27	650
Streets	40.28	-
Public Facilities	1.38	-
Open Space/Parks	50.02	-
TOTALS	183.95	650

The project is depicted in Figure III-3, the *Illustrative Site Plan*.

SECTION III
SUMMARY

Springbrook Estates Specific Plan No. 330 consists of the following Assessor's Parcels:

APN	ACRES
255-130-001	9.00
255-130-002	9.20
255-130-003	9.20
255-130-004	8.50
255-130-005	2.35
255-130-008	9.70
255-130-009	9.70
255-130-010	9.50
255.130-016	5.28
255-110-011	9.75
255-140-001	5.88
255-140-020	4.81
255-190-008	20.49
255-190-009	18.80
255-190-010	0.34
255-170-006	9.55
255-170-007	9.54
255-170-008	12.50
255-170-009	12.50

(Note: Acreage based upon Riverside County Assessor Parcel Maps.)

SECTION V
SPECIFIC PLAN

A. PROJECT WIDE PLANNING STANDARDS

1. Comprehensive Land Use Plan

a. Project Description

Springbrook Estates Specific Plan No. 330 has been designed as a master planned residential community, composed of a high-quality mixture of single family residential land uses integrated with scenic open spaces. The Specific Plan intends to coordinate the land uses in such a manner so as to produce a cohesive, unified development through the use of comprehensive site planning and development guidelines. The *Master Land Use Plan*, Figure V-1, has been prepared following extensive marketing and surveying of the project site, maximizing its potential for a high quality residential development.

The basic design theme for Springbrook Estates is to create a development incorporating single-family detached lots, utilizing old principles of town planning and traditional design, commonly referred to as "neo-traditional" planning. Elements of this type of neo-traditional design include reduced setbacks, offset garages, common streetscapes, historic architecture, and the inclusion of front porches and architectural articulation in the design of the units. Open space areas that will be developed have been designed to create a separation in the residential areas, allowing for the opportunity to create neighborhood identity throughout the project site. In addition, the scenic backdrop of Blue Mountain to the north and Box Springs Mountain to the south will enhance the liveability for the residents of Springbrook Estates.

A brief description of the various land uses is provided below, while a more thorough Planning Area description of the land uses is provided in Section V-B.

Residential

The residential component consists of single-family houses designed on lots ranging from 4,000 square feet to 5,000 square feet. The residential component has been integrated throughout Planning Areas 1, 2 and 3, creating distinct neighborhoods integrating neighborhood parks, a community park and open space through a network of community trails. Overall, the gross residential density is approximately 3.53 dwelling units per acre, consisting of 650 single-family units on 183.95 acres.

Community Park

Springbrook Estates is being planned to contain a large community public park consisting of approximately 33± acres. This park will be located within Planning Area 3 on the north side of Spring Street, easterly of Mount Vernon Avenue. The community park is planned to contain active sports fields and facilities, including soccer fields, baseball diamonds, basketball courts, picnic facilities, restrooms, and similar park features.

b. Land Use Table

The following table depicts the various land uses and acreages for Springbrook Estates:

COMPREHENSIVE LAND USE TABLE
Table V-1

Planning Area	Residential Acres/units	Open Space Acres	School Acres	Utility	Streets	Actual Density	Total Acres/units
PA-1	65.85/437	11.48	-	-	27.82	4.15	105.15/437
PA-2	21.77/183	4.33	-	-	9.00	5.21	35.1/183
PA-3	4.65/30	34.21	-	1.38	3.46	0.68	43.70/30
TOTAL	92.27/650	50.02	0	1.38	40.28	10.04	183.95/650

CENTER STREET

MICHIGAN ST.

HERON LANE

AVE.

PELICAN DR

WHIPPORWILL DRIVE

MURPHY

OWETZAL LANE

GOLDFINCH LANE

SPRING STREET

MT. VERNON AVE.

TRACT 30909
PA-3
COMMUNITY PARK

CALIFORNIA DWR AQUEDUCT EASEMENT

S.P. 323
SCHOOL SITE
(N.A.P.)

WATER RESERVOIR

GAGE CANAL

NEIGHBORHOOD PARK

NEIGHBORHOOD PARK

TRACT 30908
PA-1

TRACT 30909
PA-2

SP 323

PIGEON PASS ROAD

SP 323

SPRINGBROOK WASH

LEGEND

	ACRES	UNITS
RESIDENTIAL	92.27	650
STREETS	40.28	0
OPEN SPACE/ PARKS	50.02	0
UTILITY	1.38	0
TOTAL	183.95	650

400 200 0 400 800
SCALE: 1"=400'

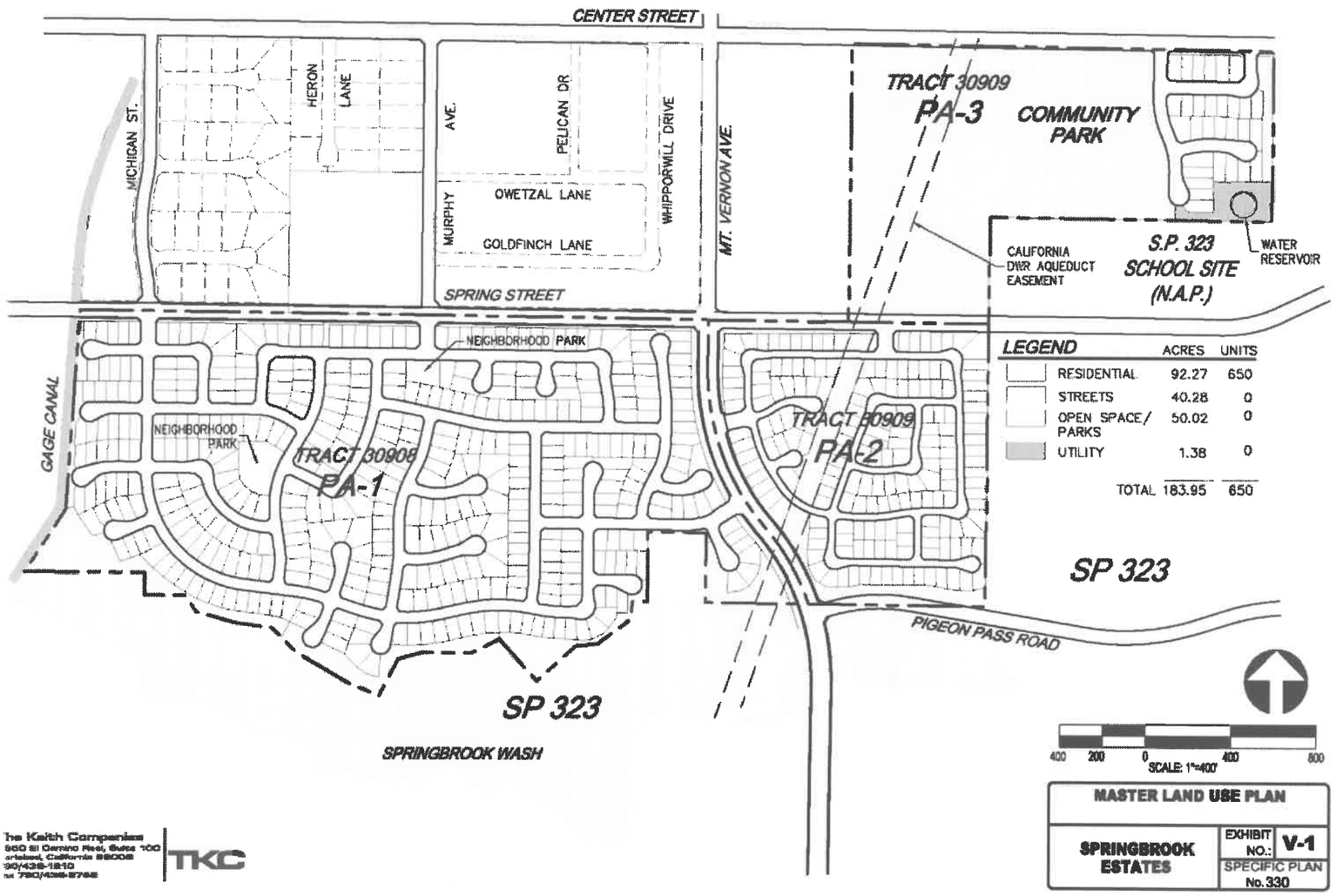
MASTER LAND USE PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: V-1

SPECIFIC PLAN No.330

The Keith Companies
5050 El Camino Real, Suite 100
Carlsbad, California 92008
760/438-1210
Fax 760/438-2788
TKC



MASTER LAND USE PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: V-1

SPECIFIC PLAN No. 330

The Keith Companies
650 El Camino Real, Suite 100
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c. Project-Wide Planning Standards

In addition to the specific Planning Area development standards contained in Section V-B, the following project-wide planning standards have been prepared:

(1) The Springbrook Estates Specific Plan No. 330 shall be developed with a maximum of 650 dwelling units on 183.95 acres, as illustrated on the Comprehensive Land Use Table (Table V-1). General uses permitted include single-family residential, parks and open space, drainage facilities, detention basins, water quality BMPs, and the infrastructure necessary to support the land uses.

(2) Permitted uses and development standards shall be in accordance with Riverside County Ordinance No. 348 and the Springbrook Estates Specific Plan Zoning Ordinance. These ordinances will be augmented by the design guidelines and standards contained in this specific plan as well as subsequent detailed development plans, including tract maps, plot plans and conditional use permits.

(3) Property development standards relating to signage, landscaping, parking and other related design standards shall conform to Riverside County Ordinance No. 348.

(4) Development of the subject property shall be in accordance with the mandatory requirements of all Riverside County ordinances including Ordinance Nos. 348 and 460 and also shall conform to State law.

(5) Except for the Specific Plan Zoning and Design Guidelines adopted concurrently with this Specific Plan, no portions of the Specific Plan that purport or propose to change, waive or modify any ordinance or other legal requirement for development shall be considered to be part of the adopted Specific Plan.

(6) The private open space and common areas within the planning areas will be owned and maintained by a master homeowner's association. Unless otherwise provided for, common areas shall be conveyed to the maintenance organization as implementing development (subdivisions) is approved. The maintenance organization shall be established prior to or concurrent with the recordation of the first land division.

(7) The applicant or its successor-in-interest shall defend, and hold harmless the County of Riverside, its agents, officers, and employees

from any claim, action, or proceeding against the County of Riverside or its agents, officers, or employees to attack, set aside, void, or annul an approval of the County of Riverside, its advisory agencies, appeal boards or legislative body concerning this specific plan. The County of Riverside will promptly notify the applicant or its successor of any such claim, action or proceeding against the County of Riverside and will cooperate fully in the defense. If the County fails to promptly notify the applicant of any such claim, action or proceeding, or fails to cooperate fully in the defense, the applicant shall not, thereafter, be responsible to defend, indemnify, or hold harmless the County of Riverside.

(8) An environmental assessment shall be conducted to determine potential environmental impacts resulting from each tract map, change of zone, plot plan, specific plan amendment or any other discretionary permit required to implement the Specific Plan, unless said proposal is determined to be exempt from the provisions of the California Environmental Quality Act. The environmental assessment shall be prepared as part of the review process for these implementing projects. At a minimum, the environmental assessment shall utilize the evaluation of impacts addressed in the Environmental Impact Report No. 448 prepared for Springbrook Estates Specific Plan No. 330.

(9) Lots created pursuant to this Specific Plan by any subsequent implementing tract maps shall be in conformance with the development standards of the Amended Ordinance No. 348 related to the Specific Plan Zone.

(10) Flag lots shall not be permitted.

(11) Final Subdivision Maps, which incorporate common areas, shall be accompanied by conceptual landscape plans for the common areas, specifying location and extent of landscaping, irrigation systems, structures and circulation (vehicular, pedestrian, equestrian and bicycle).

(12) Passive solar heating techniques shall be employed whenever possible within the project. Passive systems involve orienting buildings properly, planting trees to take advantage of the sun, adequate roof overhangs, proper wall insulation, and the use of simple heat storage systems.

(13) Where determined by the County to be necessary, roadways, infrastructure, parks and common open space areas shall be

coordinated by and paid for through an assessment district, community facilities district, or county service area in order to facilitate construction, maintenance and/or management.

(14) Final development densities for each Planning Area shall be determined through the appropriate development application up to the maximum density identified by the Specific Plan for that Planning Area, based upon, but not limited to, the following:

(a) Adequate availability of services;
(b) Adequate access and circulation;
(c) Sensitivity to landforms;
(d) Innovation in housing types and design;
(e) Sensitivity to neighborhood design through lot and street layouts integrated with an appropriate amount of open space.

(15) Areas designated as open space within the planning areas that will be conveyed to the appropriate operating and maintenance entity shall be deed restricted so as to create permanent open space easements and to prohibit land uses other than those described in the specific plan.

(16) Prior to the issuance of building permits, improvement plans for developed common open space areas, including preparation of landscape and irrigation plans, shall be submitted to the Planning Department for review and approval. The landscape and irrigation plans shall be certified by a registered landscape architect.

(17) For the security and safety of future residents of Springbrook Estates, the following security and crime prevention measures may be incorporated, at the direction of the Planning Department, into the design of the project:

(a) Lighting of streets, walkways and other pedestrian areas;
(b) Visibility of doors and windows from the street;
(c) Security fencing and materials;
(d) House addresses which light automatically at night;
(e) Installation of burglar alarms in all commercial buildings;
(f) Special lighting requirements throughout Springbrook Estates where necessary to provide an appropriate level of security and a sense of comfort;
(g) Home security systems.

(18) Each Planning Area shall comply with applicable Riverside County recycling requirements.

(19) All project lighting shall be in conformance with applicable Riverside County standards, including Ordinance No. 655.

(20) The County may initiate an amendment or revocation proceeding on all or any portion of this Specific Plan if a development proposal has not been approved within five (5) years of the Board of Supervisors' adoption of the Specific Plan.

(21) Future residential development within Springbrook Estates shall incorporate design elements to achieve the "smart home" building design concept. These design elements are described in detail within Section V-D.

2. Circulation Plan

a. Circulation Plan Description

A thorough analysis of the circulation requirements for Springbrook Estates has been conducted in order to create a residential community that takes advantage of multiple modes of transportation (i.e.-automobile, bicycle, pedestrian and equestrian) both within and outside of the project site. The *Master Circulation Plan* is depicted on Figure V-2.

The main objective of the *Master Circulation Plan* is to provide direct and convenient access to individual residential neighborhoods, schools and community parks through a safe and efficient road network, including secondary highway, collector and local roadways. The internal circulation system has been designed utilizing grid and curvilinear street patterns, with a predominance of cul-de-sacs. In addition, a comprehensive community trail system has been designed throughout the project site, primarily within open space corridors, providing recreational opportunities to the surrounding natural open space, schools and community park. This trail system has been designed consistent with the Highgrove Community Plan, and provides regional connection to the surrounding trail system. The trails will be maintained by the Master Homeowner's Association or County Service Area, while being open to the public. Typical Road Sections are depicted in Figure V-3.

Regional access to Springbrook Estates will be provided from the 91/215 and 60 Freeways, with convenient on-off ramps located westerly of the project site. Center Street, Mount Vernon Avenue, Columbia Avenue and Palmyrita Avenue provide adequate access from the freeway system to the project site. Internally, Spring Street will provide the main circulation backbone for the project.

b. Circulation Plan Development Standards

(1) The *Master Circulation Plan* provides an efficient traffic design that meets the needs of the project, including an extensive trail system. The roadways for the project, as depicted on Figures V-2, V-3A, V-3B and V-3C, will be constructed as follows:

- Secondary Highway: 100 foot right-of-way
- Collector Street: 74 foot right-of-way
- Local: 60 foot right-of-way
- Minor Interior Street: Private 52 foot right-of-way
- Minor Interior Street: Private 33 foot right-of-way

- Community Trail: 14 foot easement
- Multi-purpose Trail: 30 foot easement

(2) Heavy through traffic should be eliminated from residential neighborhoods. Major roadways should be implemented as non-access roadways, with residential neighborhoods served by smaller residential collectors.

(3) Subdivision maps shall comply with the on-site street improvement recommendations and mitigation measures outlined in the project traffic analysis and EIR.

(4) Landscape requirements will be based on street width in accordance with the Roadway Landscape Treatments as described in Section V-C.

(5) Major roadway improvements may be financed through an assessment district or similar financing mechanism.

(6) All roads shall be constructed to ultimate County standards in accordance with Ordinance Nos. 460 and 461 as a requirement for all implementing subdivisions for the specific plan.

(7) The project shall comply with all conditions of approval as set forth by the County Transportation Department.

(8) Any application for any final tract map within the specific plan boundary (excluding a Schedule I Parcel Map) shall cause the design and construction of the specific plan master planned infrastructure within the final map boundaries.

(9) All roadways intersecting four lane facilities shall be a minimum of sixty-six (66) feet of right-of-way and constructed in accordance with Standard 103 (modified), Ordinance 461, from the four-lane facility to the nearest intersection.

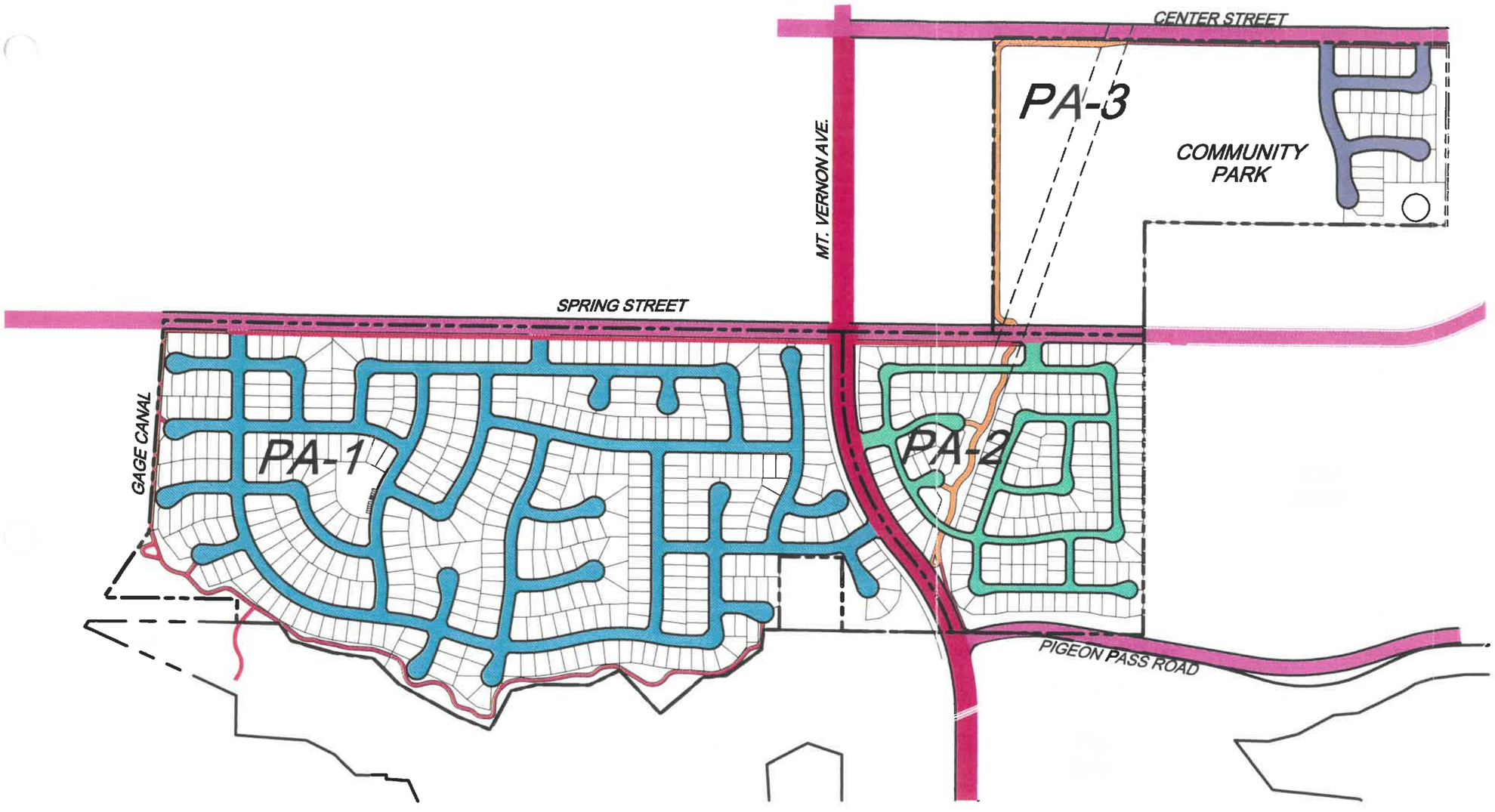
(10) All typical street sections shall be pursuant to Ordinance 461, or as approved by the Transportation Department. All intersection spacing and/or access openings shall be pursuant to Standard 114, Ordinance 461, or as approved by the Transportation Department.

(11) No textured pavement accents will be allowed within County right-of-way.

(12) All access points shall conform to Transportation Department standard access spacing, depending upon the street's classification.

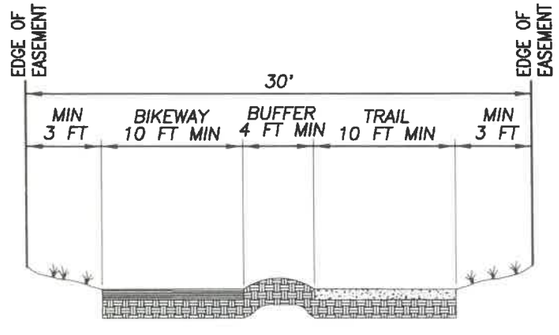
(13) Landscaping within a public right-of-way will require approval by the Transportation Department and assurance of continuing maintenance through the Homeowner's Association.

(14) Community trails developed as a part of this project shall be as approved by the Planning, Parks and Recreation and Transportation Departments.

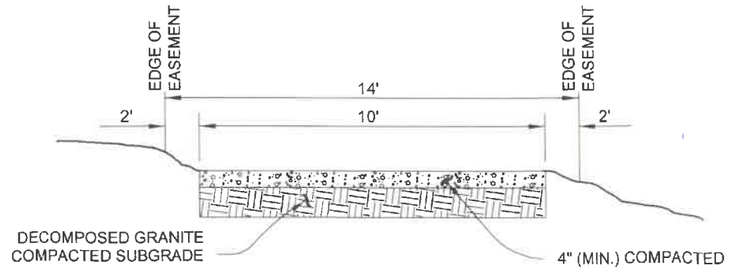


LEGEND

- SECONDARY HIGHWAY (100' R/W)
- COLLECTOR (74' R/W)
- LOCAL (60' R/W)
- MINOR INTERIOR (PRIVATE 52' R/W)
- MINOR INTERIOR (PRIVATE 33' R/W)
- COMMUNITY TRAIL
- MULTI-PURPOSE TRAIL
- OFF-SITE TRAILS PER SPRING MOUNTAIN RANCH SPECIFIC PLAN



MULTI-PURPOSE TRAIL
NOT TO SCALE



COMMUNITY TRAIL
NOT TO SCALE

500 250 0 500 1000
SCALE: 1"=500'

MASTER CIRCULATION PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-2**

SPECIFIC PLAN No. 330

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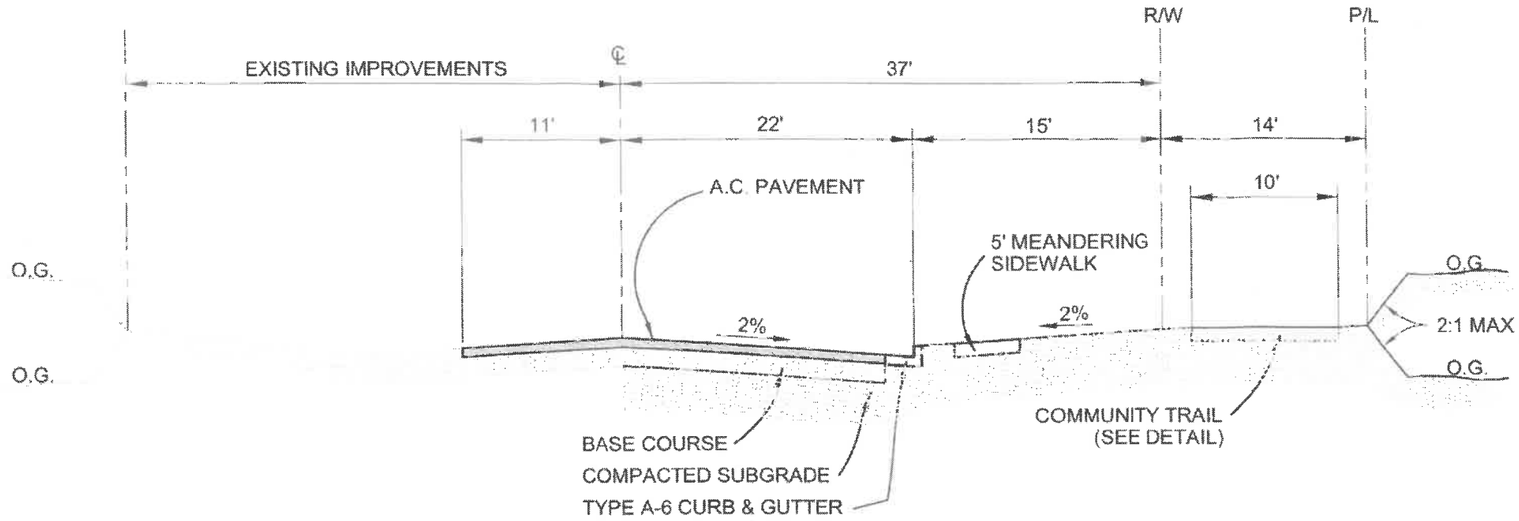
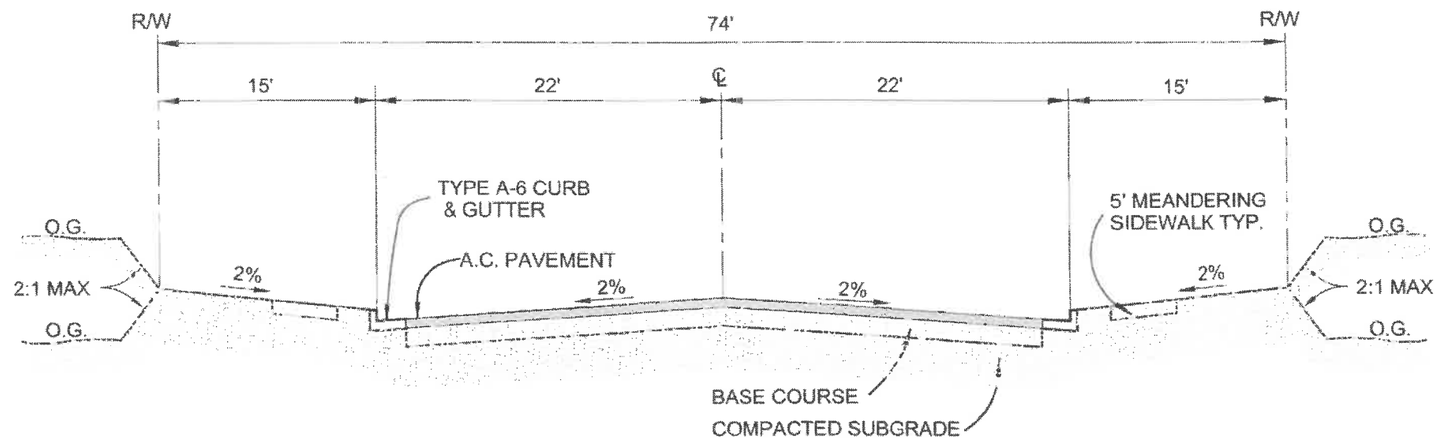
TKC



TYPICAL SECTION 74' COLLECTOR STREET

MODIFIED STD NO. 103, SECTION 'A'

SPRING ST. (GAGE CANAL TO DWR AQUEDUCT) HALF–SECTION IMPROVEMENTS ONLY



TYPICAL SECTION 74' COLLECTOR STREET

MODIFIED STD NO. 103, SECTION 'A'

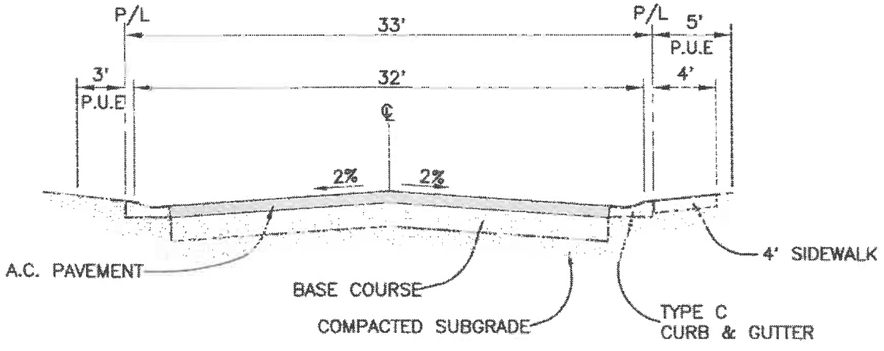
SPRING STREET (EAST OF DWR AQUEDUCT)

CENTER STREET (EAST OF MT. VERNON AVE.)

PIGEON PASS ROAD

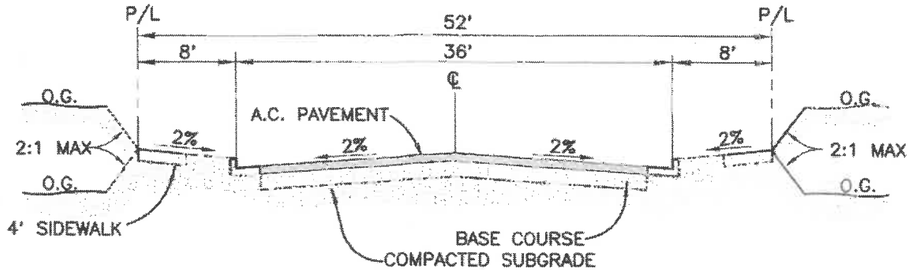
The Keith Companies
5850 El Camino Real, Suite 100
Carlsbad, California 92008
760/438-1810
Fax 760/438-2765
TKC

TYPICAL SECTION 74' COLLECTOR	
SPRINGBROOK ESTATES	EXHIBIT NO.: V-3A
	SPECIFIC PLAN No.330



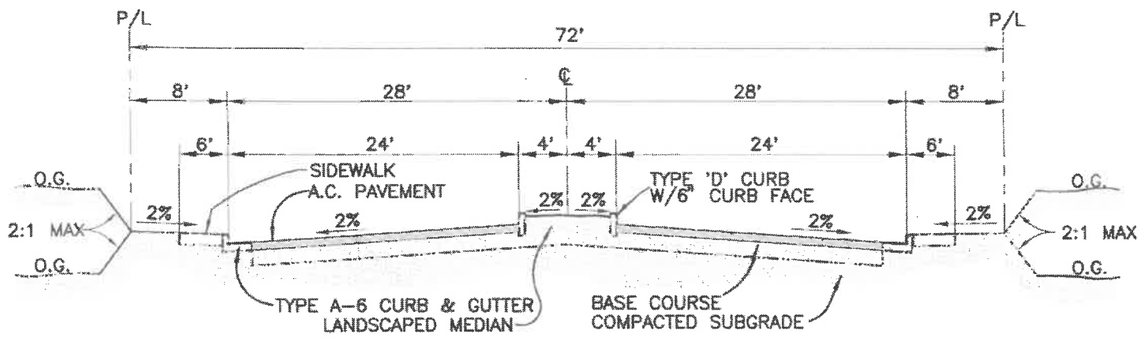
TYPICAL SECTION 33' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106, SECTION 'B'
PLANNING AREA NO. 2 PRIVATE INTERIOR STREET
STREETS "B" THROUGH "L"



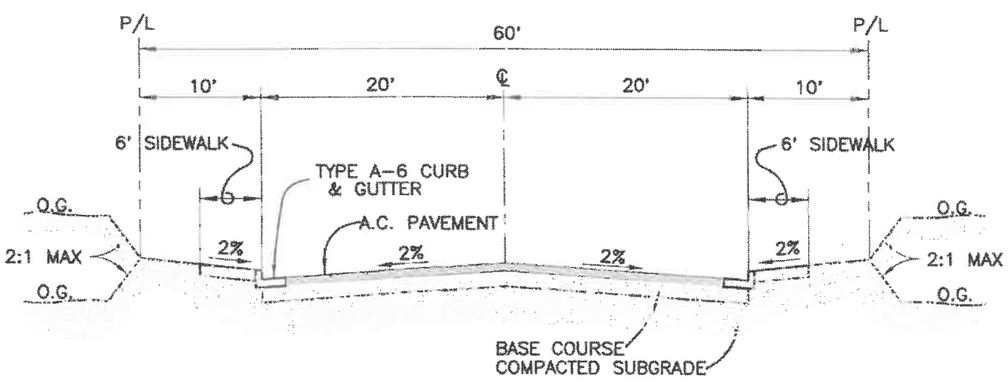
TYPICAL SECTION 52' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106, SECTION 'A'
PLANNING AREA NO. 1 PRIVATE INTERIOR STREET



TYPICAL SECTION 72' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106, SECTION 'A'
PLANNING AREA NO. 1 ENTRANCES
PLANNING AREA NO. 2 ENTRANCES



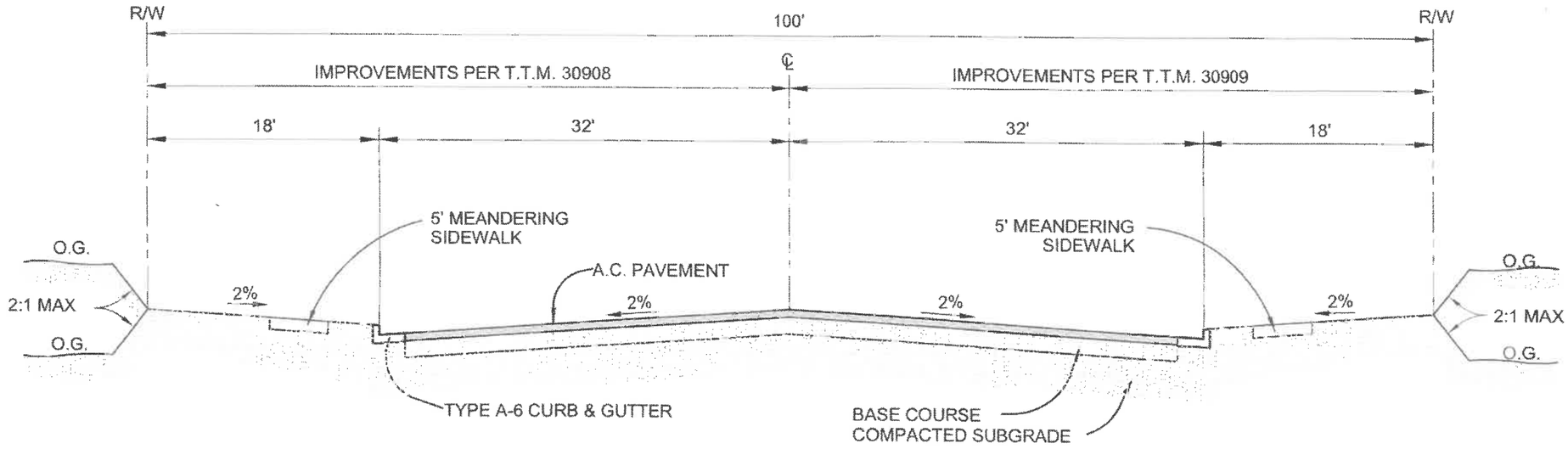
TYPICAL SECTION 60' LOCAL STREET

MODIFIED STD NO. 106, SECTION 'A'
PLANNING AREA NO. 2 PRIVATE INTERIOR STREETS

The Keith Companies
5950 El Camino Real, Suite 100
Carlsbad, California 92008
760/438-1210
Fax 760/438-0760
TKC

INTERIOR STREET SECTIONS

SPRINGBROOK ESTATES	EXHIBIT NO.: V-3B
	SPECIFIC PLAN No. 330



TYPICAL SECTION 100' SECONDARY HIGHWAY

MODIFIED STD NO. 102

MT. VERNON AVE.

The Keith Companies
5990 El Camino Real, Suite 100
Carlsbad, California 92008
760/438-1210
Fax 760/438-8788
TKC

TYPICAL SECTION 100' SECONDARY HIGHWAY		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-3C
	SPECIFIC PLAN No. 330	

3. Master Drainage Plan

a. Drainage Plan Description

The project site is located in the Santa Ana watershed on a plateau directly southwest of Blue Mountain and northwest of Box Springs Mountain (see Exhibit III-1). Spring Brook Wash, an unimproved natural channel, is located directly south of the project site. Spring Brook Wash drains east to west, and is the primary drainage-way for runoff originating from the southern side of Blue Mountain and northern side of Box Springs Mountain. The Gage Canal is located directly west of the project site. Originating in the Santa Ana River, the Gage Canal is a sixty (60) inch diameter subsurface steel pipe transporting water to the City of Riverside.

Under existing conditions, runoff from Blue Mountain drains in a southwesterly direction to the project site. A series of roadside swales and irrigation ditches convey storm water through the project site. Storm water from the project site drains in a west to northwest direction. Runoff from the northeast area of the project site (Planning Area 3) drains to the Center Street storm drain, which is maintained by Riverside County Flood Control and Water Conservation District (RCFCWCD). Runoff from Planning Areas 1 and 2 drain to an existing concrete channel on the south side of Spring Street. The Spring Street channel discharges into an existing 51-inch diameter storm drain. Minor areas of the site drain directly to Spring Brook Wash. These areas are limited in size, and are located directly adjacent to the Spring Brook Wash.

The *Master Drainage Plan*, as depicted on Figure V-4, utilizes existing and proposed streets, open channels, natural drainage courses, as well as a comprehensive system of underground storm drains to handle storm run-off through the project site. Storm water discharges to the Springbrook Wash do not require attenuation of peak flow rates, as the Springbrook Wash is a suitable outlet to meet RCFCWCD requirements. The *Master Drainage Plan* depicts the proposed storm drain system. A detailed hydrologic analysis is included in Appendix G, and a discussion of the hydrologic impacts is included in Section VI.B.6 of the EIR.

b. Water Quality

Water Quality Best Management Practices (BMPs) will be implemented as part of the storm water pollution prevention measures for the project. Water quality BMPs will be implemented during both the construction phase of the project as well as post-development. Water quality and storm water pollution prevention BMPs for the project include structural and non-structural BMPs consistent with the Riverside County Drainage Area.

Management Plan, Supplement A. BMPs will be selected during final engineering of the project, and will be described in detail in the Storm Water Pollution Prevention Plan.

c. Drainage Plan Development Standards

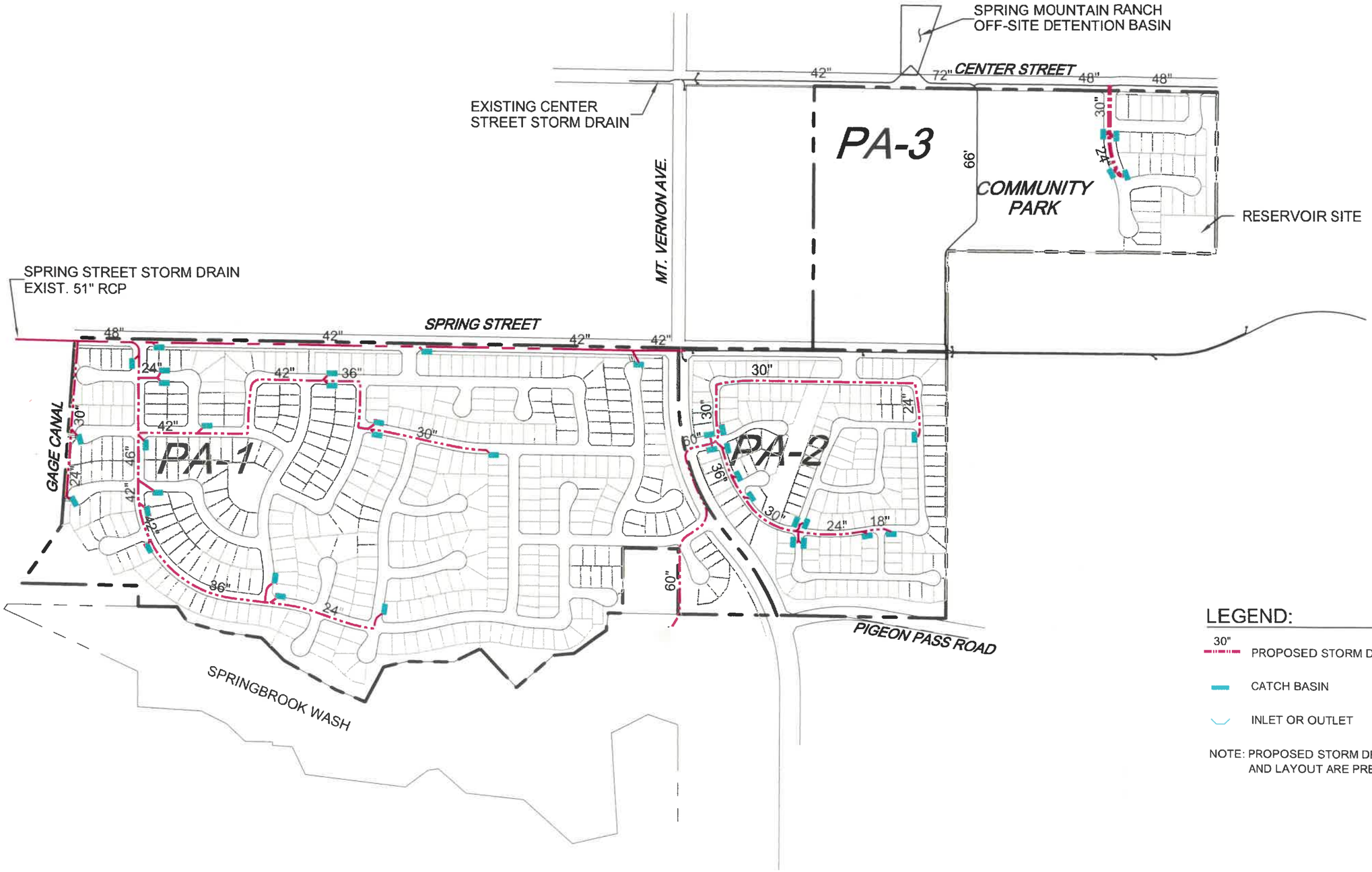
(1) Drainage and flood control facilities and improvements shall be provided in accordance with Riverside County Flood Control and Water Conservation District requirements.

(2) It is anticipated that Riverside County Flood Control and Water Conservation District will maintain major backbone drainage/flood control facilities. Riverside County Transportation Department will maintain local drainage facilities, including inlets, catch basins and storm drains, to be constructed in roadways and drainage easements.

(3) Drainage facilities located in private streets, outside of public rights-of-way, and located within easements between lots shall be owned and maintained by the Master Homeowner's Association.

(4) Drainage facilities will be designed to provide 100-year protection. The 10-year storm flow shall be contained within the curb, and the 100-year storm flow shall be contained within the street right-of-way. When either of these criteria is exceeded, additional drainage facilities should be installed.

(5) Development proposing construction activities including clearing, grading or excavation that results in the disturbance of at least five acres of total land area, or activities which are part of a larger development plan with total disturbance of five acres or greater, shall obtain the appropriate NPDES construction permit. Development within the Specific Plan boundaries shall be subject to future requirements adopted by the County to implement the NPDES program. In addition, mitigation measures adopted as part of the Specific Plan shall be incorporated and implemented for full compliance.



LEGEND:

- 30" — PROPOSED STORM DRAIN AND SIZE
- CATCH BASIN
- INLET OR OUTLET

NOTE: PROPOSED STORM DRAIN SIZES AND LAYOUT ARE PRELIMINARY.

500 250 0 500 1000

SCALE: 1"=500'

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Carlsbad, California 92008
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TKC

MASTER DRAINAGE PLAN

SPRINGBROOK ESTATES	EXHIBIT NO.:	**V-4**
	SPECIFIC PLAN No. 330	

4. Master Grading Plan

a. Grading Plan Description

The Springbrook Estates Specific Plan has been designed to minimize grading, while taking advantage of the project site's unique topographic features and setting. The existing topography places the project in-between Blue Mountain to the northeast, Box Springs Mountain to the southeast, and Spring Brook Wash to the south. These natural landforms provide a beautiful natural setting in which to develop a residential community.

The *Master Grading Plan* proposes to concentrate the residential development on the natural "plateau" areas of the site, created by over one hundred years of farming activity. Portions of Spring Brook Wash and the California aqueduct will be preserved within an open space corridor. The *Master Grading Plan* is depicted in Figure V-5.

The residential lot grading has been designed to create maximum view and solar orientation, while at the same time following, to the maximum extent possible, the natural land contours. The following earthwork quantities have been calculated based upon the conceptual grading plans for the individual neighborhoods. The final grading plans will be designed for a balanced cut and fill.

- 500,000 cubic yards cut
- 665,000 cubic yards fill

b. Grading Plan Development Standards

(1) All grading activities shall be in substantial conformance with the overall *Master Grading Plan* (Figure V-5), and shall implement any grading-related mitigation measures outlined in Section VI.

(2) Prior to the grading of any development area within the Specific Plan, a grading plan for the area to be developed shall be submitted for review and approval. The preliminary grading plan shall be submitted concurrently with any development proposal, such as a subdivision, plot plan, or conditional use permit. The grading plan for each development phase shall be used as a guideline for the preparation and evaluation of subsequent detailed grading plans for individual stages of development within that phase, and shall include the following:

- Techniques employed to prevent erosion and sedimentation during and after the grading process.
- Approximate time frames for grading activity.
- Identification of areas that may be graded during higher probability rain months (January through March).
- Preliminary pad and roadway elevations.
- Mitigation of geological and/or geotechnical remediation areas.

(3) Street gradient shall not exceed 15%.

(4) Graded slopes shall be oriented to minimize visual impacts to surrounding areas.

(5) The overall slope, height and grade of any cut and fill slope shall be developed in concert with the existing natural contours to the maximum extent feasible.

(6) The toes and tops of all slopes higher than ten (10) feet shall be rounded where practical and drainage and stability permit such rounding.

(7) Slopes exceeding three (3) feet in height shall be landscaped and irrigated prior to the rainy season with effective erosion control plant materials.

(8) Prior to initial grading activities, a detailed soils report and geotechnical study shall be prepared that analyzes on-site conditions and slope stability.

(9) All dwelling units shall have a minimum five (5) feet side setback and a minimum ten (10) feet rear setback from the toe of slopes higher than ten (10) feet. County Subdivision Ordinance No. 465 shall be observed regarding setback requirements.

(10) Where cut and fill slopes are created higher than three (3) feet, detailed landscaping and irrigation plans shall be submitted prior to grading plan approval. The plans shall be reviewed for type and density of materials.

(11) The developer shall be responsible for maintenance and upkeep of all planting and irrigation systems until those operations are assumed by the individual homeowners or Master Homeowner's Association.

(12) Proposed brow ditches, terrace drains or other minor swales shall be lined with natural erosion control materials or concrete.

(13) Graded but undeveloped land shall be maintained weed-free and planted with interim landscaping within ninety (90) days of completion of grading,

unless grading permits are obtained. Planting with interim landscaping shall comply with NPDES Best Management Practices.

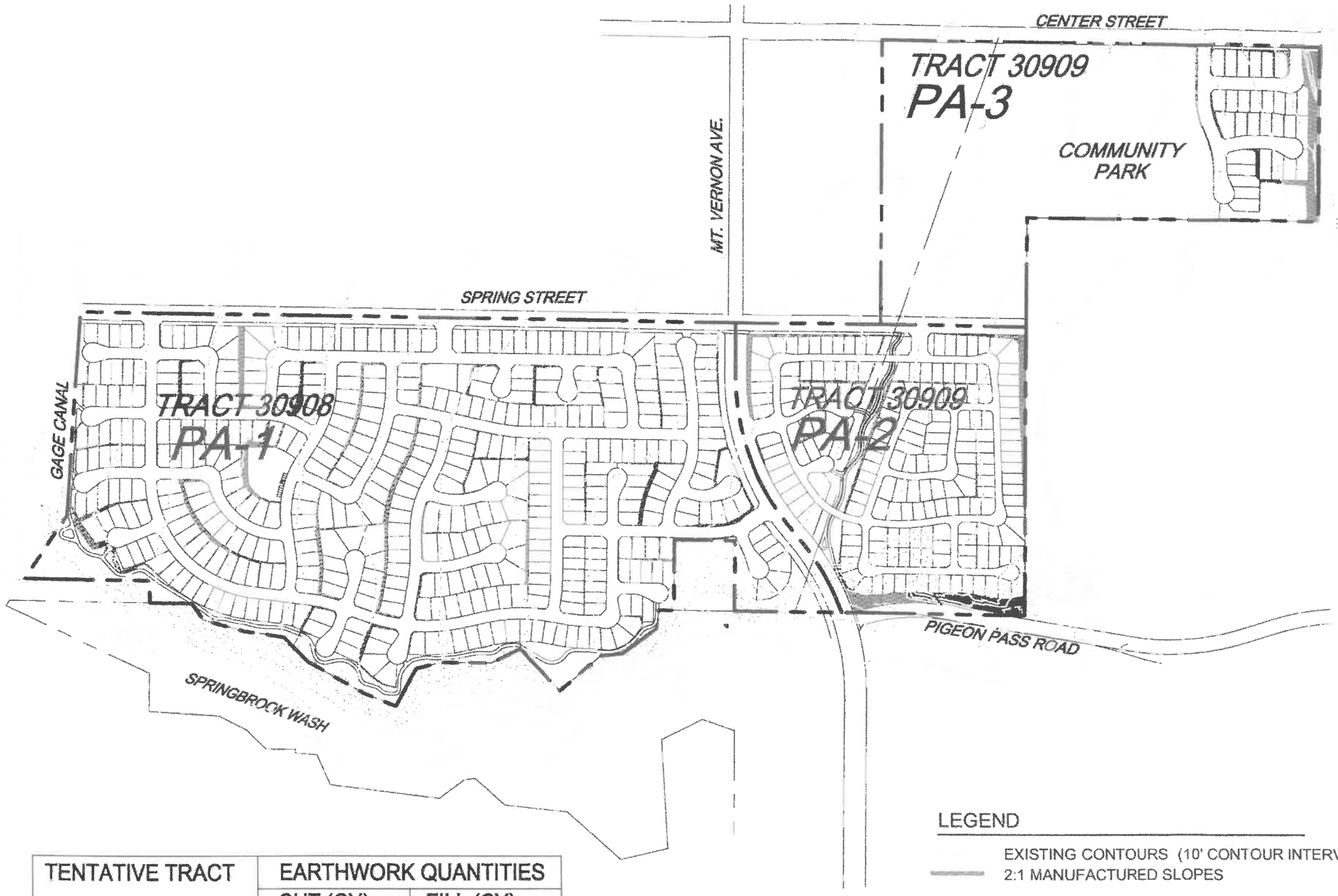
(14) Unless otherwise approved by the Department of Building and Safety, all cut and fill slopes shall be constructed at inclinations of no steeper than two horizontal feet (2') to one vertical foot (1').

(15) Natural features such as significant rock outcrops shall be protected to the greatest extent feasible in the siting of individual lots and building pads.

(16) If historic or prehistoric remains are discovered during grading operations, a qualified archaeologist/paleontologist should be consulted to determine its significance. Grading shall be diverted until the find can be properly evaluated for significance and appropriate mitigation implemented.

(17) Soil stabilizers should be used to control dust as required by South Coast Air Quality Management District (SCAQMD) Rule 403.

(18) Grading within any development phase may encroach into an area of a future development phase in order to achieve an earthwork balance. If such is the case, grading plans shall be prepared and grading shall be performed in a manner consistent with the overall Master Grading Plan for the project as well as the grading plan for the future development phase. Any "off-site" grading shall adhere to all County requirements, these Grading Plan Development Standards, and applicable EIR mitigation measures.



TENTATIVE TRACT	EARTHWORK QUANTITIES	
	CUT (CY)	FILL (CY)
30908 ~ PA-1	180,000	180,000
30909 ~ PA-2, PA-3	320,000	485,000
TOTAL	500,000	665,000

NOTE: EARTHWORK QUANTITIES ARE RAW NUMBER ESTIMATES ONLY. SITE GRADES WILL BE ADJUSTED TO ACHIEVE A BALANCED SITE.

LEGEND

EXISTING CONTOURS (10' CONTOUR INTERVALS)

2:1 MANUFACTURED SLOPES

500 250 0 500 1000

SCALE: 1"=500'

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5950 El Camino Real, Suite 100
Carlsbad, California 92008
760/438-1210
Fax 760/438-2768
TKC

MASTER GRADING PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: V-5

SPECIFIC PLAN No. 330

5. Master Water and Sewer Plan

a. Water and Sewer Plan Descriptions

Springbrook Estates is located within the service area of the Riverside Highland Water Company (RHWC), and it is intended that RHWC will provide domestic water to the project site, while wastewater treatment service to the project may be provided by the City of Riverside, RHWC and/or a County Service Area.

Water

The water supply for the project will be supplied from vertical wells in four separate water bearing basins, with a network of distribution mains conducting the water to the project site. The extension of the water system will require the construction of transmission pipelines, reservoirs, booster stations and appurtenances in order to provide an adequate level of service. The water system will be designed to provide adequate water service during the peak hour of the maximum day or during the maximum day plus fire suppression flows. To accomplish this level of service, the following criteria will be utilized:

- Average annual daily water requirements per person — 175 gal.
- Average day maximum month demand — 1.50 ave. day
- Maximum day of maximum month demand — 2.25 ave. day
- Peak hour maximum day — 4.50 ave. day
- Minimum hour maximum day — 0.50 ave. day
- Equalization storage — 0.40 max. day
- Emergency storage — 1.00 ave. day
- Fire flow — 1500 gpm/2 hr

All water system facilities shall be designed and constructed in accordance with the applicable standards of the American Water Works Association, State of California and the Riverside Highland Water Company. The *Master Water Plan* is depicted on Figure V-6. The water system within the study area will receive water through the existing water system adjacent to and within the immediate area. A series of distribution lines, generally 8" in diameter, will provide domestic water to individual homes throughout the development. A series of reservoirs, strategically located for proper elevation, will be constructed in association with developments in the area. The water system will be capable of pumping the maximum day water demand for each pressure zone, ensuring adequate domestic service to future residents.

Figure V-6 depicts the size and locations of the water pipelines, as well as the location of the reservoirs and booster stations.

Sewer

Currently, the project site is not served with a domestic sewer service. The unincorporated area of Highgrove is primarily serviced with private septic systems. Previously, County Service Area No. 152 has proposed to provide wastewater service to Springbrook Estates through a service agreement with the City of Riverside. Wastewater from the project will be conveyed to the City of Riverside Collection System, and will be treated at the Riverside Water Quality Treatment Plant.

Wastewater flows generated by the development were calculated based upon the following City of Riverside design parameters:

- Capita/single family residence 2.75 cap./d.u.
- Average daily flow per capita 65 gal/day/cap.

Based upon the above criteria, wastewater flows from the development will amount to approximately 179 gallons per day per equivalent dwelling unit (EDU), with ultimate build-out wastewater flows of 116,188 gpd.:

The *Master Sewer Plan* is depicted in Figure V-7. The project's sewer system utilizes a series of 8-inch and 12-inch sewer pipes located within the street system, gravity flowing to the west towards Planning Area 1. The wastewater flows will be conveyed to the City of Riverside Collection System and Riverside Water Quality Treatment Plant.

b. Water and Sewer Plan Development Standards

(1) All water and sewer lines shall be placed underground.

(2) All water lines and facilities will be designed pursuant to the requirements of the Riverside Highland Water Company.

(3) All sewer lines and facilities will be designed and installed pursuant to the requirements of the City of Riverside.

(4) Water and sewer main separation and crossing shall meet all design criteria of the State of California Health Department, and Riverside County Environmental Health Services, as applicable.

6. Master Landscape and Open Space Plan

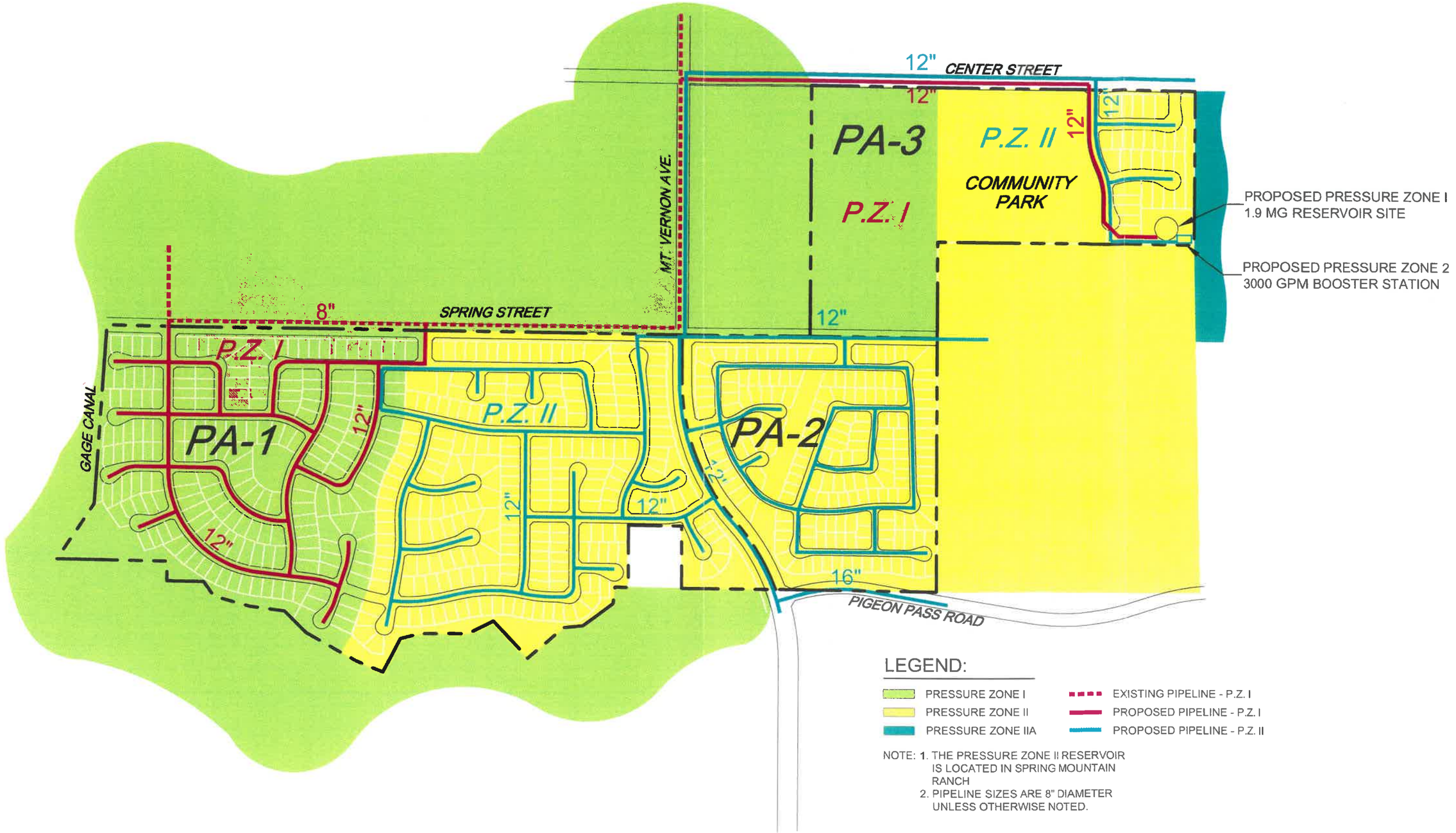
a. Landscape Plan Description

The landscape and open space elements are integral to establishing the superior community identity and character of Springbrook Estates. The *Master Landscape and Open Space Plan*, depicted in Figure V-8, will play an essential role in the overall design concept of the project. The plan is not just about the placement of entry features and plantings, but the landscape and open space elements of the project are intended to become key elements of the design concept of the project. These design elements include open space corridors connecting to large areas of preserved natural open space in the surrounding area, open space and trails adjacent to Springbrook Wash, enhanced streetscape and entry feature plantings, and the provision of a large active community park. This section describes the overall landscape and open space design themes and standards, while Section V.C contains the detailed landscape design guidelines.

Primary access to the various neighborhoods within Springbrook Estates will be through major project entrances from Spring Street and Mount Vernon Avenue. Specific project monumentation will be provided defining a sense of arrival and initial project identification. Once inside the project, common streetscape themes will provide a sense of continuity throughout the community. Collectively, the street scene will be coordinated so as to serve to reinforce the overall unified visual appeal of the residential neighborhoods.

An open space trail system will link the various neighborhoods (planning areas) within the project to the open space and park amenities of PA-3 as well as the surrounding Box Springs and Blue Mountain open space areas. The recreational trails and both active and passive park areas are available to the residents of the community. A community trail system will be developed within these corridors, as well as landscape enhancements. A Master Homeowner's Association will maintain these corridors, along with the community trails that will be developed for public access.

Springbrook Wash will be preserved as an important corridor adjacent to the southern boundary of the project site. It is intended to provide a critical wildlife corridor and will be maintained as a riparian habitat, while providing a significant open space and visual amenity to future residents. In addition, the following project design features are intended to be included adjacent to Springbrook Wash:



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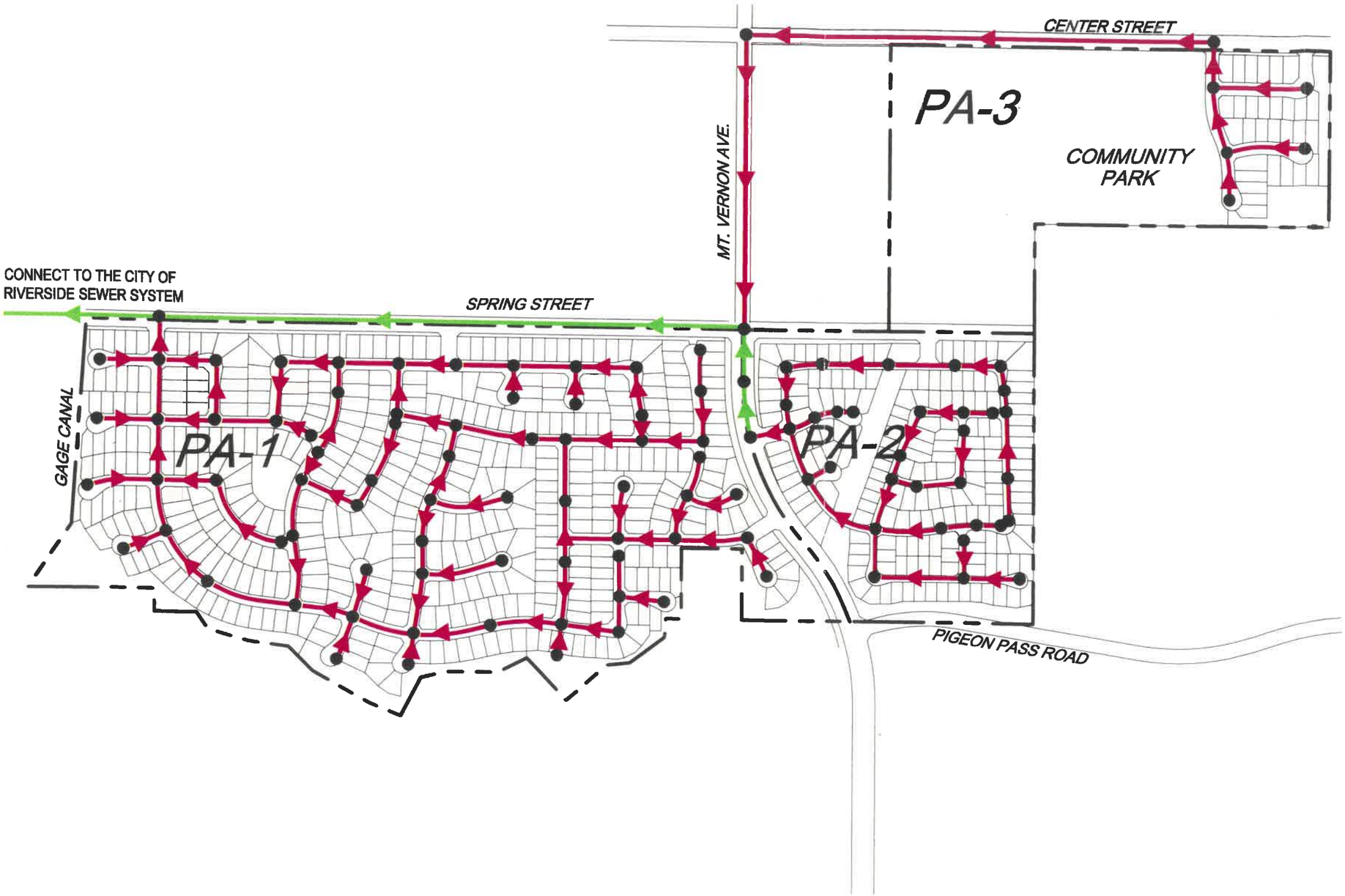
MASTER WATER PLAN

SPRINGBROOK ESTATES	EXHIBIT NO.: **V-6**
	SPECIFIC PLAN No. 330



LEGEND:

- MANHOLE
- 8" PIPE
- 12" PIPE
- DIRECTION OF FLOW

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500 250 0 500 1000
SCALE: 1"=500'

MASTER SEWER PLAN

SPRINGBROOK ESTATES	EXHIBIT NO.: V-7
	SPECIFIC PLAN No. 330

- Riversidean sage scrub will be planted as appropriate on graded or cut-and-fill areas adjacent to undisturbed Riversidean sage scrub areas near Springbrook Wash.
- Best Management Practices (BMPs) to reduce impacts to water quality will be designed for the project as part of the Urban Runoff Management Plans for the project to control stormwater flows and protect the quality of water entering Springbrook Wash.
- A special edge treatment will be designed and implemented to separate development areas from open space areas that are sensitive to fuel modification and landscape treatment. Landscape buffers will be incorporated into the project design to minimize the intrusion of non-native plant species into natural areas.

A major open space and community amenity is the provision for a thirty-three (33±) acre community park located within Planning Area 3. This community park will be designed in conjunction with the adjacent school site, and will be available for the general public. Density from PA-3 has been transferred to PA-1 and PA-2 in order to provide for a significant community park benefit. It is intended that the park will provide the following typical amenities:

- Sports fields, including baseball and soccer
- Playgrounds and tot lots
- Picnic areas
- Large expanses of turf for general play
- Tree lined walking paths
- Par courses and work-out areas
- Restroom facilities
- Parking

In total, approximately 50 acres will be provided as public and private open space, amounting to approximately one third of the project site. This open space includes approximately five and one-half (5.5) acres within the California Aquaduct.

b. Landscaping Plan Development Standards

(1) Detailed landscaping programs for planning areas and roadways shall be prepared by a qualified landscape architect for review and approval.

(2) Project entry features shall be designed with landscaping and architectural features that project a high quality image for the Springbrook Estates, as illustrated in Exhibit V-13.

(3) The landscaping design for the project site shall include an effective combination of trees, shrubs and ground cover, compatible with the natural open space surrounding the site. In addition, enhanced riparian areas and corridors will be encouraged adjacent to Springbrook Wash.

(4) Private common open space within each planning area may be devoted to both active and passive open space uses, including the development of a multi-purpose trail system. Exact design and details of the open space will be accomplished in conjunction with detailed landscape plans prior to recordation of tract maps.

(5) In accordance with the conditions of approval for phased tract maps, landscape improvement plans for the respective landscape areas shall be submitted to the Planning Department for review and approval. The plans shall include the following:

- Landscape and irrigation plans prepared by a certified landscape architect, based upon the final grading plans, detailing the planting and irrigation of the common areas.
- Special entry features and other amenities.
- Hardscape details depicting the location, type and quantity of potential recreational facilities and amenities.
- The fence and wall details.
- Details of special treatments and buffer areas.
- Mitigation measures involving landscape plans and open space areas.
- Detailed landscape plans for the construction of the community park.

(6) The developer shall be responsible for installation and maintenance of all slope planting, common landscaped areas and irrigation systems, and the large public community park until such time as these operations are the responsibility of other parties. It is envisioned that all private open space areas within the project will be maintained by homeowner's associations, while the community park will be maintained by a public agency such as a County Service Area.

(7) For additional landscape development standards and details, please refer to Section V.C.

7. Master Public Facility and Special Phasing Requirements

a. Public Facility Plan Description

A full range of municipal services and utilities will be required for the development of Springbrook Estates. The following is a description of those services and utilities, as well as the phasing requirements for the provisions of the infrastructure. (Please refer to Section VI of the Environmental Impact Report for a detailed discussion of the provision of municipal utilities and services.)

(1) Schools

Springbrook Estates is located within the boundaries of the Riverside Unified School District. Currently, only one house exists within the project boundaries, and essentially no students are generated from the project site.

(2) Fire Service

Fire protection and emergency response is provided by the Riverside County Fire Department, in cooperation with the California Department of Forestry and Fire Protection (CDF). The County of Riverside contracts with CDF for career staffing, supervision and support services to provide countywide fire and emergency medical services to the unincorporated areas. Riverside County Fire Department Fire Station #19 is located at 469 Center Street, Highgrove, approximately one-half mile from the project site. The Riverside County Fire Protection Master Plan would require the need for an "Urban-Category II" level of service based upon the plans for Springbrook Estates.

Certain construction criteria, including fuel modification zones, fire resistant roofs, etc. will be required for the project. In accordance with Riverside County Subdivision Ordinance #460, the minimum set fire flow is as follows:

- Schedule A Subdivisions - 1000 gpm @ 20 psi residual pressure
- Schedule B Subdivisions - 1000 gpm @ 20 psi residual pressure

(3) Police Service

Currently, police service is provided to the unincorporated area by the Riverside County Sheriff's Department, Jurupa Valley Station, located at 7477 Mission Boulevard, Riverside. The Jurupa Valley

CENTER STREET

MICHIGAN AVE.

MURPHY AVE.

MT. VERNON AVE.

SPRING STREET

GAGE CANAL

SPRINGBROOK WASH

LEGEND

1. COMMUNITY PARK
2. POCKET PARK
3. COMMUNITY TRAIL
5. AQUEDUCT EASEMENT
6. ENHANCED STREETSCAPE
7. PROJECT ENTRY
8. LANDSCAPED SLOPES
9. RESIDENTIAL STREET TREES
10. 100' FUEL MODIFICATION ZONE
11. RHWC PRESSURE ZONE 1 WATER RESERVOIR

400 200 0 400 800

SCALE: 1"=400'

MASTER LANDSCAPE AND OPEN SPACE PLAN

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-8**

SPECIFIC PLAN No. 330

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Station is a relatively new facility, dedicated and occupied in September 1998. The station was designed with some expectation of operational growth. The station averages 24 sworn patrol personnel during the weekdays (24 hour), which does not include Community Policing personnel, detectives, K-9 or supervisory positions. The station maintains a detective bureau that is wholly responsible within the station's jurisdictions. In addition, the station maintains two K-9 officers and two separate Community Action Teams that divide the station's boundaries. Each team is comprised of a lieutenant, sergeant, four deputies and two investigator positions.

Based upon the plans for development of Springbrook Estates, the Riverside Sheriff's Department will seek mitigation for the increased population within the area. The recommendation for mitigation will include the collection of mitigation fees based upon the projected population and servicing requirements.

(4) Electricity

Currently, Southern California Edison (SCE) provides electrical service to the unincorporated Highgrove area. Facilities are locally available and will be extended into the project at the initial stages of development.

(5) Telephone

Telephone service to the project site is provided by Verizon. Telephone service is locally available westerly of the project site in the Highgrove/Riverside area, and will be extended into the project site at the initial stages of development.

(6) Natural Gas

The Southern California Gas Company provides natural gas service to the Highgrove/Riverside area. Major distribution facilities and services are located west of the project site in the Highgrove area and within the Hunter Business Park in the city limits of Riverside.

These natural gas facilities will be extended into the project site at the initial phases of project development. The Southern California Gas

Company currently foresees no impact associated with providing future service to the area.

(7) Solid Waste

Solid waste disposal is provided by Riverside County Waste Management Department. There are three municipal solid waste landfills in western Riverside County that are available to service the franchise waste hauler for the project site; these are the Badlands, Lamb Canyon and El Sobrante Landfills. It is not anticipated that the project will substantially shorten the life of the County's landfills. However, to conserve landfill capacity, the project should participate in the County's efforts to meet and maintain the State's mandatory goal of a fifty (50%) percent reduction in the amount of waste disposed, including the following measures:

- Recycle construction waste through available methods, such as onsite grinders and/or wood waste recycling facilities;
- Coordinate with franchise waste hauler to provide for commercial recycling and curbside recycling within residential areas for the pickup of aluminum, paper, plastic, etc., as well as green waste;
- Use mulch and/or compost in the development and maintenance of common landscaping areas;
- For green waste/woody waste generated from maintenance of common landscape areas, wither compost onsite or send to a compost facility. For grass only, consider grass recycling, where lawn clippings from a mulching type mower are left on the lawn.

b. Public Facility Plan Development Standards

Springbrook Estates will be developed over a multi-year time frame, with the provision of infrastructure commensurate with the requirements for various phasing. Project-wide and specific infrastructure requirements for water, sewer, parks, circulation, etc. are described in the following sections. The timing and implementation of these facilities may vary based upon market conditions and future development requirements. For example, the off-site sewer will be required for the development during the initial phase of development, while individual in-tract sewer facilities will not be required until houses are constructed.

(1) Project Phasing Plan Description

The project will be phased over a 4-5 year period, in response to market demands, according to a logical and orderly extension of public infrastructure and utilities. The *Master Phasing Plan* is depicted in Figure V-9. It is intended to begin the initial phases of the development during the early part of 2005, with house construction and occupancy occurring later in the year.

Most of the infrastructure will be constructed in compliance with the conditions of approval of any implementing subdivision map, plot plan or conditional use permit. The following is a brief description of the anticipated phasing of infrastructure improvements:

- Parks and Open Space - Parks and open space, with the exception of the community park, will be phased to coincide with the development of the Planning Area in which it is located. These open space areas are depicted in the various Planning Area figures in Section V.B. Following development of the parks and open space, the areas will be dedicated to the homeowner's association for permanent maintenance. The community park will be dedicated to the Riverside County Parks Department.
- Sewer and Water Facilities - A major portion of the sewer and water facilities, primarily those off-site extensions, will be constructed during the initial phase of development. Subsequently, in-tract sewer and water lines will be constructed along with development of the housing tract.
- Circulation - Street construction will coincide with tract development. It is planned that major backbone streets, such as Spring Street, will be developed during the initial phase of development, and the tract development utilizing this major street for primary access.
- Grading - It is anticipated that the grading of the project site will coincide with individual Planning Area development.
- Utilities - Utilities, including gas, electricity and telephone will be constructed to coincide with tract development. This will be coordinated with individual utilities to ensure adequate service.

(2) Project Phasing Standards

In compliance with the conditions of approval of any implementing development application, such as a subdivision, plot plan or conditional use permit, improvement plans for the respective infrastructure, including landscape plans, will be required to be submitted for review and approval prior to the recordation of final

tract maps. The improvement plans shall include final grading plans, final landscape and irrigation plans, street plans, storm drain plans, and sewer and water plans. In addition, any special requirements, such as entry features, fence details and other special requirements shall be submitted.

Construction of the project, including recordation of final tract maps, is anticipated to be done progressively in stages. This may be

permitted so long as requisite infrastructure including vehicular access, public facilities and utilities are constructed to adequately service the proposed housing tracts.

- Community Park – The Community Park located in PA 3 will be developed in stages in conjunction with the housing in Springbrook Estates. The developer will be eligible for in-lieu park development fee credits for the development of the public community park. The final landscape and irrigation plans for the community park shall be completed prior to the issuance of the 50th dwelling unit. The community park shall be under design prior to the issuance of the 50th dwelling unit, under construction prior to the issuance of the 250th unit, and shall be completed prior to the issuance of the 500th unit.

8. Comprehensive Maintenance Plan

The successful operation of the project's maintenance organization is important to the overall success of Springbrook Estates. It is intended that maintenance responsibilities for common project facilities, including entry features and private parks and open space, will be the responsibility of the Master Homeowners' Association. Two areas of the project site are intended to be dedicated and/or acquired by public entities, as described in the *Master Landscape Plan*, Section V.6. These areas include the community park and school site. Following acquisition/dedication, these areas will be maintained by the responsible public agency.

a. Master Homeowner's Association

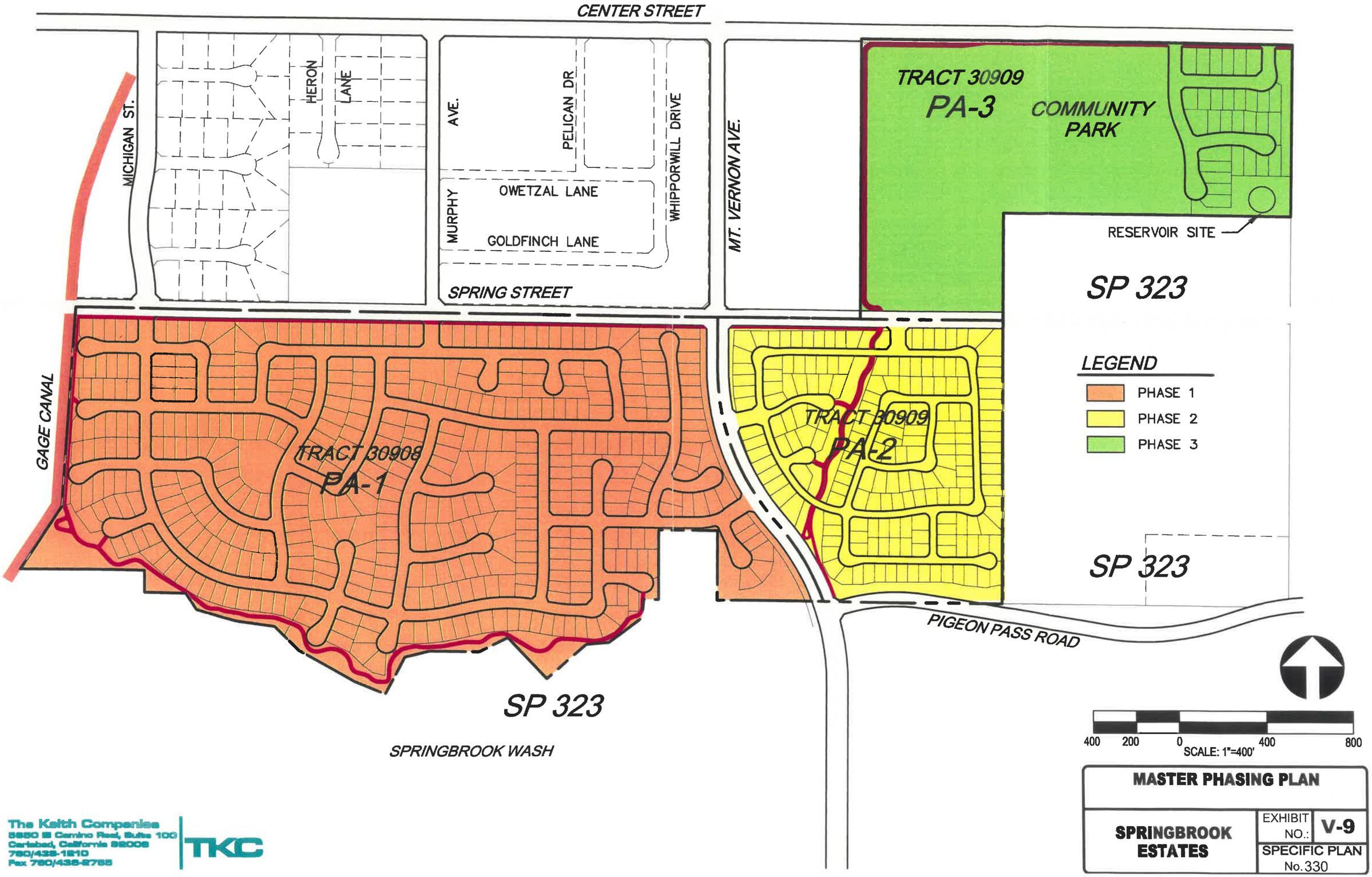
Common areas identified in the Specific Plan shall be owned and maintained by a permanent homeowner's association to be created specifically for PA-1, PA-2 and PA-3. These areas include the proposed landscaped entry features, landscape and open space corridors, park areas, streetscapes, and certain drainage improvements. In addition, the community trail system will be maintained throughout the project by the homeowner's association.

b. Community Park

The community park will be maintained by the County of Riverside through a County Service Area.

c. Project Roadways

Project roadways are intended to be both public and private. Public Streets include Center Street, Spring Street, Mount Vernon Avenue and PA-3 in-tract Street, and will be designed and constructed to Riverside County standards. All public roads will be dedicated and entered into the Riverside County system of roads for operation and maintenance as approved by the Board of Supervisors. Internal streets within PA-1 and PA-2 will be private and maintained by a homeowner's association.



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MASTER PHASING PLAN

SPRINGBROOK ESTATES	EXHIBIT NO.: **V-9**
	SPECIFIC PLAN No. 330

B. PLANNING AREA LAND USE, DEVELOPMENT STANDARDS AND DESIGN GUIDELINES

The planning standards and design guidelines for Springbrook Estates have been created in order to guarantee the development of a high quality residential project in this unique physical setting. In addition, the following provisions establish land use restrictions for each planning area in order to protect future residents' quality of life. The following planning areas have been created on the basis of logical topographic, homogeneous neighborhoods.

The planning area graphics have been derived from the various Tentative Tract Maps that have been prepared concurrently with this Specific Plan. This process will enable a greater degree of accuracy relative to the final development plan because of the detailed design encountered for the tract map design process. Development should conform closely to the conceptual layout depicted in the various planning areas, although it is anticipated that some minor changes may occur through the final subdivision approval process.

A Specific Plan Zoning Ordinance is contained in Section IV of this Specific Plan. The provisions contained in the zoning ordinance establish use restrictions for each planning area, and should be used in conjunction with the planning standards contained in the following sections.

1. Planning Area 1 (Tentative Tract No. 30908)

a. Descriptive Summary

Planning Area 1, as illustrated in Figure V-10, consists of approximately 105.15 acres, located in the westerly portion of the project site. Planning Area 1 will include a maximum of 437 single family residences designed on lots ranging from 5,000 to 6,000 square feet, utilizing a curvilinear street design and certain neo-traditional architectural and site planning treatments. Included within PA-1 will be pocket parks, community trails and natural open space adjacent to Spring Brook Wash. Parks and open space amenities in PA-1 will consist of approximately 11.48 acres. Access to Planning Area 1 will be via the main entrance features along Spring Street and Mount Vernon Avenue.

b. Land Use and Development Standards

(1) For development standards such as building setbacks, minimum lot size, lot dimensions, building height, permitted uses, etc., please refer to the Specific Plan Zoning Ordinance

COMMUNITY TRAIL

COMMUNITY TRAIL

NEIGHBORHOOD PARK

SPRING STREET

COMMUNITY TRAIL

GAGE CANAL

NEIGHBORHOOD PARK

TRACT 30908
PA-1
R-3

MT. VERNON AVE.

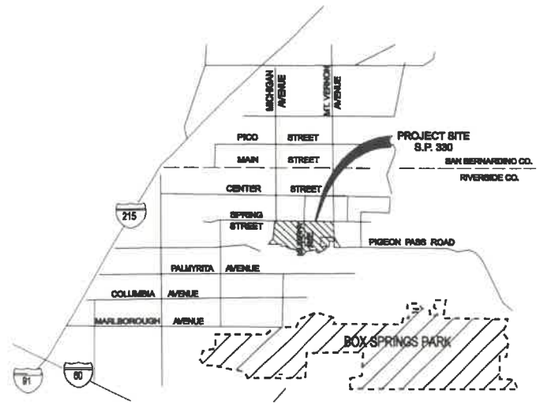
TRACT 30909
PA-2

CONNECT TO SPRING MOUNTAIN RANCH TRAIL

COMMUNITY TRAIL

SPRINGBROOK WASH

SPRING MOUNTAIN RANCH TRAIL SYSTEM PER SP 323



VICINITY MAP:
NOT TO SCALE

LEGEND	ACRES	UNITS
RESIDENTIAL LOTS	65.85	437
OPEN SPACE / PARKS	11.48	0
STREETS	27.82	0
TOTAL	105.15	437

PLANNING AREA BOUNDRY
COMMUNITY TRAIL

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TKC

300 150 0 300 600
SCALE: 1"=300'

PLANNING AREA 1

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-10**

SPECIFIC PLAN No. 330

contained in Section IV. Nevertheless, the minimum residential lot size shall be 5,000 square feet.

c. Design Standards/Guidelines

(1) Spring Street and Mount Vernon Avenue will provide primary road access into Planning Area 1, and will be developed pursuant to guidelines contained in Section V.2, and as depicted on the typical road sections, Figures V-3A, V-3B and V-3C. For landscape details of Spring Street and Mount Vernon Avenue, please refer to Section V.C.2.c and Figures V-14, V-15A and V-15B.

(2) Access to Planning Area 1 will be through major project entry features as illustrated in Figure V-13, *Project Entry Plan.*

(3) Internal streets shall be developed as illustrated on Figure V-2, *Master Circulation Plan*, and Figure V-3B, *Interior Street Sections*.

(4) For streetscape details within the planning area, please refer to Section V.C.2.b, and Figure V-16, *Typical Street Sections*.

(5) Planning Area 1 will contain a large open space corridor along the southerly portion of the planning area, adjacent to Spring Brook Wash. For development guidelines within this open space corridor, please refer to Section V.C.2.c and FigureV-20, *Springbrook Wash Riparian Corridor*.

(6) A community trail, as depicted in FigureV-2, *Master Circulation Plan*, is planned to be located within the open space corridor surrounding the planning area.

(7) Two pocket parks are proposed in Planning Area 1. For development guidelines regarding the pocket parks, refer to Section V.C.2.d and Figures V-18 (*Pocket Park I*), and V-19 (*Pocket Park II*).

(8) Please refer to the following sections regarding specific design guidelines for Planning Area 1:

- Section V.C, Landscape Design Guidelines
- Section V.D, Architectural Design Guidelines
- Section V.E, Site Planning Design Guidelines

(9) Please refer to Section V.A, Project Wide Planning Standards, for those standards that apply project wide.

2. Planning Area 2 (Tentative Tract No. 30909)

a. Descriptive Summary

Planning Area 2, as illustrated in Figure V-11, consists of approximately 35.10 acres, located easterly of Mount Vernon Avenue, on the south side of Spring Street. Planning Area 2 will consist of a maximum of 183 single-family residential lots, designed on neo-traditional principles, and incorporating a large open space corridor. This open space corridor runs north-south through the project site, consisting of approximately 2.3 acres, and contains an easement for the California Aqueduct. The intent is to provide landscaping throughout this corridor, along with a multi-purpose trail, connecting the Spring Brook Wash with the community park in PA-3.

Primary access to Planning Area 2 will be via the main entry features from Spring Street and Mount Vernon Avenue.

b. Land Use and Development Standards

(1) For development standards such as building setbacks, minimum lot size, lot dimensions, building height, permitted uses, etc., please refer to the Specific Plan Zoning Ordinance contained in Section IV. Nevertheless, the minimum residential lot size shall be 4,000 square feet.

c. Design Standards/Guidelines

(1) Spring Street and Mount Vernon Avenue will provide primary road access into Planning Area 2, and will be developed pursuant to guidelines contained in Section V.2, and as depicted on the typical road sections, Figures V-3A, V-3B and V-3C. For roadway landscape details for Spring Street and Mount Vernon Avenue, please refer to Section V.C.2.c and Figures V-14, V-15A and V-15B.

(2) Access into Planning Area 2 will be through major project entries as illustrated in Figure V-13, *Project Entry Plan*.

(3) Internal streets shall be developed as illustrated on Figure V-2, *Master Circulation Plan*, and Figure V-3B, *Interior Street Sections*.

(4) For streetscape details within the planning area, please refer to Section V.C.2.b, and Figure V-16, *Typical Street Sections*.

(5) Planning Area 2 will contain a large open space corridor running through the middle of the PA. For development guidelines within this open space corridor, please refer to Section V.C.2.c.

(6) A community trail is planned to be located within the open space corridor.

(7) Please refer to the following sections regarding specific design guidelines for Planning Area 2:

- Section V.C, Landscape Design Guidelines
- Section V.D, Architectural Design Guidelines
- Section V.E, Site Planning Design Guidelines

(8) Please refer to Section V.A, Project Wide Planning Standards, for those standards that apply project wide.

3. Planning Area 3 (Tentative Tract No. 30909)

a. Descriptive Summary

Planning Area 3, as illustrated in Figure V-12, consists of approximately 43.70 acres, located in the northeastern portion of Springbrook Estates. Planning Area 3 is proposed to be developed with a maximum of 30 lots, a water reservoir lot, and a community park. Primary access to Planning Area 3 will be via main entrance features from Spring Street on the south and Center Street on the north.

b. Land Use and Development Standards

(1) For development standards such as building setbacks, minimum lot size, lot dimensions, building height, permitted uses, etc., please refer to the Specific Plan Zoning Ordinance contained in Section IV.

CALIFORNIA AQUEDUCT

COMMUNITY TRAIL

TRACT 30909
PA-3
SPRING STREET

MULTI-PURPOSE TRAIL

TRACT 30908
PA-1

TRACT 30909
PA-2

MT. VERNON AVE

S.P. 323 TTM 29597

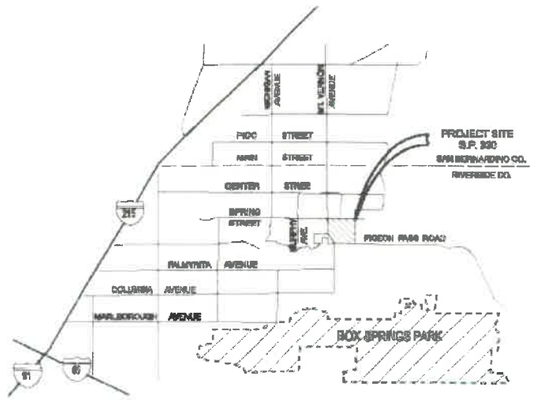
COMMUNITY TRAIL

PIGEON PASS ROAD

SPRING MOUNTAIN RANCH
TRAIL SYSTEM PER SP 323

COMMUNITY TRAIL

SPRINGBROOK WASH



VICINITY MAP:
NOT TO SCALE

LEGEND	ACRES	UNITS
RESIDENTIAL LOTS	21.77	183
OPEN SPACE / PARKS	4.33	0
STREETS	9.00	0
TOTAL	35.10	183

PLANNING AREA BOUNDRY

MULTI-PURPOSE TRAIL

COMMUNITY TRAIL

200 100 0 200 400
SCALE: 1"=200'

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PLANNING AREA 2

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-11**

SPECIFIC PLAN No.330

c. Design Standards/Guidelines

(1) Spring Street and Center Street will provide primary road access into Planning Area 3, and will be developed pursuant to guidelines contained in Section V.2, and as depicted on the typical road sections, Figures V-3A, V-3B and V-3C. For roadway landscape details, please refer to Section V.C.2.b and Figures V-14, V-15A and V-15B.

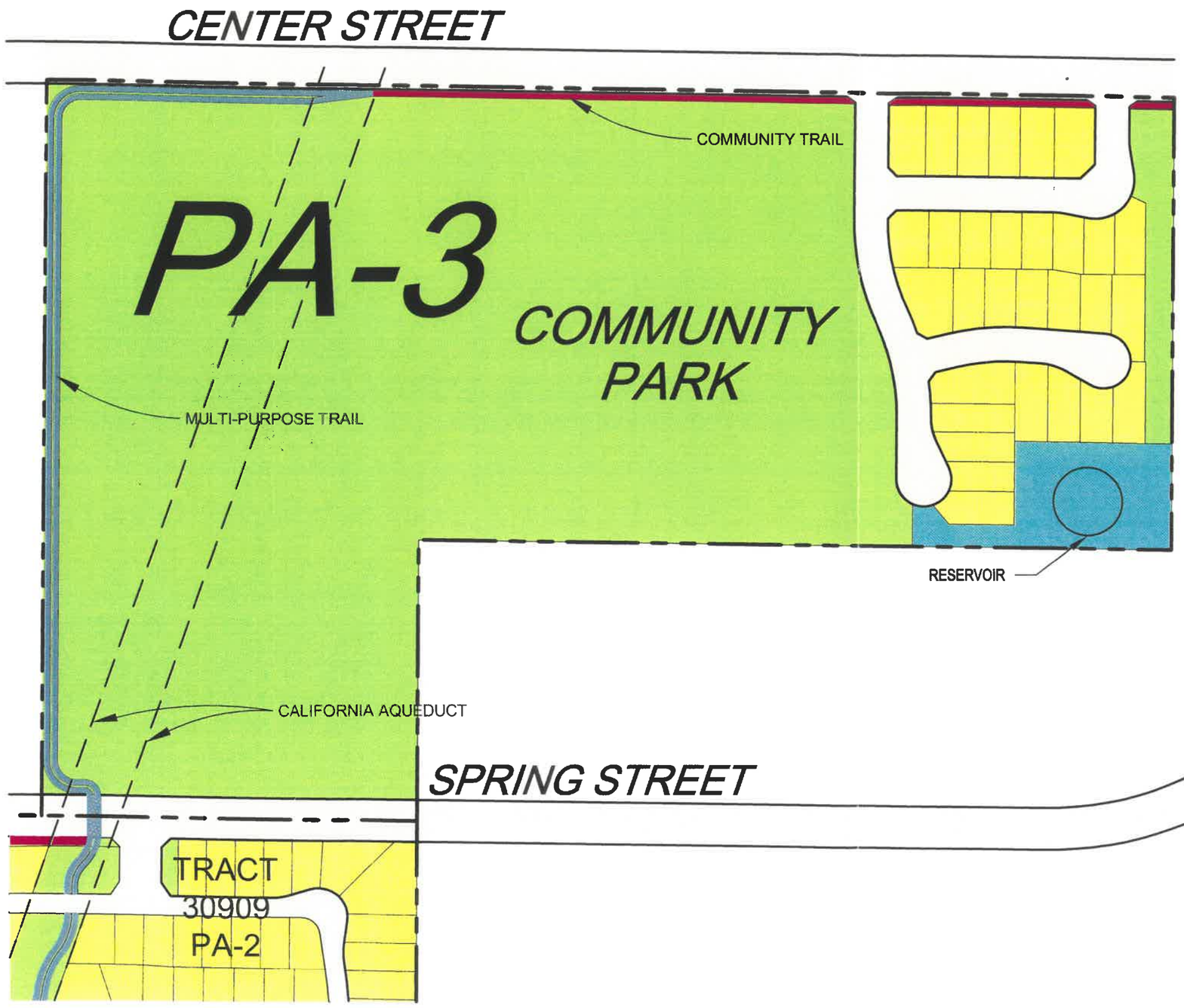
(2) Access into Planning Area 3 will be along Center Street and Spring Street.

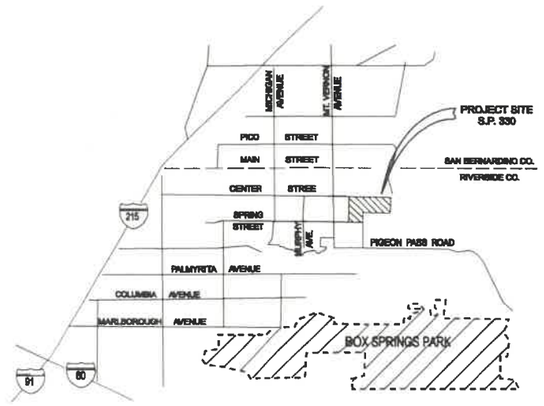
(3) A community trail, as depicted in Figure V-20, *Springbrook Wash Riparian Corridor*, is planned to be located within the westerly portion of the community park connecting the surrounding residential areas to PA-3.

(4) Please refer to the following sections regarding specific design guidelines for the Planning Area 3:

- Section V.C, Landscape Design Guidelines
- Section V.D, Architectural Design Guidelines
- Section V.E, Site Planning Design Guidelines

(5) Please refer to Section V.A for project wide planning standards.





VICINITY MAP:
NOT TO SCALE

LEGEND	ACRES	UNITS
RESIDENTIAL LOTS	4.65	30
OPEN SPACE / PARKS	34.21	0
UTILITY	1.38	0
STREETS	3.46	0
TOTAL	43.70	30

PLANNING AREA BOUNDRY
COMMUNITY TRAIL
MULTI-PURPOSE TRAIL

200 100 0 200 400
SCALE: 1"=200'

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TKC

PLANNING AREA 3

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-12**

SPECIFIC PLAN No.330

C. LANDSCAPE DESIGN GUIDELINES

As stated in the Land Use portion of this specific plan, a major component of the Springbrook Estates is the provision of an abundant amount of passive and active open space. Over fifty (50) acres of the project site has been set-aside for the development of parks and open spaces enhancing the liveability of the project. This open space is deemed to be a critical element in the future success of Springbrook Estates as a "liveable community", and the following landscape guidelines are intended to fulfill the commitment made to this end.

1. General Guidelines

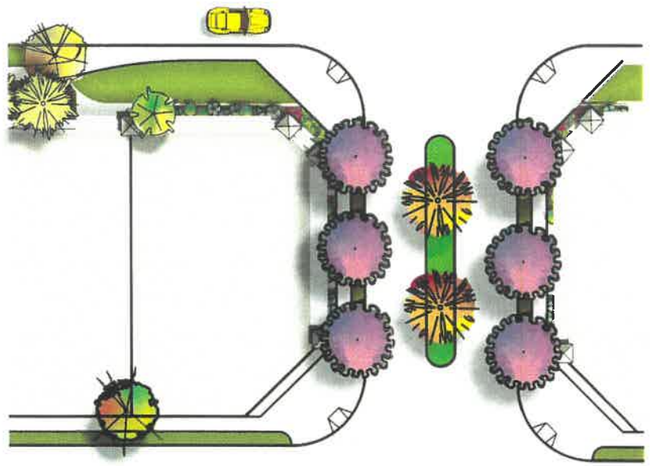
The purpose of the landscape guidelines is to establish landscape standards that will contribute to the thematic development of the Springbrook Estates community identity. Of vital importance to the development of a coordinated project image and identity are the project-wide enhancements of streets, entry features, landscape corridors, parks and open spaces. These various landscape design elements are intended to provide a varied and enjoyable experience for vehicular traffic, pedestrians and homeowners within the project.

The development of the project's landscape identity focuses on the following areas:

- The incorporation of landscape materials that are native to project area and accentuate the surrounding natural areas of the project site;
- The unification of landscape elements and materials in order to provide a coordinated project image;
- The provision of enhanced entry features, streetscapes and circulation corridors;
- The enhancement of significant wildlife corridors, including Springbrook Wash, integrated into the project's design, and leading to significant natural open space opportunities and visual amenities;
- To provide significant contiguous open space preservation, accessible for walking and hiking to the general public.

The above elements are depicted on the *Master Landscape and Open Space Plan*, Figure V-8, and described in further detail in the following sections.

ENTRY MONUMENT



PROJECT ENTRY PLAN VIEW

400 200 0 400 800

SCALE: 1"=400'

PROJECT ENTRY PLAN

SPRINGBROOK ESTATES	EXHIBIT NO.: **V-13**
	SPECIFIC PLAN No. 330

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a. Project Theme

Springbrook Estates is situated on the northern edge of the Springbrook Wash, juxtaposed between two large natural open spaces, Blue Mountain to the north and Box Springs Mountain to the south. These mountainous areas provide a dramatic backdrop to the project, with many future home sites enjoying magnificent views of these beautiful mountains. These mountains are comprised of steep slopes, incorporating large granite out-croppings and grassy slopes. The landscape theme seeks to develop the association of the surrounding mountainous areas in contrast with the verdant Springbrook Wash by utilizing a planting and hardscape concept designed to strengthen the basic fabric of the natural environment through the use of specific materials intended to complement these areas. These materials include the use of natural plant materials, including native oak and sycamore trees, natural shrubs and grasses, and granite materials for hardscape.

Springbrook Estates has been designed to respect the natural character of the project surroundings by enhancing and restoring the natural environment, reducing impacts to sensitive habitats, and providing development that protects these resources. The focus of the following landscape details and discussion is to provide direction in establishing the guidelines that protect the natural environment and ensuring that development is sensitively integrated with the natural environment, while creating an attractive residential community.

2. Community Elements

The *Master Landscape and Open Space Plan*, Figure V-8, contains landscape elements that form the basic structure of the project. Individually, the elements identify specific features of the project site. Collectively, the landscape features and elements provide the predominant community statement for Springbrook Estates.

a. Primary Project Entry

Along Spring Street and Mount Vernon Avenue, there are six primary project entries, as depicted on the Figure V-13, the *Project Entry Plan*. These entries are proposed to have a consistent design and plant palette in order to unify both sides of the project site. The *Project Entry Plan* is depicted in Figure V-13, and will include the following features:

- A ten (10') foot wide median island separating travel lanes, incorporating flowering trees and colorful shrubs and groundcover;
- Native oaks and sycamores randomly placed to reflect the natural setting of the project;
- A monument sign wall integrated into the landscape design and incorporating boulder rock out-croppings;
- Shrubs and ground covers planted to enhance the hardscape elements;
- Flowering perennials and annual color utilized to provide an intense color display, changing with the seasons.

b. Streetscapes

Attractive streetscapes are proposed within the Springbrook Estates Specific Plan, as illustrated on Figures V-14. V-15A, V-15B and V-16. To provide variety and to help define the project theme, distinctive trees will be utilized in streetscape plantings. As shown in the streetscape illustrations, it is intended that landscaping will provide a regular, rhythmic appearance when viewed from a passing vehicle. Major elements, such as groupings of trees and shrubs, will be provided at landscape corridor areas adjacent to the roadways. The use of this planting pattern will provide an attractive streetscape that can also be enjoyed by pedestrians.

c. Community Park and Open Space Greenbelt

A major design element for Springbrook Estates is the provision of a large community park and open space greenbelts located strategically throughout the project site, as illustrated on Figure V-17, *Community Park Concept Plan* and Figure V-20, *Springbrook Wash Riparian Corridor*. The community park is intended to provide a wide range of sports activities for the Highgrove community and surrounding area. The intent of this greenbelt is two-fold; to provide a landscape buffer separating the various planning areas into identifiable neighborhoods, and to provide a large, passive landscape area in which to develop a system of trails and landscape enhancements.

It is envisioned that the community park and landscaped greenbelt will become one of the dominant, unifying features of Springbrook Estates. Landscape features of this corridor include the following:

- Development of an Oak and Sycamore Woodlands;

- The provision of a community trail linking all areas of Springbrook Estates and Spring Mountain Ranch (SP 323) with other County regional trails;
- Provision of park furniture at strategic locations to include benches, picnic tables and drinking fountains.

d. Typical Pocket Park

Springbrook Estates will contain two pocket parks located in PA-1 and PA-2. These parks are intended to provide an area for active and passive recreational pursuits. These parks are depicted on the various planning area exhibits, and have been located conveniently for the benefit of the adjoining residential neighborhood. Figures V-18 and V-19 illustrate examples of the park development. The pocket park development will include an informal turf and picnic area, picnic shelter, and large evergreen and deciduous tree masses.

e. Slope Planting and Fuel Modification

In response to fire safety issues, the perimeter of the planning areas adjacent to wilderness areas will be provided with a fuel modification area. The fuel modification area will be approximately one hundred feet (100') in width, and include the following development guidelines:

- Selectively remove highly flammable plant species.
- Selectively thin out large dense groupings of plant materials.
- Re-vegetate the area with fire retardant plant materials.
- Maintenance of the fuel modification area will be the responsibility of the Master Homeowner's Association.

In addition, all cut and fill slopes which exceed three (3) feet in height shall be planted with an effective mixture of groundcover, shrubs and trees.

f. Community Walls and Fences

A coordinated variety of walls and fences have been designed to provide continuity throughout Springbrook Estates. The *Community Wall and Fence Master Plan and Details* is depicted on Figure V-21, and shows the general location of the common theme walls and fences throughout the development. These locations are primarily where public view and/or important interfaces are of concern, and the following common wall and fence guidelines will be required:

(1) Theme Walls

Theme walls are utilized along the perimeter street system where rear and/or sideyards are adjacent to the public street. Because of the concern for aesthetics and continuity, these theme walls will be required to be developed in conjunction with tract development. The walls will be constructed of decorative masonry and/or stucco-block.

(2) View Fencing

A wrought iron fence with pilasters is utilized along the primary edge treatments adjacent to open space corridors. These areas are generally on the top of bluffs, overlooking the open space corridors throughout the development, creating view opportunities and premium home sites.

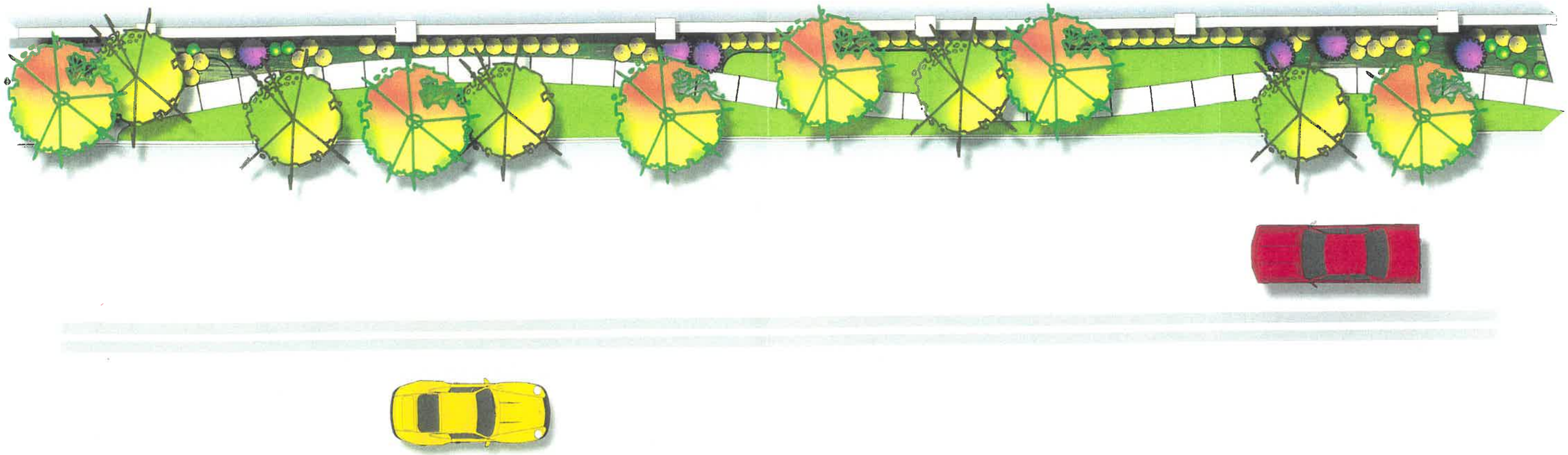
(3) Interior Property Line Fencing

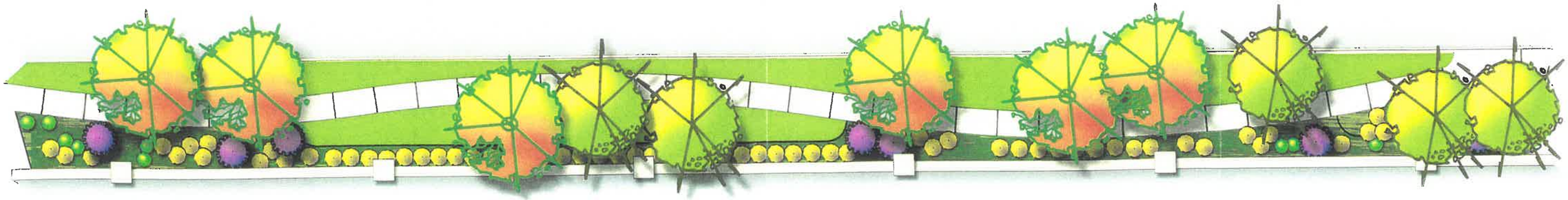
Fencing along the property lines between lots is not mandatory for development within Springbrook Estates. However, certain design guidelines will be contained within the CC&Rs for Springbrook Estates restricting the type of fencing which is permitted.

g. Lighting

The level of on-site lighting as well as lighting fixtures, shall comply with any applicable requirements and policies of the County of Riverside. Exterior lighting such as streetlights and landscape lighting will be consistent throughout the development area. Energy conservation, safety and security should be emphasized when designing the lighting systems, and should include the following considerations:

- It is recommended that all primary streets be adequately illuminated to provide for the safety and comfort of vehicular and pedestrian movement.
- Landscape lighting may be utilized for accentuating the landscape and hardscape areas.
- All lighting shall be designed and located in a manner that is compatible with scenic values and other public interests throughout the community.





COLLECTOR STREET PLAN VIEW		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-14
	SPECIFIC PLAN No. 330	

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Fax 760/438-2755
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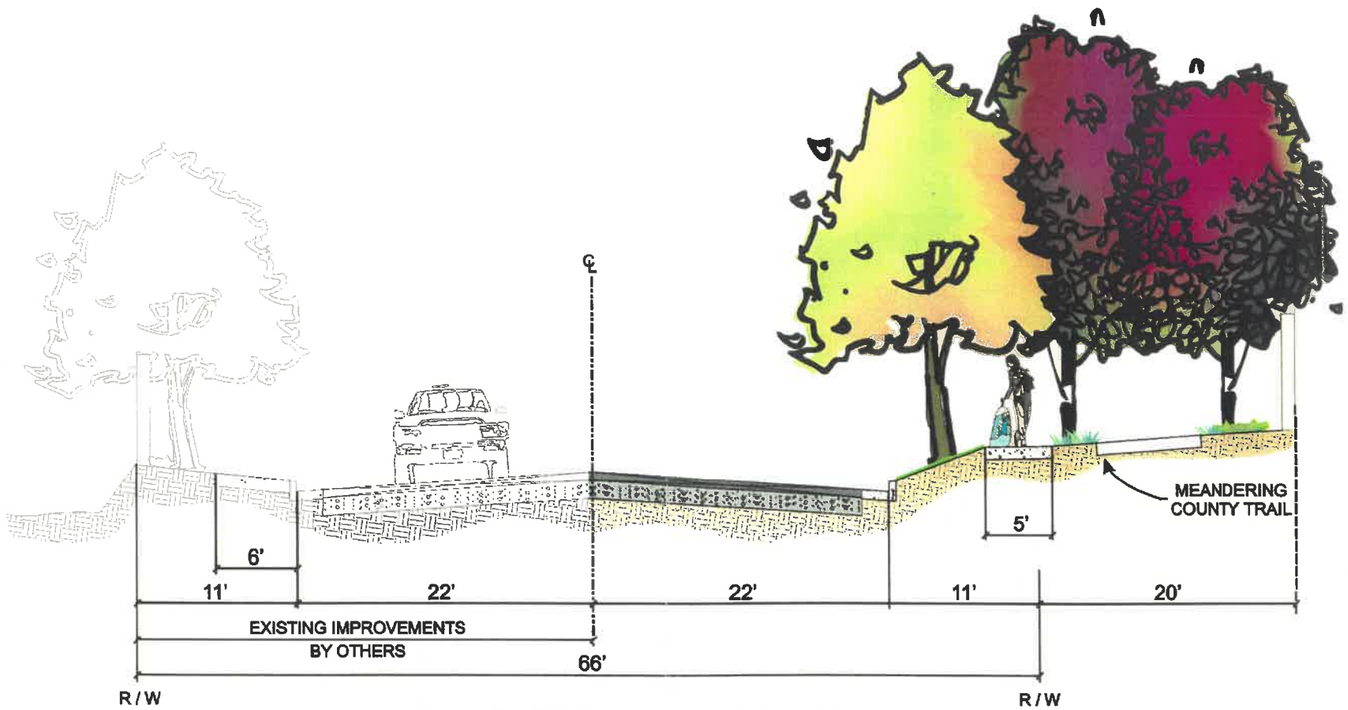
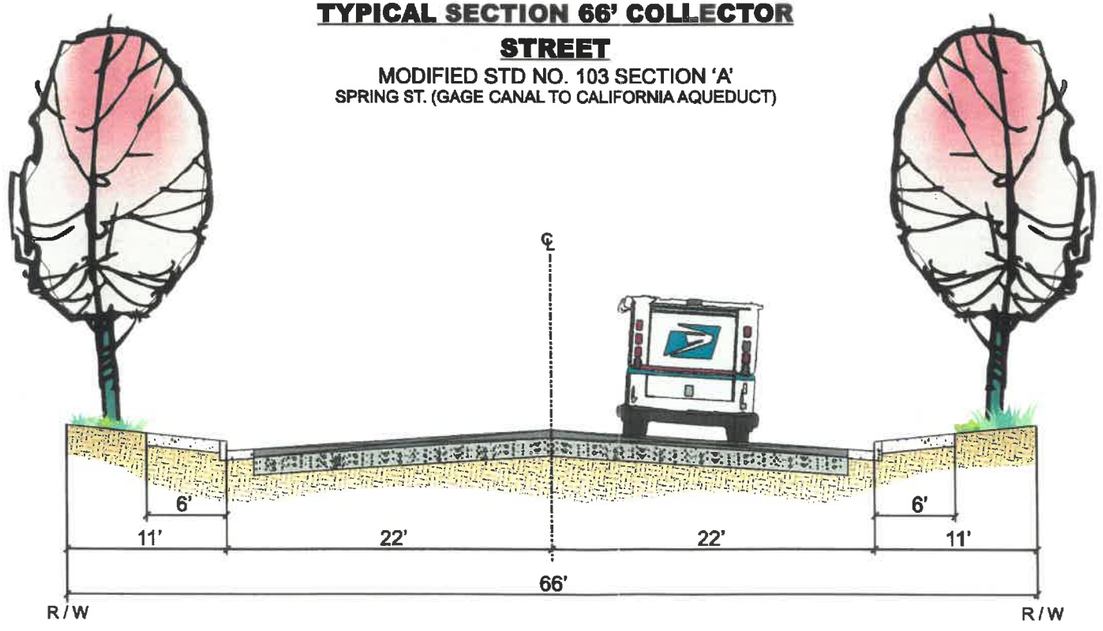


TYPICAL SECTION 66' COLLECTOR
STREET
MODIFIED STD NO. 103 SECTION 'A'
SPRING ST. (GAGE CANAL TO CALIFORNIA AQUEDUCT)



TYPICAL SECTION 66' COLLECTOR
STREET
MODIFIED STD NO. 103 SECTION 'A'
CENTER STREET (EAST OF MT. VERNON AVE.)
SPRING STREET (EAST OF CALIFORNIA AQUEDUCT)

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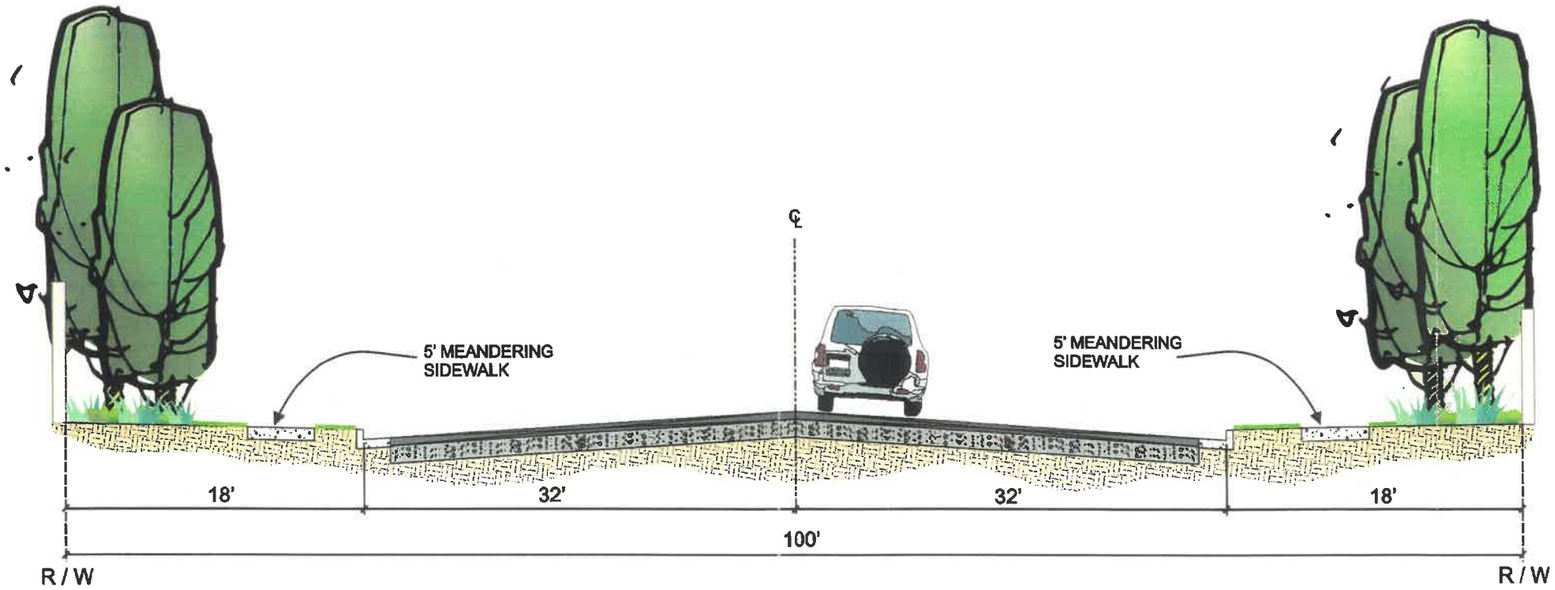
TKC

TYPICAL STREET SECTIONS 66' COLLECTOR		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-15A
	SPECIFIC PLAN No. 330	



TYPICAL SECTION 100'
SECONDARY HIGHWAY
MODIFIED STD NO. 103
MT. VERNON AVE.

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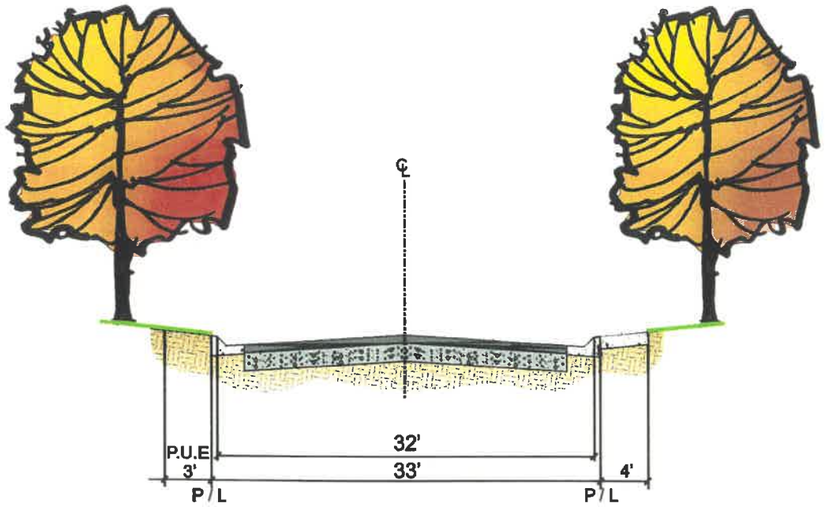
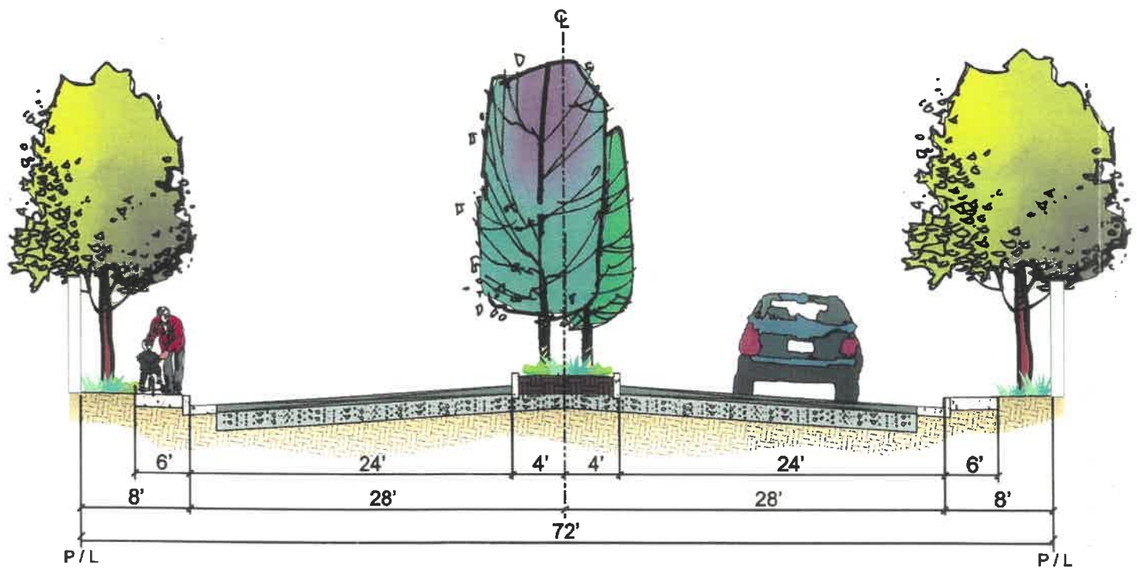
TYPICAL STREET SECTION 100' SECONDARY HIGHWAY		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-15B
	SPECIFIC PLAN No. 330	



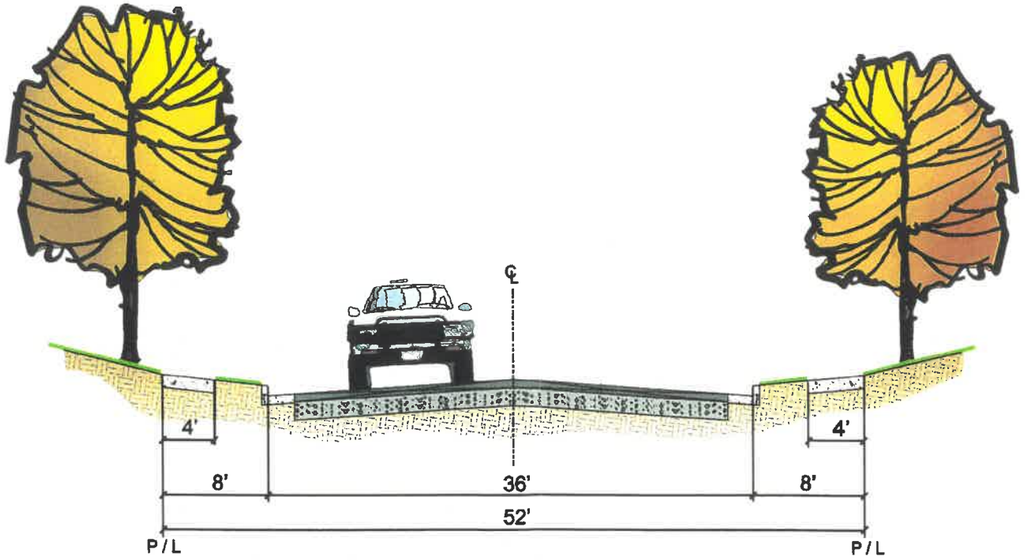
TYPICAL SECTION 33' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106 SECTION 'B'
PLANNING AREA NO. 2 PRIVATE INTERIOR STREET



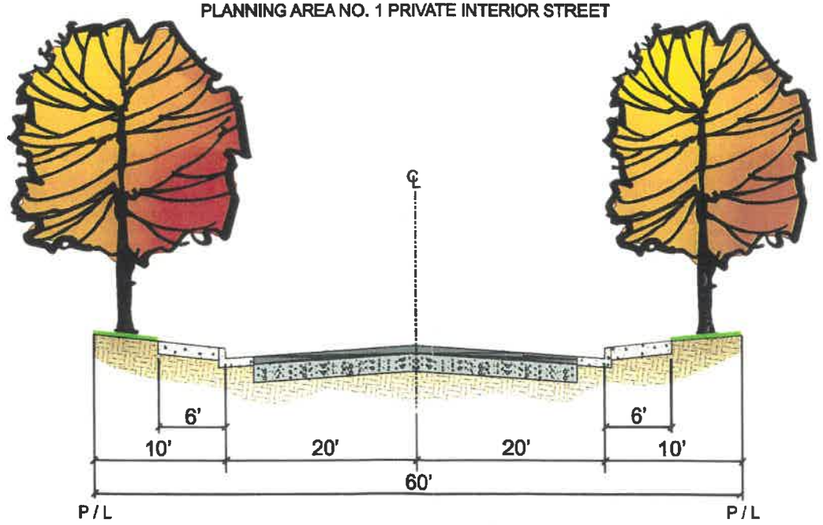
TYPICAL SECTION 72' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106 SECTION 'A'
PLANNING AREA NO. 1 ENTRANCES
PLANNING AREA NO. 2 ENTRANCES



TYPICAL SECTION 52' MINOR INTERIOR STREET (PRIVATE)

MODIFIED STD NO. 106 SECTION 'A'
PLANNING AREA NO. 1 PRIVATE INTERIOR STREET



TYPICAL SECTION 60' LOCAL STREET

MODIFIED STD NO. 106 SECTION 'A'
PLANNING AREA NO. 2 INTERIOR STREET

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TYPICAL STREET SECTIONS		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-16
	SPECIFIC PLAN No. 330	

LEGEND

1. SOCCER FIELDS
2. BASEBALL / SOFTBALL FIELDS
3. BASKETBALL COURTS
4. TENNIS COURTS
5. CHILDREN'S PLAY AREA
6. PICNIC SHELTER
7. RESTROOM / CONCESSIONS
8. PARKING
9. OPEN LAWN
10. MULTI-PURPOSE TRAIL
11. COMMUNITY TRAIL
12. RESIDENTIAL LOTS
13. RIVERSIDE HIGHLAND WATER COMPANY WATER RESERVOIR

COMMUNITY PARK CONCEPT PLAN		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-17
	SPECIFIC PLAN No. 330	

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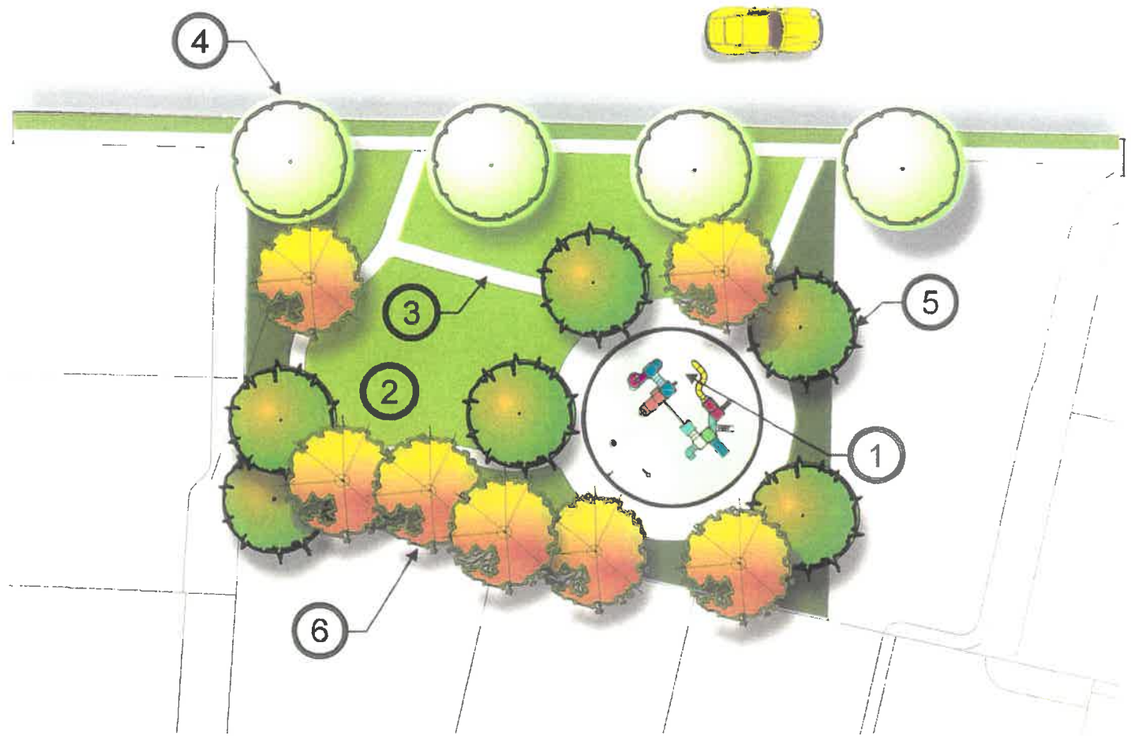

LEGEND

1. CHILDREN'S PLAY AREA
2. OPEN LAWN
3. PATH
4. STREET TREE
5. SHADE TREE
6. SCREEN PLANTING

40 20 0 40 80

SCALE: 1"=40'

POCKET PARK 1

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-18**

SPECIFIC PLAN No. 330

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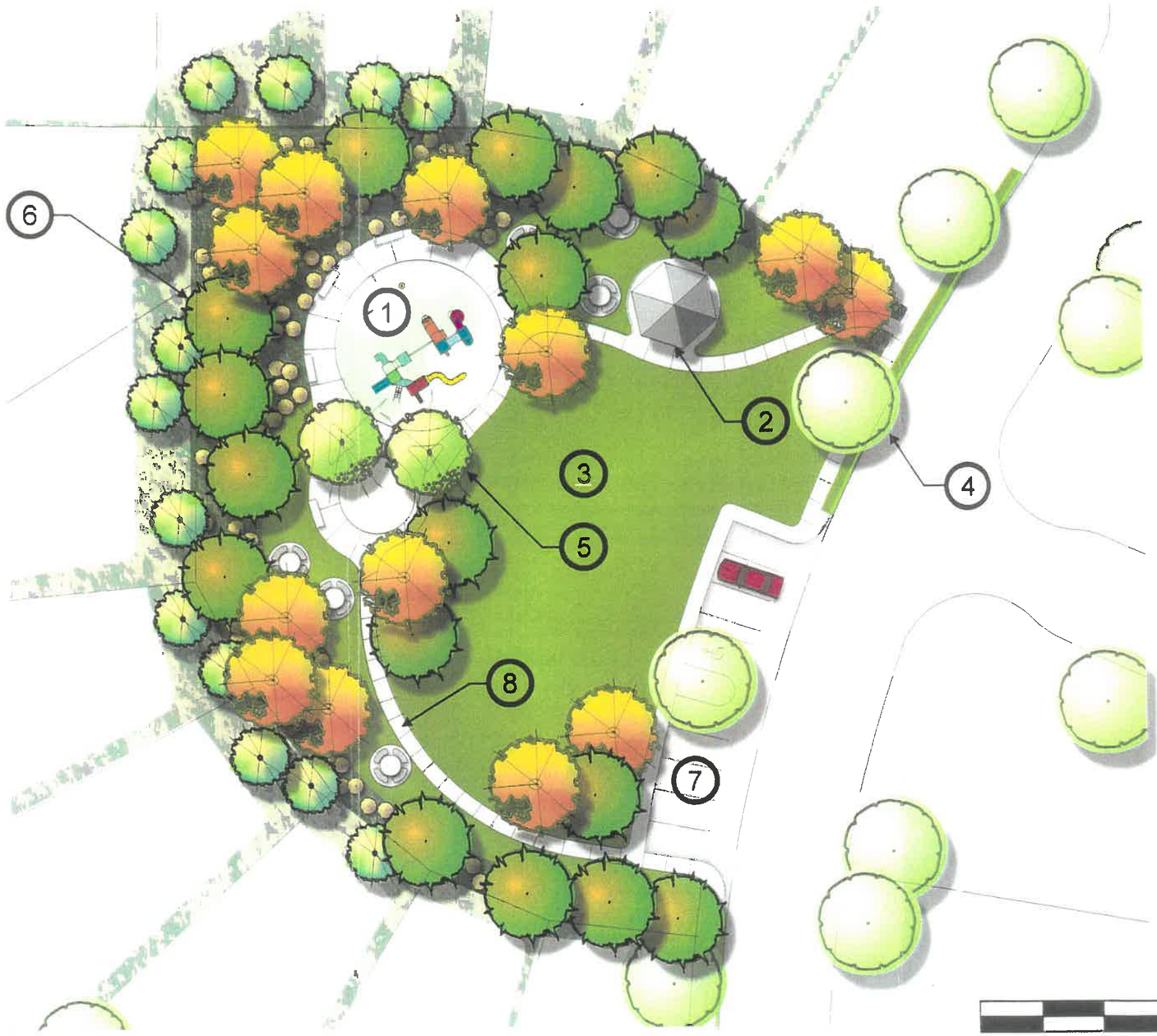
LEGEND

1. CHILDREN'S PLAY AREA
2. PICNIC SHELTER
3. OPEN LAWN
4. STREET TREE
5. SHADE TREE
6. SCREEN PLANTING
7. PARKING
8. PATH



40 20 0 40 80

SCALE: 1"=40'

POCKET PARK II

SPRINGBROOK ESTATES

EXHIBIT NO.: **V-19**

SPECIFIC PLAN No. 330

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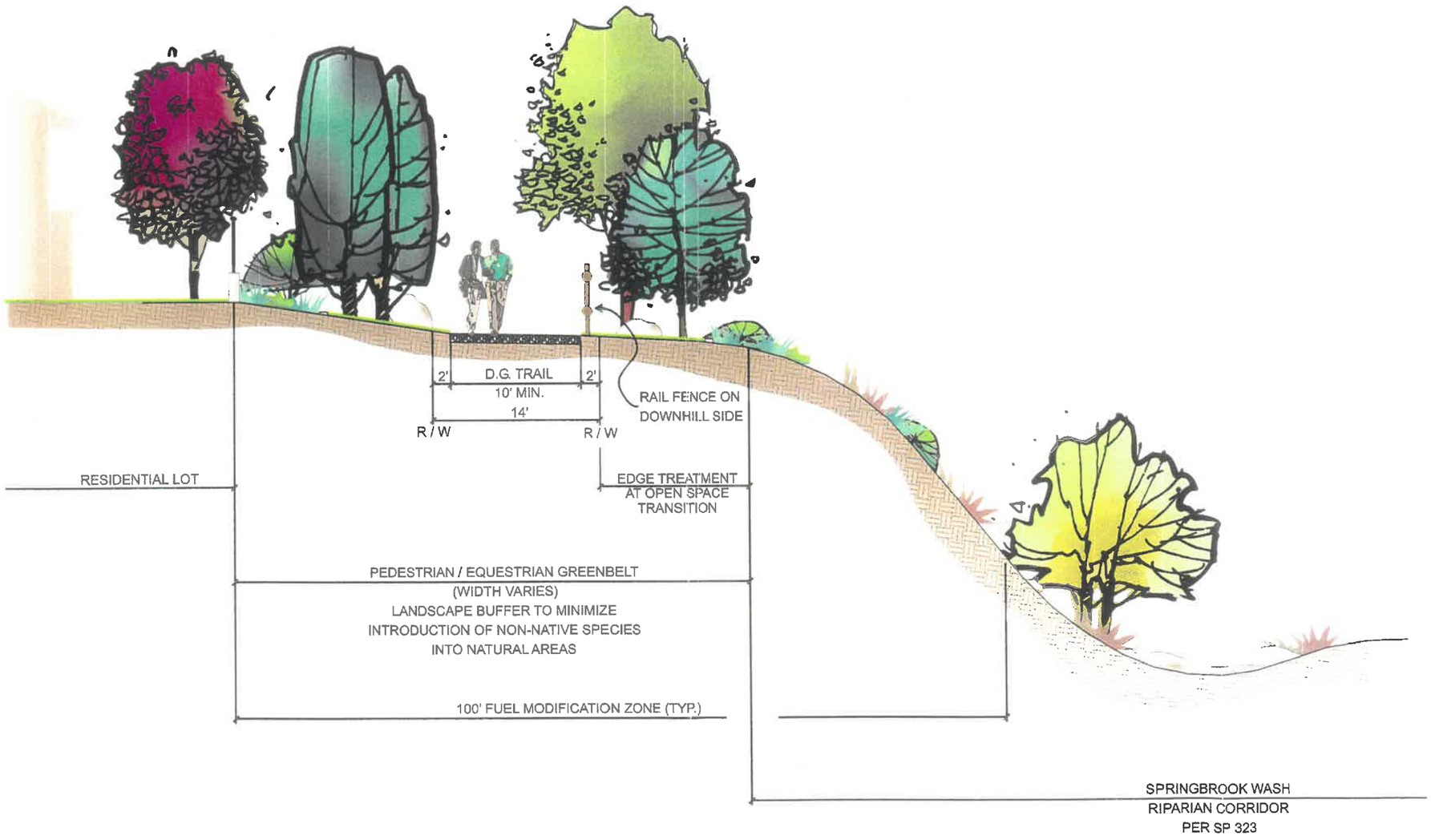

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SPRINGBROOK WASH EDGE CONDITIONS		
SPRINGBROOK ESTATES	EXHIBIT NO.:	V-20
	SPECIFIC PLAN No. 330	

COMMUNITY WALL

VIEW WALL

VIEW FENCE

LEGEND

- COMMUNITY WALL
- VIEW FENCE / VIEW WALL
- PROJECT BOUNDARY

400 200 0 400 800

SCALE: 1"=400'

COMMUNITY WALL AND FENCE MASTER PLAN AND DETAILS

SPRINGBROOK ESTATES	EXHIBIT NO.: **V-21**
	SPECIFIC PLAN No. 330

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3. Landscape Architecture Guidelines and Standards

a. Introduction

The following guidelines are intended to assist in providing the continuity and desired image that will enhance Springbrook Estates. The continuity desired will make the project site a unique and special community, while respecting individual taste and creative design. Of particular concern is the interface between the developed areas and the unique natural habitats existing and to be created within the project site.

b. Plant Materials

It is the intent of the following plant materials palette to allow flexibility in landscape design within individual homes, while defining an acceptable palette in order to reinforce the thematic identity of Springbrook Estates. A limited selection of plant materials has been created for the various landscape areas. The materials on the plant lists have been selected for their contribution to the project theme, adaptability to local climatic and soils conditions, and for their compatibility with the unique natural environment.

The following table lists the various plants that are permitted within Springbrook Estates:

Landscaping Palette
Table V-3
TREES

Botanical Name - Common Name USE	Type1 E / D	Size2 H / S	Shape3 S / R / T	WUCOLS4
Acacia stenophylla - Shoestring Acacia parkway - open space	E	30/<20	T	L
Acer negundo 'Variegatum'- Variegated Box Elder riparian	D	<60/<60	R	M
Alnus cordata - Italian Alder parkway	D	20-40/+20	T	M
Alnus rhombifolia - White Alder riparian	D	30/20	T	H
Arbutus 'Marina' - Marina Arbutus parkway - open space	E	<40/30	S	M
Brachychiton populneus - Bottle tree parkway	E	50/30	T	L
Cercis occidentalis - Western Redbud parkway - open space	D	20/20	R	L
Chitalpa tashkentensis - Chitalpa parkway - open space	D	25/25	R	L
Fraxinus oxycarpa 'Raywood' - Raywood Ash parkway - open space	D	35/20	T	M
Fraxinus velutina 'Rio Grande' - Fan-Tex Ash parkway - open space	D	50/30	R	M
Geijera parviflora - Australian Willow parkway - open space	E	40/20	R	M
Juglans californica - California Walnut open space	D	25/20	R	L
Laurus nobilis 'Saratoga' - Sweet Bay E	30/20	R	L	parkway
Maytenus boaria - Mayten Tree parkway - open space	E	30/20	T	M
Pinus brutia - Calabrian Pine parkway - open space	E	30-60/30	T	L
Pinus elderica - afghan Pine parkway - open space	E	30-60/30	T	L
Pinus halepensis - Aleppo Pine parkway - open space	E	60/40	T	L
Pistacia chinensis - Chinese Pistache parkway - open space	D	40/40	S	M
Platanus racemosa - California Sycamore parkway - open space	D	<50/30	T	M
Populus fremontii - Western Cottonwood riparian	D	50/35	T	M

Prunus lyonii - Catalina Cherry open space	E	40/15	T	L
Quercus agrifolia - Coast Live Oak parkway - open space	E	40/35	R	L
Quercus chrysolepis - Canyon Live Oak parkway - open space	E	40/30	R	L
Quercus coccinea - Scarlet Oak parkway - open space	D	60/60	R	M
Quercus kelloggii - California Black Oak open space	D	40/30	R	M
Quercus lobata - Valley Oak open space	D	70/>60	R	M
Quercus virginiana - Southern Live Oak open space - parkway	E	60/>60	R	M
Rhus lancea - African Sumac parkway	E	30/30	R	L
Robinia pseudocacia - Black locus parkway	E	60/40	T	L
Salix matsudana 'Tortusa' - Corkscrew Willow riparian	D	30/20	T	H
Schinus molle - California pepper open space - parkway	E	40/30	R	L
Umbellularia californica - California Bay open space	E	60/60	R	M
Washingtonia filifera - California Fan Palm riparian	E	60/15	T	L
Rhaphiolepis 'Majestic Beauty' - Majestic Beauty' general	E	<20/20	R	M

SHRUBS

Botanical Name - Common Name WUCOLS8 USE		Type5 E / D	Size6 H / S	Shape7 S / R / T	
Abelia X grandiflora - Glossy Abelia	E	5/5	S	M	general
Heteromeles arbutifolia - Toyon oak-sycamore understory		E	>20/20	R	L
Mahonia 'Golden Abundance' - G A Mahonia general		E	5/5	S	M
Mahonia aquifolium - Organ Grape general		E	5/4	T	M
Mahonia nevinii - Nevin Mahonia open space - fuel modification		E	10/10	S	L
Pittosporum tobira - Tobira general		E	>10/10	S	M

Pittosporum tobira 'Wheelers Dwarf' - Dwf. Pit. general	E	2/2	S	M
Prunus ilicifolia - Hollyleaf Cherry general- fuel modification	E	20/20	R	VL
Rhamnus californica - Coffeeberry oak-sycamore understory	E	>3/6	S	L
Rhaphiolepis indica - Indian Hawthorne general	E	5/5+or-	S	M
Rhus integrifolia - Lemonadeberry oak-sycamore understory	E	>10/10	R	L
Ribes speciosum - Fuchsia -flowered gooseberry oak-sycamore understory	E	6/4	T	M
Sambucus mexicana - Mexican Elderberry oak-sycamore understory9	E	>10/10	S	L
Westringia fruticosa - NCN general - fuel modification	E	5/3	T	L
Xylosma congestum - Shinny Xylosma general	E	>20/20	S	M
Xylosma congestum 'Compacta' - C. Xylosma general	E	10/10	S	M

GROUND COVERS

Botanical Name - Common Name WUCOLS USE	Type E / D	Size H / S	Shape10 M/S	
Abelia grandiflora "Prostrata' - Prostrate Abelia general	E	2/4	S	M
Acacia redolens - NCN genera l- fuel modification	E	3-12/15-30	S	L
Baccharis pilularis 'Twin Peaks' general - fuel modification	E	3/6	M	L
Lonicera japonica - Japanese Honeysuckle	E	15+	M	
Mahonia aquifolium 'Compacta' - C. Organ Grape general - fuel modification	E	2/3	S	M
Mahonia repens -Creeping Mahonia general - riparian	E	1/3	S	M
Myoporum 'Pacificum' - NCN general - fuel modification	E	3/20	M	L
Myoporum parvifolium "Burgundy Carpet" general - fuel modification	E	3"/8	M	L
Rosmarinus officinalis 'Collinwood Ingram' genera l- fuel modification	E	2/5	M	L
Trachelospermum asiaticum general	E	2/5	S	M

Trachelospermum jasminoides general		E	2/5	S	M

GRASS

Botanical Name - Common Name WUCOLS14 USE		Type11 E / D	Size12 H / S	Shape13 S / R / T	
Bothriochloa barbinoides -Cane Bluestem restoration areas		E	4/4	S	?
Elymus condensatus 'Canyon prince' - NCN open space	E	3/3	S	L	general -
Festuca amethystine 'April Gruen' -A. G. Fescue general		E	1/1	M	M
Festuca cinerea - Blue Fescue	E	1/1	M	M	general
Muhlenbergia regens - Deer Grass restoration areas		E	3/3	M	M
Nassella pulchra - Purple Needlegrass restoration areas		E	1.5/.15	M	L
Stipa cernuda - Nodding Feather Grass general - open space		E	2/2	S	L
Stipa gigantea - Giant Feather Grass general - open space		E	>3/3	S	L

VINES

Botanical Name - Common Name WUCOLS18 USE		Type15 E / D	Size16 H / S	Climbs17	
Rosa banksiae - Lady Banks' Rose general		E	25	Va4:	M
Rosa spp. - Rose general		D	varies	Va4:	M
Parthenocissus tricuspidata - Boston Ivy general		D	30+s	Va1:	M
Ficus pumila - Creeping Fig general		E	30+	Va1:	M
Macfadyena - ungis-cati - Cats' Claw general	E	40	Va2:	L	

c. Planting Time

The project area experiences temperature extremes that can make it difficult for the installation of plant materials during the hot summer months (July-September) and the cold winter months (December-March). Container plants that have not been acclimated to the region may experience heat or frost damage resulting in partial or total loss of foliage even if these materials will be perfectly suited to the temperature extremes once they are established. If construction schedules permit, the ideal planting season is in the spring and/or fall months.

d. Landscape Installation Requirements

All areas required to be landscaped shall be planted with trees, shrubs, ground cover, vines or turf selected from the plant palette contained in the previous tables. Developers should assess the existing landscape palette on any adjoining development and whenever possible, reinforce and complement the established character and design theme. Detailed landscape plans shall be prepared by a licensed landscape architect for all areas to be landscaped.

The following landscape installation requirements shall be followed:

(1) The plant materials for Springbrook Estates have been chosen for their ability to thrive within the project site's climate and location. The plants should grow to their full potential with a minimum amount of maintenance and replacement costs. Precipitation, temperature, and wind are the limiting climatic factors affecting plant choice.

(2) Average annual rainfall in the area varies from nine to thirteen inches. Extreme temperatures range from 18 degrees in the winter to 110 degrees in the summer. The average daily temperature range is 40 degrees to 65 degrees in the winter, and 58 degrees to 90 degrees in the summer.

(3) A horticultural soils report shall be prepared to determine appropriate planting and maintenance requirements for specific plant materials. This soils report shall be prepared by a qualified agricultural laboratory supervised by a member of the American Soils Testing Laboratory.

(4) All areas to be landscaped shall require the installation of a permanent automatic irrigation system to ensure proper plant growth. The irrigation system shall be designed to separate the various landscape areas into proper irrigation zones depending upon water needs. Detailed irrigation plans shall be prepared by a Licensed Landscape Architect. The following guidelines are provided:

- The irrigation system shall be designed and operated to prevent or minimize run-off and discharge of irrigation water onto roadways, driveways, trails or adjacent properties.
- The irrigation system shall be monitored so that the precipitation rate does not exceed the moisture demands of the plant materials within the landscaped area.
- Areas of separate maintenance responsibility shall be controlled by separate controllers.
- To minimize negative visual impacts and nuisance damage, automatic valves shall be installed in protective valve boxes, and the pop-up variety of sprinkler head should be used where practical.

D. ARCHITECTURAL DESIGN GUIDELINES

Springbrook Estates

Architectural Design Guidelines

Prepared for

County of Riverside

1. Purpose and Design Intent

The purpose of these design guidelines is to provide design direction and guidance to the community builders of the Springbrook Estates Community. This guideline document is integrated with the Springbrook Estates specific plan no. 330 by the County of Riverside. These guidelines will ensure development of high quality living environment with unifying design theme.

The intent of these architectural guidelines is to encourage design that can create a distinct neighborhood identity while expressing a thoughtful integration of building structures in a planned community. To that end, a variety of architectural themes or styles have been selected to provide interesting architectural character to the Springbrook Estates Community. The objective of these guidelines is to achieve high quality neighborhood environments comprised of a variety of architectural styles which are true to their original style in spirit.

Guidelines vs. Standards

Design guidelines for Springbrook Estates Community are intended to create a sense of community and identity, and a framework which permits flexibility in the ultimate configuration of development. As one of the principal objective of this design guidelines document is to be integrated into the Springbrook Estates specific plan document, the design guidelines package for an individual development project in the Springbrook Estates community would consist of applicable design guidelines sections from this document and the Springbrook Estates specific plan document no. 330.

There is a clear distinction between "standards" and "guidelines", described as follows:

- Standards are mandatory requirements which are enforced by terms such as "shall" or "will".
- Guidelines are suggested or encouraged but are not explicitly mandatory. However, their intent represents an objective of the Plan and as such they are intended to be followed in spirit if not literally. Thus, guidelines leave some flexibility for design creativity to meet the intent of the guideline and are promulgated by terms such as "should" or "may".

2. Neighborhood Design Theme

a. Street Scene/Site Planning

- Buildings should be sited to front onto neighborhood streets.
- Building envelope should be developed according to the Springbrook Estates Specific Plan No. 330 and county of Riverside regulations.
- Variable front yard setbacks are required and variable side setbacks are encouraged.
- Create attractive and comfortable street scenes and street space by de-emphasizing garages and implementing "architecture forward".
- Provide a variety of styles and massing forms within each neighborhood to insure a diverse and interesting street scene.
- Use "corner plots" and "signature lots" to create the feel that a house was designed for a specific location and set of circumstances.
- Orient living activity toward the street by incorporating front porches and active living spaces toward the front of the house.
- Connect entries to street travel ways.
- Variation in lot design, including zero lot line, "Z" lot concepts are encouraged especially in the smaller lots.
- Use easements are encouraged in these cases. Use easements allow greater livability and higher density than conventional single family

homes by providing more useable yard space and increased privacy on smaller lots.

- A use easement is created when one side yard is shifted to the adjoining neighbor's lot resulting in one larger usable side yard for each home rather than two smaller side yards.

  - Use easements allow front-loaded lots to employ swing-in garages, thereby promoting the concepts of street friendly environments while downsizing the visual impact of garages.
  - Use easements can be implemented to allow property owners access to their neighbor's yard for maintenance of the zero lot line wall of the home.
  - Use easements can be implemented to allow necessary roof and yard drainage.

b. Lotting

The residential lot sizes in Springbrook Estates are a minimum 5,000 square feet in Planning Area 1, 4,000 square feet in Planning Area 2, and 5500 square feet in Planning Area 3.

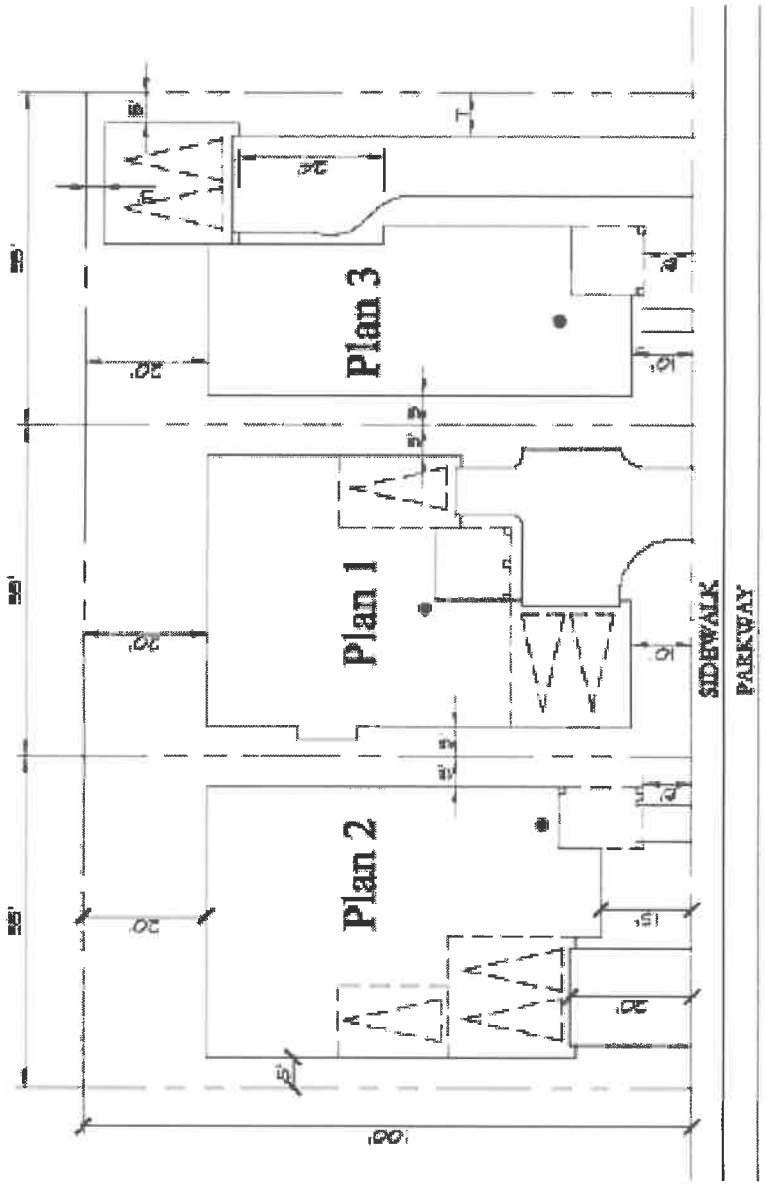
1) Planning Area 1and Planning Area 3

Planning Area 1 includes lots ranging from 5,000 s.f. to 6,000 s.f. These lots are designed for detached single family residential homes. For development standards such as building setbacks, building heights, building coverage etc. refer to the Specific Plan Zoning Ordinance contained in section IV of the Springbrook Estates Specific Plan no. 330. Single family detached homes can be a combination of one and two story massing reflecting appropriate architectural style. As recommended in these design guidelines,

variation in front yard setbacks and garage layouts are encouraged to enhance the street scene. Each floor plan in this planning area is

required to have three distinct architectural elevations which help in diversity and aesthetic appeal of the neighborhood. Some examples of the detached single family residential site planning are illustrated on the following pages. These illustrations are conceptual and do not depict final designs, nor should they limit the range of expression among individual builders and their professional design themes.

Single Family Detached



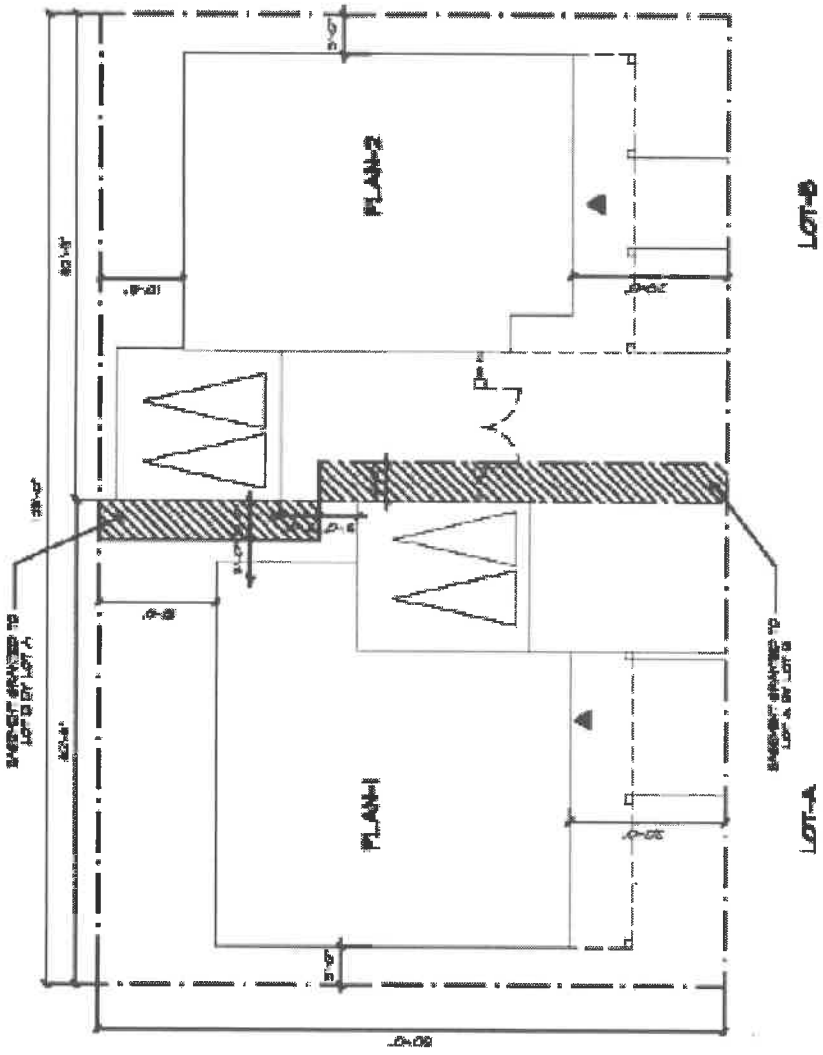
Single Family Detached

2) Planning Area 2

Planning Area 2 includes lots ranging from 4,000 s.f. to 5,000 s.f. These lots are designed for detached single family residential homes (Refer Planning Area 1 section for design of single family homes). Paired-zero-lot design is also recommended for the smaller lots. Paired-zero-lot homes have more usable side yards, livable space and increased privacy. The variation in configuration of the homes and set back garages will help vary the street scene. Use easements help in creating paired -zero-lot line homes. The following text and illustrations are example of use easement in paired-z-lots. These illustrations are conceptual and do not depict final designs, nor should they limit the range of expression among individual builders and their professional design themes.

The use easement in this example is created by what is commonly referred to as the paired-zero-lot easement line. A paired-zero lot line staggers or flips the use easement to alternating sides of the home, allowing a homeowner access to his neighbor's property for maintenance of the zero lot line wall. Entry to the home does not conflict with the private side yard, and visual impact at the entry is immediate, with the diagonal view through the home to the side or rear yard and beyond. This concept also allows natural light through all four sides of the home. Floor plans for this concept should be sensitive to privacy issues, entry experience and garage access. Site plans must integrate use easements, drainage requirements and floor plan configurations. Homes will "nest" in varying easement patterns from lot to lot, but easements should be somewhat standardized without compromise of the floor plan.

Paired-Zero-Lots



Paired-Zero-Lots

3. General Architectural Design Guidelines

a. Design Theme and Architectural Styles

The key objective of these design guidelines is to create a diverse community with integrating theme. To achieve this all neighborhoods are encouraged to provide all the different architectural styles mentioned in this design guidelines through the development of varied elevations for each floor plan. Drawing foundation from the specific plan guidelines which recommend early Southern California architecture the following architectural styles are recommended:

- Spanish Colonial/ Santa Barbara
- Mission
- Monterey
- Craftsman
- Prairie.

These styles are responsive to the climate and culture of the County. These styles were also chosen for their visual compatibility with one another. Each architectural style addresses in detail about the building mass and scale, roof forms and materials, architectural elements, materials and colors with diagrammatic illustrations and photographs. These illustrations are conceptual and do not depict final designs, nor limit the range of expression among individual builders and their professional design team. These design themes and architectural styles are described in Sections V 3.B. through V 3.f. The architectural styles will include the following elements:

(1) Building Mass and Scale

- Combinations of one and two-story elements on the same building are encouraged to create visual diversity.
- Building mass should be articulated to the extent practical to reflect the historical context of the architectural style.
- Architectural elements such as chimneys, balconies, porches, pot shelves and window surrounds should be provided for visual diversity.
- Building mass should reflect a reasonable relation to the size of the lot.

- Balconies, gables, eaves and other projections may be used to break up simple architectural forms.
- Courtyards if appropriate to the style should be used to break up the building mass.

(2) Roof Form & Materials

- Simple pitched, gable, hip or shed roof forms should be utilized, consistent with the architectural style of the building.
- Roof pitch may vary from 3:12 to 5:12 according to the style.
- Varied plate heights and ridge heights should be utilized to create offsets in the ridgeline to better articulate roof forms and building massing.
- Roof forms, materials and colors of garages or other detached structures should be designed to reflect the character and materials of the primary structure.

(3) Building Elevations

- Building elevations should be harmonious and compatible with the design elements of the architectural style of the building.
- Each elevation should be designed with a proper visual balance, a sense of cohesion, and all elevations of a building should have detailing appropriate to the style, not just the front elevation.
- Living space, entry, windows, doors and architectural detail shall dominate the presence of the house on the street.
- Functional covered balconies, decks, covered front porches, and other architectural detailing that reflect the style of the building are encouraged.

- Garage doors should not dominate the front elevation of the building. If visible from the street, garage doors are encouraged to be broken into single door entries.
- Side entry or swing-in garages are encouraged over recessed garages on lots which can accommodate them.
- Corner plots and plots overlooking the neighborhood parks or public building should have four sided architecture with articulation and detail of sufficient quality to be considered equal to the front elevation.
- All accessory structures should match the architectural style of the main building.

(4) Materials and Colors

- Building materials and colors should compliment the corresponding architectural style and natural environment surrounding the project.
- Stucco, wood, natural or artificial stone having the necessary fire retardant characteristics, is encouraged for exterior surfaces.
- Use of natural materials such as wood, wood-like details and trim, and tile or wrought iron is encouraged for design accent and trim.
- Color is intended as a primary theme element, and color values should be according to the design theme.
- Accent color should be used for shutters, awnings, trim, fascia, balcony rails, stucco recesses, inlaid tile bands or cornice bands, and should relate to the architectural form and character of the building.

- Concrete, brick, stone, or other similar natural material may be used for driveway and parking areas. Asphalt paving is prohibited.

(5) Additional Building Components

- Exposed gutters and downspouts should be painted to match adjacent roof, fascia, trim or wall colors.

- Gutters and downspouts should be placed so as not to detract from or compete with the architectural design of the building.
- All flashing, sheet metal, vents and pipes should be painted to match the adjacent surface.
- If provided, skylights should be incorporated into the roof design to provide natural light and passive solar energy. Frame color should blend with the surrounding roof color, natural aluminum frames are not allowed.
- Solar panels, if used, should be integrated into the roof design as specified by the Springbrook Specific Plan No. 330

(6) Garages

- Garage location, configuration and access shall be dictated by the type of garage and the building type/lot size to which it is associated.
- Garages that are integrated in the front façade of the residence, at the same building plane as the front door, are prohibited.
- Residences with swing-in garages or side-drive garages are encouraged.
- Three-car garages are encouraged to be split into regular and swing in garage.

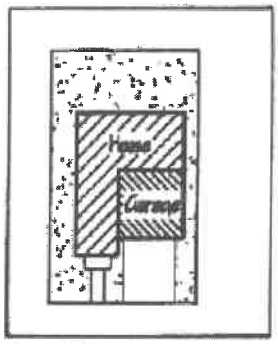
- Furr-out garage wall planes are encouraged.
- Screened garage door elements are also encouraged. They can consist of a trellis attached beneath the garage roof fascia or an overhead detached trellis forward of the garage, spanning the driveway.
- Covered carports or porte-cocheres can be used as additional screened parking space. These elements should match the architectural style of the main building and detailed accordingly.
- Detached garages should also match the architecture style of the main building.
- Recommended garage types for single family detached homes are described as follows and depicted graphically:

  Recessed Garages are accessed from a public street. They are usually attached to the main residence but have a larger front setback than the main residence.

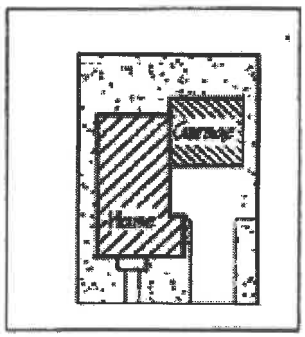
  Side-drive Garages have a longer driveway which allows the garage to be placed farther back from the street. They can be attached or detached from the residence.

  Swing-in Garages are located on the front portion of the lot and are attached to the residence. However, they do not face the street. They may not exceed 2 cars in width.

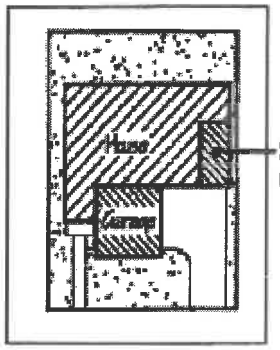
Residential Garage Configuration



Recessed Garage



Side Drive Garage
(may be Attached or Detached)



Swing-in Garage
(w/ optional recessed garage)

b. Spanish Colonial and Santa Barbara

During the 1920s and 30s, Spanish Colonial Revival was one of the most popular architectural styles in the Southwest. It uses decorative details borrowed from the entire history of Spanish architecture. Low pitched roofs, thick stucco covered walls, colorful ceramic tile as well as clay tile roofs, recessed openings, arched doorways, ornamental wrought iron window grilles, sumptuous ornament applied to plain walls are characteristic features of this style. The charm of this style lies in the directness,

adaptability and contrasts of materials and textures. The Santa Barbara style was popular in the early twenties and named after the City of Santa Barbara, California. This style is similar to Spanish Colonial in having a low pitched roof, thick stucco walls and recessed openings but it varies with other Spanish styles by having simple form and details, scalloped roof and lighter colored walls.

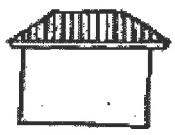
Building Mass and Scale

- Low, long one story and two-story buildings. One story massing combined with two story buildings is encouraged giving visual diversity.
- `L' or `U' shape configuration encouraged for the central form of the house. Rectangular forms may be composed of rooms enclosing courtyards.
- Covered porches in the front facade, rear facade and also enclosing courtyards.
- Substantial and often tapered chimney elements.

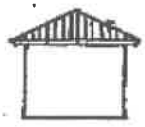
Roof Forms & Materials

- Low pitched roof with traditional European framing.
- Typical roof pitches 4:12 and lower. Roof pitches exceeding 4:12 are not recommended for this style.
- Roofs usually in shed or side gabled form less commonly hipped. Limited use of conical roofs.
- Tight rakes and 18" eave projections.
- Decorative gable end vents.
- Optional exposed rafter tails.

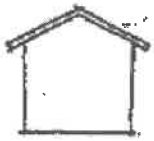
Roof Types



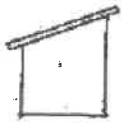
Rectilinear Hip



Square Hip



Gable

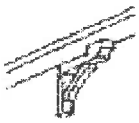


Shed

Eave & Fascia Details

Bracket to fascia

Corbel to fascia



Outrigger with kicker

Joist Ends

Square or blunt cut roof

1/2" round roof

Shaped or corbel joist ends

Vents

Standard clay pipe +/-3" diameter

Opening in wall with full stucco wrap and screen behind

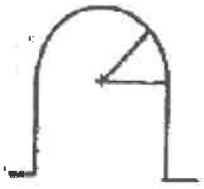
Mission clay tile stacked in opening extended minimum 1" from face and screen behind

Architectural Elements

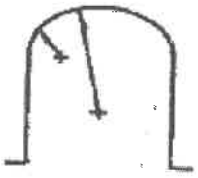
- Long porches in the form of colonnaded arcades with elaborate masonry arches supporting the roof.
- Porches can have roofs as extensions of main roof or a separate shed roof.
- Columns supporting the porches can be of heavy timber often with a bracket above or square Greek revival columns.
- Cantilevered second floor porches on two-story houses with delicate wooden balustrades.

- Second level cantilevers over wood or precast concrete corbels.
- Doors on the second floor can have Juliett balconies with wrought iron railing and brackets.
- Recessed door and window openings to convey thick wall appearance.
- Arched shaped windows complementing the colonnaded arcades. Square, rectangular and round window shapes can also be used according to the design requirements.
- Decorative iron details over the windows.
- Simple window trims with a header and sill. Variations of sill include sloping and sculpted stucco sills.
- Decorative lanterns, sconces, hinges and hardware.
- Shutters as occasional accent.

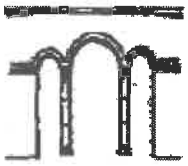
Arch Types



Full arch-one radius point



Elliptical-2 radius points



Paladian

Arch detail in courtyard

Posts, Columns, Piers

Round

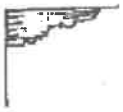
Buldging

Precast or sculpted stone column

Corbels

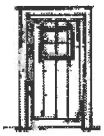
2nd level cantilever over wood or precast concrete corbels

Shaped wood corbel on masonry



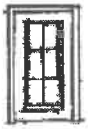
Sculpted corbel

Doors



Small square

No glass



Full glass in style & rail door

Small glass in full arch plank door

Windows Configuration & Hardware

Full arch over double panel

Two singles

Circle

Twisted iron cross over accent window or vent

Chimneys

Stucco & clay cap double flue

Stucco & tile arch opening at gable &

Stucco - opening two ends

Materials & Colors

- Stucco exterior walls with smooth to light sand finish.
- Stucco, wood and wood look alike materials having the necessary fire retardant characteristics, are encouraged for exterior elements.
- Light earth tone colored exterior walls.
- Darker accent colors for shutters, trim, fascia, balcony rails, stucco recesses, inlaid tile bands or cornice bands.
- Ornate black wrought iron metal window grills.
- Decorative tiles

Spanish Colonial and Santa Barbara Architectural Photographs

c. Monterey

The Monterey style is a free revival of the Anglo-influenced Spanish colonial houses of northern California. These are a blend of Spanish adobe construction & New England colonial style. Prior to the invention of this Monterey style most of the Spanish style homes were mainly single story construction. The earlier examples of these houses built in 1925 to 1940 tend to favor Spanish detailing and those from 1940's to 50's typically emphasize English colonial detailing.

Building Mass and Scale

- Simple two story building form.
- Usually U-shaped building mass frame enclosing courtyard.
- Second-story cantilevered balcony is a distinct element of this style. This is usually covered by an extension of the principal roof and supported by simple wood posts or corbels.
- Different wall cladding material on first and second story. Traditionally siding above with stucco or brick veneer below.

- Chimney is substantial and anchors the building to the ground.
- The main house volume maybe connected by a one-story breezeway to garage.

Roof Forms & Materials

- Low pitched gabled roof, occasionally hipped.
- Main gabled roof front to back with one or more intersecting front facing gable roofs.
- Main gable roof with 4:12 to 6:12 roof pitches with shed roof break over balcony at 2½ :12 to 3 ½:12 roof pitches.
- Roof materials to be fire resistant clay tile with or without mud set, flat clay tile or concrete "S" tile.
- 12" to 24" overhangs with exposed wood rafter tails or wood fascia with shadow board.

Roof Types

Side facing gable

Front facing shed

Front facing gable

Eave & Fascia Details

Wood fascia

Wood eave

Joist Ends

Square or blunt cut roof

1/2" round roof

Shaped or corbel joist ends

Vents

Standard clay pipe +/-3" diameter

Mission clay tile stacked in opening extended minimum 1" from face and screen behind

Architectural Elements

- Wood corbels support for the cantilevered balconies.
- Wood railings for balconies.
- Square wood posts, corbels, beams and rafter tails.
- Square or rectilinear window shapes with standard divided lite configurations
- Window tops can be arched, on selected windows, according to the design.
- Extensive use of shutters.
- Recessed entry way and garage doors.
- Ornate chimney top trim.
- Colonial style window and door trim.
- Decorative wrought iron accents.

Balconies

Continued roof at cantilever balcony.

Tile roof extends over wood balcony

Bracket support balcony

Railings

Straight wood picket railing

Decorative iron over accent window

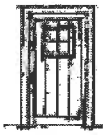
Corbels

2nd level cantilever over wood or precast concrete corbels

Shaped wood corbel on masonry

Shaped wood corbel on wood poststone column

Doors

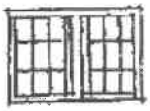


Small square

No glass

Tall rectilinear

Windows Shapes

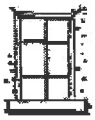


Two casements or sliding

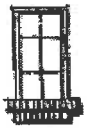
Single rectangular vertical

Full arch

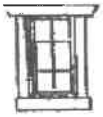
Window Sills & Surrounds



Projecting wood, stone or concrete sill



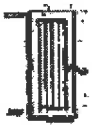
Projecting brick step sill



Wood or composite trim

Window Shutters

Louvered with mid stretcher



Framed plank

Framed louver

Materials & Colors

- Stucco exterior walls with light to medium sand finish.
- White or dark brown trims and balconies.
- Dark accents on doors and shutters.

Monterey Architectural Photographs

d. Mission

Mission style is inspired by the Spanish missionaries built in southwest in the late 17th century. Several California architects began to advocate this style in 1880's as traditional style of architecture for California. By early 1900's it became a prominent style throughout the southwest. The style was considered the "California counterpart" to the Georgian-inspired Colonial Revival popular in the Northeast. Mission style homes are characterized by bold arch openings, smooth stucco walls, porches and sculpted decorative walls and mission shaped roof parapets.

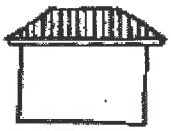
Building Mass and Scale

- Simple two story building form.
- Single story porte-cochere, garage/carriage house or entrance elements.
- L or U-shaped building mass frame enclosing courtyard.
- Interior courtyard maybe surrounded by corridor or veranda.
- Formal geometric forms with strong wall planes punctuated by arched openings.
- Raised entry with decorative paving edge details for the steps.
- One story porches at the entry area or covering the full width.
- Porch roof supported by large square piers, arched above.

Roof Forms & Materials

- Low pitched gable, hip or shed roof.
- Main roof with 4:12 to 5:12 roof pitch with shed roof break over balcony at 3 ½ :12 to 4 ½:12 roof pitches.
- Wide eave overhangs, usually opened, often with exposed rafters.
- Wood fascia boards, rafters and soffit brackets.
- Roof materials to be fire resistant two-piece clay tile with or without mud set, flat clay tile or concrete "S" tile.
- Round tile attic vents

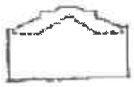
Roof Types



Rectilinear Hip

Square Hip

Clipped corner



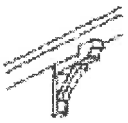
Combination flat roof & gable roof with sculpted

Shed

Eave & Fascia Details

Bracket to fascia

Corbel to fascia



Outrigger with kicker

Joist Ends

Square or blunt cut roof

1/2" round roof

Shaped or corbel joist ends

Vents

Standard clay pipe +/-3" diameter

Opening in wall with full stucco wrap and screen behind

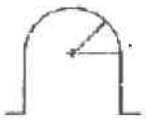
Mission clay tile stacked in opening extended minimum 1" from face

Architectural Elements

- Sculpted stucco walls and roof parapets with pre-cast looking caps.

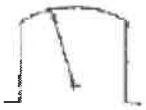
- Masonry or pre-cast looking window sills.
- Segmented or elliptical arched arcades.
- Round pre-cast concrete columns, or stucco pilasters with decorative cornice trim.
- Recessed windows with sloped sills.
- Mostly segmented or elliptical arch top windows with custom divided lites or square or rectilinear window shapes with standard divided lite configurations.
- Quatrefoil windows in the parapet walls.

Arch Types

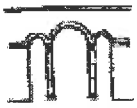


Full arch-one radius point

Elliptical-2 radius points

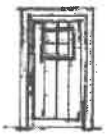


Full arch-one radius point

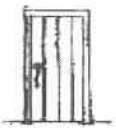


Paladian

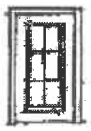
Doors



Small square



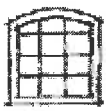
No glass



Full glass in style & rail door

Small glass in full arch plank door

Windows Shapes



Flattened or segmented arch

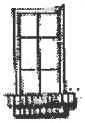
Custom Curvilinear shape

Square or rectangular

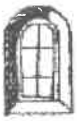
Quatrefoil

Windows Sills & Surrounds

Tapered & sculpted or precast stone



Projecting brick step sill



Coved recess

Radius stucco recess

Chimneys

Stucco & clay cap double flue

Stucco & tile arch opening at gable &

Stucco with mexican brick cap or stucco

Stucco

Parapet & Dormer Sculpting

Parapet cap detail

Precast concrete or carved stone appearance

Materials & Colors

- Stucco exterior walls with smooth to light sand finish.
- Smooth white washed stucco surfaces.
- Dark accents on doors, shutters and trims.

Mission Architecture Photographs

e. Prairie

At the start of the 20th century a group of architects consciously rejected the popular revival style and developed a distinctive modern mid western style know as the Prairie style. This movement was called the Wrightian movement named after the well known architect Frank Lloyd Wright who designed many famous Prairie style

buildings. Prairie style homes are characterized by ground hugging forms with horizontal expressions. Roof often seem to float with its deep overhangs offering relief from harsh sun.

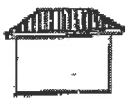
Building Mass and Scale

- Mainly two story massing with one story wings, covered porches and terraces.
- Cross axial building volumes revolving around a low, centrally located masonry chimney.
- Walls mostly arranged in right angles with no curves.
- Raised central block or anchor.
- Substantial masonry base.
- Massive masonry piers for roof supports

Roof Forms & Materials

- Low pitched roof, usually board hipped or gabled roof with widely overhanging eaves.
- Large and low chimney at the axis of the intersecting roof planes.
- Roof pitch not greater than 4:12.
- Fire resistive flat concrete tile.

Roof Types



Rectilinear Hip

Square Hip

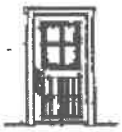
Flat roof with

Fascia Detail

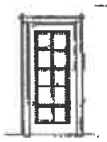
Architectural Elements

- Square or rectilinear window shapes with custom divided lite configurations often held tight to the eave line.
- Windows mostly with stained glass in distinctive stylized floral or geometric patterns.
- One story porches, porte cochere, walls and terraces extended from the main structures.
- Dark wood strip accents on exterior walls.
- Custom metal railing, gates, etc.
- Unique lighting fixtures.
- Wood beams & brackets.
- Rectilinear stone piers.

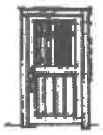
Doors



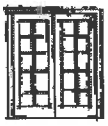
Large square glass over panel



Single with divided light

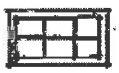


Tall rectilinear



Decorative french

Window Shapes

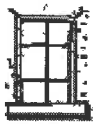


Rectangular horizontal

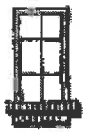
Rectangular vertical

Square

Window Sills



Projecting wood,
stone or concrete sill



Projecting brick
step sill

Chimneys

Stucco &
concrete cap

Stucco

Brick offset
brick coarsing

Ornamental Light Fixtures

Materials & Colors

- Walls of light colored brick, or stucco and wood.
- Metal or composite wood fascia.
- Composite wood window and door trim. Stone or brick veneer base accent.
- Stone or brick veneer at the base of the chimney with stucco applied to the upper end of the stack.

Prairie Architectural Photographs

f. Craftsman

This style was based upon and strongly influenced by The Arts and Craft movement in Europe and the English Arts and Crafts Exhibition Society formed in the late 1800's. As an original American style of architecture its identity was formed in the early 1900's in Southern California (most commonly associated with the Greene brothers). From 1915 through early 1930's the style spread throughout the country. This style sought to eliminate superfluous design elements and rely on the building's beauty through the simplified lines and masses of the building itself. Characteristic features of the Craftsman style are a low-pitched roof, gable roof with wide overhangs, roof rafters usually exposed, decorative beams and covered porches.

Building Mass and Scale

- One or two story massing with partial or full width covered porches.
- Porch support bases extending to ground level (without break at level or porch floor).
- Porch supports usually squared and sometimes slanting inward.

Roof Forms & Materials

- Low pitched gabled roof (occasionally hipped) with wide unenclosed eave overhangs.
- Basic gable roofs side to side or front to back with cross gables.
- 3 ½:12 to 4 ½:12 roof pitch.
- Roof rafters usually exposed and sometimes cut in decorative shapes.
- Decorative beams or braces under gables.
- Architectural composition shingles or shingle texture flat concrete tiles.

Roof Types

Side facing gable

Front facing gable

Posts, Columns & Piers

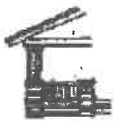
Tapered column wood

Elliptical scribe under beam to tapered column

Wood on masonry

Double wood post with trim and blocking T.beam

Tapered wood or precast or stone 1/2 column lap wood gable



Double wood column masonry

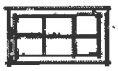
Stucco column wood lap gable

Tapered stone column

Architectural Elements

- Square or rectilinear window shapes with custom divided lite configurations.
- Windows in pair or triple configuration.
- Entry covered by entry porch.
- Entry door maybe with side-lights.
- Tapered square composite wood posts.
- Wood beams, brackets and rafter tails.
- Stone or masonry piers.
- Unique lighting fixtures.

Window Shapes

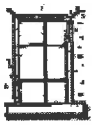


Rectangular horizontal

Rectangular vertical

Square

Window Sills & Trims



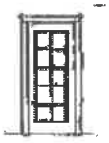
Projecting wood, stone or concrete sill

Projecting brick step sill

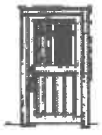
Wood or composite trim

Doors

Small square glass over panel



Single with divide light



Tall rectilinear

Unique glass division

Chimneys

Stucco & concrete cap

Stucco

Brick offset brick coarsing

Ornamental Light Fixtures

Materials & Colors

- Medium sand finish stucco.
- Siding and stucco color range from white, cream, light beige and brown.
- Contrasting color for trim, fascia, posts at porch and supporting exposed beams.
- Wood posts, kicker brackets, beams and rafter tails.
- Composite wood and door trim.

Craftsman Architectural Photographs

VI. ENVIRONMENTAL ANALYSIS

A. Introduction to Environmental Analysis

Springbrook Estates Specific Plan EIR provides analysis of impacts for those environmental topics where it was determined in the IS/NOP (see Appendix A of this EIR) that the implementation of the Specific Plan would result in "potentially significant impacts." Each topical section includes the following information: description of the environmental setting (existing conditions); identification of thresholds of significance; analysis of potential project effects including the project's consistency with related plans and policies; identification of mitigation measures, if required to reduce the identified impacts; and identification of levels of significance after mitigation.

CEQA Guidelines 15064.7 addresses the thresholds of significance and encourages each public agency to develop thresholds of significance through a public review process. Subsequently these thresholds must be published and adopted by agency ordinance, code, or regulation. The thresholds used in this EIR have been derived from several sources including the County of Riverside General Plan, previous EIRs prepared by the County of Riverside, the CEQA Guidelines and checklist, adopted thresholds from other agencies (such as the South Coast Air Quality Management District), and the professional opinions of the County of Riverside and their staff.

Each topical discussion included in this EIR is presented in a format in which the pertinent analysis is detailed and addressed and preceded by a discussion of the project's consistency with the relevant plans and policies. Mitigation measures are recommended as feasible when a potentially significant impact has been identified that can be reduced to a level considered less than significant. At times, mitigation measures may be recommended that will reduce an impact; however, even with mitigation this impact will remain significant and unavoidable.

VI.A.1 Land Use and Planning

A. EXISTING CONDITIONS

1) On-Site Land Uses

The 183.95-acre Springbrook Estates project site is located within the unincorporated community of Highgrove, which is located north of the City of Riverside and south of the San Bernardino County line in northwest Riverside County, within the sphere-of-influence of the City of Riverside. The project site primarily consists of citrus groves, with some vacant land, and developed areas consisting of agricultural-related residential uses. Many areas of the project site have either been cleared or have citrus trees that are no longer in agricultural production. The Gage Canal forms the western boundary of the project site. Mount Vernon Avenue bisects the central portion of the project site as it traverses from north to the south (see Figure VI.A.1-1).

2) Surrounding Land Uses

Surrounding the project site are agricultural and single-family residential land uses (½-acre to 2½-acre lots) to the north, the Springbrook Wash and agricultural uses to the south, the approved (undeveloped) 1,461 residential unit Spring Mountain Ranch Specific Plan project, which also includes 11 acres of neighborhood commercial uses and a school site to the southeast and east, and the Gage Canal, single-family homes, and undeveloped land uses to the west. To the northeast and southeast of the project site, but not adjacent, are the Blue Mountains and the Box Springs Mountains, respectively. Additionally, the Hunter Business Park, University Research Park, the future Columbia Business Center, and the future Concordia Business Park are located to the south and southwest, but not directly adjacent to the project site.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The Springbrook Estates Specific Plan is considered to have a significant impact if it will:

- Generate a conflict with any land use plan, policy, or regulation of a responsible agency with jurisdiction over the project that was adopted for the purposes of avoiding or mitigating an environmental effect;
- Create an incompatibility with existing or planned land uses on-site or adjacent to the project site; or
- Result in a substantial adverse change in the existing land use pattern.

2) Project Related Impacts

a. Compatibility with On-Site Land Uses. The proposed project will result in the transformation of vacant or underutilized/inactive citrus groves into residential,

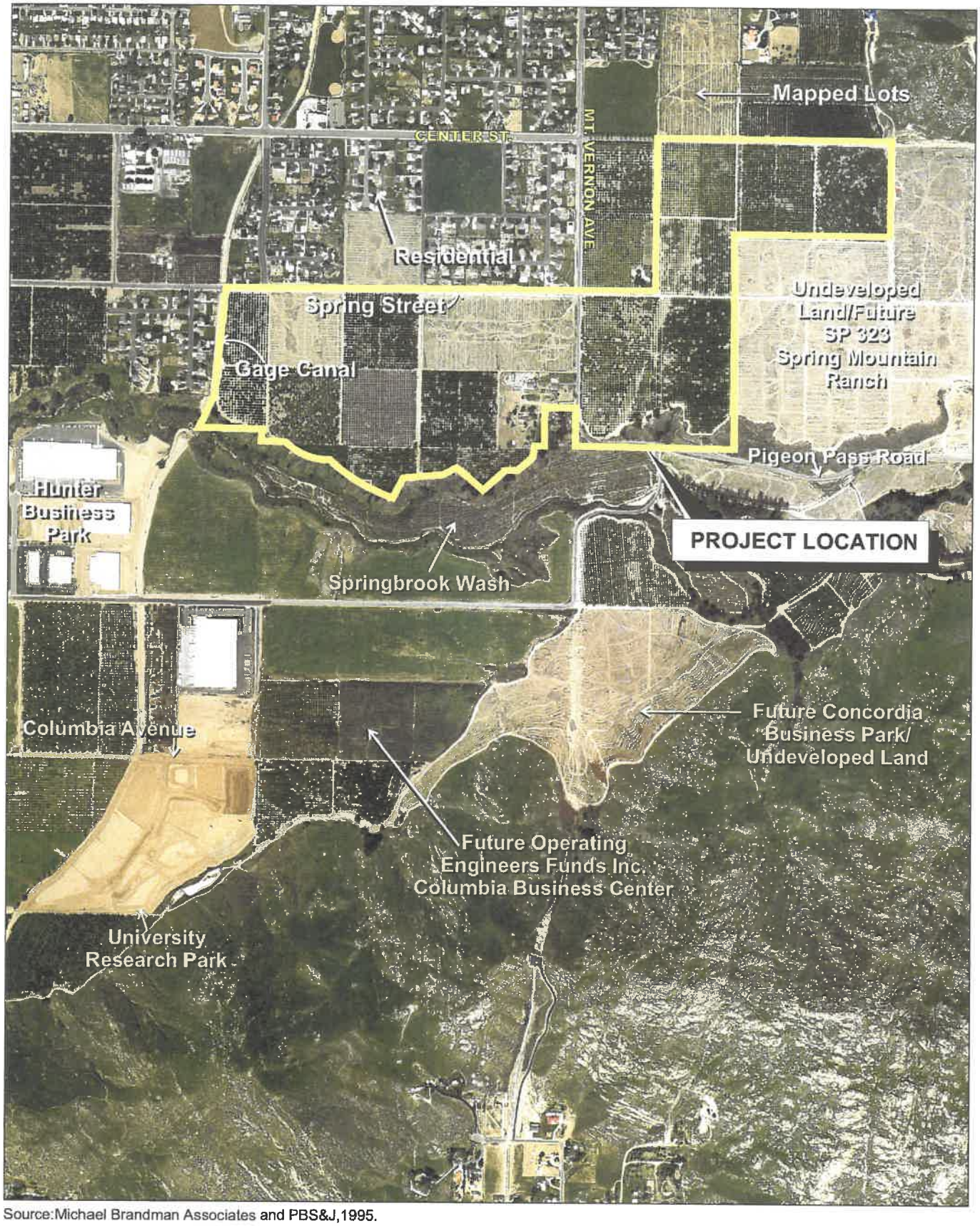
recreational, and school land uses. Since the project will result in the transformation of the entire site to suburban uses, it will not result in internal on-site incompatibilities.

b. **Compatibility with Surrounding Land Uses.** The proposed project is surrounded by single-family residential land uses to the north and west and the approved 1,461 residential dwelling unit Spring Mountain Ranch development to the southeast and east. The land use designation for areas north and west of the project site is Low Density Residential (0.5 acre lot minimum). Primarily, the current residential density between Michigan Avenue and Mount Vernon Avenue is 0.5-acre lot sizes, the maximum allowable density in the absence of sewer service. Project implementation will result in the development of 4,000 - 5,500 sq. ft. lots. The project includes approximately 50 acres of parkland and open space, which will provide a buffer between proposed on-site uses and between existing and planned surrounding developments, in addition to open space amenities in the project area such as Blue Mountain and Springbrook Wash. The proposed project will not result in the introduction of new types of land uses into the project area. Furthermore, project implementation will provide the opportunity to create a cohesive, systematic and unified pattern of land uses within the project area. This includes connecting the existing residential land uses to the north and west with the future compatible land uses to the east. Hence, the proposed project is compatible with surrounding land uses.

3) General Plan and Area Plan Relationship

Land uses at the site are guided by the land use designation and policies set forth in the County of Riverside General Plan, the Highgrove Area Plan (HAP), and the land use standards established by the County of Riverside Zoning Ordinance. The County of Riverside General Plan designates the site as Community Development - Medium Density Residential (2 - 5 dwelling units per acre) and the site is zoned as RA-20,000 (Residential-Agricultural with a 20,000 sq. ft. minimum lot size), R1-20,000 (Single Family Dwelling with 20,000 sq. ft. minimum lot size), and A1-10 (light agriculture, 10-acre minimum lot size).

a. **General Plan Relationship.** The County of Riverside General Plan contains policies, which address a variety of land uses related issues in Riverside County. These policies are divided into two subcategories: countywide policies and land use designation policies. Policies that do not directly correlate to the physical use of the land (i.e. policies that guide actions that may occur as a result of land use), such as air quality, and the provision of public services and facilities, are discussed in their respective sections of this EIR.



Source:Michael Brandman Associates and PBS&J,1995.

NORTH

Michael Brandman Associates

Figure **VI.A.1-1**

Existing Onsite and Surrounding Land Uses

The following County of Riverside General Plan Land Use Elements Countywide-Administration policies are applicable to the proposed project.

LU 1.3: Coordinate planning activities within the sphere-of-influence areas with the respective cities and LAFCO.

LU 1.4: Notify city planning departments of any discretionary projects within their respective spheres-of-influence in time to allow for coordination and to comment at public hearings.

LU 1.7: Coordinate with local agencies, such as LAFCO, service providers and utilities, to ensure adequate service provision for new development.

Project Consistency. The Springbrook Estates project is located within the sphere-of-influence of the City of Riverside. As such, the County has and will continue to coordinate with the City, LAFCO, and public service and utility purveyors that serve the site, throughout the planning process. Additionally, through the environmental review process, the City of Riverside, LAFCO, and these public service and utility purveyors will have an opportunity to comment on the Springbrook Estates project. As identified in Section VI.A.14, of this EIR, information has been solicited from the various service and utility purveyors to ensure an adequate level of service is provided to the proposed project. Therefore, the proposed project is consistent with these relevant land use and planning policies of the General Plan.

The following County of Riverside General Plan Land Use Elements Countywide-Efficient Use of Land policies are applicable to the proposed project.

LU 2.1: Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Map and the Area Plan Land Use Maps in accordance with the following:

a. Provide a land use mix at the countywide and area plan levels based on projected need and supported by evaluation of impacts on the environment, economy, infrastructure, and services.

b. Accommodate a range of community types and character, from agricultural and rural enclaves to urban and suburban communities.

c. Provide for a broad range of land uses, intensities, and densities, including a range of residential, commercial, business, industry, open space, recreation, and public facility uses.

d. Concentrate growth near community centers that provide a mixture of commercial employment, entertainment, recreation, civic, and cultural uses.

e. Concentrate growth near or within existing urban and suburban areas to maintain the rural and open space character of Riverside County to the greatest extent possible.

f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile.

g. Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards.

Project Consistency. The project site is designated as Community Development - Medium Density Residential (2 - 5 dwelling units per acre) and zoned as RA-20,000 (Residential-Agricultural with a 20,000 sq. ft. minimum lot size), R1-20,000 (Single Family Dwelling with 20,000 sq. ft. minimum lot size), and A1-10 (Light Agriculture, 10-acre minimum lot size. Implementation of the Springbrook Estates Specific Plan will result in the development of 613 residential units on 183.95-acres, at a density of approximately 3.3 units per acre, with lot sizes ranging from 4,000 to 5,500 sq. ft. As identified in the Springbrook Estates Specific Plan, the project is intended to provide a broad range of land uses and densities throughout the site and includes a zone change to ensure consistency with relevant County plans, policies, and land use maps.

To ensure retention of the rural and open space character of the project area, the Springbrook Estates Specific Plan includes natural open space adjacent to Springbrook Wash and an allocation of approximately 50-acres of parkland and open space throughout the site. Approximately 36-acres of active recreation parkland are located in the northeastern portion of the site, which will provide a buffer between project development and Blue Mountain. Additionally, the project includes a community trail system, which will serve to capitalize on multi-modal transportation opportunities. Consistent with the intent of these policies, the project also concentrates development in proximity to existing suburban uses outside of environmentally sensitive or severe hazards areas (see Section VI.A.5 and VI.A.8).

Additionally, the proposed project is located in an area that is developed with existing and planned suburban and residential uses to the north and west, and southeast/east, respectively. Therefore, the Springbrook Estates Specific Plan will not introduce new types of land uses in the project area. Rather, the proposed project is expected to provide an array of residential community types varying in character and patterns of distribution. Moreover, the project site is located within close proximity to several existing and proposed business parks (Hunter and Concordia Business Parks, University Research Park) and the commercial uses within the approved Spring Mountain Ranch Specific Plan project to the southeast/east. Therefore, it is anticipated that the proposed project will provide housing for existing and future employees; thereby reducing the vehicle miles traveled. Moreover, through the project's inclusion of parkland and a school site, it is anticipated that the project will further reduce the reliance on the automobile. Therefore, the proposed project is consistent with these relevant land use and planning policies of the General Plan.

The following County of Riverside General Plan Land Use Elements Countywide-Community Design policies are applicable to the proposed project.

LU 3.1: Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Maps and the Area Plan Land Use Maps in accordance with the following concepts:

a. Accommodate communities that provide a balanced mix of land uses, including employment, recreation, shopping, and housing.

b. Assist in and promote the development of infill development and underutilized parcels, which are located in Community Development areas, as identified on the General Plan Land Use Map.

c. Promote parcel consolidation or coordinated planning of adjacent parcels through incentive programs and planning assistance.

d. Create street and trail networks that directly connect local destinations, and that are friendly to pedestrians, equestrians, bicyclists, and others using non-motorized forms of transportation.

e. Re-plan existing urban cores and specific plans for higher density, compact development as appropriate to achieve the RCIP Vision.

f. In new towns, accommodate compact transit-adaptive infrastructure (based on modified standards that take into account transit system facilities or street network).

g. Provide the opportunity to link communities through access to multi-modal transportation systems.

LU 3.2: Use open space, greenways, recreational lands, and watercourses as community separators.

LU 3.4: Promote the development and preservation of unique communities in which each community exhibits a special sense of place and quality of design.

Project Consistency. In accordance with the General Plan, the project promotes development on underutilized parcels and in higher densities to achieve the vision of the RCIP. Architectural design guidelines within the Specific Plan have also been established for the Springbrook Estates project. These are intended to, "encourage design that can create a distinct neighborhood identity while expressing a thoughtful integration of building structures...," which will also serve to create a special sense of place and quality of design. Additionally, the proposed project is located in an area that is developed with existing and planned suburban and residential uses to the north and west, and southeast/east, respectively. Therefore, the Springbrook Estates Specific Plan will not introduce new types of land uses in the project area. Rather, the Springbrook Estates Specific

Plan establishes a coordinated planning effort to promote parcel consolidation in the project area, consistent with the distribution pattern of land uses in proximity to the site.

In an effort to provide a balanced mix of uses, the Springbrook Estates Specific Plan includes a school site, natural open space adjacent to Springbrook Wash and an allocation of approximately 50-acres of parkland and open space (i.e., greenways) throughout the site. Approximately 36-acres of parkland are located in the northeastern portion of the site, which will provide a wide array of recreational opportunities to the project area. Additionally, the project includes a system of multi-purpose and community trails that will connect with the existing area trail system and will be pedestrian and equestrian friendly, in addition to serving as a multi-modal transportation link to communities within the project area. Therefore, the proposed project is consistent with these relevant land use and planning policies of the General Plan.

The following County of Riverside General Plan Land Use Elements Countywide-Land Use Compatibility policies are applicable to the proposed project.

LU 6.1: Require land use to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.

LU 6.2: Direct public, educational, religious and utility uses into Community Development areas and Rural Villages as identified on the General Plan Land Use Map. These uses may be found consistent with any of the Community Development and Rural Foundation components, as well as the Open Space-Rural Land Use designation and the Rural Village designation under the following conditions:

a. The facility is compatible in scale and design with surrounding land uses and does not generate excessive noise, traffic, light, fumes, or odors that might have a negative impact on adjacent neighborhoods.

b. The location of the proposed use will not jeopardize public health, safety, and welfare, of the facility is necessary to ensure continual public safety and welfare.

LU 6.3: Consider the positive characteristic and unique features of the project site and surrounding community during the design and development process.

LU 6.4: Retain and enhance the integrity of the existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result from noise, noxious fumes, glare, shadowing, and traffic.

Project Consistency. The proposed project will not result in the introduction of new types of land uses into the project area. Furthermore, the project implementation will provide the opportunity to create a cohesive, systematic and unified pattern of land uses within the project area. This includes connecting the existing residential land uses to the north and west with the future

compatible land uses to the east. Hence, the proposed project is compatible with the on-site and surrounding land uses.

In addition, architectural design guidelines within the Specific Plan have also been established for the Springbrook Estates project. These are intended to "...encourage design that can create a distinct neighborhood identity while expressing a thoughtful integration of building structures...," which has taken into consideration the characteristics and unique features on the project site and surrounding area. In an effort to enhance the integrity of existing land uses in the project area, the Springbrook Estates Specific Plan includes natural open space adjacent to Springbrook Wash and an allocation of approximately 50-acres of parkland and open space (i.e., greenways) throughout the site. Approximately 36-acres of parkland are also located in the northeastern portion of the site, which will provide a wide array of recreational opportunities and a buffer with Blue Mountain, an important open space amenity in the project area. Additionally, the project includes a system of multi-purpose and community trails that will connect with the existing trail system in the project area.

Project implementation also includes a 7.5-acre school site. The overall site and school building design will be subject to review by the County and Riverside Unified School District to ensure public health and safety, and compatibility with surrounding land uses. The impacts of noise, traffic, light, fumes, and odors in relation to the school facility as well as the residential development have been considered in the context of this EIR and as such are discussed within their respective sections. Therefore, the proposed project is consistent with these relevant land use and planning policies of the General Plan.

The following County of Riverside General Plan Land Use Element Land Use Designation policies are applicable to the proposed project:

> **LU 22.1:** Accommodate the development of single and multi-family residential units in areas appropriately designated by the General Plan and area plan land use maps.

Project Consistency. The proposed project will result in the development of 613 residential units on 183.95-acres. More specifically, the Springbrook Estates project is designated as Community Development - Medium Density (2 - 5 dwelling units per acre) under the General Plan. Project implementation will result in a development density of approximately 4.6 dwelling units per acre and an overall density of approximately 3.3 dwelling units per acre. Thus, the proposed project is consistent with the intended land use densities for the project area. However, the Springbrook Estates Specific Plan project will require a zone change to ensure the project's consistency with the County's Zoning Ordinance.

b. Highgrove Area Plan Relationship. As indicated previously, the project area is located within the HAP. Policies that do not directly correlate to the physical use of the land (i.e. policies that guide actions that may occur as a result of land use), such as recreational trails, and the provision of public services and facilities, are discussed in the respective sections of this EIR. The following HAP policies are applicable to the proposed project:

HAP 2.1: The Land Use Plan associated with the Highgrove Community Policy Area determines the location, extent, density, and intensity of land uses.

HAP 2.2: The Highgrove Community Policy Area constitutes a portion of the Riverside County General Plan. In addition to the Highgrove Community Policy Area, all countywide policies, objectives, programs, and standards in the Riverside County General Plan apply in determination of General Plan consistency for a land use development proposal.

HAP 5.3 HDR, MHDR, MDR, and LDR developments located adjacent to lower density residential uses shall provide transitional buffers, such as larger lot sizes along the boundary, setbacks similar to those of the adjoining rural development, block walls, landscaped berms, or a wall combined with landscaping to enhance its appearance.

HAP 5.4 MDR developments shall provide open space, neighborhood parks, or recreational areas to serve the needs of their residents.

HAP 5.5 All VLDR, LDR, MDR, MDHR, and HDR land use require a full range of public services, as described in the Land Use Element of the Riverside County General Plan, including adequate and available circulation, water service from the City of Riverside Water Utilities or Riverside Highland Water Company's distribution system (as applicable), sewage collection, and utilities including electricity and telephone (usually natural gas and cable television) service.

HAP 5.6 All subdivisions proposing development at LDR, MDR, and MHDR densities must be part of improvement districts of water and sewer districts which are authorized to provide water and sewer service, or must provide evidence of an agreement with another entity for provision of sewer service. Commitments for water and sewer service must be confirmed by the entities responsible for providing these services. Adequate and available water supply and sewage treatment capacities must exist at the time of construction to meet the demands of the proposed project.

Project Consistency. The County of Riverside General Plan and the HAP designate the project site as Community Development-Medium Density Residential (2 - 5 dwelling units per acre). Consistent with the intent of these policies the Springbrook Estates Specific Plan includes natural open space adjacent to Springbrook Wash and an allocation of approximately 50-acres of parkland and open space through the site. Approximately 36-acres of parkland are located in the northeastern portion of the site, which will provide a buffer between project development and Blue Mountain. Additionally, the project includes a system of community trails.

The project site is surrounded by existing residential uses to the west and north and planned residential uses to the east of the site as part of the approved Spring Mountain Ranch Specific Plan project. Hence, the proposed project will not only be compatible with the surrounding land uses, but the Springbrook Estates Specific Plan will also provide the opportunity to create a

systematic and unified pattern of land uses within the project area. As identified in the Specific Plan, the project will include a series of decorative masonry community walls in areas of public view and interface that will buffer development from the public street. In areas of open space view fencing will be utilized to so as not to obstruct public views.

As it relates to the provision of adequate circulation and public facilities and services, as identified in Sections VI.A.2 and VI.A.14, of this EIR, the project will be served by an internal and external circulation system and the public service and utility purveyors that will provide service to the site have indicated they will be able to adequately serve the Springbrook Estates Specific Plan project.

Therefore, the proposed project is consistent with these relevant land use and planning policies of the HAP.

C. MITIGATION MEASURES

The proposed project is consistent with the HAP designation and the applicable HAP policies. Moreover, the proposed project is considered compatible with the surrounding land use. Thus, no mitigation measures are required.

D. LEVEL OF SIGNFICANCE AFTER MITIGATION

The proposed project is considered to have less than significant land use and planning impacts.

VI.A.2 CIRCULATION AND TRAFFIC

The following discussion summarizes the *Springbrook Estates Traffic Study Report* prepared by Urban Crossroads, Inc. in September 2002 and the Springbrook and Spring Mountain Ranch Land Use and Network Modifications prepared by Urban Crossroads, Inc. in August 2003. The report is provided in its entirety in Appendix D of this document.

A. EXISTING CONDITIONS

Regional access to the project site will be provided from Interstate 215 (I-215) and State Route 60 (SR-60), with on-off ramps for the I-215 located west of the project site. Center Street, Spring Street, Mount Vernon Avenue, Columbia Avenue, and Palmyrita Avenue provide access from the freeway system to the project site. Internally, Mount Vernon Avenue and Pigeon Pass road provide the main circulation backbone for the site as a secondary highway. In addition, Center Street, Spring Street, Columbia Avenue and Palmyrita Avenue provide access into the project site from the west.

Figure VI.A.2-1, *Study Area Intersections*, illustrates the traffic analysis study area intersections. The study area intersections are as follows:

1) Existing Roadways

- Stephens Avenue (NS) at Center Street (EW)
- Primer Street (NS) at Columbia Avenue (EW)
- La Cadena Drive West (NS) at Stephens Avenue (EW)
- La Cadena Drive West (NS) at Interchange Street (EW)
- La Cadena Drive West (NS) at Highgrove Place (EW)
- La Cadena Drive West (NS) at I-215 Northbound Ramps (EW)
- La Cadena Drive West (NS) at Columbia Avenue (EW)
- Highgrove Place (NS) at Center Street (EW)
- Chicago Avenue (NS) at Columbia Avenue (EW)
- Iowa Avenue (NS) at Main Street (EW)
- Iowa Avenue (NS) Center Street (EW)
- Iowa Avenue (NS) Palmyrita Avenue (EW)
- Iowa Avenue (NS) Columbia Avenue (EW)
- Michigan Avenue (NS) at Center Street (EW)
- Murphy Avenue (NS) at Center Street (EW)
- Mount Vernon Avenue (NS) at Barton Road (EW)
- Mount Vernon Avenue (NS) at Main Street (EW)
- Mount Vernon Avenue (NS) at Center Street (EW)
- Mount Vernon Avenue (NS) at Spring Street (EW)
- Mount Vernon Avenue (NS) at Pigeon Pass Road (EW)

Figure VI.A.2-1 also identifies the existing roadway conditions for study area roadways and the number of through traffic lanes for existing roadways and the existing intersection controls. Figure VI.A.2-2, *Riverside County General Plan Circulation Element*, shows the proposed Riverside County General Plan Circulation Element and Figure VI.A.2-3, *Riverside County General Plan Roadway Cross-Sections*, illustrates the *Riverside County Arterial Street Cross-Sections*. The City of Riverside General Plan

Circulation Element is depicted on Figure VI.A.2-4, *City of Riverside General Plan Circulation Element*, and Figure VI.A.2-5, *City of Riverside Roadway Cross-Sections*, illustrates the City of Riverside General Plan roadway cross-sections.

2) Transit

The study area is not currently served by any Riverside Transit Agency (RTA) Routes.

3) Regional Transportation Planning Programs

A trip reduction ordinance has been adopted by the County of Riverside.

4) Intersection Analysis

Existing average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Figure VI.A.2-6, *Existing Average Daily Traffic*. Existing ADT volumes are based upon the latest traffic data and from peak hour counts by Urban Crossroads, Inc., using the following formula for each intersection leg:

- PM Peak Hour (Approach Volume + Exit Volume) x 12 = Leg Volume

The current guide to the evaluation of traffic operations is *the 2000 Highway Capacity Manual* (HCM), (Transportation Research Board Special Report 209). The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate Level of Service (LOS) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

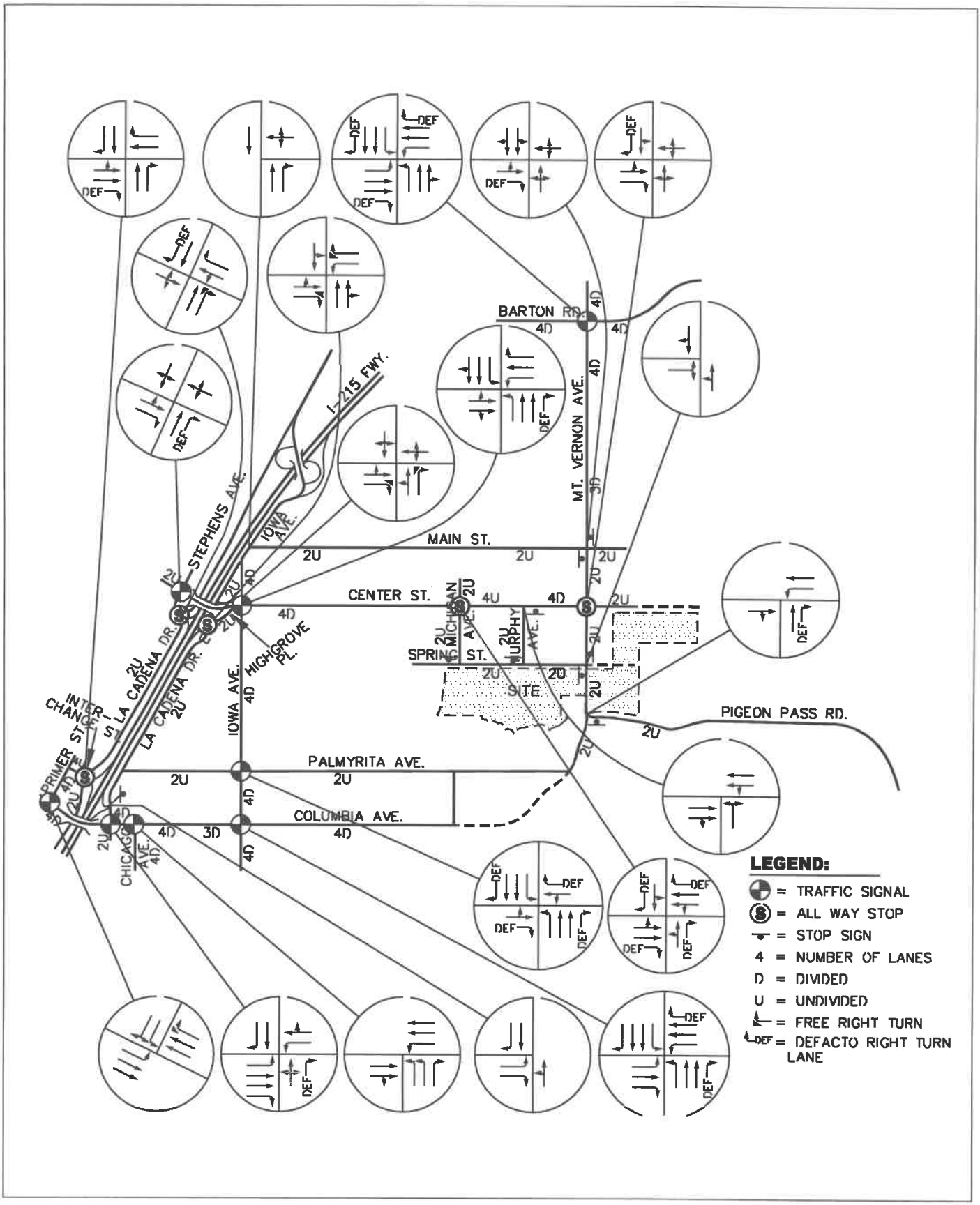
a. **LOS "A"** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.

b. **LOS "B"** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.

c. **LOS "C"** is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.

d. **LOS "D"** represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.

e. **LOS "E"** represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.



Source: Urban Crossroads, September 2002.

NORTH

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Figure VI.A.2-1

Study Area Intersections

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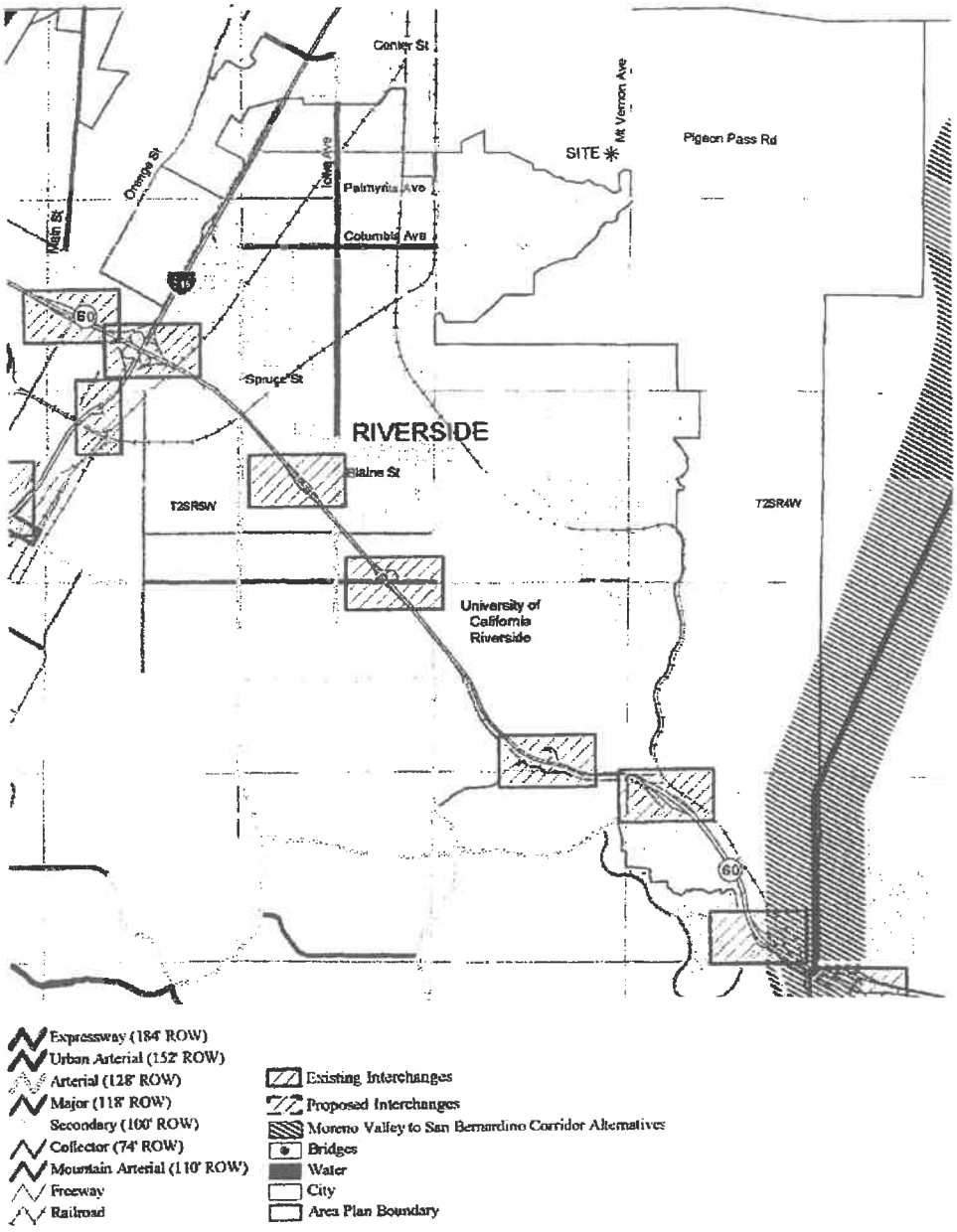
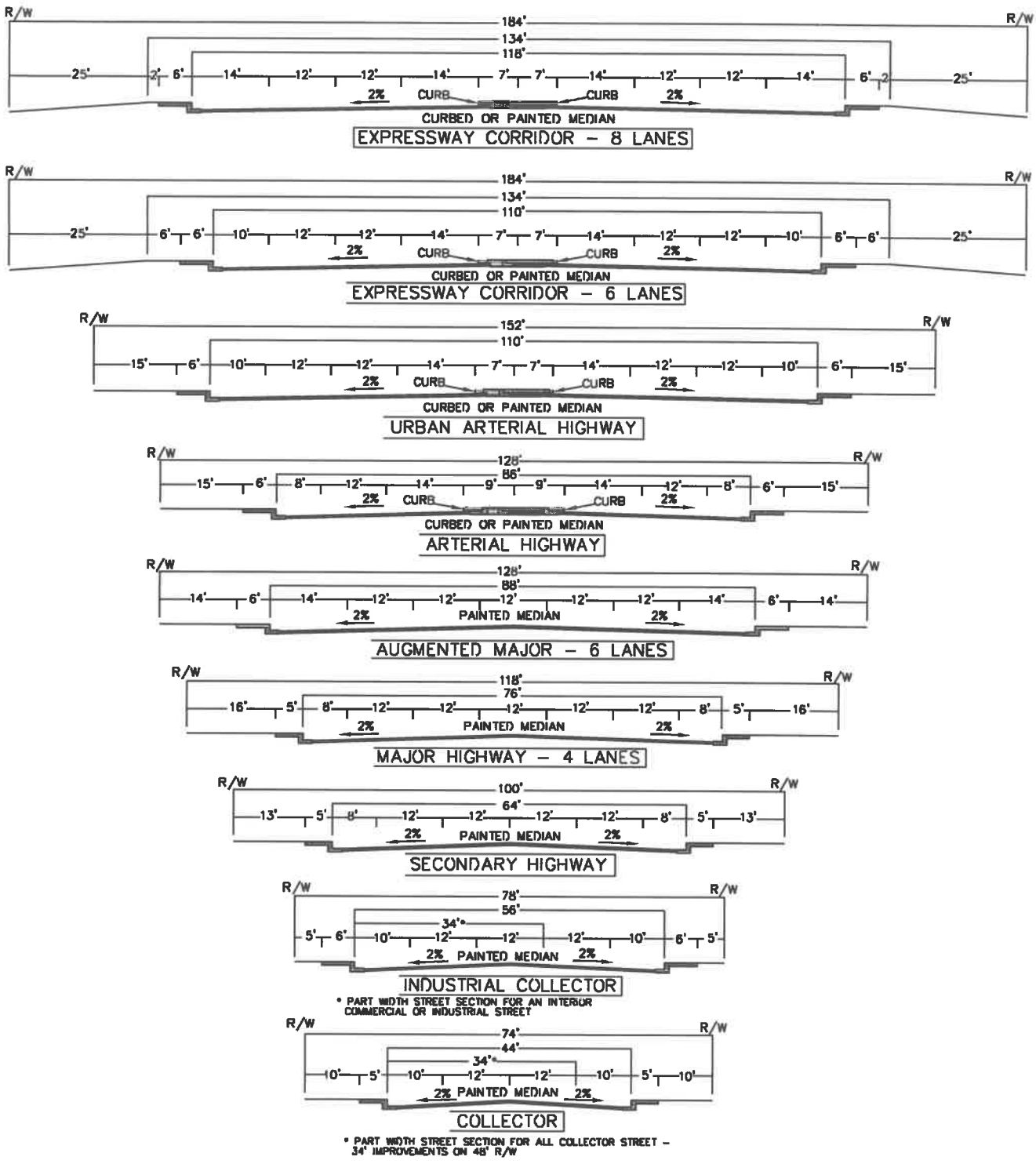


SOURCE: Urban Crossroads, September 2002.

NORTH

Michael Brandman Associates

Figure **VI.A.2-2**
Riverside County General Plan Circulation Element



Source: Urban Crossroads, September 2002.

Figure **VI.A.2-3**

Riverside County General Plan Roadway Cross-Sections

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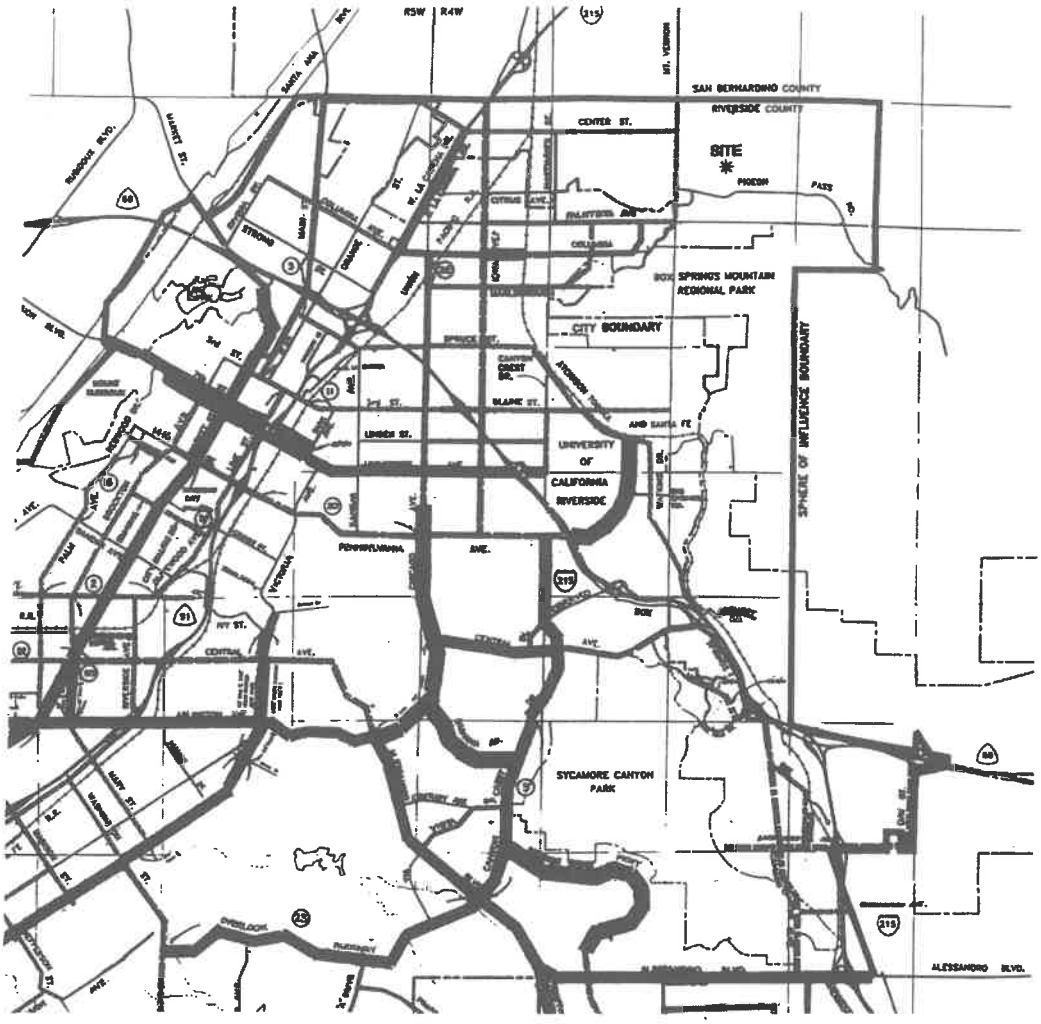

SOURCE: City of Riverside, 2000.

Figure **VI.A.2-4**
City of Riverside General Plan Circulation Element

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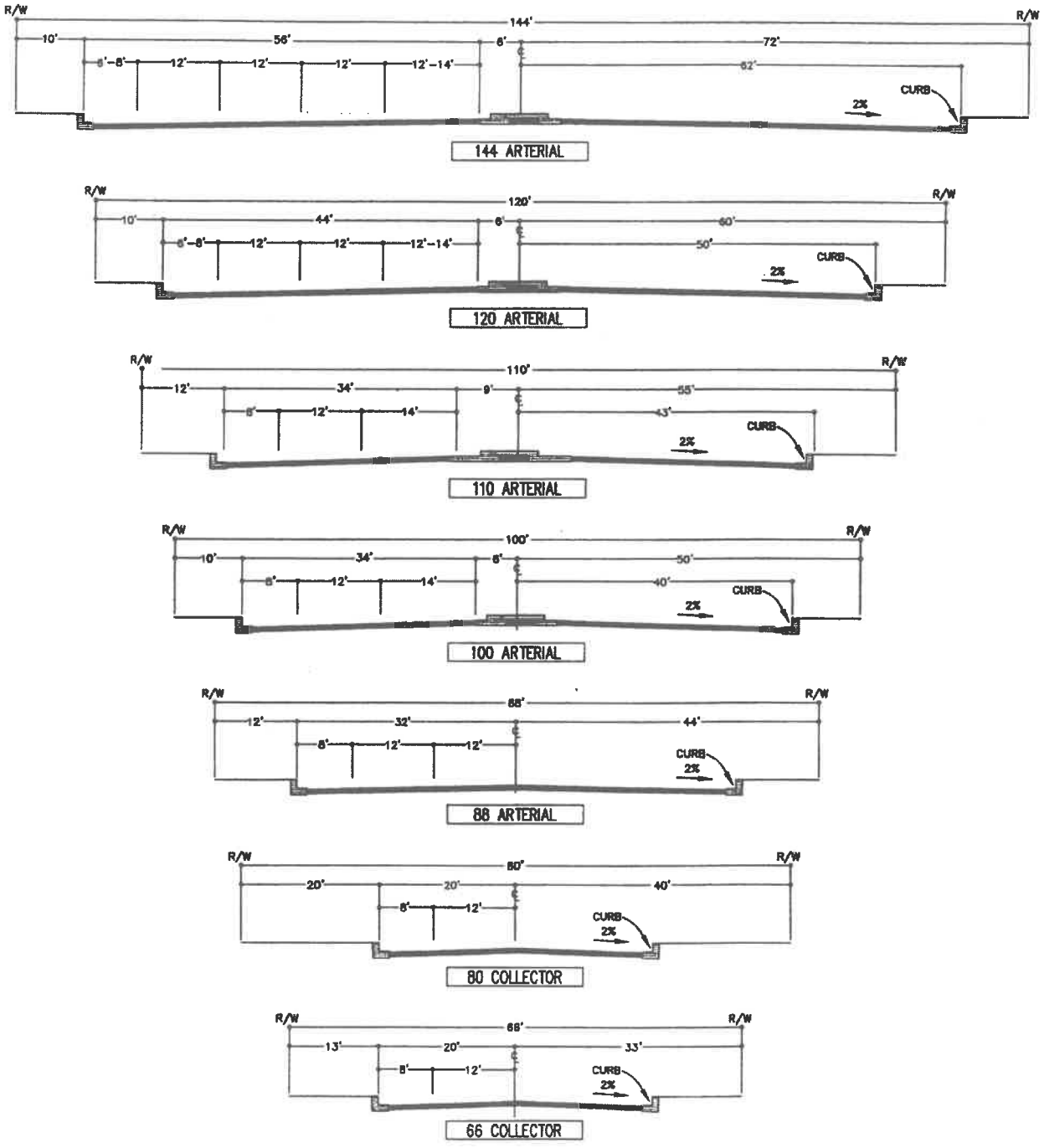

SOURCE: City of Riverside, 2000.

Figure **VI.A.2-5**
City of Riverside General Plan
Roadway Cross-Sections

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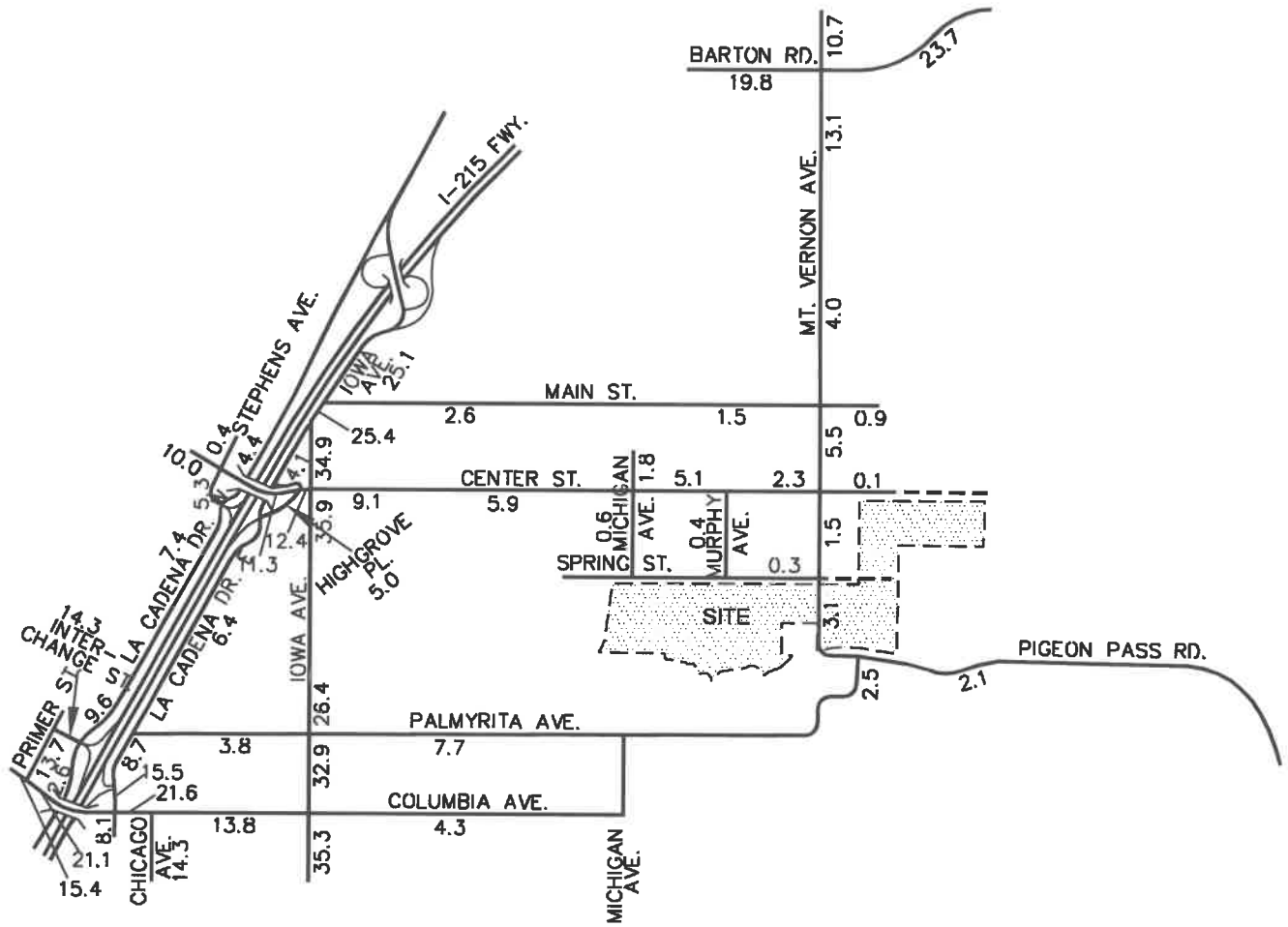

Source: Urban Crossroads, September 2002.

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Figure **VI.A.2-6**

Existing Average Daily Traffic

SPRINGBROOK ESTATES EIR

f. **LOS "F"** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount, which can traverse the point. Queues form behind such locations.

The definitions of level of service for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The levels of service determined in this study are determined using the HCM methodology. For signalized intersections, average total delay per vehicle is used to determine level of service. LOS at signalized study intersections has been evaluated using the HCM intersection analysis program.

Study area intersections, which are stop sign controlled have been analyzed using the un-signalized intersection methodology of the HCM. For these intersections, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street. Using data collected describing the intersection configuration and traffic volumes at these locations, the level of service has been calculated. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle.

Since some intersections are all way stop (AWS) controlled, the ability of vehicles to enter the intersection is not controlled by the occurrence of gaps in the flow of the main street. The AWS intersections have been evaluated using the HCM methodology for this type of multi-way stop controlled intersection configuration. The level of service criteria for this type of intersection analysis is also based on average total delay per vehicle.

The level of service is defined for the various analysis methodologies in Table VI.A.2-1 as follows:

Table VI.A.2-1: HCM Intersection Analysis Level of Service

Level of Service	Average Total Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up
Source: Urban Crossroads, Inc., September 2002.		

Existing peak hour traffic operations have been evaluated for study area intersections. The results of this analysis are summarized in Table VI.A.2-2 below, along with the existing intersection geometrics and traffic control devices at each analysis location. Existing intersection LOS calculations are based upon manual AM and PM peak hour turning movement counts made by Urban Crossroads, Inc. (see Appendix D). Traffic count worksheets are also included in Appendix D.

For existing traffic conditions, the study area intersections operate at Level of Service "C" or better during the peak hours, except for the following study area intersections:

- La Cadena Drive West (NS) at I-215 Northbound Ramps (EW)
- Iowa Avenue (NS) at Main Street (EW)

Both intersections presently operated at LOS "F" with the exception of during the AM peak hour when the intersection of Iowa Avenue (NS) at Main Street (EW) operates at LOS "D".

In addition, traffic signals appear to be warranted at the following intersections:

- La Cadena Drive West (NS) at Stephens Avenue (EW)
- La Cadena Drive West (NS) Interchange Street (EW)
- La Cadena Drive West (NS) Highgrove Place (EW)
- La Cadena Drive West (NS) I-215 Northbound Ramps (EW)
- Highgrove Place (NS) at Center Street (EW)
- Iowa Avenue (NS) at Main Street (EW)

Table VI.A.2-2: Intersection Analysis for Existing Traffic Conditions

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2]		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Stephen Av. (NS) at:									
Center St. (EW)	TS	0 1 1	0 1 0	0 1 1	0 1 0	16.9	19.3	B	B
Primer St. (NS) at:									
Columbia Av. (EW)	TS	0 0 0	1.5 0 0.5	1 2 0	0 2 1>>	14.5	15.3	B	B
La Cadena Dr. (NS) at:									
Stephen Av. (EW)	AWS	0 1 1>>	0 1 1	0 1 0	0 1 1	11.3	14.6	B	B
Interchange St. (EW)	AWS	0 1 1	0 1 1	0 2 1	0 1 1	17.4	19.9	C	C
Highgrove Pl. (EW)	AWS	0 1 0	0 1 0	0 1 1>>	1 0 1>>	11.6	17.5	B	C
I-215 NB Ramps	CSS	0 1 0	0 1 1	1 0 1	0 0 0	—	—	F	F
Columbia Av. (EW)	TS	0 1 1	0 1 1	1 2 1	1 1 0	26.1	50.8	C	D
Highgrove Pl. (NS) at:									
Center St. (EW)	CSS	0 1 1>>	0 1 0	0 1 1>>	0 1 0	18.2	27.4	C	D

Table VI.A.2-2 (Cont.): Intersection Analysis for Existing Traffic Conditions

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2]		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Chicago Av. (NS) at:									
Columbia Av. (EW)	TS	2 0 1	0 0 0	0 2 0	1 2 0	9.2	10.1	A	B
Iowa Av. (NS) at:									
Main St. (EW)	CSS	0 1 1	0 1 0	0 0 0	0 1 0	27.2	—	D	F
Center St. (EW)	TS	1 2 1	1 2 0	0 2 0	1 1 1	29.1	33.3	C	C
Palmyrita Av. (EW)	TS	1 2 1	1 2 1	0 1 1	0 1 1	24.2	28.3	C	C
Columbia Av. (EW)	TS	1 2 1	1 2 1	1 1 1	1 2 1	25.2	29.1	C	C
Michigan Av. (NS) at:									
Center St. (EW)	AWS	0 1 1	0 1 1	0 2 1	0 2 1	8.0	8.9	A	A
Murphy Av. (NS) at:									
Center St. (EW)	CSS	0 1 0	0 0 0	0 2 0	0 2 0	9.3	10.1	A	B
Mt. Vernon Av. (NS) at:									
Barton Rd. (EW)	TS	1 2 0	1 2 1	1 2 1	1 2 1	21.3	30.5	C	C
Main St. (EW)	CSS	0 1 0	0 2 0	0 1 1	0 1 0	11.4	14.4	B	B
Center St. (EW)	AWS	0 1 0	0 1 1	0 1 1	0 1 0	7.9	9.5	A	A
Spring St. (EW)	CSS	0 1 0	0 1 0	0 1 0	0 0 0	9.0	9.4	A	A
Pigeon Pass Rd. (EW)	CSS	1 0 1	0 0 0	0 1 0	1 1 0	9.8	10.7	A	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn

[2] Delay and level of service calculated using the following analysis software: Traffix, Version 7.5.1015 (2000). Per the 2000 Highway Capacity Manual, overall average intersection delay and LOS are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and LOS for the worst individual movement (or movements sharing a single lane) are shown.

[3] AWS = All-Way Stop TS = Traffic Signal; CSS = Cross Street Stop

[4] -- = Delay high, Intersection Unstable, level of Service "F."

Source: Urban Crossroads, Inc., September 2002.

B PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project will result in a significant traffic and circulation impact if it will:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system; or
- Exceed either individually or cumulatively a level of service standard established by the County congestion management agency for designated roads or highways; or

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in a substantial safety risk; or
- Substantially increase hazards due to a design feature (e.g. sharp curve or dangerous intersections) or incompatible uses (e.g. farm equipment); or
- Result in inadequate emergency access; or
- Result in inadequate parking capacity; or
- Conflict with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks)

2) Project Related Impacts

a. Projected Site Traffic

1. Trip Generation. Trip generation represents the amount of traffic, which is attracted and created by a development. The traffic generation for this project is based upon the specific land uses within the Springbrook Estates development. The project site is proposed for development with single-family residential, school, and park uses.

   Trip generation rates for this project are shown in Table VI.A.2-3. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

   Both daily and peak hour trip generation for the proposed project are shown in Table VI.A.2-4. The proposed development is projected to generate approximately 7,389 trip-ends per day with 1,199 vehicles per hour during the AM peak hour and 878 vehicles per hour during the PM peak hour.

Table VI.A.2-3: Trip Generation Rates[1]

Land Use	Units[2]	Peak-Hour				Daily
		AM		PM		
		IN	Out	In	Out	
Single-Family Detached Residential	DU	0.19	0.56	0.65	0.36	9.57
Elementary School	STU	0.17	0.12	0.01	0.01	1.02
Middle School	STU	0.26	0.20	0.08	0.08	1.45
Neighborhood Park	AC	0.01	0.01	0.02	0.04	2.28

[1] Source: Institute of Transportation Engineers (ITE), Trip Generation. Sixth Editions, 1997, Land Use Categories 150, 210, 412, 520, 522, 565 and 820.
[2] DU = dwelling unit; STU = Students; TSF = thousand square feet
Source: Urban Crossroads, Inc., September 2002.

Table VI.A.2-4: Project Trip Generation

Traffic Analysis Zone	Land Use	Proposed Quantity[1]	Peak-Hour				Daily
			AM		PM		
			In	Out	In	Out	
1	Single-Family Detached Residential	430 DU	82	241	280	155	4,115
2	Single-Family Detached Residential	183 DU	35	103	119	66	1,751
3	Neighborhood Park	51.0 AC	1	1	1	1	116
	Elementary School	1,100 STU	286	220	88	8	682
	Middle School	500 STU	130	100	40	40	725
Total			**534**	**665**	**528**	**350**	**7,389**

[1] DU = dwelling unit; STU = Students; TSF = thousand square feet
Source: Urban Crossroads, Inc., September 2002.

2. Trip Distribution. Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of employment and recreational opportunities and the proximity to the regional freeway system. The directional orientation of project traffic was determined by evaluating existing and proposed land uses and highways within the community and existing traffic volumes. Trip distribution for is based upon near-term conditions or conditions that will be in place within the time frame of the project's opening year. For purposes of this analysis, the project is divided into three traffic analysis zones (TAZ) as shown on Figure VI.A.2-7, *Traffic Analysis Zones.* The trip distribution pattern for the project is graphically depicted on Figure VI.A.2-8(a-c), *Project Traffic Distribution.*

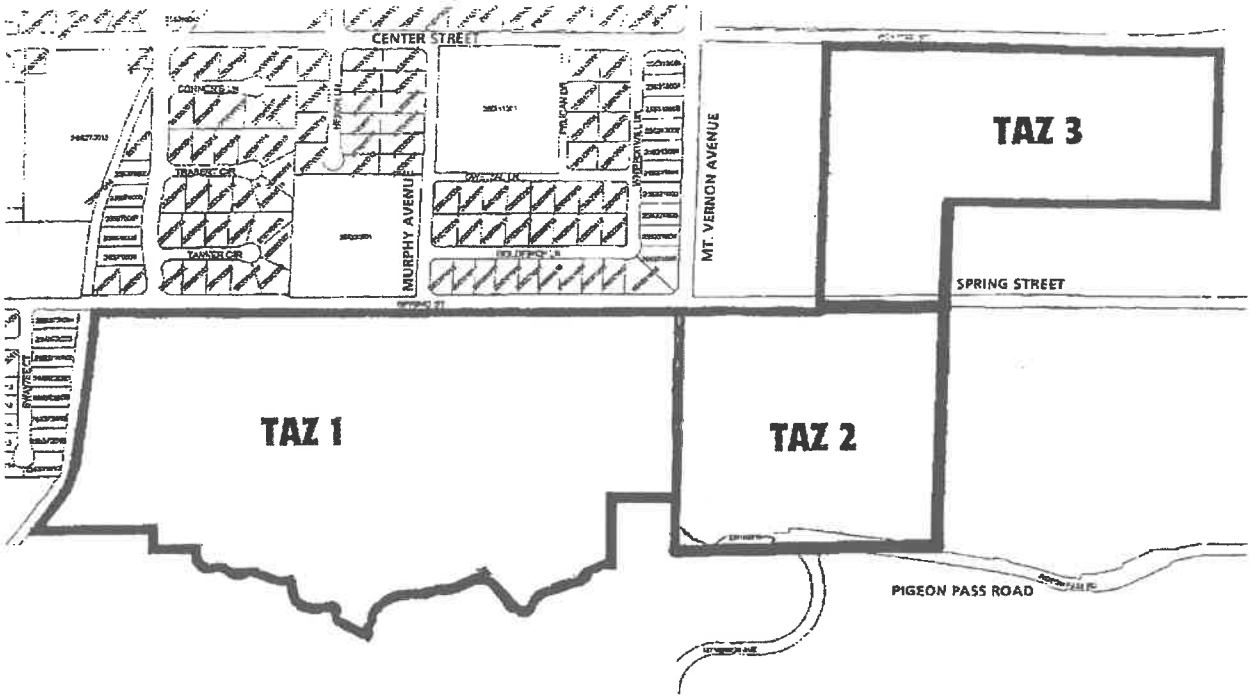
3. Trip Assignment. The assignment of traffic from the site to the adjoining roadway system is based upon the site's trip generation, trip distribution, proposed arterial highway and local street systems, which will be in place by the time of initial occupancy of the site. Based on the identified project traffic, generation, and distribution, project related ADT volumes are identified on Figure VI.A.2-9, *Project Average Daily Traffic.* Project AM and PM peak hour intersection turning movement volumes are shown on Figures VI.A.2-10 and VI.A.2-11, *Project AM and PM Peak Hour Intersection Volumes.*

b. Level of Service and Improvement Analysis

1. Level of Service at Opening Year Without the Project. Opening Year intersection levels of service for the existing network without the proposed project are shown in Table VI.A.2-5. Figures, VI.2-12 and VI.2-13 show the opening year without project peak hour intersection volumes.

Table VI.A.2-5: Intersection Analysis for Opening Year Without Project

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2] (Secs)		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Stephen Av. (NS) at:									
Center St. (EW)	TS	0 1 1	0 1 0	0 1 1	0 1 0	19.9	24.5	B	C
Primer St. (NS) at:									
Columbia Av. (EW)	TS	0 0 0	1.5 0 0.5	1 2 0	0 2 1>>	14.8	15.7	B	B
La Cadena Dr. (NS) at:									
Stephen Av. (EW)									
-Without Improvements	AWS	0 1 1>>	0 1 1	0 1 0	0 1 1	13.2	17.2	B	C
-With Improvements	TS	0 1 1>>	0 1 1	0 1 0	0 1 1	7.7	10.1	A	B
Interchange St. (EW)									
-Without Improvements	AWS	0 1 1	0 1 1	0 2 1	0 1 1	26.7	31.3	D	D
-With Improvements	TS	0 1 1	0 1 1	0 2 1	0 1 1	7.7	11.6	A	B
Highgrove Pl. (EW)									
-Without Improvements	AWS	0 1 0	0 1 0	0 1 1>>	1 0 1>>	12.2	23.9	B	C
-With Improvements	TS	0 1 0	0 1 0	0 1 1>>	1 0 1>>	9.6	10.6	A	B
I-215 NB Ramps									
Without Improvements	CSS	0 1 0	0 1 1	1 0 1	0 0 0	—	—	F	F
-With Improvements	TS	1.5 0.5 0	0 1 1	1 0 1	0 0 0	18.1	22.4	B	C
Columbia Av. (EW)									
-Without Improvements	TS	0 1 1	0 1 1	1 2 1	1 1 0	37.7	—	D	F
-With Improvements	TS	1 1 1	1 1 1	1 2 1	1 1 1	26.7	38.9	C	D
Highgrove Pl. (NS) at:									
Center St. (EW)									
-Without Improvements	CSS	0 1 1>>	0 1 0	0 1 1>>	0 1 0	25.3	52.5	D	F
-With Improvements	TS	0 1 1>>	0 1 0	0 1 1>>	0 1 0	5.9	7.3	A	A
Chicago Av. (NS) at:									
Columbia Av. (EW)	TS	2 0 1	0 0 0	0 2 0	1 2 0	10.3	11.6	B	B
Iowa Av. (NS) at:									
Main St. (EW)									
-Without Improvements	CSS	0 1 1	0 1 0	0 0 0	0 1 0	—	—	F	F
-With Improvements	TS	0 2 1	1 1 0	0 0 0	0 1 0	25.3	13.3	C	B
Center St. (EW)									
-Without Improvements	TS	1 2 1	1 2 0	0 2 0	1 1 1	39.7	54.4	D	D
-With Improvements	TS	1 2 1	1 2 0	1 2 0	1 1 1	38.7	43.4	D	D
Palmyrita Av. (EW)	TS	1 2 1	1 2 1	0 1 1	0 1 1	32.4	41.8	C	D
Columbia Av. (EW)	TS	1 2 1	1 2 1	1 1 1	1 2 1	39.6	41.0	D	D



SOURCE: Urban Crossroads, September 2002.

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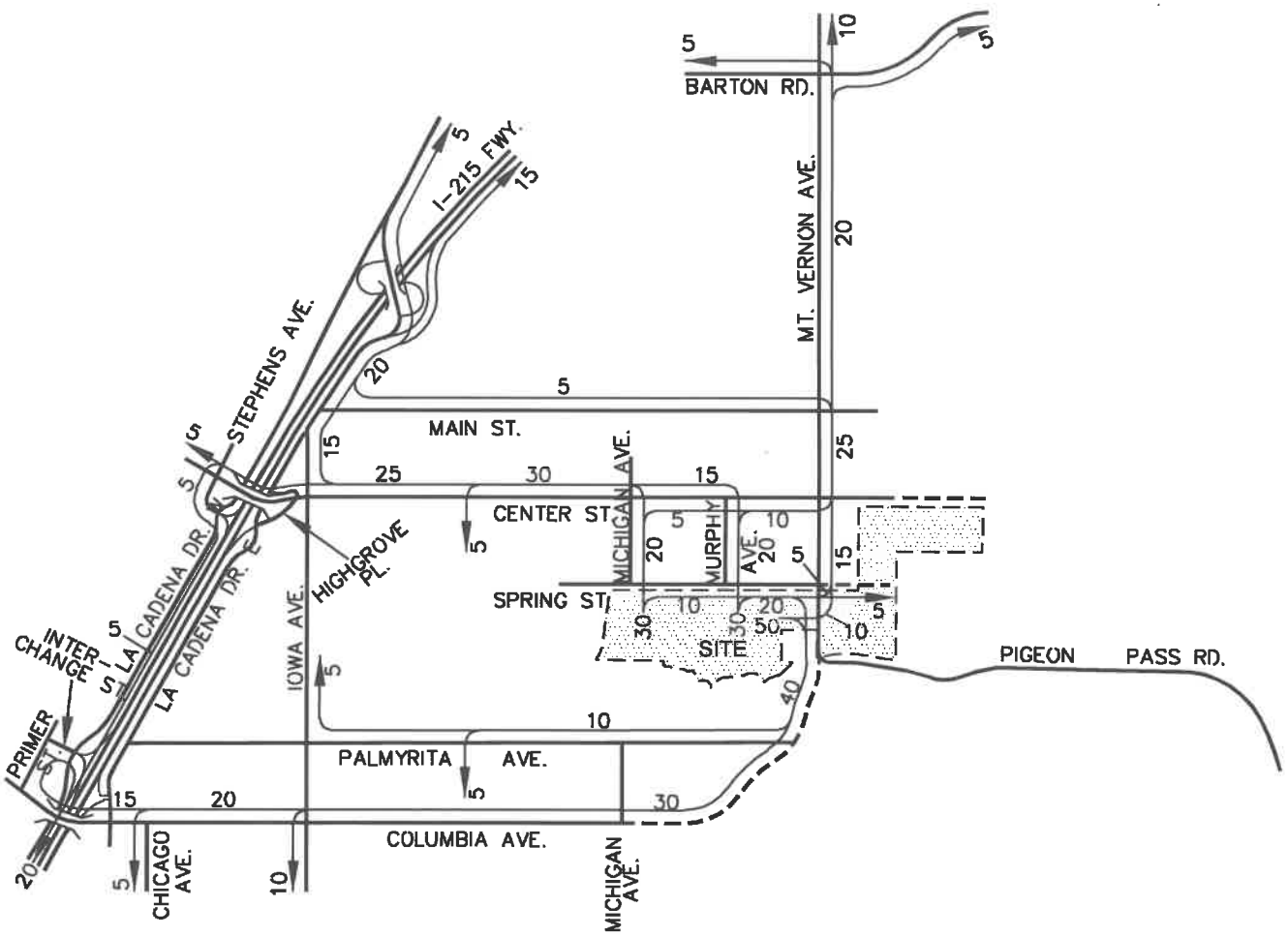
Figure **VI.A.2-7**
Traffic Analysis Zones



Source: Urban Crossroads, September 2002.

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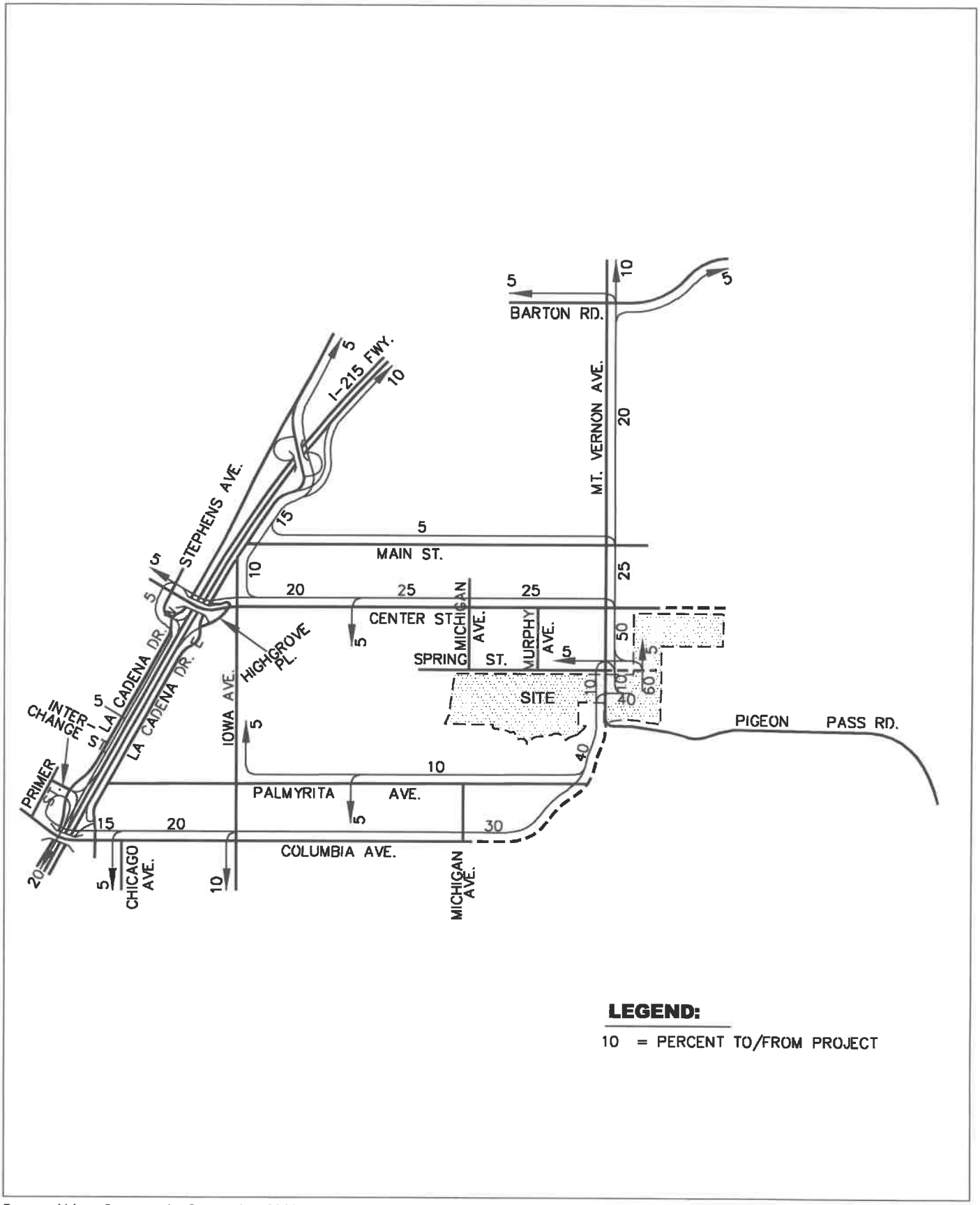
Figure **VI.A.2-8(a)**
Project TAZ 1 Trip Distribution



Source: Urban Crossroads, September 2002.

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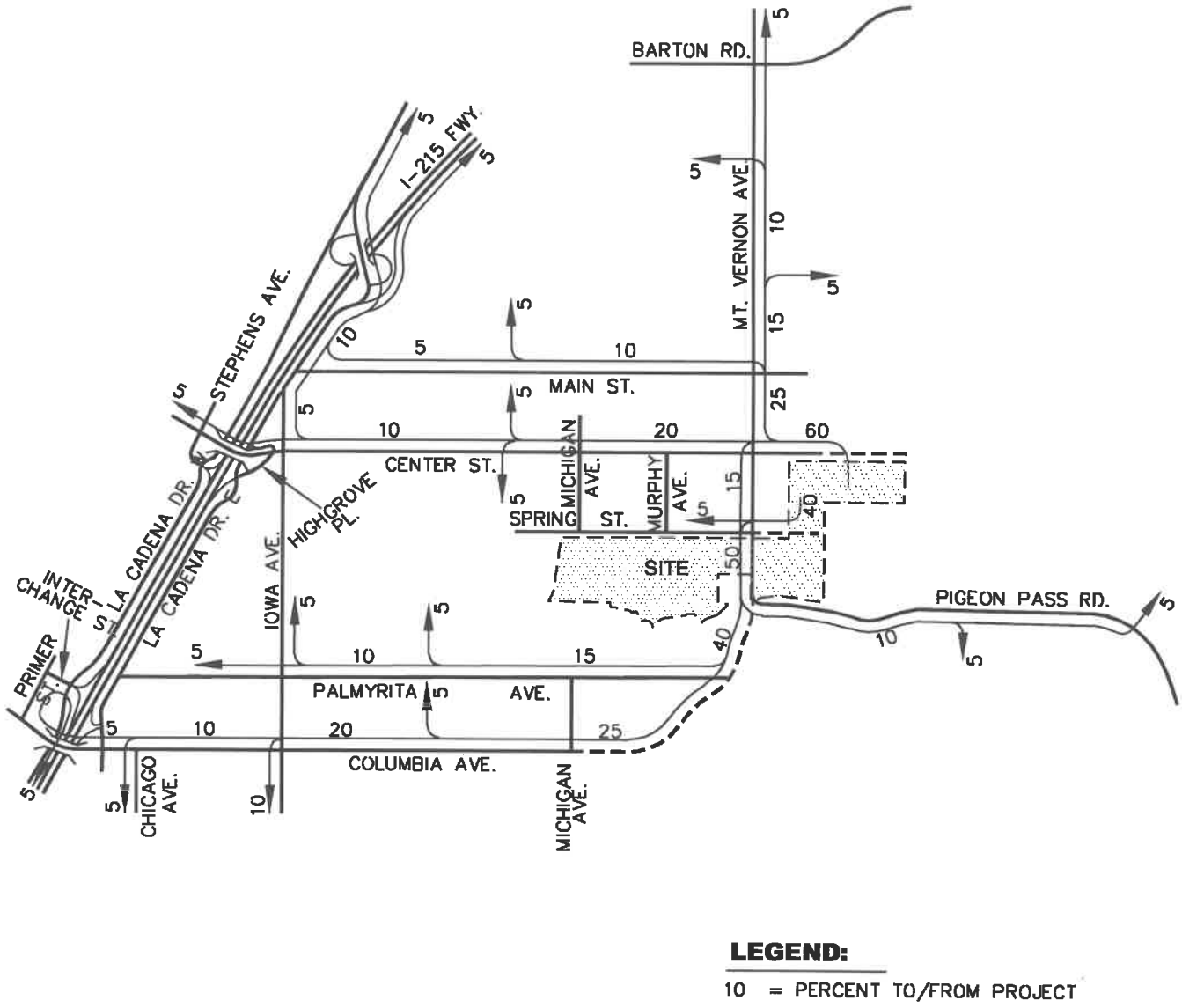
21970012 · 9/2002 | project taz 2 trip distribution.cdr

Figure **VI.A.2-8(b)**
Project TAZ 2 Trip Distribution

SPRINGBROOK ESTATES EIR



Source: Urban Crossroads, September 2002.

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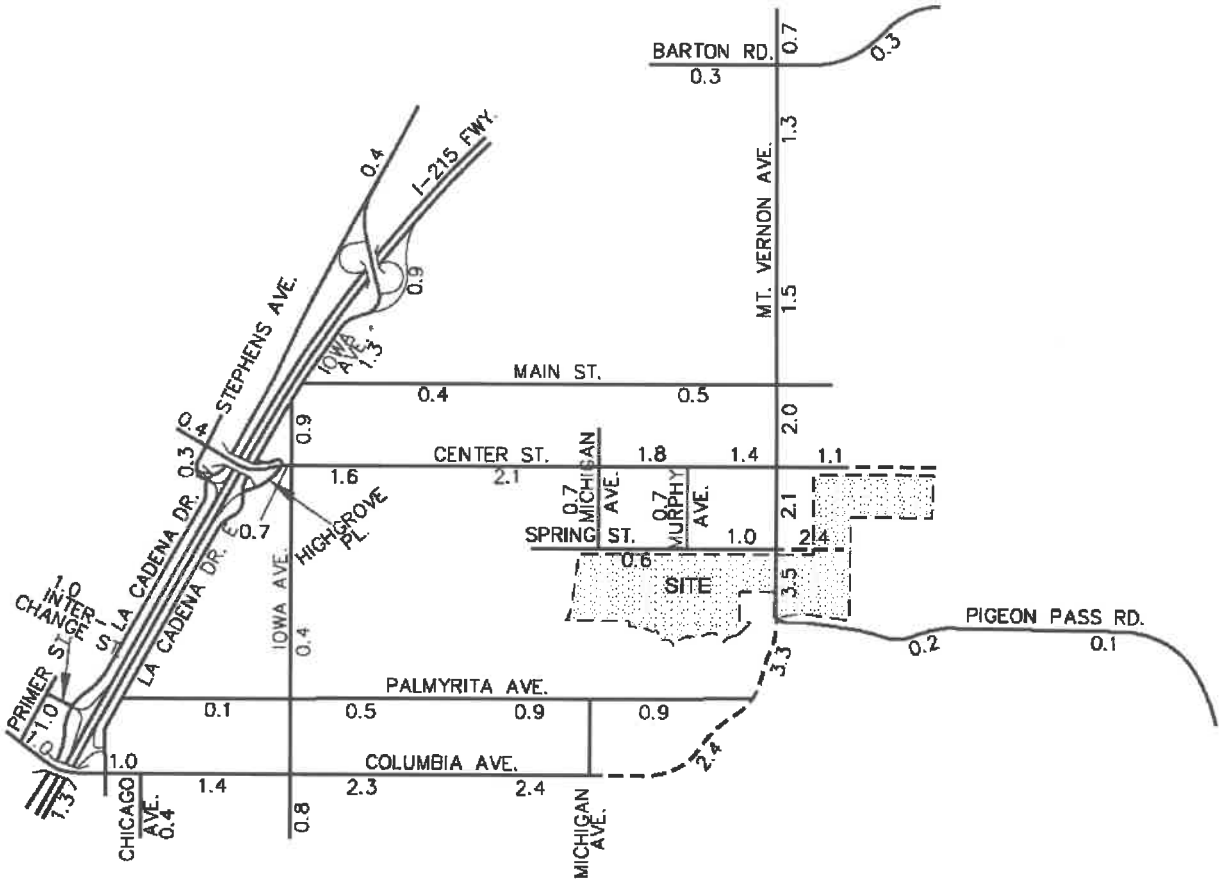
21970012 . 9/2002 | project taz 3 trip distribution.cdr

Figure **VI.A.2-8(c)**

Project TAZ 3 Trip Distribution

SPRINGBROOK ESTATES EIR



LEGEND:

10.0 = VEHICLES PER DAY (1000'S)

SOURCE: Urban Crossroads, September 2002.

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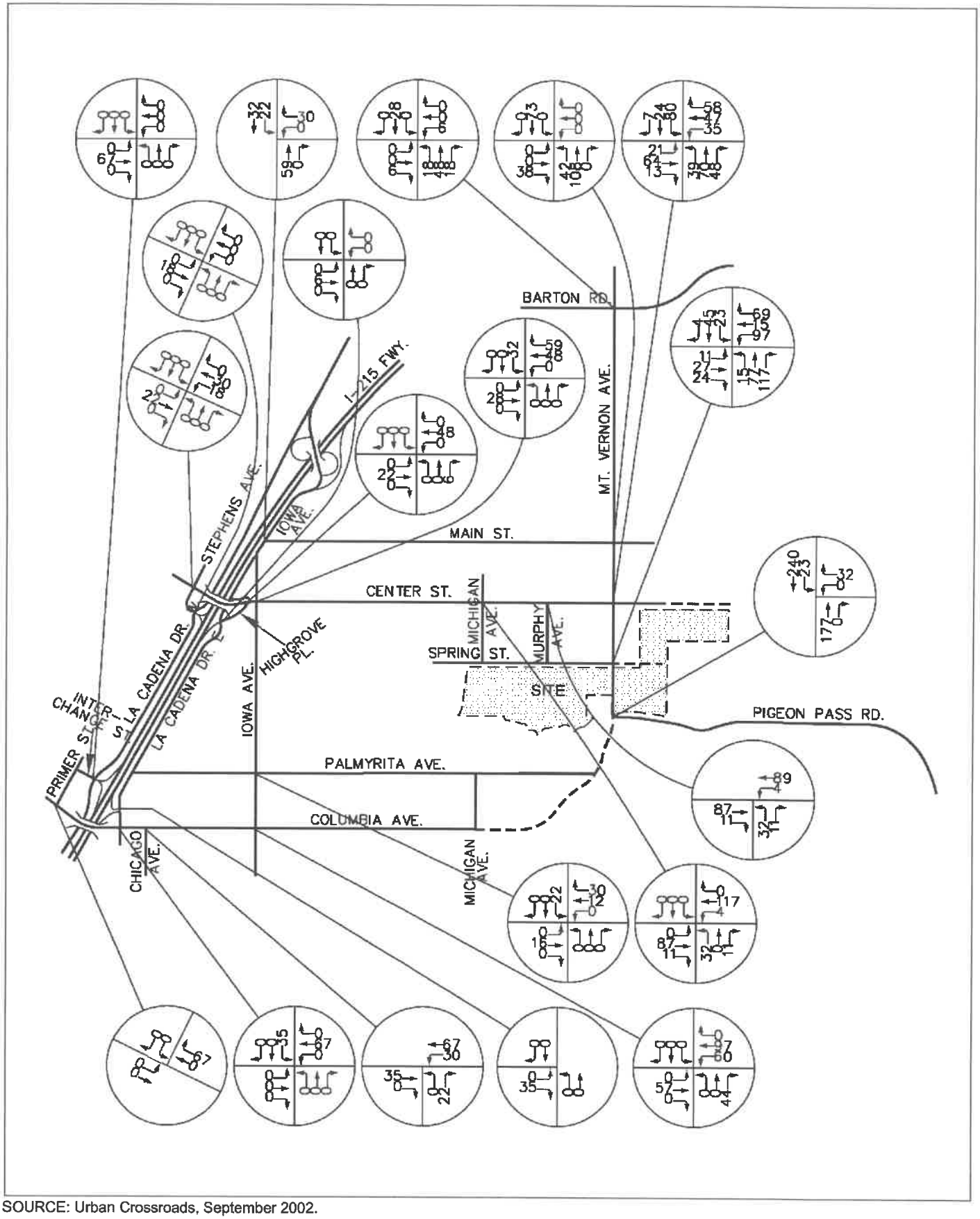
Figure **VI.A.2-9**

Project Average Daily Traffic (ADT)



SOURCE: Urban Crossroads, September 2002.

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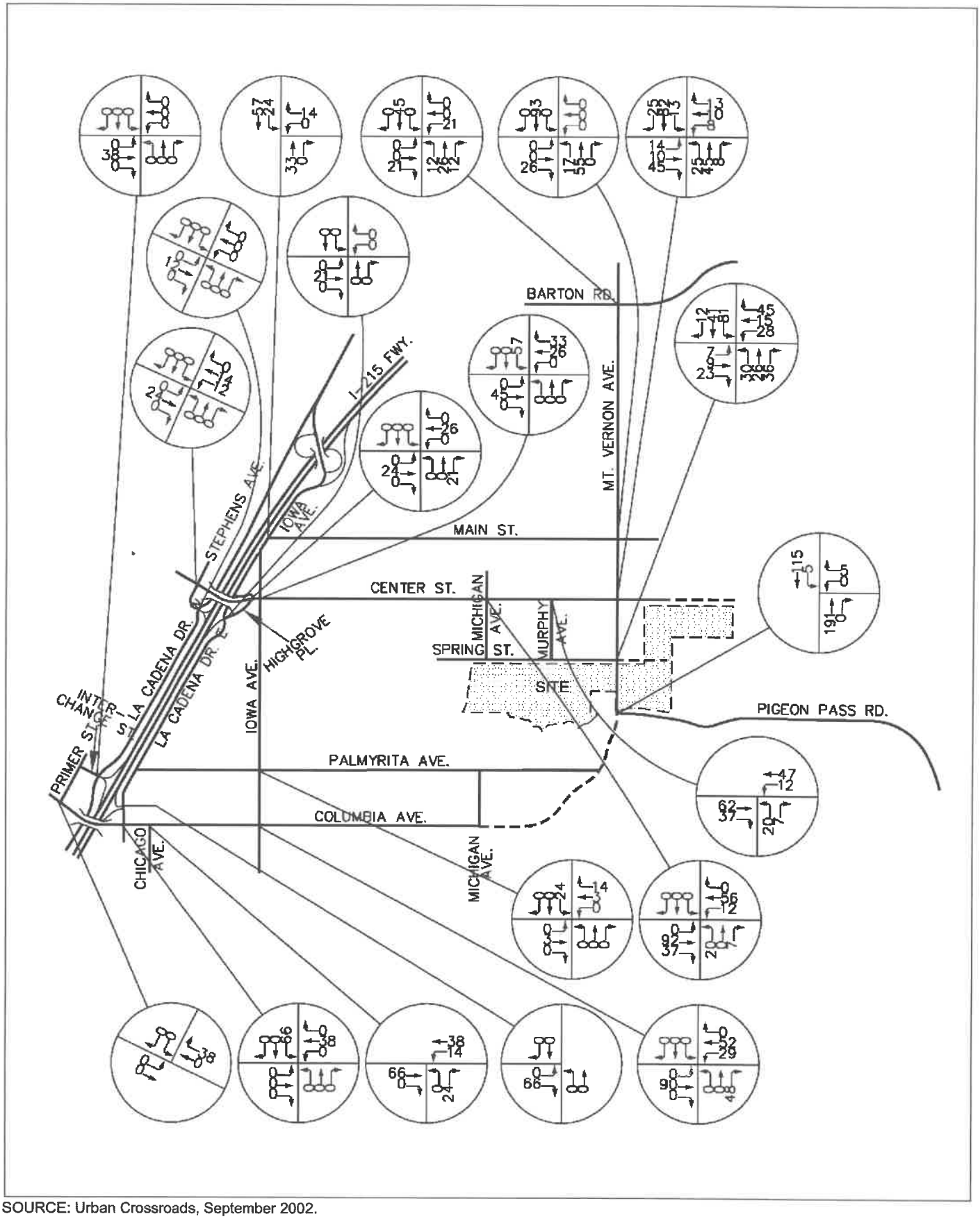
Figure **VI.A.2-10**

Project AM Peak Hour Intersection Volumes



SOURCE: Urban Crossroads, September 2002.

Figure **VI.A.2-11**

Project PM Peak Hour Intersection Volumes

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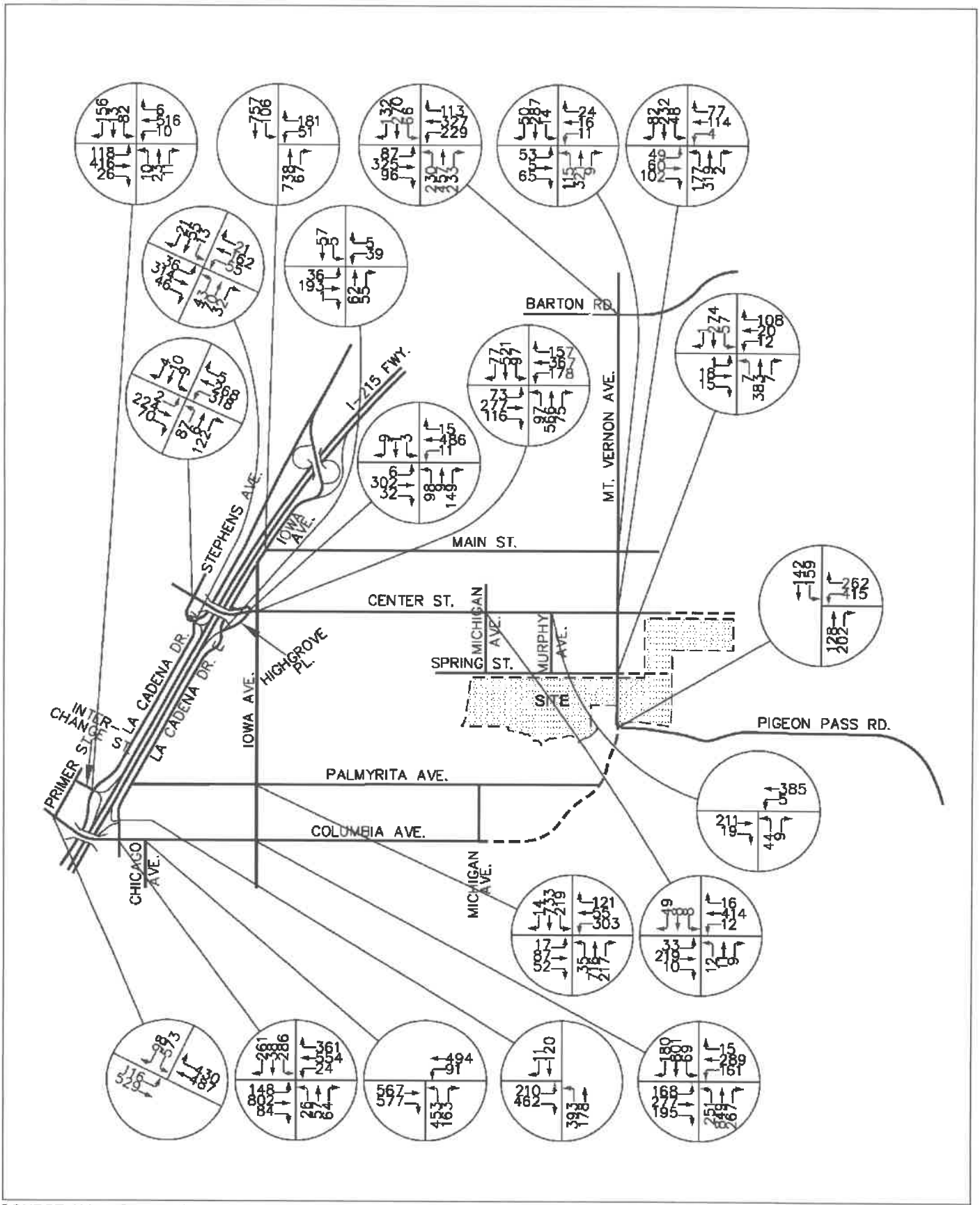

SOURCE: Urban Crossroads, September 2002.

Figure **VI.A.2-12**
Opening Year Without Project
AM Peak Hour Intersection Volumes

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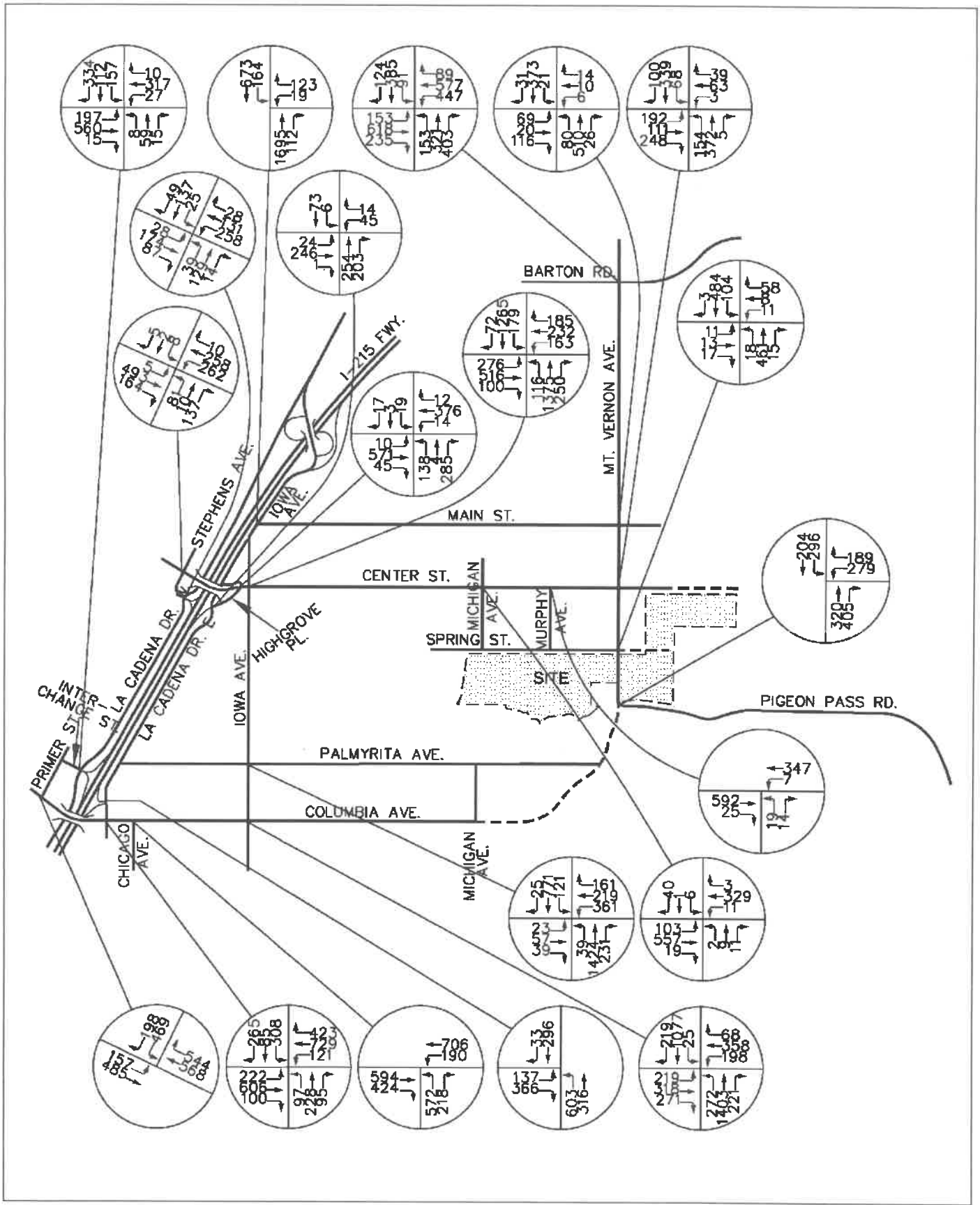

SOURCE: Urban Crossroads, September 2002.

Figure **VI.A.2-13**
Opening Year Without Project
PM Peak Hour Intersection Volumes

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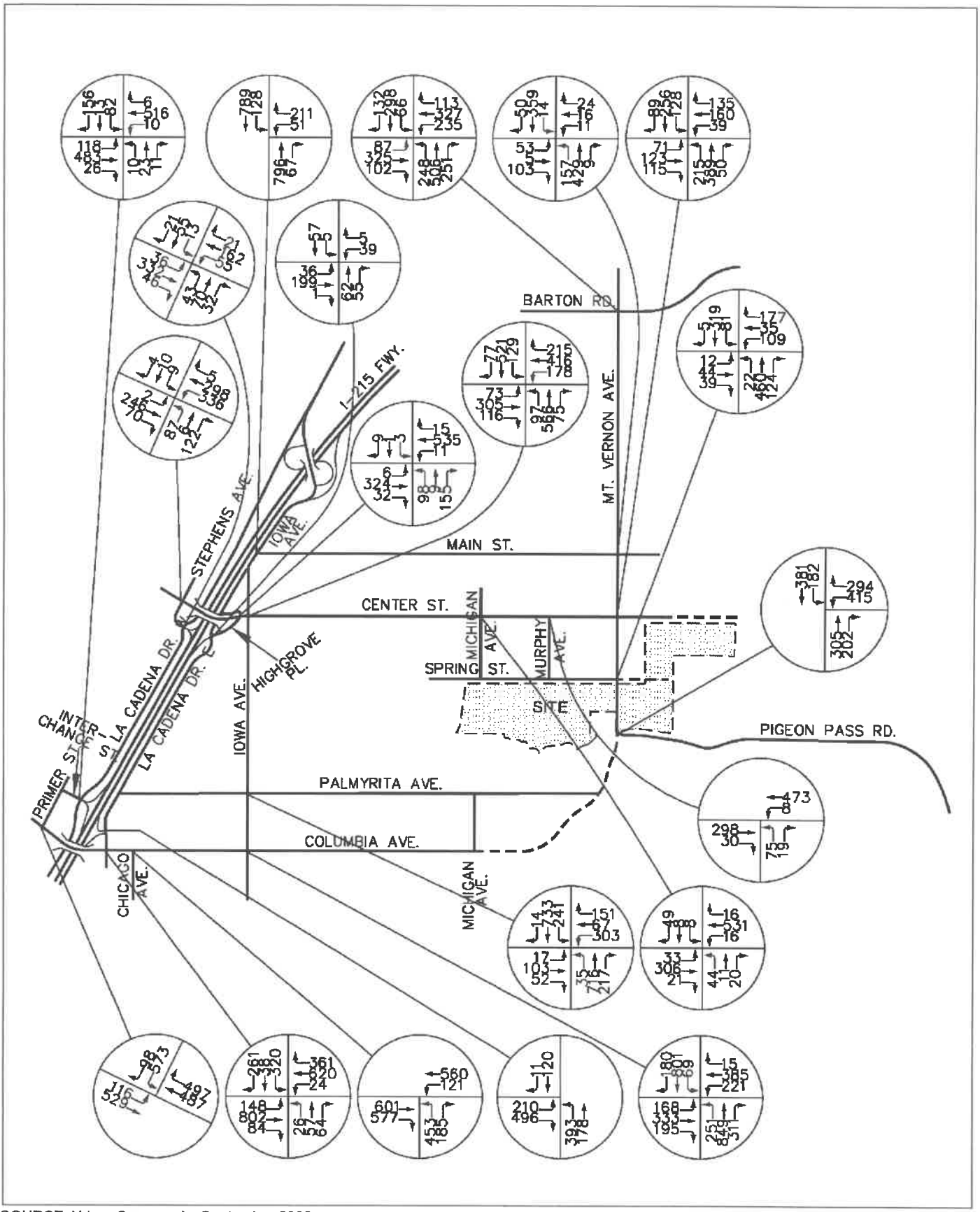

SOURCE: Urban Crossroads, September 2002.

Figure **VI.A.2-14**
Opening Year With Project
AM Peak Hour Intersection Volumes

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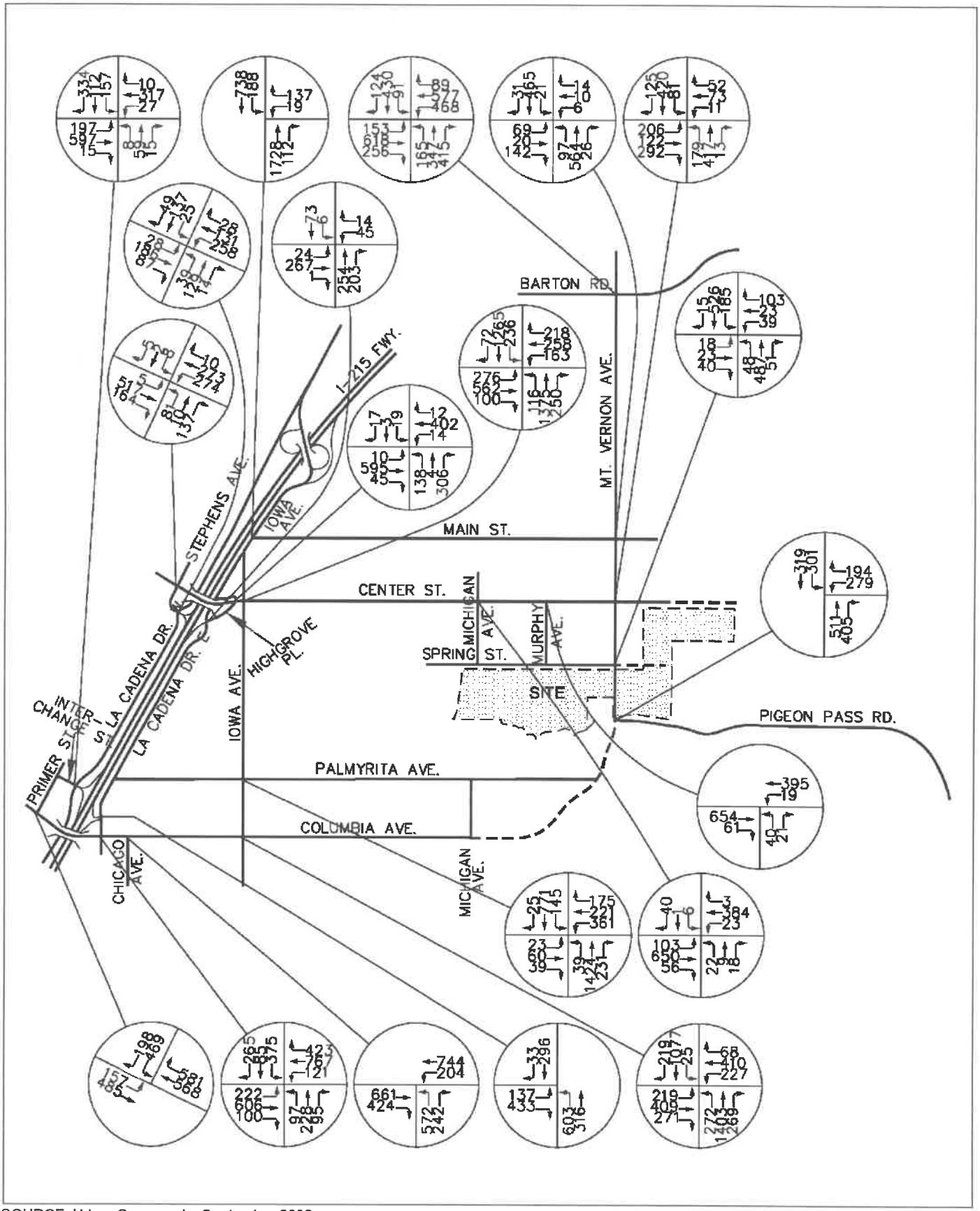
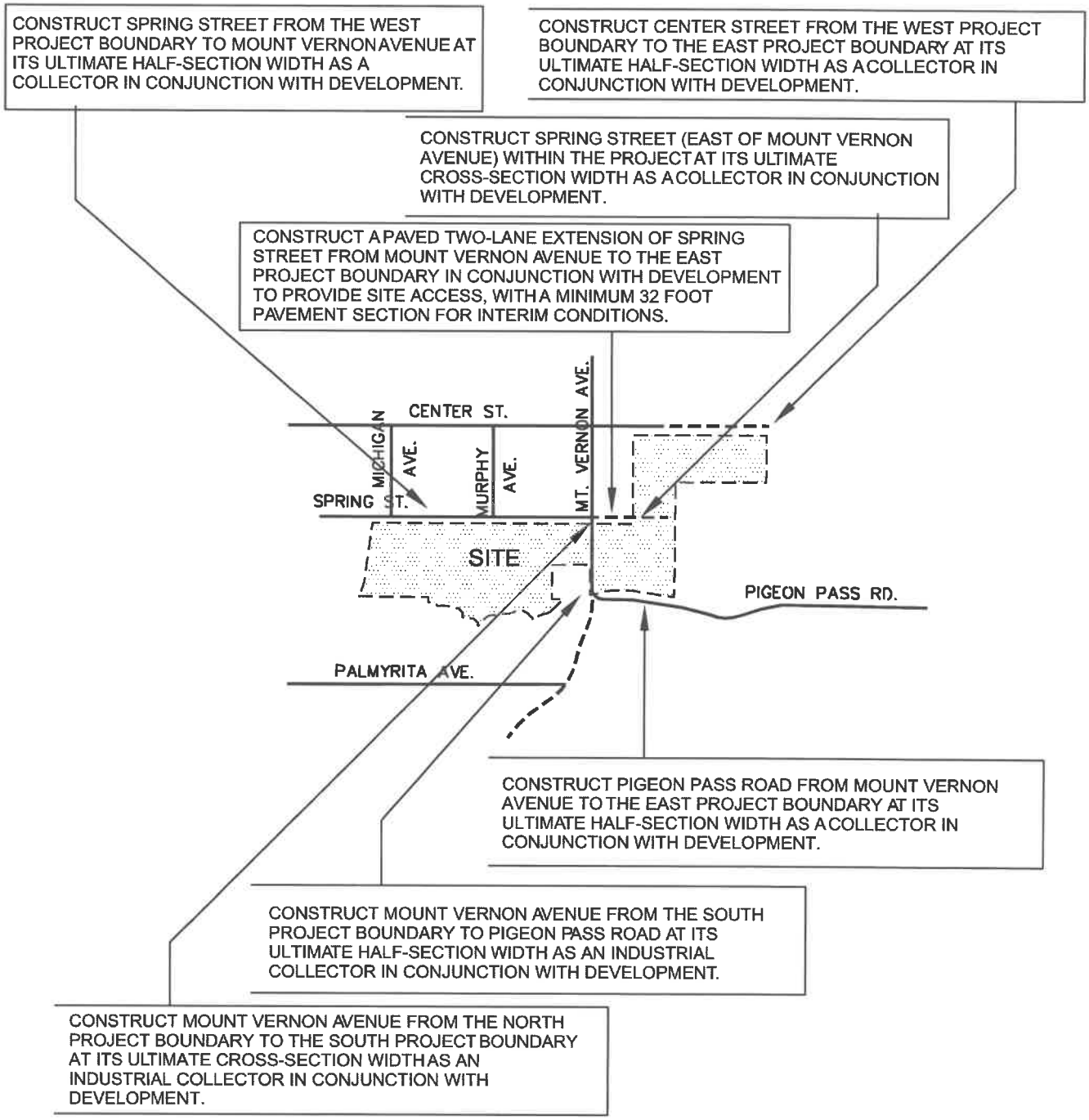


SOURCE: Urban Crossroads, September 2002.

Figure **VI.A.2-15**
Opening Year With Project
PM Peak Hour Intersection Volumes

Michael Brandman Associates



SOURCE: Urban Crossroads, September 2002.

NORTH

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Figure **VI.A.2-16**
Circulation Recommendations

Table VI.A.2-5 (Cont.): Intersection Analysis for Opening Year Without Project

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2] (Secs)		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Michigan Av. (NS) at:									
Center St. (EW)									
-Without Improvements	AWS	0 1 1	0 1 1	0 2 1	0 2 1	10.1	12.8	B	B
-With Improvements	TS	0 1 1	0 1 1	0 2 1	0 2 1	4.8	3.8	A	A
Murphy Av. (NS) at:									
Center St. (EW)	CSS	0 1 0	0 0 0	0 2 0	0 2 0	11.6	14.2	B	B
Mt. Vernon Av. (NS) at:									
Barton Rd. (EW)	TS	1 2 0	1 2 1	1 2 1	1 2 1	44.2	43.5	D	D
Main St. (EW)									
-Without Improvements	CSS	0 1 0	0 2 0	0 1 1	0 1 0	27.3	49.6	D	E
-With Improvements	TS	1 1 0	1 1 0	0 1 1	0 1 0	6.2	6.8	A	A
Center St. (EW)									
-Without Improvements	AWS	0 1 0	0 1 1	0 1 1	0 1 0	26.5	—	D	F
-With Improvements	TS	1 1 0	1 1 1	1 1 1	1 1 0	9.4	10.5	A	B
Spring St. (EW)									
-Without Improvements	CSS	0 1 0	0 1 0	0 1 0	0 1 0	14.6	26.5	B	D
-With Improvements	TS	1 1 0	1 1 0	1 1 0	1 1 0	7.2	4.8	A	A
Pigeon Pass Rd. (EW)									
-Without Improvements	CSS	0 1 0	0 1 0	0 0 0	1 0 1	—	—	F	F
-With Improvements	TS	0 1 0	1 1 0	0 0 0	1 0 1	11.8	11.6	B	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn

[2] Delay and level of service calculated using the following analysis software: Traffix, Version 7.5.1015 (2000). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] AWS = All-Way Stop TS = Traffic Signal; CSS = Cross Street Stop

[4] -- = Delay high, Intersection Unstable, level of Service "F."

Source: Urban Crossroads, Inc., September 2002.

For Opening Year without project traffic conditions, the following study area intersections are projected to operate at unacceptable Level of Service during the peak hours, without improvements:

La Cadena Drive West (NS) at:
- I-215 Northbound Ramps (EW)
- Columbia Avenue (EW)

Highgrove Place (NS) at:
- Center Street (EW)

Iowa Avenue (NS) at:
- Main Street (EW)

Mount Vernon Avenue (NS) at:
- Main Street (EW)
- Center Street (EW)
- Spring Street (EW)
- Pigeon Pass Road (EW)

For Opening Year without project traffic conditions, the study area intersections are projected to operate at acceptable Level of Service during the peak hours, with improvements. Required improvements include installing traffic signals at the intersections meeting the minimum warrant requirements.

2. Level of Service at Opening Year With Project and Roadway Improvements. Opening Year intersection levels of service for the existing network with the proposed project are shown in Table VI.A.2-6. Opening Year with project AM and PM peak hour intersection turning movement volumes are shown on FiguresVI.A.2-14 and VI.A.2-15, respectively.

Table VI.A.2-6: Intersection Analysis for Opening Year with Project Conditions

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2]		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Stephen Ave. (NS) at:									
Center St. (EW)	TS	0 1 1	0 1 0	0 1 1	0 1 0	20.7	25.8	C	C
Primer St. (NS) at:									
Columbia Ave. (EW)	TS	0 0 0	1.5 0 0.5	1 2 0	0 2 1>>	14.8	15.7	B	B
La Cadena Dr. (NS) at:									
Stephen Ave. (EW)	TS	0 1 1>>	0 1 1	0 1 0	0 1 1	7.6	10.01	A	B
Interchange St. (EW)	TS	0 1 1	0 1 1	0 2 1	0 1 1	7.6	1.7	A	B
Highgrove Pl. (EW)	TS	0 1 0	0 1 0	0 1 1>>	1 0 1>>	9.5	10.9	A	B
I-215 NB Ramps	TS	0 1 0	0 1 1	1 0 1	0 0 0	18.6	24.5	B	C
Columbia Ave. (EW)	TS	0 1 1	0 1 1	1 2 1	1 1 0	27.7	47.4	C	D
Highgrove Pl. (NS) at:									
Center St. (EW)	TS	0 1 1>>	0 1 0	0 1 1>>	0 1 0	5.7	7.1	A	A
Chicago Ave. (NS) at:									
Columbia Ave. (EW)	TS	2 0 1	0 0 0	0 2 0	1 2 0	10.3	12.2	B	B

Table VI.A.2-6 (Cont.): Intersection Analysis for Opening Year with Project Conditions

Intersection	Traffic Control	Intersection Approach Lanes[1]				Delay[2]		Level of Service	
		North-Bound	South-Bound	East-Bound	West-Bound				
		L T R	L T R	L T R	L T R	AM	PM	AM	PM
Iowa Ave. (NS) at:									
Main St. (EW)	TS	0 1 1	0 1 0	0 0 0	0 1 0	27.2	—	D	F
Center St. (EW)	TS	1 2 1	1 2 0	0 2 0	1 1 1	29.1	33.3	C	C
Palmyrita Ave. (EW)	TS	1 2 1	1 2 1	0 1 1	0 1 1	24.2	28.3	C	C
Columbia Ave. (EW)	TS	1 2 1	1 2 1	1 1 1	1 2 1	25.2	29.1	C	C
Michigan Ave. (NS) at:									
Center St. (EW)	TS	0 1 1	0 1 1	0 2 1	0 2 1	5.0	4.1	A	A
Murphy Ave. (NS) at:									
Center St. (EW)	CSS	0 1 0	0 0 0	0 2 0	0 2 0	13.8	18.1	B	C
Mt. Vernon Ave. (NS) at:									
Barton Rd. (EW)	TS	1 2 0	1 2 1	1 2 1	1 2 1	46.7	44.8	D	D
Main St. (EW)	CSS	1 1 0	1 1 0	0 1 1	0 1 0	6.5	7.0	A	A
Center St. (EW)	TS	1 1 0	1 1 1	1 1 1	1 1 0	10.4	11.0	B	B
Spring St. (EW)	TS	1 1 0	1 1 0	1 1 0	1 1 0	9.4	6.4	A	A
Pigeon Pass Rd. (EW)	TS	0 U 0	1 1 0	0 0 0	1 1 1	13.0	12.9	B	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn

[2] Delay and level of service calculated using the following analysis software: Traffix, Version 7.5.1015 (2000). Per the 2000 Highway Capacity Manual, overall average intersection delay and LOS are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] AWS = All-Way Stop TS = Traffic Signal; CSS = Cross Street Stop

[4] -- = Delay high, Intersection Unstable, level of Service "F."

Source: Urban Crossroads, Inc., September 2002.

For Opening Year with project traffic conditions, the following study area intersections are projected to operate at unacceptable Level of Service during the peak hours, without improvements:

La Cadena Drive West (NS) at:
- I-215 Northbound Ramps (EW)
- Columbia Avenue (EW)

Highgrove Place (NS) at:
- Center Street (EW)

Iowa Avenue (NS) at:
- Main Street (EW)

- Center Street (EW)

Mount Vernon Avenue (NS) at:
- Main Street (EW)
- Center Street (EW)
- Spring Street (EW)
- Pigeon Pass Road (EW)

For Opening Year with project traffic conditions, the study area intersections are projected to operate at acceptable Level of Service during the peak hours, with improvements. The improvements shown include warranted traffic signals and geometric improvements required to provide acceptable traffic operations.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Circulation Element Planned Circulation Element policy is applicable to the proposed project:

C 1.4: Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timely, and economically efficient extension of infrastructure and services.

Project Consistency. The project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood streets (i.e., local roadways). The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods, schools, and community parks through a safe and efficient road network, including secondary highway, collector, and local roadways. The internal circulation system has been designed utilizing curvilinear street pattern with a predominance of cul-de-sacs. Regional access to the site will be provided by State Route 91, Interstate 15, and State Route 60 freeways, with convenient on-off ramps located westerly of the project site. Center Street, Mount Vernon Avenue, Columbia Avenue and Palmyrita Avenue provide a logical and economically efficient access to the project site from the freeway system. The project will participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway improvement needs. Thus, the proposed project is consistent with this applicable circulation and traffic policy of the General Plan.

The following County of Riverside General Plan Circulation Element Level of Service policies are applicable to the proposed project:

C 2.1: Maintain the following Countywide target Levels of Service: LOS "C" along all County maintained roads and conventional state highways. As an exception, LOS "D" may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional state highways or freeway ramp intersections. LOS "E" may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

C 2.3: Projects that propose an increase in currently approved density and intensity of land use, must prepare a traffic analysis that evaluates the long-term impacts of the project, demonstrating that the planned road system can support the proposed project, together with those land uses already allowed in the area. The analysis would project average daily traffic of roadway links for the buildout situation of the entire area to demonstrate conformance with the target Level of Service standards. In addition, any individual development proposal may be required to provide a traffic analysis to assess peak hour impacts at affected intersections, identifying needed mitigation measures to achieve or maintain the target Level of Service. Such impacts may be mitigated by construction of all improvements necessary to achieve the target Level of Service, by payment of a fee or fees if an appropriate funding mechanism is in place, or by any other appropriate means. If the projected traffic does not exceed the target level, mitigation may include, but is not limited to, compliance with standard conditions of approval, or the construction of improvements or payment of fees necessary to mitigate the incremental impact for each development proposal.

Project Consistency. A traffic impact analysis was prepared for the proposed project that identifies project related impacts (i.e., peak hour impacts at affected intersections), including level of service deficiencies, and mitigation measures (as outlined in item VI.A.2.C of this section) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. With the incorporation of mitigation measures, the project is expected to maintain the Countywide target level of service on County maintained roads and conventional state highways. Thus, the proposed project is consistent with these applicable circulation and traffic policies of the General Plan. The following County of Riverside General Plan Circulation Element System Design, Construction and Maintenance policies are applicable to the proposed project:

C 3.5: Require all major subdivisions to provide adequate collector road networks designed to feed traffic onto General Plan designated highways.

C 3.6: Require private developers to be primarily responsible for the improvement of streets and highways service access to developing commercial, industrial, and residential areas. These may include road construction or widening, installation of turning lanes and traffic signals, and the improvement of any drainage facility or other auxiliary facility necessary for the safe and efficient movement of traffic or the protection of road facilities.

C 3.10: Require private and public land developments to provide all on-site auxiliary facility improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development project shall be undertaken to identify project impacts to the circulation system and its auxiliary facilities. The Transportation Department may require developers and/or subdividers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.

C 3.13: Design street intersections, where appropriate, to assure the safe, efficient passage of through-traffic and the negotiation of turning movements.

C 3.14: Design curves and grades to permit safe movement of vehicular traffic at the road's design speed. Design speed should be consistent with and complement the character of the adjacent area.

C 3.15: Provide adequate sight distances for safe vehicular movement at a road's design speed and at all intersections.

C 3.23: Consider the utilization of traffic-calming techniques in the design of new community local street and road systems and within existing communities where such techniques will improve safety and manage traffic flow through sensitive neighborhoods.

C 3.24: Provide a street network with quick and efficient routes for emergency vehicles, meeting necessary street widths, turn-around radius, and other factors as determined by the Transportation Department in consultation with the Fire Department and other emergency service providers.

Project Consistency. The project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood (i.e., local roadways) streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods, schools, and community parks through a safe and efficient road network, including secondary highway, collector, and local roadways. The internal circulation system has been designed utilizing curvilinear street pattern with a predominance of cul-de-sacs. Regional access to the site will be provided by State Route 91, Interstate 15, and State Route 60 freeways, with convenient on-off ramps located westerly of the project site. Center Street, Mount Vernon Avenue, Columbia Avenue and Palmyrita Avenue provide a logical and economically efficient access to the project site from the freeway system.

A traffic impact analysis was prepared for the proposed project that identifies project related impacts (i.e., peak hour impacts at affected intersections), including level of service deficiencies, and mitigation measures (i.e., traffic calming techniques) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. With the incorporation of mitigation measures, the project is expected to maintain the Countywide target level of service on County maintained roads and conventional state highways.

The project will also participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway improvement needs to provide for the improvement of street and highway service access to the proposed project. Cross-sections and ultimate roadway alignments will be designed to meet the County of Riverside Transportation Department requirements for such things as street intersections, curves, grades, etc. The Master Circulation Plan will be subject to the review and approval of the Riverside County to ensure safe and efficient movement of traffic and appropriate emergency vehicle routes. Sight distance at each project access roadway will be reviewed with respect to standard City of Riverside, Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape and street improvement plans. Thus, the proposed project is consistent with these applicable circulation and traffic policies of the General Plan.

The following County of Riverside General Plan Circulation Element Pedestrian Facilities policies are applicable to the proposed project:

C 4.1: Provide facilities for the safe movement of pedestrians within developments, as specified in the County Ordinances Regulating the Division of Land of the County of Riverside.

C 4.2: Maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Special emphasis should be placed on the needs of disabled persons considering Americans with Disabilities Act (ADA) regulations.

C 4.4: Plan for pedestrian access that is consistent with road design standards while designing street and road projects. Provisions for pedestrian paths or sidewalks and timing of traffic signals to allow safe pedestrian street crossing shall be included.

C 4.5: Collaborate with local communities to ensure that school children have adequate transportation routes available, such as a local pedestrian or bike path, or local bus service.

C 4.7: Encourage safe pedestrian walkways that comply with the Americans with Disabilities Act (ADA) requirements within commercial, office, industrial, mixed use, residential, and recreational developments.

C 4.10: Review all existing roadways without pedestrian facilities when they are considered for improvements (whether maintenance or upgrade) to determine if new pedestrian facilities are warranted. New roadways should also be assessed for pedestrian facilities.

Project Consistency. Sidewalks will be provided on all roads serving the project site. As required, these facilities will comply with the ADA and County ordinances regulating the Division of Land of the County of Riverside. The project's proposed access routes will be reviewed with respect to the appropriate site distance standards at the time of preparation of final grading, landscape, and street improvement plans. This will serve to ensure the safe and convenient movement of pedestrian throughout the project site and the appropriate timing of traffic signals at street crossings. The eight-foot shoulders, which will be provided on Mount Vernon Avenue and Pigeon Pass Road and collector streets can be utilized as bikeways and multi-purpose and community trail system is included within the development, which will provide access to the school site. Thus, the proposed project is consistent with these applicable circulation and traffic policies of the General Plan.

The following County of Riverside General Plan Circulation Element System Access policies are applicable to the proposed project:

C 6.2: Require all-weather access to all new development.

C 6.3: Limit access points and intersections of streets and highways based upon the road's General Plan classification and function. Access points must be located a sufficient distance away from major intersections to allow for safe, efficient operation.

Project Consistency. All weather access to the site will be provided as part of the proposed project. The project's access points will be reviewed with respect to standard County of Riverside, Caltrans, and City of Riverside sight distance standards at the time of preparation of final grading, landscape and street improvement plans to ensure safe and efficient operation of the circulation system. Access locations along General Plan highways have been recommended as part of the project's Master Circulation Plan to minimize conflicting turning movements along routes that will serve through traffic and to provide sufficient distance away from major intersections. Therefore, the proposed project is considered to be consistent with these applicable circulation and traffic policies of the General Plan.

The following County of Riverside General Plan Circulation Element Property Owner Coordination policy is applicable to the proposed project:

C 7.1: Work with incorporated cities to mitigate the cumulative impacts of incorporated and unincorporated development on the countywide transportation system.

Project Consistency. As part of the development process, the project proponent is coordinating, as appropriate, with the City of Riverside to mitigate impacts on the surrounding transportation system. The project will participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway improvement needs. Thus, the proposed project is considered to be consistent with this relevant circulation and traffic policy of the General Plan. The following County of Riverside General Plan Circulation Element Transportation Demand Management policy is applicable to the proposed project:

C 23.1: Continue implementation of the County's TDM Design Guidelines.

Project Consistency. As identified in Section VI.A.3 of this EIR, the proposed project will include TDM Design Guidelines. Thus, the proposed project is considered to be consistent this applicable circulation and traffic policy of the General Plan.

b. Highgrove Area Plan Relationship. The following policies of the Highgrove Area Plan (HAP) are applicable to the proposed project:

HAP 14.1: Design and develop the vehicular roadway system per the Highgrove Circulation plan, Figure 5, and in accordance with the Functional classifications and standards specified in the Circulation Element.

HAP 14.2: Maintain the County's roadway Level of Service standards as specified in the Circulation Element.

Project Consistency. Project roadways are designed to be consistent with the General Plan, and hence, the HAP. More specifically, the project's Master Circulation Plan is consistent with the Highgrove Circulation Plan and the General Plan's Circulation Element. A traffic impact analysis was prepared for the proposed project that identifies project-related impacts (i.e., peak hour impacts at affected intersections), including level of service deficiencies, and mitigation measures (as outlined in item VI.A.2.C below) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. With the incorporation of mitigation measures, the project is expected to maintain the Countywide target level of service on County

maintained roads and conventional state highways. Thus, the proposed project is consistent with these applicable circulation and traffic policies of the HAP.

C. MITIGATION MEASURES

Roadway Improvements

The following roadway improvements, as identified on Figure VI.A.2-16 are recommended to reduce project related impacts:

1) Construct Center Street from the west project boundary to the east project boundary at its ultimate half-section width as a 66-foot Collector in conjunction with development.

2) Construct Spring Street from the west project boundary to Mount Vernon Avenue at its ultimate half-section width as a 66-foot Collector in conjunction with development.

3) Construct a paved two-lane extension of Spring Street from Mount Vernon Avenue to the east project boundary in conjunction with development to provide site access, with a minimum 34-foot pavement section for interim conditions.

4) Construct Spring Street (east of Mount Vernon Avenue) within the project at its ultimate cross-section width as a 66-foot Collector in conjunction with development.

5) Construct Pigeon Pass Road from Mount Vernon Avenue to the east project boundary at its ultimate half-section width as a 66-foot Collector in conjunction with development.

6) Construct Mount Vernon Avenue from the north project boundary to the south project boundary at its ultimate cross-section width as an Industrial Collector in conjunction with development.

7) Construct Mount Vernon Avenue from the south project boundary to Pigeon Pass Road at its ultimate half-section width as an Industrial Collector in conjunction with development.

8) Participate in the phased construction of off-site traffic signals through payment of established fees.

9) On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project site.

10) Sight distance at each project access roadway should be reviewed with respect to standard City of Riverside, Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

11) The project shall participate in the funding or construction of the identified off-site cumulative improvements.

12) The project shall participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway improvement needs.

13) Freeway interchange improvements, railroad grade separations and arterial widening projects are being considered for inclusion into the Transportation Uniform Mitigation Fee (TUMF) program being developed in Western Riverside County. The TUMF process is identifying a network of regional facilities and endeavors to spread the cost on a regional basis through participation of the County and individual cities. If adopted, it would provide another potential funding source for General Plan improvements in this area.

Off-site Improvements

The project shall participate in funding or construction of the following off-site improvements:

14) La Cadena Drive West (NS) at:
- Stephens Avenue (EW)
  - Traffic signal
  - Northbound left turn lane
- Interchange Street (EW)
  - Traffic signal
- Highgrove Place (EW)
  - Traffic signal
- I-215 Northbound Ramps (EW)
  - Traffic signal
  - Northbound left turn lane
  - Convert northbound through lane to a shared through-left lane
- Columbia Avenue (EW)
  - Northbound left turn lane
  - Southbound left turn lane
  - Westbound right turn lane

15) Highgrove Place (NS) at:
- Center Street (EW)
  - Traffic signal

16) Iowa Avenue (NS) at:
- Main Street (EW)
  - Traffic signal
  - Second northbound through lane
  - Southbound left turn lane
- Center Street (EW)
  - Eastbound left turn lane

17) Michigan Avenue (NS) at:
- Center Street (EW)
  - Traffic signal

18) Mount Vernon Avenue (NS) at:

- Main Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
- Center Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
  - Eastbound left turn lane
  - Westbound left turn lane
- Spring Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
  - Eastbound left turn lane
  - Westbound left turn lane
  - Westbound through lane
- Pigeon Pass Road (EW)
  - Traffic signal
  - Northbound through lane
  - Southbound left turn lane
  - Southbound through lane
  - Westbound left turn lane
  - Westbound right turn lane

The project should participate in an area-wide funding program to provide phased implementation of roadway improvement needs.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures listed above will reduce project related circulation and traffic impacts to levels that are considered less than significant.

VI.A.3 Air Quality

A. EXISTING CONDITIONS

1) Climate

The project site is located in the South Coast Air Basin (SCAB). The climate in and around the basin and the project area, as with all of southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. The project site's climate is characterized by moderate temperatures and comfortable humidity and precipitation is limited to a few storms during the winter "wet" season. Temperatures are normally mild, except in the summer months, which commonly bring substantially higher temperatures. In all portions of the basin, temperatures well above 100°F have been recorded in recent years. The annual average temperature in the basin is approximately 62°F.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling towards the sea. Local canyons will alter wind direction, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions that inhibit the dispersion of pollutants. Inversions may be either ground-based or elevated. Ground-based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur near local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the SCAB and is responsible for the high levels of ozone observed during summer months in the air basin.

2) Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established air quality standards for criteria pollutants. These ambient air quality standards identify safe levels of contaminants that avoid specific adverse health associated with each pollutant. The ambient air quality standards include pollutants that are already in the least healthy form when initially released (primary pollutants) as well as those requiring additional transformation (secondary pollutants) Table VI.A.3-1 provides a summary of air pollution sources and their subsequent effects.

Table VI.A.3-1: Air Pollution Sources and Effects

Pollutant	Source/Character	Effects
Carbon Monoxide (CO)	Odorless, colorless gas Mainly from motor vehicles Requires no further conversion	Binds with hemoglobin Reduces oxygen delivery Headache, dizziness, fatigue Aggravates heart conditions
Ozone (O_3)	Photochemical transformation (ROG + NOx + sunlight) Precursors derive from auto exhaust Highest levels in inland valleys	Damages lung tissue Destroys plant tissues Rots tires, fabric, paint
Nitrogen Dioxide (NO_2)	Reddish brown gas Mainly NO in auto exhaust Converts to NO_2 Important smog precursor	Respiratory disease Visibility degradation Smog (ozone) formation
Sulfur Dioxide (SO_2)	Pungent colorless gas Combustion of sulfur fuels	Lung irritant Chronic respiratory disease Acid rain formation
Particulate Matter (PM-10)	Solid/liquid mix Smoke, dust combustion Grading and construction Vehicle turbulence and abrasion Photochemical byproducts	Serious health hazard Lodges in deep lung tissue May contain toxics (diesel) Respiratory distress (asthma)
Ultra-fine Part (PM-2.5)	Combustion of fuels Chemical byproducts Little crustal material	Very deep lung tissue Carcinogenic diesel exhaust Chemically active materials Visibility degradation
Reactive Organics (ROG)	Incomplete combustion Evaporative sources Household products	No clean air standards Many ROGs are toxic Ozone precursor
Source: Michael Brandman Associates, September 2002.		

The Federal and California state ambient air quality standards for criteria pollutants, as promulgated by the federal Clean Air Act (CAA), are summarized in Table VI.A.3-2. The Federal and State ambient standards were developed independently with differing processes and methods. As a result, the Federal and State standards differ in some cases. In general, the State standards are more stringent than the Federal standards. This is particularly true for ozone and particulate matter 10 microns or less.

Table VI.A.3-2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	0.12 ppm (235 µg/m3)	Same as Primary Standard	Ethylene Chemi-luminescence
	8 Hour	—		0.08 ppm (157 µg/m3)		
Respirable Particulate Matter (PM10)	Annual Geometric Mean	30 µg/m3	Size Selective Inlet Sampler ARB Method P (8/22/85)	—	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	24 Hour	50 µg/m3		150 µg/m3		
	Annual Arithmetic Mean	—		50 µg/m3		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		65 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean			15 µg/m3		
Carbon Monoxide (CO)	8 hour	9.0 ppm (10 mg/m3)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		—		
Nitrogen Dioxide (NO2)	Annual Arithmetic Mean	—	Gas Phase Chemi-luminescence	0.053 ppm (100 µg/m3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1 Hour	0.25 ppm (470 µg/m3)		—		
Lead	30 Days average	1.5 µg/m3	AIHL Method 54 (12/74) Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m3	Same as Primary Standard	

Table VI.A.3-2 (Cont.): Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Sulfur Dioxide (SO2)	**Annual Arithmetic Mean**	—	Fluorescence	0.030 ppm (80 µg/m3)	—	Pararosoaniline
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm (365 µg/m3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		—	—	
Visibility Reducing Particles	8 Hour (10 am to 6 pm PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: ARB Method V (8/18/89).		**No Federal Standards**		
Sulfates	24 Hour	25 µg/m3	Turbidimetric Barium Sulfate (AIHL Method 61 (2/76)			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Cadmium Hydroxide Stractan			

Source: Michael Brandman Associates, September 2002.

3) Regulatory Setting

The California Air Resources Board maintains records as to the attainment status of basins throughout the state, under both state and federal criteria. For 2001, that portion of the SCAB, within which the proposed project is located, was designated as a non-attainment area for ozone (O_3) and particulate matter 10 microns or less (PM-10) under state standards, and as a non-attainment area for O_3, carbon monoxide (CO), and PM-10 under federal standards. The Air Quality Management Plan (AQMP) for the SCAB establishes a program of rules and regulations directed at attainment of the state and national air quality standards.

SCAQMD rules and regulations that apply to this project include SCAQMD Rule 403, which governs emissions of fugitive dust. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. Rule 403 also requires projects that disturbs over 100 acres of soil or moves 10,000 yds^3/day of materials/day to submit to SCAQMD a Fugitive Dust Control Plan. If the entire site is mass graded in the initial phase of development as this air quality analysis assumes, then the project will be required to submit a formal Fugitive Dust Control Plan.

SCAQMD Rule 1113 governs the sale of architectural coatings and limits the volatile organic compounds (VOC) content in paints and paint solvents. Although this rule does not directly apply to the project, it does dictate the VOC content of paints available for use during the construction of the buildings.

4) Monitored Air Quality

The project site is within SCAQMD Source Receptor Area (SRA) 23. The most recent published data for SRA 23 is presented in Table VI.A.3-3 *Air Quality Monitoring Summary 1991-2002*. This data shows that the baseline air quality conditions in the project area include occasional events of very unhealthful air. Even so, the frequency of smog alerts has dropped significantly in the last decade. The greatest recognized air quality problem in the SCAB is ozone. The yearly monitoring records document that prior to 1995, approximately one-third or more of the days each year experienced a violation of the state hourly ozone standard, with around ten days annually reaching first stage alert levels of 0.20 parts per million (ppm) for one hour. It is encouraging to note that ozone levels have dropped significantly in the last few years with approximately one-tenth of the days each year experiencing a violation of the state hourly ozone standard in 2002. Locally, no first stage alert (0.20 ppm/hour) has been called by SCAQMD in over two years, and no second stage alert (0.35 ppm/hour) has been called by SCAQMD in the last ten years.

Although the overall air quality in SRA 23 is improving, one exception is the ambient concentrations of particulate matter (PM-10 and PM-2.5). Over the last decade, the State air quality standard for PM-10 has been consistently exceeded in the area, and the Federal standard has been exceeded in all but three years (see Table VI.A.3-3). SCAQMD monitoring data shows SRA 23 exceeding the federal annual and 24-hour standards since SCAQMD began monitoring PM-2.5 in 1999. It should be noted that adoption of State standards for PM-2.5 occurred in June of 2003 and are not yet reflected in historical data.

Table VI.A.3-3: Air Quality Monitoring Levels 1991-2002

	Pollutant/Standard Source: CARB 1/25/99	Monitoring Year											
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. Days Exceeded	**Ozone [a]:**												
	California Standard:												
	1-Hour - 0.09 ppm	139 [b]	142 [b]	132 [b]	134 [c]	109 [c]	92 [c]	89 [c]	70 [c]	38 [c]	41 [c]	41 [c]	56 [c]
	Federal Primary Standards:												
	1-Hour - 0.12 ppm	79 [b]	75 [b]	71 [b]	77 [c]	52 [c]	36 [c]	13 [c]	32 [c]	3 [c]	3 [c]	7 [c]	12 [c]
	8-Hour - 0.08 ppm [a]	—	—	—	—	—	—	55 [c]	57 [c]	27 [c]	29 [c]	34 [c]	38 [c]
	Max 1-Hour Conc. (ppm)	0.24 [b]	0.26 [b]	0.26 [b]	0.25 [c]	0.21 [c]	0.20 [c]	0.19 [c]	0.20 [c]	0.14 [c]	0.14 [c]	0.143 [c]	0.16 [c]
	Max 8-Hour Conc. (ppm) [a]	—	—	—	—	—	—	0.13 [c]	0.17 [c]	0.11 [c]	0.11 [c]	0.12 [b]	0.12 [c]
No. Days Exceeded	**Carbon Monoxide [c]:**												
	California Standard:												
	1-Hour - 20 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.0 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	Federal Primary Standards:												
	1-Hour - 35 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.5 ppm	0	0	0	0	0	0	0	0	0	0	0	0
	Max 1-Hour Conc. (ppm)	14.0	11.0	10.0	11.0	9.0	9.0	7.0	6.0	7.0	5.0	5.0	8.0
	Max 8-Hour Conc. (ppm)	6.9	6.1	6.3	7.3	6.5	5.0	5.8	4.6	4.4	4.3	3.43	3.0

Table VI.A.3-3 (Cont.): Air Quality Levels Measured at the Riverside-Rubidoux Monitoring Station

	Pollutant/Standard Source: CARB 1/25/99	Monitoring Year											
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. Days Exceeded	**Nitrogen Dioxide :**												
	California Standard:												
	1-Hour - 0.25 ppm	0[b]	0[b]	0[b]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0	0
	Federal Standard:												
	Annual Standard - 0.053ppm	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]
	Max. 1-Hour Conc. (ppm)	0.16[b]	0.23[b]	0.14[b]	0.18[c]	0.15[c]	0.11[c]	0.12[c]	0.10[c]	0.13[c]	0.10[c]	0.15	0.10
No. Days Exceeded	**Sulfur Dioxide :**												
	California Standards:												
	1-Hour – 0.25 ppm	0[b]	0[b]	0[b]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0	0
	24-Hour – 0.04 ppm	0[b]	0[b]	0[b]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0	0
	Federal Primary Standards:												
	24-Hour – 0.14 ppm	0[b]	0[b]	0[b]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0[c]	0	0
	Annual Standard – 0.03 ppm	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]	No[e]
	Max. 1-Hour Conc. (ppm)	0.02[b]	0.02[b]	0.02[b]	0.02[c]	0.02[c]	0.01[c]	0.04[c]	0.03[c]	0.03[c]	0.11[c]	0.02	0.02
	Max. 24-Hour Conc. (ppm)	0.007[b]	0.026[b]	0.010[b]	0.005[c]	0.009[c]	0.004[c]	0.007[c]	0.010[c]	0.011[c]	0.041[c]	0.011	0.016
No. Days Exceeded	**Inhalable Particulates (PM-10):**												
	California Standards:												
	24-Hour - 50 $\mu g/m^3$	41[b]	39[b]	42[b]	41[c]	38[c]	19[c]	41[c]	42[c]	46[c]	68[c]	78[c]	61[a]
	Annual Geometric Mean ($\mu g/m^3$)	65.4[b]	52.5[b]	58.0[b]	55.9[c]	51.8[c]	52.0[c]	56.3[c]	48.7[c]	64.9[c]	54.7[c]	54.3[c]	53.4[a]

Table VI.A.3-3 (Cont.): Air Quality Levels Measured at the Riverside-Rubidoux Monitoring Station

	Pollutant/Standard Source: CARB 1/25/99	Monitoring Year											
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. Days Exceeded	Federal Primary Standards:												
	24-Hour – 150 µg/m^3	2 [b]	0 [b]	4 [b]	1 [c]	4 [c]	1 [c]	1 [c]	0 [c]	1 [c]	0 [c]	0 [c]	0 [a]
	Annual Arithmetic Mean (µg/m^3)	76.0 [b]	62.5 [b]	72.4 [b]	65.7 [c]	69.0 [c]	61.1 [c]	64.9 [c]	58.2 [c]	72.3 [c]	60.1 [c]	63.1 [c]	58.5 [a]
	Max. 24-Hour Conc. (µg/m^3)	179.0 [b]	126.0 [b]	231.0 [b]	161.0 [c]	219.0 [c]	162.0 [c]	163.0 [c]	116.0 [c]	153.0 [c]	139.0 [c]	135.0 [c]	130.0 [a]
No. Days Exceeded	**Inhalable Particulates (PM-2.5):**												
	Federal Primary Standards:												
	Annual Standard – 15µg/m^3	—	—	—	—	—	—	—	—	Yes [e]	Yes [e]	Yes [e]	Yes [e]
	24-Hour – 65 µg/m^3	—	—	—	—	—	—	—	—	9 [d]	11 [d]	19 [d]	8 [d]
	Annual Arithmetic Mean (µg/m^3)	—	—	—	—	—	—	—	—	30.9 [d]	28.2 [d]	31.3 [d]	27.5 [d]
	Max. 24-Hour Conc. (µg/m^3)	—	—	—	—	—	—	—	—	111.2 [d]	119.6 [d]	98.0 [d]	77.6 [d]

Note: [a] 1997 is first year of SCAQMD records for federal 8-hour Ozone standard.
[b] Rubidoux air monitoring station (SRA 23) data summaries for ozone, NO_2, SO_2 and PM-10 during years 1991 through 1993.
[c] Metro Riverside County 1 air monitoring station (also in SRA 23) data summaries for CO during all years and ozone, NO_2, SO_2 and PM-10 in years 94 –2001
[d] 1999 is first year of SCAQMD records for federal 24-hour PM-2.5 standard
[e] Exceedance of the Annual Standards are expressed as either Yes or No indicating whether the standard has been exceeded for that year.
Source: Michael Brandman Associates, September 2002.

The sources contributing to particulate matter pollution include road dust, windblown dust, agriculture, construction, fireplaces and wood burning stoves, and vehicle exhaust. Specifically, SCAQMD data indicates the largest component of PM-10 particles in SRA 23 comes from road and windblown dust. Although organic carbon particles generated from paints, degreasers and vehicles, is slightly elevated at the Rubidoux monitoring station (SRA 23), these particles are also basin-wide. The last notable constituent of PM-10 sources is elemental carbon, used as a surrogate for diesel particulates. According to SCAQMD scientists and officials, the Riverside vicinity does not have elevated levels of diesel exhaust.

B. PROJECT IMPACTS/GENERAL PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact on air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan; or
- Violate an air quality standard or contribute substantially to an existing or projected air quality violation; or
- Result in a cumulatively considerable net increase of any criteria pollutant, for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors); or
- Expose sensitive receptors to substantial pollutant considerations; or
- Create objectionable odors affecting a substantial number of people.

2) Project Related Impacts

Air quality impacts can be described as either short-term or long-term. Short-term air quality impacts occur during site grading and project construction. Long-term air quality impacts are those impacts associated with the operation of the proposed project.

a. Short-Term Impacts. Short-term impacts include fugitive dust and other particulate matter, as well as exhaust emissions generated by earthmoving activities and operation of grading equipment during site preparation (demolition and grading). Short-term impacts also include emissions generated during construction of the buildings as a result of operation of equipment, operation of personal vehicles by construction workers, electrical consumption, and coating and paint applications.

Assumptions relevant to model input for short-term emissions estimates are calculated for the first phase of the project, as this phase will include the greatest amount of acreage and square feet of building area. They are as follows:

- 184.49 acres will be graded during the initial phase of the development.

- Approximately 16,500 cubic yards of orange trees will be exported off-site during grading. As a worst-case scenario, as many as 55 heavy-duty truck trips per workday were assumed to transport the orange trees off-site.

- Foundation construction of 613 single-family homes, and a school will entail placement of approximately 35,000 cubic yards of concrete. As a worst-case scenario, as many as 50 truckloads of concrete per day will be transported to the site during foundation construction.

- Approximately 30.6 acres of surface area will be covered in asphalt.

Short-term emissions were evaluated with the URBEMIS 2002 for Windows computer program. The URBEMIS 2002 model sets default values for worker trips and the use of asphalt and architectural coatings. Model inputs include the projected types of land uses and their square footage areas, the year in which construction is to begin, and the length of the construction period. For the purposes of this analysis as a worst-case scenario, construction is slated to begin in the year 2004 and the construction period is anticipated to require approximately 18 months. Table VI.A.3-4: *Estimated Short-Term Emissions*, summarize the results of these evaluations.

Table VI.A.3-4: Estimated Short-Term Emissions

Pollution Source	NOx	CO	ROC	SOx	PM-10
Maximum Daily Emissions (lbs/day)[1]	**795.43**	**869.51**	**371.45**	0.68	**485.76**
Emissions Totals (tons/quarter)[2]	**25.85**	**28.26**	**12.07**	0.02	**15.79**
SCAQMD Thresholds	100 lbs/day 2.5 tons/qtr	550 lbs/day 24.75 tons/qtr	75 lbs/day 2.5 tons/qtr	150 lbs/day 6.75 tons/qtr	150 lbs/day 6.75 tons/qtr

Notes: [1] Criteria pollutants that have estimated negligible values are designated NG (negligible emissions).
[2] Quarterly emission totals for all criteria pollutants reflect 65 workdays per quarter of construction activity.
Bold = Above SCAQMD Thresholds.
Source: Michael Brandman Associates, August 2003.

The URBEMIS 2002 model assumes all aspects of construction of the project is additive. In actuality, initial grading, subsequent structure installation, and the application of paints and coatings are typically phased over the construction period and are not strictly additive; though in some large-scale projects these phases may have overlap. Evaluation of the preceding tables indicates that projected NOx, CO, ROC, and PM-10 emissions are above the SCAQMD recommended daily thresholds during the construction of the first phase of the project. The primary sources of NOx emissions are trucks used for tree removal and importation of concrete. The primary source of ROC emissions is the

application of architectural coatings, and the primary source of PM-10 is fugitive dust from earthmoving activities.

In an effort to reduce estimated short-term NOx, CO, ROC, and PM-10 emissions, a range of reduction measures was considered. Effective emission reduction measures were narrowed to include properly maintaining mobile construction equipment (5 percent reduction of all mobile equipment emissions), provide temporary traffic control (e.g., flag person) during orange tree and concrete transport activities (5 percent reduction of all onroad mobile equipment emissions), prohibit truck idling in excess of ten minutes (4 percent reduction of all mobile equipment emissions), apply low volatility paints as defined in SCAQMD Rule 1113 using either high volume low pressure (HVLP) spray equipment or by hand application (minimum of 65 percent reduction of architectural coating ROC emissions), and water all unpaved haul roads during construction three times a day (46 percent reduction in fugitive dust). These emission reduction measures are anticipated to reduce all criteria pollutant emissions from mobile construction equipment by approximately 14 percent, architectural coatings application by 65 percent, and fugitive dust emissions by 46 percent. However, as shown in Table VI.A.3-5, even with these reductions the daily and quarterly emissions of NOx, CO and ROC remain above the SCAQMD suggested thresholds.

Table VI.A.3-5: Mitigated Short-Term Emissions

Pollution Source	NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
Maximum Daily Emissions (lbs/day)	**752.42**	**836.14**	**202.04**	0.58	118.31
Emissions Totals (tons/quarter)	**17.37**	**27.17**	**6.57**	0.02	3.85
SCAQMD Thresholds	100 lbs/day 2.5 tons/qtr	550 lbs/day 24.75 tons/qtr	75 lbs/day 2.5 tons/qtr	150 lbs/day 6.75 tons/qtr	150 lbs/day 6.75 tons/qtr

Note: NG designates criteria pollutants that have estimated negligible values.
Bold TYPE indicates emissions that are above the SCAQMD Thresholds.
Source: Michael Brandman Associates, August 2003.

b. Long-Term Regional Air Quality. Long-term impacts for the proposed residential subdivision consist of mobile emissions and stationary emissions. Mobile emissions estimates are derived from motor vehicle traffic. Stationary emissions estimates are derived from the consumption of natural gas and electricity. Table VI.A.3-6, *Estimated Mobile Emissions*, presents estimated emissions of each of the criteria pollutants as a result motor vehicle trips at project build-out in the year 2007.

Table VI.A.3-6: Estimated Mobile Emissions

Pollution Source	NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
Mobile Emissions	97.23	1,050.07	110.53	0.62	94.40
Source: Michael Brandman Associates, August 2003.					

Electric usage rates for single-family residential and schools are identified in the CEQA Air Quality Handbook, which lists the emission factors for each criteria pollutant from the consumption of electricity. Table VI.A.3-7, *Estimated Emissions from Electrical Consumption*, presents anticipated emissions of criteria pollutants from electrical consumption as a result of this project based on these CEQA Air Quality Handbook factors.

Table VI.A.3-7: Estimated Emissions from Electrical Consumption

NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
2.01	2.68	0.13	1.61	0.54
Source: Michael Brandman Associates, August 2003.				

Natural gas consumed by water heaters and space heating in residential units and school office buildings and classrooms of the proposed project will produce emissions of criteria air pollutants. The anticipated emissions estimated by the URBEMIS 2001 for Windows computer program are listed in Table VI.A.3-8, *Estimated Emissions from Natural Gas Consumption*.

Table VI.A.3-8: Estimated Emissions from Natural Gas Consumption

NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
8.85	3.73	0.68	NG	0.02
Note: NG designated criteria pollutants that have estimated negligible values. Source: Michael Brandman Associates, August 2003.				

The URBEMIS 2002 for Windows computer program estimates emissions generated by landscape maintenance equipment as a result of fuel combustion and evaporation of unburned fuel. Equipment in this category includes lawn mowers, roto-tillers, shredders, blowers, trimmers, chain saws, and hedge trimmers used in commercial applications. These emission estimates are listed in Table VI.A.3-9, *Estimated Emissions from Landscaping*.

Table VI.A.3-9: Estimated Emissions from Landscaping

NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
0.11	8.65	1.03	0.23	0.02
Source: Michael Brandman Associates, August 2003.				

Consumer product emissions are generated by a wide range of product categories, including air fresheners, automotive products, household cleaners, and personal care products. Emissions associated with these products primarily depend on the increased population associated with residential development.. URBEMIS 2002 was used to estimate consumer product emissions for an increased population of 1,594 persons within the proposed residential development at build-out of the project (2.60 persons per residential unit as shown in the Riverside County General Plan). Table VI.A.3-10 *Estimated Emissions from Consumer Products*, lists these estimated emissions.

Table VI.A.3-10: Estimated Emissions from Consumer Products

NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
NG	NG	29.99	NG	NG
Note: NG designated criteria pollutants that have estimated negligible values. Source: Michael Brandman Associates, August 2003.				

An estimate of the daily total long-term project emissions is derived by combining both mobile (trucks and autos) and stationary emissions (electrical consumption, natural gas consumption, and landscape maintenance). Table VI.A.3-11, *Composite Long-Term Emissions*, presents the estimated daily total emissions at project build out.

Table VI.A.3-11: Composite Long-Term Emissions

Pollution Source	NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
Mobile Emissions	97.23	1,050.07	110.53	0.62	94.40
Electrical Consumption	2.01	2.68	0.13	1.61	0.54
Natural Gas Consumption	8.85	3.73	0.68	NG	0.02
Landscape Emissions	0.11	8.65	1.03	0.23	0.02
Consumer Products	NG	NG	29.99	NG	NG
Emissions Totals	**108.20**	**1,065.13**	**142.36**	**2.46**	**94.98**
SCAQMD Thresholds	55	550	55	150	150
Note: NG designates criteria pollutants that have estimated negligible values. Source: Michael Brandman Associates, August 2003.					

When unmitigated emissions projections are compared with the SCAQMD suggested thresholds for significance, it is shown that long-term emissions exceed the applicable thresholds for NOx, CO, and ROC. The primary source of these emissions is mobile emissions from vehicle traffic.

In an effort to reduce estimated NOx, CO, and ROC emissions, a range of mitigation measures were considered. Mitigation measures for on-road mobile source emissions are listed in the CEQA Air Quality Handbook. These mitigation measures include such actions as synchronizing traffic lights on streets impacted by the project (reduction of 3 percent for all emissions). Table VI.A.3-12 shows the estimated total mitigated long-term emissions.

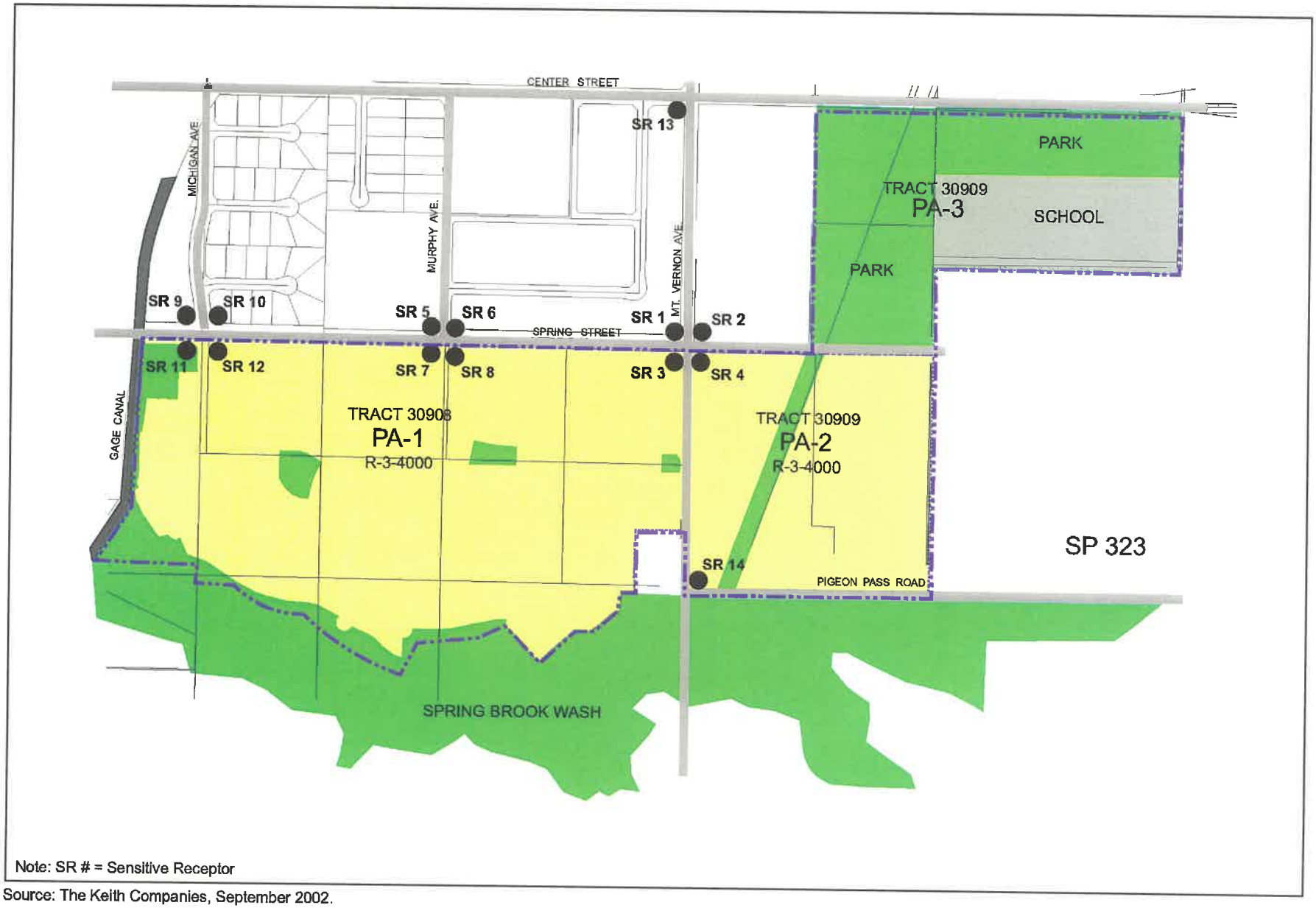
Table VI.A.3-12: Mitigated Long-Term Emissions

Pollution Source	NOx (Lbs/Day)	CO (Lbs/Day)	ROC (Lbs/Day)	Sox (Lbs/Day)	PM-10 (Lbs/Day)
Mobile Emissions	91.48	987.83	106.26	0.58	88.78
Electrical Consumption	2.01	2.68	0.13	1.61	0.54
Natural Gas Consumption	8.85	3.73	0.68	NG	0.02
Landscape Emissions	0.11	8.65	1.03	0.23	0.02
Consumer Products	NG	NG	29.99	NG	NG
Emissions Totals	**102.45**	**1,002.89**	**138.09**	2.42	89.36
SCAQMD Thresholds	55	550	55	150	150

Notes: NG designates criteria pollutants that have estimated negligible values.
Bold TYPE indicates emissions that are above the SCAQMD Thresholds.
Source: Michael Brandman Associates, August 2003.

As indicated in Table VI.A.3-12, even withinmitigation measures incorporated into the project NOx, CO, and ROC emissions remain above the SCAQMD recommended threshold.

1. CO Hotspots. Carbon Monoxide is a localized problem requiring additional analysis beyond total project emissions quantification. The SCAQMD recommends that projects with sensitive receptors or projects that could negatively impact levels of service (LOS) of existing roads use the screening procedures outlined in the SCAQMD CEQA Air Quality Handbook to determine the potential to create a CO hot spot. A CO hot spot is a localized concentration of CO that is above the State or Federal 1-hour or 8-hour ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The proposed project includes sensitive receptors and has the potential to negatively impact the LOS on adjacent roadways and therefore, requires a CO hotspot analysis.



Note: SR # = Sensitive Receptor

Source: The Keith Companies, September 2002.

NORTH

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Figure **VI.A.3-1**

CO Hotspot Receptor Locations

SPRINGBROOK ESTATES EIR

The SCAQMD CEQA Air Quality Handbook recommends using CALINE4, the fourth generation California Line Source Roadway Dispersion Model developed by the California Department of Transportation (Caltrans), to estimate 1-hour CO concentrations from roadway traffic. Input data for this model includes meteorology, street network geometrics, traffic information, and emissions generation rates. Meteorological data required includes average temperatures, wind direction, sigma theta (standard deviation of wind direction), and wind speed. Required traffic information was taken from the traffic study prepared for the Springbrook Estates Specific Plan(Urban Crossroads 2003) and includes peak hour traffic volumes and levels of service. Emission factors were calculated in grams/mile/vehicle using the EMFAC2002 computer model.

Total traffic volume of the adjacent roadway segments was calculated using total projected volumes of this project combined with other known projects in the area and existing traffic volumes multiplied by a growth factor of 4 percent per year. These calculations were estimated from intersection volumes found in the project specific traffic study. Roadway segments in this analysis include:

- Mount Vernon Avenue from Pigeon Pass Road to the San Bernardino County Line;
- Center Street from Mount Vernon Avenue to SR-60;
- Spring Street from Mount Vernon Avenue to SR-60;
- Murphy Avenue from project entrance to Center Street; and
- Michigan Avenue from project entrance to Center Street

The PM peak hour traffic volumes were used in this analysis because they represent the highest traffic volumes. Receptor locations were based on existing and planned residential development in the project area. Receptor placement in the CALINE4 model also took into account the location to the roadway network in relation to the planned and existing residential developments. Therefore, receptors were placed within residential development nearest to the roadway intersections that border the residential development. Figure VI.A.3-1 shows the location of these receptors in relation to the project site.

The model procedure that was followed combined the results of the traffic analysis assuming very restrictive dispersion conditions in order to generate a worst-case impact assessment.

Output from the CALINE4 model is in 1-hour CO concentrations in parts per million (ppm) at the selected receptor locations shown in Figure VI.A.3-1. The predicted 1-hour CO concentrations were determined by adding the ambient background 1-hour CO concentrations to the model projected 1-hour CO concentration. The 8-hour CO concentration was estimated by multiplying the 1-hour model estimate by the persistence factor for the project area (0.6) and adding the ambient background 8-hour CO concentration. The results from this screening procedure are presented in Table VI.A.3-13.

Assuming worst-case conditions, the estimated 1-hour and 8-hour average CO concentrations in combination with background concentrations are below the State and Federal ambient air quality standards. No CO hot spots are anticipated as a result of traffic generated emissions by the proposed project in combination with other anticipated development in the area.

Table VI.A.3-13: Estimated CO Concentrations

Receptor/ Closest Intersection	No. of Vehicles/ hr[1]	ppm	ft	ppm			
		Traffic Generated CO Concentration[2]	Distance to Intersection (see Exhibit 4)	Background CO Concentration[3]	Estimated CO Concentration[4]	State Standards	Federal Standards
Worst Case 1-hour Average CO Concentrations							
Receptor 1: Mont. Vernon Av./ Spring St.	1756	3.20	60 ft	5.00	8.20	20	35
Receptor 2: Mont. Vernon Av./ Spring St.	1756	3.30	60 ft	5.00	8.30	20	35
Receptor 3: Mont. Vernon Av./ Spring St.	1756	3.40	60 ft	5.00	8.40	20	35
Receptor 4: Mont. Vernon Av./ Spring St.	1756	3.80	60 ft	5.00	8.80	20	35
Receptor 5: Murphy Av./Spring St.	308	1.20	60 ft	5.00	6.20	20	35
Receptor 6: Murphy Av./Spring St.	308	1.10	60 ft	5.00	6.10	20	35
Receptor 7: Murphy Av./Spring St.	308	1.00	60 ft	5.00	6.00	20	35
Receptor 8: Murphy Av./Spring St.	308	1.00	60 ft	5.00	6.00	20	35
Receptor 9: Michigan Av./Spring St.	296	1.20	60 ft	5.00	6.20	20	35
Receptor 10: Michigan Av./Spring St.	296	1.10	60 ft	5.00	6.10	20	35
Receptor 11: Michigan Av./Spring St.	296	1.10	60 ft	5.00	6.10	20	35
Receptor 12: Michigan Av./Spring St.	296	1.00	60 ft	5.00	6.00	20	35
Receptor 13: Mont. Vernon Av./ Center St.	2329	3.40	60 ft	5.00	8.40	20	35
Receptor 14: Mont. Vernon Av./ Pigeon Pass Rd.	2009	3.50	60 ft	5.00	8.50	20	35
Worst Case 8-hour Average CO Concentrations							
Receptor 1: Mont. Vernon Av./ Spring St.	1756	1.92	60 ft	3.43	5.35	9	9.5
Receptor 2: Mont. Vernon Av./ Spring St.	1756	1.98	60 ft	3.43	5.41	9	9.5
Receptor 3: Mont. Vernon Av./ Spring St.	1756	2.04	60 ft	3.43	5.47	9	9.5
Receptor 4: Mont. Vernon Av./ Spring St.	1756	2.28	60 ft	3.43	5.71	9	9.5
Receptor 5: Murphy Av./Spring St.	308	0.72	60 ft	3.43	4.15	9	9.5
Receptor 6: Murphy Av./Spring St.	308	0.66	60 ft	3.43	4.09	9	9.5
Receptor 7: Murphy Av./Spring St.	308	0.60	60 ft	3.43	4.03	9	9.5
Receptor 8: Murphy Av./Spring St.	308	0.60	60 ft	3.43	4.03	9	9.5

Table VI.A.3-13 (Cont.): Estimated CO Concentrations

Receptor/ Closest Intersection	No. of Vehicles/ hr[1]	ppm	ft	ppm			
		Traffic Generated CO Concentration[2]	Distance to Intersection (see Exhibit 4)	Background CO Concentration[3]	Estimated CO Concentration[4]	State Standards	Federal Standards
Receptor 9: Michigan Av./Spring St.	296	0.72	60 ft	3.43	4.15	9	9.5
Receptor 10: Michigan Av./Spring St.	296	0.66	60 ft	3.43	4.09	9	9.5
Receptor 11: Michigan Av./Spring St.	296	0.66	60 ft	3.43	4.09	9	9.5
Receptor 12: Michigan Av./Spring St.	296	0.60	60 ft	3.43	4.03	9	9.5
Receptor 13: Mont. Vernon Av./ Center St.	2329	2.04	60 ft	3.43	5.47	9	9.5
Receptor 14: Mont. Vernon Av./ Pigeon Pass Rd.	2009	2.10	60 ft	3.43	5.53	9	9.5

Note: [1] Generated from project specific Traffic Study for local streets and Caltrans for freeway segments.
[2] Maximum CO 1-hour and 8-hour average concentrations in SRA 23 for 2001
[3] Predicted using CALINE4 computer model
[4] Traffic generated CO concentrations + background CO concentrations
Source: Michael Brandman Associates, August 2003.

2. Sensitive Receptors. The nearest sensitive receptors are existing residential uses on the north side of Spring Street directly across the street from the project site and the project itself. Local prevailing winds in the area travel from northwest to southeast.

   In the long-term, the project will generate CO and ROC emissions in excess of the SCAQMD thresholds. A CO hotspot analysis demonstrates that the proposed project will not violate state or federal standards at the location of these sensitive receptors. These emissions would further dissipate and be diluted by the atmosphere downwind of the emission sources.

   Considering the concentration and dispersion of the pollutants, the project will not expose sensitive receptors to substantial pollutant concentrations.

3. Objectionable Odors. The project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the project site during construction of the project. The closest areas with substantial numbers of people are the residential land uses north of Spring Street. Local prevailing winds in the area travel from the northwest to southeast. These emissions would rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Recognizing the wind direction and the dispersion of the pollutants, the project will not subject a substantial number of people to objectionable odors.

c. **Compliance with Air Quality Planning.** The Air Quality Management Plan (AQMP) for the SCAB sets forth a comprehensive program that will lead the SCAB into compliance with all federal and state air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections.

For the proposed project, the proposed population density that will result from the project and the proposed land uses are not consistent with the underlying general plan designation, and therefore, the proposed project is not consistent with the land use information that was the basis for the current AQMP. Additionally, both short-term and long-term project-related emissions exceed the SCAQMD thresholds. Emissions for NOx, CO and ROC remain above the thresholds after implementation of mitigation measures. For these reasons, it is appropriate to conclude that the proposed project is not in compliance with the AQMP.

3) **General Plan and Area Plan Relationship**

a. **General Plan Relationship.** The following General Plan Air Quality Element - Sensitive Receptors policies are applicable to the proposed project.

AQ 2.2: Require site plan designs to provide the maximum feasible protection to people and uses sensitive to air pollution through the use of barriers and/or distances from emission sources

AQ 2.3: Encourage the use of pollution control measures at sensitive land uses such as landscaping, vegetation, and other materials, which trap particulate matter and pollution.

AQ 2.4: Protect sensitive receptors by creating an urban tree planting program to plant trees that remove pollutants from the air or provide shade, which decreases the negative impacts of heat on the air.

Project Consistency. MBA prepared an air quality assessment, which examined the air quality impacts associated with the implementation of the proposed project. A series of mitigation measures for both short-term and long-term emissions have been recommended to reduce air quality impacts to the maximum extent feasible. The generation of particulate matter is primarily associated with construction related earth-moving activities. In accordance with SCAQMD Rules 403 and 403.1 to reduce fugitive dust emanating from construction sites, project development will include the implementation of such measures as spreading soil binders onsite, on un-paved roads, and in parking areas. Other short-term measures, such as watering and chemical stabilizers will assist in reducing emissions and particulate matter in the short-term. In the long-term, pollution control measures focus upon transportation demand measures and energy efficiency measures, in addition to the use of innovative site design to limit exposure to sensitive land uses. In addition, in accordance with the AQMP (Miscellaneous Sources MDSC-01 measure) project mitigation

includes the implementation of a tree planting program. Therefore, the proposed project is consistent with these applicable air quality policies of the General Plan

The following General Plan Air Quality Element Stationary Pollution Sources policies are applicable to the proposed project.

AQ 4.1: Encourage the use of building materials/methods, which reduce emissions.

AQ 4.2: Encourage the use of efficient heating equipment and other appliances such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces, and boiler units.

AQ 4.3: Require centrally heated facilities to utilize automated time clocks or occupant sensors to control heating.

AQ 4.4: Require residential building construction to comply with energy use guidelines detailed in Title 24 of the California Administrative Code.

AQ 4.7: Require every project to mitigate any of its anticipated emissions, which exceed allowable emissions as established by the SCAQMD, MDAQMD, SOCAB, the Environmental Protection Agency and the California Air Resources Board.

AQ 4.9: Enforce SCAQMD Rules 403 and 403.1 and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Project Consistency. In the short-term, the proposed project includes a variety of mitigation measures consistent with the SCAAQMD to reduce construction related air quality impacts. In the long-term, the proposed project includes mitigation measures such as the use of lighter color roofing and road materials, window glazing, wall insulation, and ventilation to assist in reducing air emissions. Moreover, to improve the thermal integrity of the school buildings and reduce thermal loads automated time clocks or occupant sensors, shall be incorporated into the school design. As identified in Section VI.A.14, as required the proposed project will be in compliance with Title 24 of the California Administrative Code to ensure the use of efficient heating equipment and appliances. Therefore, the proposed project is consistent with these relevant air quality policies of the General Plan.

The following General Plan Air Quality Element Jobs to Housing Ratio policy is applicable to the proposed project.

AQ 8.8: Promote land use patterns, which reduce the number and length of motor vehicle trips.

Project Consistency. The proposed project will introduce residential land uses in an area that is in close proximity to several major employment centers, including the 39-acre University Research Park, the 104-acre Operating Engineers facility, and the 40-acre Concordia Business Park. Thus, a land use pattern will emerge that will encourage a reduction in vehicle miles traveled.

Therefore, the proposed project is consistent with this relevant air quality policy of the General Plan.

The following Riverside County General Plan Air Quality Element - Control Measure policies are applicable to the proposed project:

AQ 17.1: Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights of way, and off-road vehicles to the extent possible.

Project Consistency. A series of mitigation measures for both short-term and long-term have been recommended to reduce air quality impacts to the maximum extent feasible. The generation of particulate matter is primarily associated with construction related earth-moving activities. Project development will include the implementation of such measures as spreading soil binders onsite, on un-paved roads, and in parking areas. Other short-term measures, such as watering and chemical stabilizers will assist in reducing emissions and particulate matter in the short-term. In the long-term pollution control measures focus upon transportation demand measures and energy efficiency measures. The project will also be in accordance with SCAQMD Rules 403 and 403.1 to reduce fugitive dust emanating from construction sites. Therefore, the proposed project is consistent with this applicable air quality policy of the General Plan.

The following County of Riverside General Plan Circulation Element Environmental Considerations policies are applicable to the proposed project:

C 21.4: Control dust and mitigate other environmental impacts during all stages of roadway construction.

C 21.5: Protect all streets and highways located within identified blow sand areas from blowsand hazards to the extent practicable.

C 21.11: Incorporate specific requirements of the General Plan Air Quality Element into transportation plans and development proposals where applicable.

Project Consistency. In the short-term air quality impacts are generally associated with construction activities, in the long term, air quality impacts are generally associated with vehicle emissions. A series of mitigation measures for both short-term and long-term have been recommended to reduce air quality impacts to the maximum extent feasible. The generation of particulate matter is primarily associated with construction related earth-moving activities. Project development will include the implementation of such measures as spreading soil binders onsite, on un-paved roads, and in parking areas. Other short-term measures, such as watering and chemical stabilizers will assist in reducing emissions and particulate matter in the short-term. In the long-term pollution control measures focus upon transportation demand measures and energy efficiency measures. The project will also be in accordance with SCAQMD Rules 403 and 403.1 to reduce fugitive dust emanating from construction sites. Therefore, the proposed project is consistent with this applicable air quality policy of the General Plan.

b. **Highgrove Area Plan.** There are no applicable Highgrove Area Plan (HAP) policies that relate to air quality.

C. MITIGATION MEASURES

Construction Impacts - Short Term

The following SCAQMD measures are recommended to reduce pollutant emissions from construction activities.

1) Water site and clean equipment morning and evening to comply with the AQMP Fugitive Dust Measures BCM-03 and BCM-06. As part of the conditions of grading permit approval, the project shall water the construction site (with use of reclaimed water or chemical soil binder, where feasible) twice daily.

2) Water unpaved haul roads during construction at least three times per day. As part of the conditions of grading permit approval unpaved construction haul roads shall be watered (with use of reclaimed water or chemical soil binder, where feasible) three times daily.

3) Wash off trucks leaving the site to comply with the AQMP Fugitive Dust Measure BCM-01. As part of the conditions of grading permit approval, the project shall wheel wash construction equipment and cover dirt in trucks during on-road hauling. Haul trucks leaving the site also are required to have a minimum freeboard distance of 12", or to cover payloads.

4) Spread soil binders on site, unpaved roads and parking areas. SCAQMD Rule 403 requires that "every reasonable precaution (is taken) to minimize fugitive dust emissions" from grading operations to control particulate emissions.

5) Apply chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas that remain inactive for 96 hours).

6) Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less.

7) Suspend grading operations during first and second stage smog alerts.

8) Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

9) Maintain construction equipment engines by keeping them tuned.

10) Provide temporary traffic control (flag person) during construction. During construction of the proposed improvements, temporary traffic control (e.g., flag person) shall be provided during transport activities. Contractor shall be advised not to idle trucks on site for more than ten minutes.

11) Apply paints using either high volume low pressure (HVLP) spray equipment or by hand application.

Regional Air Quality - Long Term

The following Transportation Demand Measures are recommended:

12) Schedule truck deliveries and pickups at schools during off-peak hour.

13) Provide adequate ingress and egress at all entrances to public school facilities to minimize vehicle idling at curbsides.

14) Provide dedicated turn lanes as appropriate and provide roadway improvements at heavily congested roadways.

15) Synchronize project area roadway traffic signals.

The following energy efficiency measures are recommended:

16) Improve thermal integrity of the school buildings and reduce thermal load with automated time clocks or occupant sensors.

17) Install energy efficient street lighting.

18) Provide lighter color roofing and road materials and tree planting programs to comply with the AQMP Miscellaneous Sources MSC-01 measure.

19) Provide bicycle lanes, storage areas, and amenities, and ensure efficient parking management.

20) Encourage the use of alternative fuel or low emission vehicles to comply with the AQMP On-Road Mobile M2 measure, and Off-Road Mobile Sources M9 and M10 measures.

21) Introduce window glazing, wall insulation, and efficient ventilation methods.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

After the implementation of the mitigation measures above, short-term construction related NOx, CO, and ROC emissions will still exceed SCAQMD thresholds, in the long-term, CO and ROC emissions will still exceed the applicable SCAQMD thresholds. Therefore, the proposed project is considered to have significant unavoidable air quality impacts.

VI.A.4 Noise

The following discussion is based on the *Springbrook Estates Noise Study*, which was prepared by Urban Crossroads in November 2002 and updated July 2003. The *Noise Study* is included in its entirety in Appendix I, *Noise Impact Analysis*, of the Technical Appendices accompanying this EIR.

A. EXISTING CONDITIONS

Community noise levels are measured in terms of the "A-weighted decibel," abbreviated dBA. A-weighting is a frequency correction correlating overall sound pressure levels with the frequency response of the human ear. The "equivalent noise level," or L, is the average noise level on an energy basis for any specified time. The Leq for one hour is the energy average noise level during the hour. Specifically, it is the average noise based on the energy content (acoustic energy) of the sound. It can be thought of as the level of continuous noise, which has the same energy content as the fluctuating noise level. The equivalent noise level has the units of dBA; therefore, a sound measured for one hour may be expressed as one hour Leq of 57 dBA.

Several rating scales have been developed for measurement of community noise. These account for:

- Parameters of noise that have been shown to contribute to the effects of noise on humans;
- Variety of noises found in the environment;
- Variations in noise levels that occur as a person moves through the environment; and
- Variations associated with the time of day.

The predominant rating scale now used in California for land use compatibility assessment is the Community Noise Equivalent Level (CNEL). The CNEL scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that an artificial dB be added to quiet-time noise levels. This process is called time weighting and refers to noises occurring during certain sensitive times are penalized. Noises are penalized by five dBA during evening time (7 p.m. to 10 p.m.) and by 10 dBA during nighttime (10 p.m. to 7 a.m.). These periods and penalties were selected to reflect people's increased sensitivity to noise during these times. The day-night, or Ldn scale, is similar to the CNEL scale except that evening noises are not penalized. A CNEL noise level may be reported as a "CNEL of 60 dBA," "60 dBA CNEL," or simply "60 CNEL."

The State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) mandates an interior CNEL of 45 dB for multiple family dwellings and hotel and motel rooms. A weighted noise exposure of 45 dB CNEL is also the guideline for single-family interiors used in most California jurisdictions. Since normal noise attenuation within residential structures with closed windows is about 20-25 dB, an exterior noise exposure of 65 dB CNEL allows the interior standard to be met without any specialized structural attenuation (e.g., dual paned windows, etc.). A noise level of 65 dB is also the level at which ambient noise begins to interfere with a person's ability to carry on a normal conversation at reasonable separation without raising his or her voice. A noise exposure of 65 dB CNEL is thus typically

the exterior noise land use compatibility guideline for new residential dwellings in California. In many communities where a quiet environment is considered an important asset that enhances the natural scenic values, somewhat more stringent land use compatibility guidelines have often been adopted.

In the Noise Element of the Riverside County General Plan, a noise exposure of 60 dB CNEL is identified as the most desirable noise level for residential uses. Noise exposures in the range of 65 dB to 70 dB CNEL are considered conditionally acceptable for noise-sensitive residential uses after a careful analysis has been completed to ensure all noise impact mitigation has been implemented as fully as possible.

1) County of Riverside Noise Element

The County of Riverside specifies outdoor and indoor noise limits for various land uses impacted by stationary and transportation noise sources. The noise limits specified in the County's Noise Element are expressed in terms of the CNEL. The standard states that for residential land use, the exterior noise exposure level shall not exceed 65 dB CNEL and the interior noise exposure level shall not exceed 45 dB CNEL. For schools and parks "where quiet is a basis for use" the exterior noise exposure level shall not exceed 65 dB CNEL.

2) County of Riverside Noise Ordinance

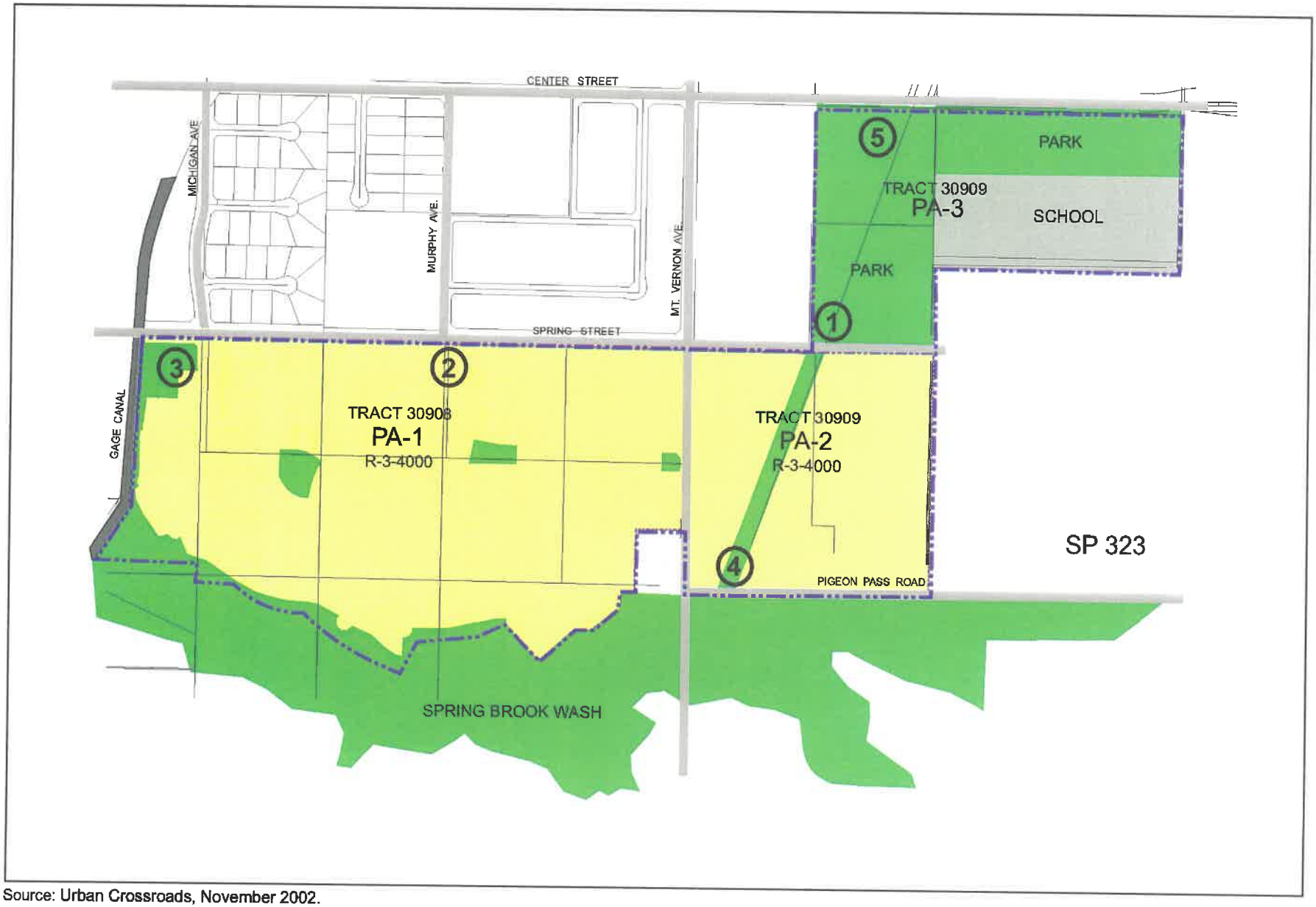
A noise ordinance is designed to control unnecessary, excessive and annoying sounds from noise sources on private property affecting neighboring properties. Noise ordinance requirements cannot be applied to mobile noise sources such as heavy trucks traveling on public roadways. Federal and state laws preempt control of mobile noise sources on public roads. Noise ordinance standards typically apply to industrial and commercial noise sources impacting residential areas. They are also applicable to noise generated at parks and schools that impact residential areas.

The County of Riverside has not established a noise ordinance as a part of its municipal code. However, the County's Department of Environmental Health has historically applied 65 dBA Leq (10 min) daytime (7 a.m. to 10 p.m.) and 45 dBA Le (10 min) nighttime (10 p.m. to 7 a.m.) standards to fixed noise sources. This means a fixed noise source cannot result in the Leq noise level for a 10-minute measurement exceed 65 dBA during the daytime or 45 dBA during the nighttime at the nearest residential property line.

3) Ambient Measurements

Ambient noise levels were measured near the project as part of this analysis. The measurements are intended to document the ambient noise levels in the project vicinity. The project site and surrounding area is currently undeveloped. Figure VI.A.4-1, *Noise Monitoring Locations,* shows the location of the measurement sites.

The noise measurements were conducted from 2 AM to 4 PM on September 12, 2002 using a LARSON-DAVIS Model 700 precision integrating sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter was calibrated before and after the monitoring using a LARSON-DAVIS calibrator, Model CAL 150. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. This instrument automatically calculates the "percent noise levels" (L_n) for any specific period.



Source: Urban Crossroads, November 2002.

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Figure **VI.A.4-1**

Noise Monitoring Locations

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The percent noise level "L_n" is useful to evaluate intermittent noise sources. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{90} is the noise level exceeded 90 percent of the time measured, commonly used to estimate the "ambient" noise level. L_{50} is the noise level exceeded 50 percent of the time measured, and is seen as the "average" noise level. L_{10} is the noise level exceeded 10 percent of the time measured, and represents the peak or intrusive noise level.

a. **Noise Measurement Locations.** Noise monitoring locations were selected based on their respective impact potential. All noise monitoring locations were in the property next to the roads where a greater impact from noise is expected. Site 1 was located adjacent to Spring Street at approximately 600 feet from Mount Vernon Avenue. Site 2 was located at 70 feet from Spring Street near the intersection with Murphy Avenue. Site 3 was located 70 feet from Spring Street in the northwest part of the property. Site 4 was located 60 feet from the intersection at Pigeon Pass, Center Street, Spring Street and Mount Vernon Avenue in the southeast part of the property. Site 5 was located 40 feet from Center Street in the northeast part of the property. Noise monitoring locations are identified in Figure VI.A.4-1.

The results of the noise level measurements are presented in Table VI.A.4-1. Each site was monitored for a minimum time of 10 minutes. The existing ambient Leq noise levels measured in the project area ranged from 43.7 dBA Leq to 58.9 dBA Leq. The existing noise levels in the project area consist primarily of vehicle noise from Spring Street, Center Street, Mount Vernon Avenue and Pigeon Pass Road.

Table VI.A.4-1: Existing (Ambient) Noise Level Measurements

Observer Location	Description	Time of Measurement	Primary Noise Source	Noise Levels (Leq dBA)
1	Located 600 feet from Mount Vernon Avenue	2:00 PM	Vehicle noise from Mount Vernon Street	43.7
2	Located 70 feet from Spring Street	2:20 PM	Vehicle noise from Spring Street	48.1
3	Located 70 feet from Spring Street	2:40 PM	Vehicle noise from Spring Street	46.8
4	Located 60 feet from Pigeon Pass	3:00 PM	Vehicle noise from Pigeon Pass and Mount Vernon	58.9+-
5	Located 40 feet from Center Street	3:30 PM	Vehicle noise from Center Street and Mount Vernon Avenue	47.6
Source: Urban Crossroads, Inc., September 12, 2002.				

b. Existing Roadway Noise Levels. The projected roadway noise impacts from vehicular traffic were projected using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108 (the "FHWA Model"). The key input parameters include: the roadway classification (e.g., collector, secondary, major and prime arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement or landscaping) and the percentage of total average daily traffic (ADT) which flows each hour throughout a 24-hour period.

The existing traffic volumes were obtained from the traffic study prepared for the project. Vehicle mixes and time of day traffic distributions used to calculate the noise levels are presented in Appendix I. The vehicle mix data is based on the Riverside County typical vehicle mix according to road classification.

The distances to the existing 60, 65 and 70 CNEL contours for the roadways near the proposed project site are identified in Table VI.A.4-2. These represent the distance from the centerline of the road to the contour value shown. The CNEL at 100 feet from the roadway centerline is also given in the table. The values given in Table VI.A.4-2 represent existing noise levels and do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.

Table VI.A.4-2: Existing Noise Contours

Road	Segment	CNEL at 100 feet (dBA)	Distance to Contour (Feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Michigan Avenue	s/o Center Street	51.2	ROW	ROW	ROW	42
Murphy Avenue	s/o Center Street	49.4	ROW	ROW	ROW	ROW
Mt. Vernon Avenue	s/o Barton Road	64.7	ROW	93	293	925
Mt. Vernon Avenue	n/o Main Street	59.5	ROW	ROW	89	283
Mt. Vernon Avenue	s/o Main Street	60.9	ROW	ROW	123	388
Mt. Vernon Avenue	n/o Spring Street	55.3	ROW	ROW	ROW	106
Mt. Vernon Avenue	s/o Spring Street	58.4	ROW	ROW	69	219
Main Street	w/o Mt. Vernon Avenue	55.3	ROW	ROW	ROW	106
Main Street	e/o Mt. Vernon Avenue	53.0	ROW	ROW	ROW	64
Center Street	w/o Michigan Avenue	61.2	ROW	ROW	132	417
Center Street	e/o Michigan Avenue	60.6	ROW	ROW	114	360
Center Street	w/o Mt. Vernon Avenue	57.1	ROW	ROW	51	162

Table VI.A.4-2 (Cont.): Existing Noise Contours

Road	Segment	CNEL at 100 feet (dBA)	Distance to Contour (Feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Spring Street	w/o Mt. Vernon Avenue	48.2	ROW	ROW	ROW	ROW
Spring Street	e/o Mt. Vernon Avenue	43.4	ROW	ROW	ROW	ROW
Pigeon Pass	e/o Mt. Vernon Avenue	56.7	ROW	ROW	47	148
Palmyrita Avenue	e/o Iowa Avenue	62.4	ROW	54	172	544
Palmyrita Avenue	w/o Michigan Avenue	62.4	ROW	54	172	544
Columbia Avenue	e/o Iowa Avenue	67.2	ROW	166	524	1,657
Columbia Avenue	w/o Michigan Avenue	67.0	ROW	159	504	1,595
Columbia Avenue	e/o Michigan Avenue	50.7	ROW	ROW	ROW	ROW

ROW: Contours fall within the roadway right-of-way
Source: Urban Crossroads, Inc., November 2002.

Existing noise levels in the Springbrook Estates area derive from vehicular sources on the highways and secondary roads in the area.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

For purposes of this analysis, significant noise impacts are considered to occur as a result of the proposed project if one or more of the following scenarios occur:

- Project related traffic results in a noise level increase greater than 3 dBA on a roadway segment adjacent to a noise sensitive land use and the existing noise level exceeds the criteria level for the noise sensitive land use (65 dBA for residential land uses);
- The project increases noise levels from below the 65 dBA standard to above the 65 dBA standard; or
- If the project increases noise level by 5 dBA and the noise levels remain below the 65 dBA residential standard with the project.

Additionally, off-site impacts from on-site activities, are measured against the County of Riverside Department of Heath Standards. For noise sensitive land uses, such as residential, the County requires an exterior noise level of less than 65 dBA and an interior noise level of less than 45 dBA. The County has not established any interior noise standards for schools. Low interior noise levels for schools are very important. High noise levels can interfere with the communication that is essential at schools. A 45 CNEL standard will be used to assess the noise compatibility of the proposed school.

2) Project Related Impacts

Potential noise impacts are commonly divided into two groups: short-term and long-term. Short-term impacts are usually associated with noise generated by construction activities. Long-term impacts are further divided into impacts on surrounding land uses generated by the proposed project and those impacts, which occur at the proposed project site.

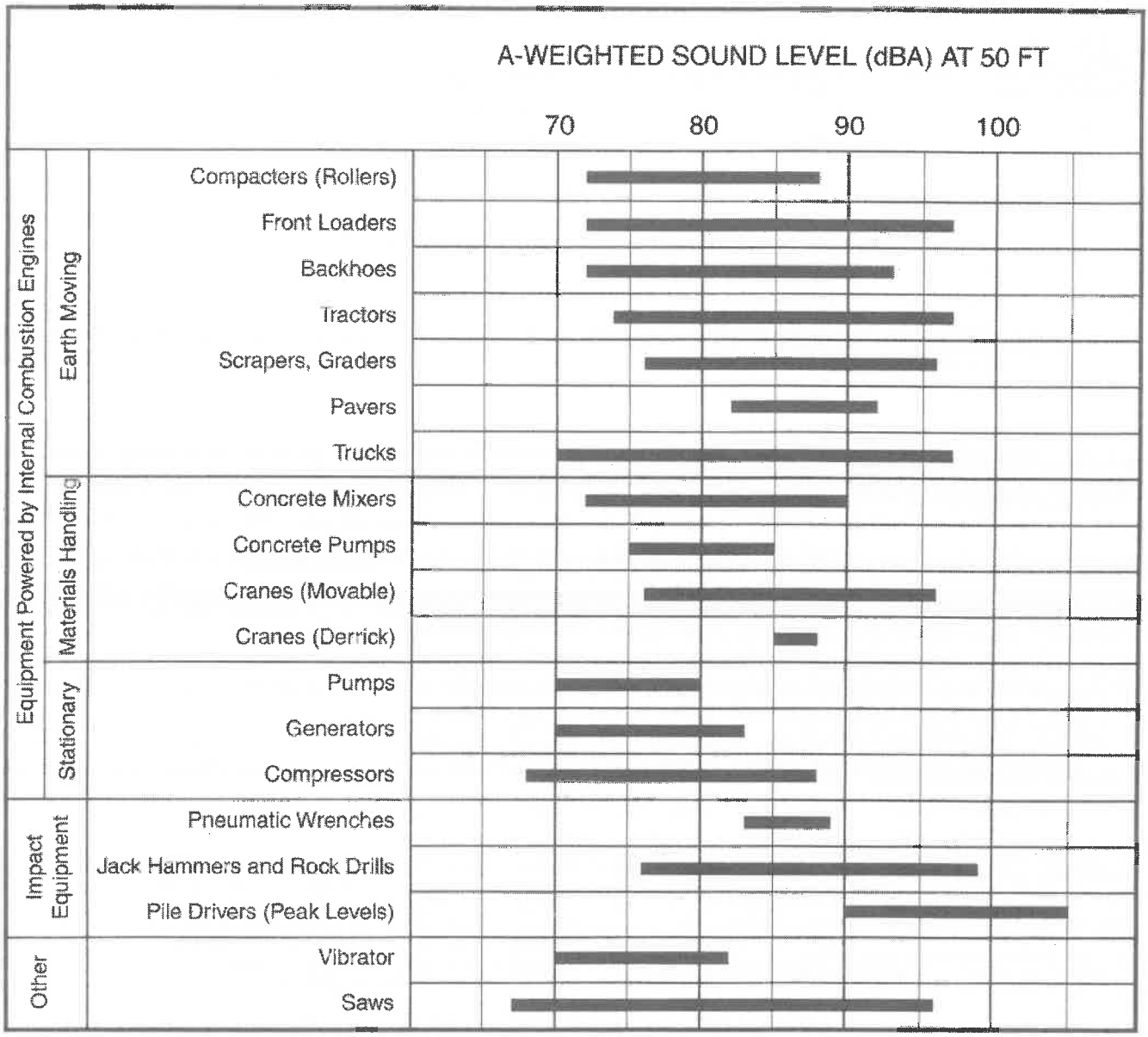
In community noise assessment, changes in noise levels greater than 3 dBA are often identified as significant, while changes less than 1 dBA will not be discernible to local residents. In the range of 1 to 3 dBA, residents who are very sensitive to noise may perceive a slight change. However, there is no scientific evidence available to support the use of 3 dBA as the significance threshold. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dBA. In a community noise situation, however, noise exposures span a long period, and changes in noise levels occur over years, rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dBA, and 3 dBA appears to be appropriate for most people.

a. Construction Noise Impacts. Construction noise will occur as a result of the development of the proposed project. Grading and earthmoving will likely result in the greatest construction noise levels. At this time, the duration of grading is not known. The project site will be developed as market conditions warrant. It is MBA's understanding that pile driving will not be a part of this project.

Construction noise, generally, represents a short-term impact on ambient noise levels. Noise generated by construction equipment and construction activities can reach high levels. Construction equipment noise comes under the control of the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). Examples of construction noise at 50 feet are presented in Figure VI.A.4-2, *Construction Equipment Noise Generation Levels*. At twice the distance (i.e. 100 feet), the noise levels will be 6 dB lower than those shown in Table VI.A.4-2. At four times the distance (i.e. 200 feet), the noise levels will be 12 dB lower. At 500 feet, the noise levels are 20 dB lower than shown on Table VI.A.4-2.

Generally, the noise levels generated by commonly used grading equipment (i.e. loaders, graders and trucks) generate noise levels that typically do not exceed the middle of the range shown in Table VI.A.4-2.

There are scattered residential land uses in the immediate vicinity of the project that may be impacted by construction activities. The most effective method of controlling construction noise is through local control of construction hours. Typically, noise-generating construction hours are limited to daytime hours and prohibited on Sundays and holidays. Specific mitigation measures are included in this section.



SOURCE: *Handbook of Noise Control*, by Cyril Harris, 1979.

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Figure **VI.A.4-2**
Construction Equipment Noise Generation Levels

b. Project-Related Vehicular Noise Impacts. The proposed project will result in increased traffic on the roadways near the project. This increased traffic will increase noise levels along these roadways. Table VI.A.4-3, identifies the project's related vehicular noise contributions for its opening year (2006). Table VI.A.4-4 identifies the opening year noise levels with noise contours.

Table VI.A.4-3: Opening Year Project Contributions

Road	Segment	CNEL at 100 feet (dBA)		
		No Project	With Project	Project Contribution
Michigan Avenue	s/o Center Street	51.2	54.6	3.4
Murphy Avenue	s/o Center Street	51.9	54.9	3.0
Mt. Vernon Avenue	s/o Barton Road	65.9	66.3	0.3
Mt. Vernon Avenue	n/o Main Street	62.9	63.6	0.7
Mt. Vernon Avenue	s/o Main Street	64.4	65.0	0.7
Mt. Vernon Avenue	n/o Spring Street	63.5	64.4	0.8
Mt. Vernon Avenue	s/o Spring Street	63.7	65.0	1.2
Main Street	w/o Mt. Vernon Avenue	58.9	59.5	0.6
Main Street	e/o Mt. Vernon Avenue	53.9	53.9	0.0
Center Street	w/o Michigan Avenue	64.2	64.9	0.7
Center Street	e/o Michigan Avenue	63.8	64.5	0.7
Center Street	w/o Mt. Vernon Avenue	62.4	63.1	0.7
Spring Street	w/o Mt. Vernon Avenue	52.5	56.0	3.5
Spring Street	e/o Mt. Vernon Avenue	56.9	60.1	3.2
Pigeon Pass	e/o Mt. Vernon Avenue	64.4	64.4	0.1
Palmyrita Avenue	e/o Iowa Avenue	63.9	64.1	0.2
Palmyrita Avenue	w/o Michigan Avenue	64.2	64.5	0.3
Columbia Avenue	e/o Iowa Avenue	71.5	72.3	0.8
Columbia Avenue	w/o Michigan Avenue	71.4	72.2	0.8
Columbia Avenue	e/o Michigan Avenue	70.2	71.3	1.0
Source: Urban Crossroads, Inc., November 2002.				

As indicated in Table VI.A.4-3 the project will result in a noise level increase greater than 3 dBA (but not greater than 5 dBA) upon three roadway segments: 1) Michigan Avenue south of Center Street; 2) Spring Street west of Mount Vernon Avenue; and 3) Spring Street east of Mount Vernon Avenue. Some of these roadway segments are located adjacent to existing sensitive land uses (residential land uses). However,

with the addition of opening year project related traffic, none of these roadway segments are projected to have a dBA greater than the 65 dBA standard with or without project related noise contributions. Thus, project related noise impacts are not considered significant along these roadway segments for opening year.

Additionally, vehicular noise levels emanating from traffic on Columbia Avenue and on Mount Vernon Avenue south of Barton Road will exceed 65 dBA with or without the project. However, since these roadways have noise levels greater than 65 dBA without the project and the project's contribution is less than 3 dBA, the project-related impact is less than significant based upon established standards. (Lastly, project related traffic would not result in an increase equal to or greater than 5 dBA along any roadway segment under the opening year project scenario.)

Table VI.A.4-4: Opening Year with Project Noise Contours

Road	Segment	Distance to Contour (Feet)				
		CNEL at 100 feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Michigan Avenue	s/o Center Street	54.6	ROW	ROW	ROW	90
Murphy Avenue	s/o Center Street	54.9	ROW	ROW	ROW	97
Mt. Vernon Avenue	s/o Barton Road	66.3	ROW	133	422	1,335
Mt. Vernon Avenue	n/o Main Street	63.6	ROW	72	228	720
Mt. Vernon Avenue	s/o Main Street	65.0	ROW	100	317	1,003
Mt. Vernon Avenue	n/o Spring Street	64.4	ROW	86	272	862
Mt. Vernon Avenue	s/o Spring Street	65.0	ROW	100	315	996
Main Street	w/o Mt. Vernon Avenue	59.5	ROW	ROW	89	283
Main Street	e/o Mt. Vernon Avenue	53.9	ROW	ROW	ROW	78
Center Street	w/o Michigan Avenue	64.9	ROW	97	308	975
Center Street	e/o Michigan Avenue	64.5	ROW	89	281	890
Center Street	w/o Mt. Vernon Avenue	63.1	ROW	64	203	643
Spring Street	w/o Mt. Vernon Avenue	56.0	ROW	ROW	40	125
Spring Street	e/o Mt. Vernon Avenue	60.1	ROW	ROW	101	320
Pigeon Pass	e/o Mt. Vernon Avenue	64.4	ROW	88	277	876
Palmyrita Avenue	e/o Iowa Avenue	64.1	ROW	81	255	805
Palmyrita Avenue	w/o Michigan Avenue	64.5	ROW	89	281	890

Table VI.A.4-4 (Cont.): Opening Year with Project Noise Contours

Road	Segment	Distance to Contour (Feet)				
		CNEL at 100 feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Columbia Avenue	e/o Iowa Avenue	72.3	168	532	1,682	5,318
Columbia Avenue	w/o Michigan Avenue	72.2	165	523	1,653	5,229
Columbia Avenue	e/o Michigan Avenue	71.3	134	423	1,337	4,227
Source: Urban Crossroads, Inc., November 2002.						

As outlined in the thresholds of significance, the project must meet one of three criteria to be considered significant. The opening year noise forecasts for the proposed project indicate that the project will not result in exceeding any of these criteria for any of the roadway segments examined for this report and therefore the project will result in a less than significant impact.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following Riverside County General Plan Noise Element Noise Compatibility, Noise Mitigation Strategies, and Location of Noise Producers policies are applicable to the proposed project:

N 1.3: Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Uses; and
- Places of Worship

According to the State of California Office of Planning and Research General Plan Guidelines, an acoustical study may be required in cases where these noise-sensitive land uses are located in an area of 60 CNEL or greater. Any land use that is exposed to levels higher than 65 CNEL will require noise attenuation measures.

N 1.4: Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.

N 1.7: Require proposed land uses, affected by unacceptably high noise levels, to have an acoustical specialist prepare a study of the noise problems and

recommend structural and site design features that will adequately mitigate the noise problems.

N 2.2: Require a qualified acoustical specialist to prepare acoustical studies for proposed noise-sensitive projects within noise impacted areas to mitigate existing noise.

N 2.3: Mitigate exterior and interior noises to the levels listed below:
- Residential: 40 Leq Interior/ 45 Leq Exterior (10 p.m. to 7 a.m.)
- Residential: 55 Leq Interior/65 Leq Exterior (7 a.m. to 10 p.m.)

N 8.4: Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide appropriate mitigation measures.

Project Consistency. The Springbrook Estates Specific Plan proposes development of single-family residential, school, and recreation land uses. A Noise Impact Analysis has been prepared for the Springbrook Estates Specific Plan and is included in Appendix I of this EIR. The analysis includes short-term noise impact mitigation that will reduce or eliminate any project related noise impacts to less than significant levels. According to the noise analysis, no existing or proposed onsite or surrounding sensitive land uses will experience long-term noise levels in excess of 65 dBA (CNEL) during the daytime hours under buildout of the project. Noise measurements for the project were conducted at 2:00 PM. Therefore, it is expected given the proposed circulation system and projected noise environment that nighttime noise attenuation will result in exterior noise levels no greater than 45 dBA. Moreover, typical structural attenuation results in a 10-20 dBA, thus, interior noise levels will not exceed the daytime or nighttime standards. All potential noise impacts resulting from implementation of the Springbrook Estates Specific Plan have been addressed in relation to land use, circulation, transportation, and housing and reduced to less than significant levels. Therefore, the proposed project is consistent with these applicable noise policies of the General Plan.

The following Riverside County General Plan Noise Element Building and Design - Natural Barrier and Landscaping policies are applicable to the proposed project:

N 11.1: Utilize natural barrier such as hills, berms, boulders, and dense vegetation to assist in noise reduction.

N 11.2: Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals in conjunction with earthen berms, setbacks, or block walls.

Project Consistency. A Master Landscape and Open Space Plan has been prepared for the Springbrook Estates Specific Plan, which includes landscape enhancements such as open space corridors and streetscaping. The project's overall landscape design will include a combination of trees, shrubs, and groundcover. No individual project-related long-term noise impacts have been

identified as a result of project implementation; however, the inclusion of the planned landscape enhancements will assist in further noise reductions onsite. Therefore, the proposed project is consistent with relevant noise policies of the General Plan.

The following Riverside County General Plan Noise Element Building and Design - Temporary Construction policies are applicable to the proposed project:

N 12. 1: Minimize the impacts of construction noise on adjacent uses within acceptable practices.

N 12.2: Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

N. 12.3: Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses by requiring the developer to submit a construction related noise mitigation plan to the County for review and approval prior to the issuance of a grading permit. The plan must depict the location of construction equipment and how noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

- Temporary noise attenuation fences;
- Preferential location of equipment; and
- Use of current noise suppression technology and equipment

N 12.4: Require that all construction equipment utilizes noise reduction features (i.e. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Project Consistency. A Noise Impact Analysis has been prepared for the Springbrook Estates Specific Plan and is included in Appendix I of this EIR. The analysis includes short-term noise impact mitigation that will reduce or eliminate any project related noise impacts to less than significant levels. Measures include noise suppression techniques and identification of hours of operation in accordance with County standards. Therefore, the proposed project is consistent with these relevant noise policies of the General Plan.

The following Riverside County General Plan Noise Element Building and Design - Building and Design policies are applicable to the proposed project:

N 13.1: Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to the tolerable 45 CNEL limit. These standards are utilized in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may include extra dense insulation, double paned window, and dense construction materials.

N 13.2: Continue to develop effective strategies and mitigation measures for the abatement of noise hazards reflecting effective site design approaches and state-of-the-art building technologies.

N 13.8: Review all development applications for consistency with the standards and policies of the Noise Element of the General Plan.

Project Consistency. The Springbrook Estates Specific Plan proposes development of single-family residential, school, and recreation land uses. A Noise Impact Analysis has been prepared for the Springbrook Estates Specific Plan and is included in Appendix I of this EIR. The analysis includes short-term noise impact mitigation that will reduce or eliminate any project related noise impacts to less than significant levels. According to the noise analysis, no existing or proposed onsite or surrounding sensitive land uses will experience long-term noise levels in excess of 65 dBA (CNEL) during the daytime hours under buildout of the project. Noise measurements for the project were conducted at 2:00 PM. Therefore, it is expected given the proposed circulation system and projected noise environment that nighttime noise attenuation will result in exterior noise levels no greater than 45 dBA. Moreover, typical structural attenuation results in a 10-20 dBA, thus, interior noise levels will not exceed the daytime or nighttime standards. All potential noise impacts resulting from implementation of the Springbrook Estates Specific Plan have been addressed in relation to land use, circulation, transportation, and housing and reduced to less than significant levels. Therefore, the proposed project is consistent with these relevant noise policies of the General Plan.

b. Highgrove Area Plan. There are no applicable Highgrove Area Plan (HAP) policies that relate to noise.

C. MITIGATION MEASURES

Mitigation measures have been identified for possible temporary nuisance during construction of the Springbrook Estates project and to attenuate long-term noise levels for on-site uses that abut perimeter and/or interior roadways. The following mitigation measures would reduce potential noise impacts to below a level of significance:

Short-Term Construction Activity Mitigation Measures

1) All construction and general maintenance activities, except in an emergency, shall be limited to the hours of 7 AM to 7 PM, and prohibited on Sundays and all legally proclaimed holidays.

2) All construction equipment should use properly operating mufflers, and no combustion equipment such as pumps or generators shall be allowed to operate within 500 feet of any occupied residence from 7 PM to 7 AM unless the equipment is surrounded by a noise protection barrier.

3) All construction staging should be performed as far away as possible from occupied dwellings.

4) The project applicant shall submit to the County of Riverside Department of Environmental Health a construction noise related mitigation plan in accordance with the County standards.

Long Term Operational Mitigation Measures

Project-related long-term noise impacts are considered less than significant, no mitigation measures are required.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures above will reduce noise impacts to levels that are considered less than significant.

VI.A.5 Biological Resources

This section describes the results of the Biological Resources Assessment conducted and prepared by MBA. The intent of the assessment was to 1) identify and inventory the existing biological resources within the study area, including plant communities, flora, wildlife, and wildlife habitat, 2) to provide an assessment of the sensitive resources found on-site, and 3) analyze the biological significance of the site in relation to federal, state, and local laws and policies.

Natural communities, plant species, wildlife species, wildlife corridors, jurisdictional areas, and known occurrences of sensitive species in the vicinity of the project, and the results of focused surveys for sensitive species conducted on the project site, are addressed in detail in Appendix E, *Biological Resources Assessment.* The survey methodologies for general and sensitive biological resources are also discussed in detail in Appendix E.

A. EXISTING CONDITIONS

The Springbrook Estates project site is an approximately 183.95-acre parcel located in the community of Highgrove, California. The site is generally located within the northernmost area of western Riverside County, near the San Bernardino County line. Specifically, the project site located north of the City of Riverside, south of Center Street, east of Interstate 215, and west of Reche Canyon.

1) Natural Communities

Natural community names and hierarchical structure follows the California Department of Fish and Game (CDFG) List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base (NDDB), January 1999 Edition. A brief summary of each on-site natural community as shown in Table VI.A.5-1, *Natural Communities on the Springbrook Estates Property* is discussed below. Natural community descriptions are based on MBA findings, Sawyer-Keeler Wolfe (1995), and/or Holland (1986 and 1992 update) as appropriate. In addition, a description of site locations and variations of the community are discussed. Within the natural community summary in this EIR, two numbers identify each natural community: the first number is the NDDB Community Code and the second number is the acreage at which a listed natural community is present on site. A map of natural communities on the Springbrook Estates property is included in Figure VI.A.5-1, *Vegetation Communities.*

a. **Non-native Grassland** (42.00.00) (32.65-acres) – This habitat is characterized by a dense-to-sparse cover of annual and/or perennial grasses often associated with a low diversity of non-native grasses and forbes. Dominant genera include Russian thistle (*Salsola tragus*), Mustard (*Brassica* sp.), brome and chess (*Bromus* sp.). This non-native grassland (NNG) habitat may provide foraging area for raptor species including red-tailed hawks, barn owls, great-horned owls, and burrowing owls. There is also a potential for Stephens' kangaroo rat to use these areas. Additionally, an area at the southwestern corner of the property contains a dense patch of arundo or giant cane (*Arrundo donax*), which is considered nonnative grassland.

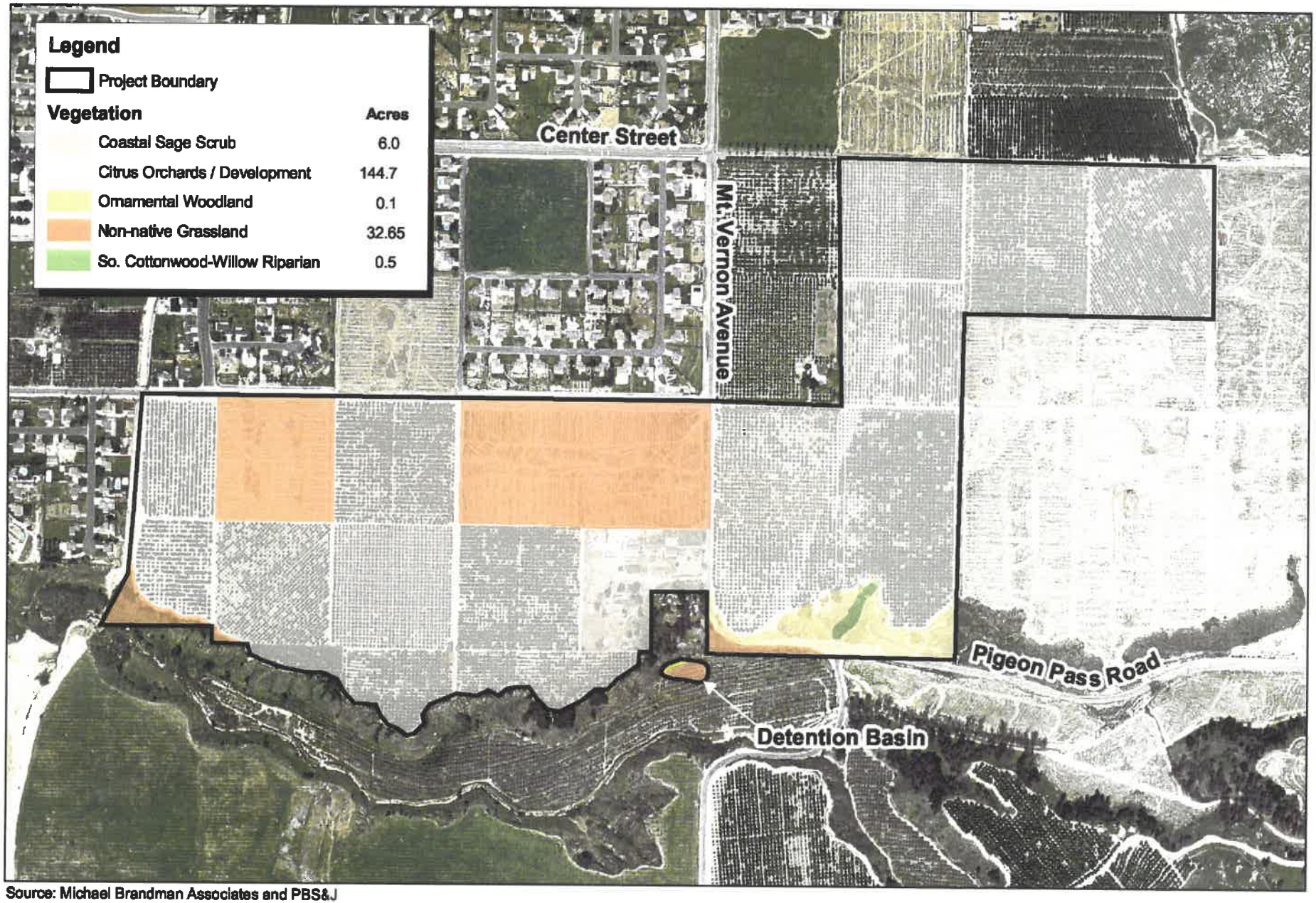
Table VI.A.5-1: Natural Communities on the Springbrook Estates Property

Natural Community	Area (acres)
Non-native Grassland	32.65
Southern Cottonwood-Willow Riparian Forest	0.5
Orchards/Development	144.7
Riversidean Sage Scrub	6.0
Ornamental Woodlands	0.1
Total	**183.95**
Source: Michael Brandman Associates, August 2003.	

b. **Southern Cottonwood-Willow Riparian Forest** (61330) (0.5-acres) – Tall, open broadleafed riparian areas dominated by the Southern Cottonwoods (*Populus fremontii*) and willow species (*Salix* Spp.) characterize Southern cottonwood-willow riparian forest (SCWR) habitat. This habitat requires frequent water flows or sub-irrigation. A small forest of cottonwoods transects the Riversidean sage scrub at the southeast corner of the property. The quality of this habitat is considered low, with obvious human disturbance such as trash dumping. Because the water source for this habitat is from agricultural runoff, this habitat is likely unnatural in origin. If the citrus orchards become inactive, the characteristics creating and supporting this habitat would likely disappear. Other species noted in this area were Peruvian pepper tree (*Schinus molle*), mulefat (*Baccharis glutinosa*), arundo and date palm (*Palmae pheonix*).

c. **Orchards/Development** (99.900.06) (144.7-acres) – Development includes all human disturbances, especially those making permanent impacts on natural communities. Disturbed areas include dirt roads, trails, pavement, concrete, buildings, bridges, active agricultural activities, residential areas, and permanent flood control measures. The majority of the property is comprised of active and inactive citrus orchards. Other disturbed areas include buildings and roads.

d. **Riversidean Sage Scrub** (32700) (6.0-acres) – Riversidean sage scrub (RSS) is the most xeric expression of coastal sage scrub in southern California. It is the driest, most inland expression of the collection of sage scrub or coastal scrub series, and ranges throughout southern California south into Baja California between approximately 1,500 and 4,500 feet above mean sea level. At the southeastern corner of the property, there is a south-facing slope that consists of Riversidean sage scrub. The dominant plant species include California sage (*Artemesia californica*) and brittlebush (*Encelia farinosa*). This habitat has potential to support the federally threatened California gnatcatcher.



Source: Michael Brandman Associates and PBS&J

NORTH

700 350 0 700 Feet

Michael Brandman Associates

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Figure **VI.A.5-1**

Vegetation Communities

SPRINGBROOK ESTATES EIR

e. **Ornamental Woodlands** (NA - No NDDB Community Code) (0.1-acres) – Ornamental woodlands are human created woodlands using non-native trees and shrubs. Common species of trees found within ornamental woodlands include various species of gum tree (*Eucalyptus* spp.), tamarisk (*Tamarix* spp.) and Peruvian pepper trees (*Schinus molle*). Ornamental woodlands present a challenge for species conservation. On one hand, they are comprised of non-native species that often out-compete native tree species, provide little or no food source for native fauna and are sometimes even poisonous to wildlife. On the other hand, these woodlands often provide excellent nesting habitat for raptors and other birds. Ornamental woodlands also provide shade, wind protection, erosion control and esthetic value to humans. One small area of eucalyptus trees occurs at the northern end of the detention basin.

2) Jurisdictional Areas

The only drainages on the property are cement-lined and are used for the sole purpose of directing agricultural runoff. The drainages are not considered jurisdictional under the U.S. Army Corps of Engineers (USACE).

3) Regional Connectivity/Wildlife Movement Corridor

As part of the Biological Resources Assessment, a Wildlife Movement Corridor Assessment was prepared to determine if the alteration of current land use on the subject property will have significant impacts on the regional movement of wildlife. This assessment did not include the use of track plates, camera stations, scent stations, or snares. Instead, notation was made during all site visits of road kill, general locations of animal sign, and inspection of resource maps for the vicinity. The conclusions of the assessment are based on the knowledge of desired topography and resource requirements for wildlife potentially using the property and vicinity.

This property has already been fragmented to the north and to the west by residential development. To the south and to the east, there is a mostly unrestricted corridor for wildlife movement. The orchards provide adequate cover for species such as coyotes and bobcats to move from Box Springs Mountains to Blue Mountain. Wildlife may also use the orchards as a food source as well as a corridor. However, development adjacent to the project site, such as the Spring Mountain Ranch Specific Plan community, will modify this corridor in the near future.

Wildlife movement in a north-south orientation is more suitable just east of the property. The ridge connecting Box Springs Mountains and Blue Mountain to the east of the adjacent Spring Mountain Ranch property provides more desirable movement opportunities for some species. Wildlife would have less energy expenditures moving horizontally across the ridgeline and historically, the Spring Mountain Ranch property provides a connection between the Blue Mountain and Box Springs Mountains to habitats beyond the Interstate Highway 215 to the west. However, the areas beyond the property to the south are quickly developing. Most of the land has been converted from orchards to commercial buildings, and now wildlife species have to cross six roads and one train intersection to access the western side of the Interstate Highway 215.

4) Sensitive Biological Resources

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS) maintain watch lists of such resources. All referenced resources used in the Biological Resources Assessment are listed in Appendix E.

a. Sensitive Species Classifications

1. Federal Protection and Classifications

Federal Endangered Species Act

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "...any species which is in danger of extinction throughout all or a significant portion of its range..." Threatened species are defined as "...any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the Act: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis, often varying from species to species. In a case where a property owner seeks permission from a federal agency for an action, which could affect a federally-listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the federal Endangered Species Act addresses the protections afforded to listed plants.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined at 33 CFR Part 328 as: 1) all navigable waters (including all waters subject to the ebb and flow of the tide); 2) all interstate waters and wetlands; 3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; 4) all impoundments of waters mentioned above; 5) all tributaries to waters mentioned above; 6) the territorial seas; and 7) all wetlands adjacent to waters mentioned above.

In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as rivers, lakes and intermittent streams, extend to the ordinary high water mark (OHWM). Typically in Southern California, the OHWM is indicated by the presence of an incised streambed with defined bank shelving.

The definition of wetlands has increasingly been interpreted by the USACE to extend beyond the original concept of wetlands as swamps, marshes, and bogs to encompass much drier areas, including some hardwood forests, fields, and cultivated farmland, that may be saturated with rainwater for short periods during the course of a year.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act protects all common wild birds found in the United States except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkeys. Resident game birds are managed separately by each State. A reference list of migratory game birds is found in Title 50, Code of Federal Regulations, Part 10. The Bald Eagle Protection Act provides further protection to all bald and golden eagles. The Endangered Species Act further protects endangered species like the peregrine falcon, northern spotted owl, and bald eagle.

The Migratory Bird Treaty Act makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird, including feathers, parts, nests, or eggs. The Bald Eagle Protection Act prohibits all commercial activities and some non-commercial activities involving bald or golden eagles, including their feathers or parts. The Endangered Species Act makes it illegal to sell, harm, harass, possess or remove protected animals from the wild.

2. State of California Protection and Classifications

California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review

by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not include listing provisions for invertebrate species.

Under the California Endangered Species Act, "take" is defined as "...hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require "...permits or memorandums of understanding..." and can be authorized for "...endangered species, threatened species, or candidate species for Scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3. California Native Plant Society

The California Native Plant Society is a California resource conservation organization that has developed an inventory of California's sensitive plant species (Skinner and Pavlik, 1994). This inventory is the summary of information on the distribution, rarity, and endangerment of California's vascular plants.

b. Sensitive Species Occurring in the Vicinity of the Project Site

Following is a list of all species identified by the NDDB as occurring in the vicinity of the project site. The classifications of all species are also provided. Furthermore, a brief discussion of each species potential to occur on the site is provided.

***Arenaria paludicola* – marsh sandwort**

USFWS:	Endangered.
CDFG:	Endangered.
CNPS:	List 1B.
Other:	None.
Distribution:	Los Angeles, San Bernardino, Santa Cruz, San Francisco, San Luis Obispo counties, and Washington.
Habitat	Marshes and swamps (freshwater).
Life Form:	Perennial herb (stoloniferous).
Blooming:	May - August.
Occurrence:	The marsh sandwort was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Chorizanthe parryi var parryi* – Parry's spineflower**

USFWS:	None.
CDFG:	None.
CNPS:	List 3.
Other:	None.

Distribution:	Los Angeles, Riverside, and San Bernardino counties.
Habitat	Chaparral and coastal scrub/sandy openings.
Life Form:	Annual herb.
Blooming:	April - June.
Occurrence:	Parry's spineflower was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Cordylanthus maritimus ssp maritimus – **salt-marsh bird's-beak**

USFWS:	Endangered.
CDFG:	Endangered.
CNPS:	List 1B.
Other:	None.
Distribution:	Los Angeles, Orange Santa Barbara, San Diego, San Luis Obispo, Ventura counties, and Baja California.
Habitat	Coastal dunes, marshes and swamps (coastal salt).
Life Form:	Annual herb (hemiparasitic).
Blooming:	May - October.
Occurrence:	Salt-marsh bird's beak was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Dodecahema leptoceras – **slender-horned spineflower**

USFWS:	Endangered.
CDFG:	Endangered.
CNPS:	List 1B.
Other:	None.
Distribution:	Los Angeles, Riverside, and San Bernardino counties.
Habitat	Chaparral and coastal scrub (alluvial fan).
Life Form:	Annual herb.
Blooming:	April - June.
Occurrence:	Slender-horned spineflower was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Eriastrum densifolium ssp sanctorum – **Santa Ana River Woollystar**

USFWS:	Endangered.
CDFG:	Endangered.
CNPS:	List 1B.
Other:	None.
Distribution:	Orange and San Bernardino counties.
Habitat	Chaparral and coastal scrub (alluvial fan).
Life Form:	Perennial herb.
Blooming:	June - August.
Occurrence:	The Santa Ana River woollystar was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Carex comosa* – Bristly Sedge**

USFWS:	None.
CDFG:	None.
CNPS:	List 2.
Other:	None.
Distribution:	California, Washington, Oregon.
Habitat	Marshes and swamps.
Life Form:	Perennial herb (rhizomatous).
Blooming:	May - September.
Occurrence:	Bristly sedge was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Galium californicum ssp primum* – California bedstraw**

USFWS:	Species of Concern.
CDFG:	None.
CNPS:	List 1B.
Other:	None.
Distribution:	Riverside and San Bernardino counties.
Habitat	Chaparral and lower montane conifer forests/granitic, sandy
Life Form:	Perennial herb.
Blooming:	May - July.
Occurrence:	California bedstraw was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Hemizonia pungens ssp laevis* – smooth tarplant**

USFWS:	Species of Concern.
CDFG:	None.
CNPS:	List 1B.
Other:	None.
Distribution:	Riverside, San Bernardino, and San Diego counties.
Habitat	Chenopod scrub, meadows and seeps, playas, riparian woodlands, and valley and foothill grasslands/alkaline.
Life Form:	Annual herb.
Blooming:	April - September.
Occurrence:	The smooth tarplant was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Lepidum verginicum var robinsonii* – Robinson's pepper-grass**

USFWS:	None.
CDFG:	None.
CNPS:	List 1B.
Other:	None.
Distribution:	Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, Santa Cruz, San Diego counties, and Baja California.
Habitat	Chaparral and coastal scrub.
Life Form:	Annual herb.

Blooming: January - July.
Occurrence: Robinson's pepper-grass was not observed on the property. This species has a moderate potential to occur within the suitable habitat on the property.

Lycium parishii **– Parish's desert-thorn**
USFWS: None.
CDFG: None.
CNPS: List 2.
Other: None.
Distribution: Imperial, Riverside, San Bernardino, San Diego counties, Arizona, and Sonora Mexico.
Habitat Sonoran desert scrub.
Life Form: Shrub.
Blooming: March - April.
Occurrence: Parish's desert-thorn was not observed on the property. This species has a low potential for occurrence due to the lack of suitable habitat.

Monardella pringlei **– Pringle's monardella**
USFWS: Species of Concern.
CDFG: None.
CNPS: List 1A.
Other: None.
Distribution: Riverside and San Bernardino counties.
Habitat Coastal scrub.
Life Form: Annual herb.
Blooming: May - June.
Occurrence: Pringle's monardella was not observed on the property. This species has a moderate potential to occur within the property.

Ribes divaricatum var parishii **– Parish's gooseberry**
USFWS: Species of Concern.
CDFG: None.
CNPS: List 1B.
Other: None.
Distribution: Los Angeles and San Bernardino counties.
Habitat Riparian woodlands.
Life Form: Shrub (deciduous).
Blooming: February - April.
Occurrence: Parish's gooseberry was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Rorippa gambelii **– Gambel's watercress**
USFWS: Endangered.
CDFG: Threatened.
CNPS: List 1B.
Other: None.

Distribution:	Los Angeles, Orange, San Diego, San Luis Obispo counties, and Baja California.
Habitat	Marshes and swamps (freshwater or brackish).
Life Form:	Perennial herb (rhizomatous).
Blooming:	April - June.
Occurrence:	Gambel's watercress was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Sidalcea neomexicana **– salt spring checkerbloom**

USFWS:	None.
CDFG:	None.
CNPS:	List 2.
Other:	None.
Distribution:	Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, Ventura counties; Arizona; Baja California; New Mexico; Nevada; Sonora Mexico; and Utah.
Habitat	Chaparral, coastal scrub, lower montane conifer forests, Mojavean desert scrub, and playas/alkaline, mesic.
Life Form:	Perennial herb.
Blooming:	March - June.
Occurrence:	Salt spring checkerbloom was not observed on the property. This species has a low probability of occurring due to low quality habitat on-site.

Rhaphiomidas terminatus abdominalis **– Delhi sands flower-loving fly**

USFWS:	Federally Endangered.
CDFG:	None.
Other:	None.
Distribution:	Endemic to the Colton Dunes (Delhi series soils) mainly in the cites of Colton and Rialto in San Bernardino County.
Habitat	Delhi series soils with three indicator species; California buckwheat (*Eriogonum fasiculatum*), telegraph weed (*Heterotheca grandiflora*), and California croton (*Croton californica*).
Occurrence:	Delhi sands flower-loving fly was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

Gila orcutti **– arroyo chub**

USFWS:	None.
CDFG:	California Species of Concern.
Other:	None
Distribution:	Originally native to the Los Angeles, San Gabriel, and Santa Ana River systems, Malibu and San Juan creeks, and the Santa Margarita River drainage.
Habitat	Inhabits warm streams with highly variable seasonal stream flows where it seeks slow water areas with medium to high gradient streams, adapted to survive both hypoxic and large temperature fluctuations.

Occurrence: The arroyo chub was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Catostomus santaanae* – Santa Ana sucker**

USFWS: Federal Threatened Proposed
CDFG: California Species of Concern
Other: None.
Distribution: Los Angeles Basin, now confined to the Santa Ana River, Tujunga Wash in the Los Angeles River system, and upper San Gabriel system.
Habitat Small to medium-sized streams, usually less than 7.6m (25ft.) wide, with depths ranging from a few centimeters to over a meter.
Occurrence: The Santa Ana sucker was not observed on the property. This species is not expected to occur due to the lack of suitable habitat.

***Scaphiopus hammondii* – western spadefoot toad**

USFWS: None.
CDFG: California Species of Concern, protected.
Other: None.
Distribution: Coastal ranges from Point Conception, Santa Barbara County, south to the Mexican border throughout Central valley and adjacent foothills.
Habitat Prefers relatively open areas in lowland grasslands, chaparral, and pine-oak woodlands, areas of sandy or gravelly soil in alluvial fans, washes, and floodplains.
Occurrence: The western spadefoot was not observed on the property. This species is not expected to occur due to lack of habitat.

***Phrynosoma coronatum blainvillei* – San Diego horned lizard**

USFWS: None.
CDFG: California Species of Concern, fully protected.
Other: None.
Distribution: Coastal ranges from south Ventura, Los Angeles, San Bernardino counties, Orange, western Riverside and western San Diego counties.
Habitat Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, flood plains, and windblown deposits.
Occurrence: The San Diego horned lizard was not observed on the property. This species has a moderate potential to occur on this site due to an area of suitable habitat on the southwest corner of the property.

***Cnemidophorus hyperythrus beldingi* – Belding's orange-throated whiptail**

USFWS: None.
CDFG: California Special Concern Species, fully protected.
Other: None.
Distribution: Southern California coastal range to lowlands along coast and Baja California.
Habitat Valley-foothill hardwood forests, valley-foothill/hardwood conifer, mixed conifer, and desert scrub habitats.

Occurrence: Belding's orange-throated whiptail was not observed on the property. This species has a moderate potential to occur within the appropriate habitat on-site.

***Coccyges americanus occidentalis* – western yellow-billed cuckoo**

USFWS: None.
CDFG: State Endangered, fully protected.
Other: None.
Distribution: Along the Colorado River, Sacramento and Owens valleys, along the south fork of the Kern River—Kern county, Santa Ana River—Riverside County, along the Amargosa River—Inyo and San Bernardino Counties, and San Luis Rey—San Diego County.
Habitat Riverine woodlands, thickets, and farms.
Occurrence: The western yellow-billed cuckoo was not observed on the property. This is species not expected to occur due to the lack of substantial habitat.

***Athene cunicularia hypugea* – burrowing owl**

USFWS: None.
CDFG: California Species of Concern.
Other: None.
Distribution: Year-round resident of lowlands of Southern California.
Habitat Dry grasslands, desert habitats, and open pinyon-juniper and ponderosa pine woodlands below 5,300 feet elevation. Prefers berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.
Occurrence: The burrowing owl has a moderate potential to occur. Although no burrowing owls were observed, this property does contain some habitat suitable to burrowing owls adjacent to Springbrook Wash that provides breeding habitat and other on-site areas are suitable for wintering or dispersing of juveniles.

***Polioptila californica* – coastal California gnatcatcher**

USFWS: Federally Threatened.
CDFG: California Species of Concern.
Other: None.
Distribution: Southern Ventura County, southward through Los Angeles, Orange, Riverside, San Bernardino counties, and south through the coastal foothills of San Diego county.
Habitat Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally a voids steep slopes and dense vegetation for nesting.
Occurrence: This species has a low potential to occur on-site

***Chaetodipus fallax fallax* – northwestern San Diego pocket mouse**

USFWS: None.
CDFG: California Species of Concern.
Other: None.

Distribution:	Common resident in southwestern California; arid coastal areas of Orange, San Bernardino, and Riverside counties extending south into Baja California.
Habitat	Sandy herbaceous areas, usually in association with rocks or coarse gravel, sagebrush, scrub, annual grassland, chaparral and desert scrubs.
Occurrence:	The Northwestern San Diego pocket mouse was not observed on the property. This species may occur due to the presence of suitable habitat.

Dipodomys stephensi **– Stephens' kangaroo rat**

USFWS:	Federally Endangered.
CDFG:	State Endangered.
Other:	None.
Distribution:	Known from sixteen localities in and around San Jacinto Valley from Riverside County south to vicinity of Vista, San Diego County.
Habitat:	Open areas with sparse perennial cover with areas of loose soil. Also inhabits disturbed areas and burrows of other rodents.
Occurrence:	Stephens' kangaroo rat was not observed on the property. However, the project site falls within the Habitat Conservation Plan fee area for the Stephens' kangaroo rat in Western Riverside County. The habitat will need to be mitigated for if developed further.

Dipodomys merriami parvus **– San Bernardino kangaroo rat**

USFWS:	Endangered.
CDFG:	California Species of Concern.
Other:	None.
Distribution:	San Bernardino and Western Riverside County.
Habitat	Early to intermediate seral stages of alluvial scrub with sandy loam substrates.
Occurrence:	No kangaroo rats were observed at the site. The species is not likely to occur due to lack of suitable habitat as well as heavy disturbance.

Perognathus longimembris brevinasus **– Los Angeles pocket mouse**

USFWS:	None.
CDFG:	California Species of Concern.
Other:	None.
Distribution:	Common resident of the Los Angeles Basin.
Habitat	Coastal sage scrub, and grasslands, desert cactus, creosote bush and sagebrush habitats.
Occurrence:	The Los Angeles pocket mouse was not observed on the property. This species has a moderate potential to occur due to presence of suitable habitat.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The impacts to biological resources are assessed using impact significance criteria, which implement the policy statement contained in Section 21001(c) of the Public Resources Code (CEQA Statutes). It is the established policy of the state to "Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self perpetuating levels, and preserve for future generations representations of all plant and animal communities..."

The following definitions are used in establishing the significance criteria for biological resources:

Endangered means that the species is listed as endangered under state or federal law.

Threatened means that the species is listed as threatened under state or federal law.

Sensitive habitat refers to habitat for plants and animals 1) which plays a special role in perpetuating species using the habitat on the project site, and 2) without which there would be substantial danger that the population of that species would drop below self-perpetuating levels.

Substantial effect means significant loss or harm of a magnitude which, based on current scientific data and knowledge, 1) would cause a species or a native plant or animal community to drop below self perpetuating levels on a statewide or regional basis or 2) would cause a species to become threatened or endangered.

The proposed project is considered to have a significant biological resources impact if it will:

- Result in a direct loss of a state or federally listed threatened or endangered species; or
- Result in a substantial effect of a sensitive habitat;
- Result in a substantial effect on a critical, yet limited resource utilized by state or federally listed threatened or endangered species; or
- Result in a substantial effect on the movement of any resident or migratory fish or wildlife.

2) Project Related Impacts

a. Impacts to Natural Communities. As shown in Table VI.A.5-2, project implementation will result in the direct removal of a variety of natural communities. The removal of development (orchards, dirt roads, etc.) and eucalyptus tree stands (ornamental woodlands) is considered less than significant.

More specifically, the proposed development will impact 32.65-acres of Russian thistle dominated NNG habitat, 6.0-acres of low quality RSS and 0.5-acres of SCWR forest. Impacts to RSS are covered under the Counties MSHCP, and thus further mitigation will

not be required. Impacts to the 0.5 acres of SCWR may be considered potentially significant and mitigation may be required by CDFG.

Table VI.A.5-2: Natural Community Impacts on the Springbrook Estates Property

Natural Community Impacts	Area (acres)
Southern Cottonwood-Willow Riparian Forest	0.5
Riversidean Sage Scrub	6.0
Orchards/Development	144.7
Non-native Grassland	32.65
Ornamental Woodlands	0.1
Total	**183.95**
Source: Michael Brandman Associates, August 2003.	

b. **Impacts on General Flora.** The primary impacts of project implementation on plant species are the removal of large areas of non-native species. Project implementation will result in the direct removal of numerous common plant species on the project site. Common plant species present on the site occur in large numbers throughout the region therefore impacts are not considered significant. In addition, common plant species existing within disturbed areas on the site are typically disturbance-tolerant, and expected to be found off-site on suitable habitat in remaining open space throughout the region in abundance. Project related impacts to general plant species are considered less than significant under CEQA.

c. **Impacts on Sensitive Flora.** No federally or state listed species are known to occur nor have a high potential to occur on the property. Project related impacts to sensitive plant species are considered less than significant.

d. **Impacts on General Fauna.** Project implementation in the short- and long-term would result in direct removal of existing wildlife habitat and disturbance of some common wildlife species potentially using the proposed project site. Common wildlife species using habitats on the site will avoid habitats affected by "spillover" impacts, thereby decreasing diversity beyond the actual development envelope. Elimination or disruption of habitat for these species will not represent a regionally significant impact. Project related impacts to general wildlife species are considered less than significant.

e. **Impacts on Sensitive Fauna.** No sensitive wildlife species were observed or have a high potential to occur on the site. Short-term impacts may occur as a result of construction activities. Loss of individuals will not threaten the regional population, and removal of their habitat represents a potentially adverse, but less than significant impact to regional populations of these species. It was concluded that the following species have a moderate potential to occur on the proposed project site.

1. Burrowing Owl. The property contains suitable habitat for migrating adults and dispersing juveniles. There is also a moderate potential of burrowing owls using the site for breeding; however no burrowing owls were observed on the project site during the initial visit, or during any consecutive visits to the site

   Potential impacts include elimination of foraging and potential nesting habitat but are considered less than significant because the species will not be affected on a regional level; however, it is required by the County of Riverside that thirty (30) days prior to any groundbreaking activities, a preconstruction burrowing owl survey be conducted to comply with the Migratory Bird Treaty Act, CDFG codes and the MSHCP. With CDFG approval, if any burrowing owls are found on the project site, a qualified biologist should conduct passive relocation of the owls onto preserved adjacent property.

2. California Gnatcatcher. Although low quality in nature, there is a potential that suitable habitat for the federally threatened California gnatcatcher (CAGN) occurs within the project site. A focused survey was conducted in Spring 2002, which concluded that no CAGN currently use the property. Although unlikely to occur, the presence of suitable habitat within the property may be sufficient to support dispersing individuals.

   Potential impacts include elimination of possible future foraging and potential nesting habitat but are considered less than significant because the species will not be affected on a regional level; however, it is recommended that a biological monitor be present during initial ground breaking activities within the areas containing suitable habitat.

3. Los Angeles Pocket Mouse. Moderately suitable habitat for the Los Angeles pocket mouse occurs on the southwest corner of the project site. No pocket mice were observed during any of the site visits; however, these animals are typically nocturnal and usually presence cannot be determined unless focused surveys are done.

   Project related impacts are considered less than significant; however, because suitable habitat is present onsite, the County of Riverside will require focused surveys for the Los Angeles pocket mouse prior to issuance of grading permits.

4. Stephens' Kangaroo Rat. Because the property falls within the boundaries of the Habitat Conservation Plan for the Stephens' kangaroo rat in Western Riverside County, focused surveys for this species were not conducted. Development of the subject property will need to be mitigated under the County of Riverside fee program.

5. San Diego Horned Lizard. Moderate habitat occurs on the property for the San Diego horned lizard. No horned lizards were observed during any of the site visits; however no focused reptile surveys were conducted. Project related impacts are considered less that significant because the species will not be

affected on a regional level; however, it is recommended that a biological monitor be present during the initial grading activities of any suitable habitat to limit impacts on the species.

6. Orange-throated Whiptail. Suitable habitat for the orange-throated whiptail occurs at the southwest corner of the property. No orange-throated whiptails were observed on-site during any of the site visits.

   Project related impacts are considered less that significant because the species will not be affected on a regional level; however, it is recommended that a biological monitor be present during the initial grading activities of any suitable habitat to limit impacts on the species.

7. Nesting Birds. All native breeding birds, regardless of their listing status, are protected under the Migratory Bird Treaty Act as well as CDFG codes 3503, 3503.5 and 3513. Potential impacts to the breeding birds include noise from machinery or cutting down trees where birds may be nesting, and are considered significant under CEQA.

f. Other Potential Impacts

1. Impacts on Regional Connectivity/Wildlife Movement Corridors. A portion of the site may function as an area through which wildlife currently travel. Portions of the surrounding land area of the site are currently undeveloped and are comprised of open space commonly known as Box Springs Mountains, Blue Mountain and Reche Canyon. The proposed project design will not impact wildlife movement corridors on a regional basis. Project related impacts to regional connectivity/wildlife movement corridors are considered less than significant.

2. Impacts on USACE and CDFG Jurisdictions. The only drainages on the property are cement-lined and are used for the sole purpose of directing agricultural runoff. These drainages are not considered jurisdictional under the USACE. It is MBA's understanding that these ditches are going to be covered, making them underground channels. Project related impacts to jurisdictional areas are considered less than significant.

3) General Plan and Area Plan Relationship

a. County of Riverside General Plan. The following policies of the County of Riverside General Plan Multipurpose Open Space Element Vegetation policy is applicable to the proposed project:

OS. 9.3: Maintain and conserve superior examples of native trees, natural vegetation, strands of established trees, and other features for ecosystem, aesthetic, and water conservation purposes.

Project Consistency. On-site trees and vegetation consist of southern cottonwood willow riparian forest, Riversidean sage scrub, and ornamental woodlands. The majority of the project site (144.7-acres) consists of lands that are considered disturbed (i.e. orchards, roadways, etc.). The primary impacts of project implementation on plant species are the removal of large areas of non-native species. Project implementation will result in the direct removal of numerous common plant species on the project site. Common plant species present on the site occur in large numbers throughout the region; therefore, impacts are not considered significant. No federally or state listed species are known to occur nor have a high potential to occur on the property. Therefore, the proposed project would be consistent with this relevant biological resource policy of the General Plan.

The following policies of the County of Riverside General Plan Multipurpose Open Space Element Multiple Species Habitat Conservation Program policies are applicable to the proposed project:

OS: 17.1: Enforce the provisions of applicable County MSHCP Implementing Agreements when conducting review of development applications for discretionary activities.

OS 17.2: Enforce the provisions of applicable MSHCP Implementing Agreements when conducting review of possible General Plan amendments and/or zone changes.

Project Consistency. The project falls within the MSHCP area. Thus, the applicant will pay a fee ranging from $800.00 per unit to $1600.00 per unit depending on density, in addition to complying with all applicable provisions of the MSHCP. Additionally, the county has designated the area of the proposed project site as requiring focused burrowing owl surveys prior to issuance of grading permits. As identified in the mitigation measures below, the project applicant shall undertake focused surveys for the burrowing owl. Therefore, the proposed project will be consistent with these relevant biological resource policies of the General Plan.

The following County of Riverside General Plan Circulation Element Multi-Purpose Recreational Trails policy is applicable to the proposed project:

C 16.16: Implement trails in a sensitive manner considering concerns related to riparian habitats, flood potentials, access to neighborhoods and open space, safety, sensitivity to land use, and usefulness for both transportation and recreation.

Project Consistency. The project will impact 0.5-acres of southern cottonwood-willow, which will be mitigated at a ratio of 1:1 through preservation off-site in a conserved area. Therefore, the proposed project will be consistent with these relevant biological resource policies of the General Plan.

b. Highgrove Area Plan. The following policy of the Highgrove Area Plan (HAP) is applicable to the proposed project:

HAP 17.1: Protect visual and biological resources in the Highgrove area through adherence to General Plan policies found in the Multipurpose Open Space Element, as well as policies contained within the Western Riverside County Multiple Species Habitat Conservation Plan.

Project Consistency. As discussed under item "a," General Plan Relationship, above, the proposed project is consistent with the policies in the General Plan Multipurpose Open Space Element, as well as policies contained within the Western Riverside County MSHCP. Therefore, the proposed project is consistent with this applicable biological resource policy of the HAP.

C. MITIGATION MEASURES

1) The impacts to the 0.5-acres of southern cottonwood-willow riparian forest shall be mitigated at a ratio determined by CDFG (typically 3:1) through preservation off-site in a conserved area by purchasing or restoring similar habitat at a County-approved off-site conservation area. Funding of this mitigation shall be provided by the project applicant prior to the issuance of grading permits.

2) The non-native grasslands may support burrowing owls. A focused survey shall be conducted approximately 30 days prior to initial grading activites. CDFG requires that burrows being used by burrowing owls be mitigated at a ratio of 2:1 off-site. Prior to the issuance of a grading permit, a qualified biologist shall construct artificial burrows off-site and coordinate and oversee the passive and/or active relocation of the owls. Compliance with this mitigation measure will reduce project related burrowing owl impacts to less than significant.

3) Development of the subject property will need to be mitigated under the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County. Typically, mitigation requirements state that fees should be $500.00 per acre of the total project size. The project proponent shall contact the County of Riverside, Building and Safety Department regarding the HCP to determine the cost and process of mitigation as it pertains to the specific property. Fee compliance with the County of Riverside will result in less than significant impacts to the Stephens' kangaroo rat.

4) The applicant shall pay a fee ranging from $800.00 per unit to $1600.00 per unit depending on density, in addition to complying with all applicable provisions of the MSHCP.

5) Nesting bird and raptor nests are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code.

   If tree removal occurs during the nesting season (February to July), prior to the commencement of tree removal all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist. If any active nests are detected, the area shall be flagged and avoided until the nesting cycle is complete.

Tree removal and grading could be delayed to the non-breeding season (August to January), to ensure that no active nests will be disturbed. Implementation of appropriate mitigation measures during the nesting season or the avoidance of tree removal during the months of February to July will result in less than significant impacts to nesting birds.

6) A biological monitor shall be on-site during initial grading activities of any suitable Los Angeles pocket mouse, orange-throated whiptail and San Diego horned lizard habitat.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project, inclusive of project design features and mitigation measures will not result in any significant unavoidable adverse biological resources impacts.

VI.A.6 Hydrology, Flooding, and Drainage

This EIR analysis is based on the *Drainage Studies for Springbrook Estates Specific Plan No. 330 Planning Areas 1, 2, and 3* prepared by The Keith Companies in July 2003. These reports or portions thereof are provided in Appendix F, *Hydrology Studies*, of this document for reference purposes. The complete reports are available at the County of Riverside Planning Department.

A. EXISTING CONDITIONS

1) Hydrology

Springbrook Estates is divided into three planning areas. Planning Area 1 (PA-1); includes 430 lots ranging in size from 4,000 to 5,500 square feet and approximately 13-acres of parks. Planning Area 2 (PA-2) includes 183 lots ranging in size from 4,000 to 5,000 square feet and approximately 4-acres of parks. Planning Area 3 (PA-3) includes 36.6-acres of open space/parks and 7.5-acres for a school site.

The Springbrook Estates project site is located within an approximately 2,011-acre watershed. The project site is divided into five major basins, each served by a storm drain system.

Additionally the project site is located within the parameters of the Santa Ana Regional Drainage Area Management Plan (SAR-DAMP) and as such, development at the site must implement best management practices (BMPs) for urban pollutant runoff consistent with SAR-DAMP guidelines.

2) Surface Drainage

The project site is located in the Santa Ana watershed on a plateau directly southwest of Blue Mountain and northwest of Box Springs Mountains. Springbrook Wash, an unimproved natural channel, is located directly south of the project site. Springbrook Wash drains east to west, and is the primary drainage way for runoff originating from Blue Mountain and Box Springs Mountains. The Gage Canal is located directly west of the project site. The Gage Canal originates at the Santa Ana River in San Bernardino County, and flows north to south. The Gage Canal is a 60" diameter subsurface steel pipe in the vicinity of the project, and does not receive drainage from the project site.

Under existing conditions, runoff from Blue Mountain drains in a southwesterly direction to the project site. A series of roadside swales and irrigation ditches convey storm water through the project site. Storm water from the project site flows in a west to northwest direction. Runoff from the northeast area of the site (PA-3) drains to the Center Street storm drain, which is maintained by Riverside County Flood Control and Water Conservation District (RCFCWCD). Runoff from PA-1 and PA-2 drain to an existing concrete channel on the south side of Spring Street. The Spring Street channel is maintained by RCFCWCD. The Spring Street channel discharges into an existing 48" diameter storm drain, which is located in Spring Street in the northwest corner of PA-1. This 48" storm drain eventually discharges into the Springbrook Wash. Other minor areas of the site drain directly to Springbrook Wash. These areas are limited in size, and are located directly adjacent to the Springbrook Wash channel.

3) Flooding

The project site is located outside of any 100-year flood area or dam inundation area as identified in County of Riverside General Plan and the Federal Emergency Management Agency (FEMA) flood mapping system. The site is located within FEMA flood designation area Zone C - area of minimal flooding (FIRM Panel 060245 0065 A).

B. PROJECT IMPACTS/GENERAL AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant hydrology, flooding, and drainage impacts if it will:

- Substantially increase the amount of surface runoff in a manner that would expose people or structures to onsite flooding or result in peak runoff rates from the project site that would exceed existing or planned capacities of flood control systems; or

- Substantially alter the existing drainage pattern of the site or area, including alteration of the course of a stream or river.

2) Project RelatedImpacts

a. **Hydrology.** Current RCFCWCD regulations require that the rate of storm water runoff to adjacent properties not be significantly increased as a result of project development. As development of roadways and structures increases, the amount of impervious surfaces within a project site increases and rainfall percolation into native soils decreases. The result of these two occurrences is generally an increase in the volume and rate of storm water runoff discharged at the project limits. The RCFCWCD requires the development of onsite storm water facilities to ensure that the discharge rate of flow after development is equal to the rate of flow prior to development at all discharging locations.

Existing steep slopes that are present within portions of the project site contribute to the rapid discharge of storm water. As a result, the offsite discharge rate of storm water after project development is not expected to significantly increase from the existing condition. Under existing conditions, the flow rate at the downstream portion of PA-1 is 273 cubic feet per second (cfs), the flow rate at the downstream portion of PA-2 is 137 cfs, and the flow rate at the downstream portion of PA-3 is 178 cfs. Under proposed conditions, the flow rate at the downstream portion of PA-1 is 182 cfs, the flow rate at the downstream portion of PA-2 is 68 cfs, and the flow rate at the downstream portion of PA-3 is 90 cfs. Table VI.A.6-1 indicates the calculated detention basin volumes for PA-1 and PA-2 based upon proposed condition flow rates. The volumes do not include freeboard necessary for the basins.

Table VI.A.6-1: Detention Basin Analysis

	100-Year Storm Event	Combined Existing Condition Runoff (cfs)	Combined Proposed Condition Runoff (cfs)	Detention Basin Volume (acre feet)
PA-1	1-hour	126	182	1.7
PA-2	1-hour	80	68	0.9
Source: The Keith Companies, Inc., September 2002.				

b. **Surface Drainage.** Pursuant to requirements of the California State Water Resources Control Board, enacted in November of 1991, a State-wide general National Pollution Discharge Elimination System (NPDES) construction permit applies to all construction activities associated with the proposed project. Construction activities including: clearing, grading, or excavation that results in the disturbance of at least five (5) acres of total land area, or activity which is part of a larger common plan of development of five acres or greater shall comply with the appropriate NPDES construction permit and pay appropriate fees. All development within the specific plan boundaries shall be subject to future requirements adopted by the County of Riverside to implement the NPDES program. Mitigation measures may include, but not be limited to: onsite retention; covered storage of all outside storage facilities; vegetated swales; monitoring programs; etc.

c. **Flooding.** The developed area of the project site is located outside of any 100-year flood area or dam inundation area as identified in the County of Riverside General Plan and the Federal Emergency Management Agency (FEMA) flood mapping system.

d. **Project Improvements.** Proposed improvements to the storm drain system utilize existing and proposed streets, open channels, natural drainage courses, and the project storm drain system to collect and convey storm water runoff through the entire project site. Storm water runoff peak flows are attenuated to existing peak flow levels by proposed detention basins located in PA-1 and PA-2 or other suitable detention basins off site.

The proposed Springbrook Estates Master Drainage Plan (MDP) includes concrete-lined ditches, street gutters, curb inlets, and subsurface storm drains, open channels, and natural drainage courses to collect and convey storm water runoff through the project site. There are no blue-line streams located within the project boundary; however, Springbrook Wash is located immediately south of the Planning Areas 1 and 2.

Runoff from the area east of PA-3 will be conveyed around the project site via the proposed drainage system in the Spring Mountain Ranch Project (S.P. 323; T.T.M. 29597). Runoff from PA-3 will be directed to the Center Street storm drain, an existing 42" RCP in Center Street that terminates at the easterly side of the intersection of Center Street and Mt. Vernon Avenue.

Runoff from the area east of PA-2 will be conveyed around the project site via the proposed drainage system in the Spring Mountain Ranch Project (S.P. 323; T.T.M.

29597), and discharge into Springbrook Wash. Runoff from PA-2 will be collected by a series of street gutters, curb inlets, and storm drains and conveyed to a proposed detention basin located at the northwest corner of PA-2. The proposed detention basin will attenuate the 100-year storm water runoff peak flow rate to pre-developed conditions, and discharge into the Spring Street storm drain.

Runoff from PA-1 will be collected by a series of street gutters, curb inlets, and storm drains and conveyed to a proposed detention basin located at the northwest corner of PA-1. The proposed detention basin will attenuate the 100-year storm water runoff peak flow rate to pre-developed conditions, and discharge into the exiting Spring Street storm drain Drainage and flood control facilities and improvements are proposed in accordance with Riverside County Flood Control and Water Conservation District (RCFCWCD) guidelines. RCFCWCD will maintain major drainage facilities, including the Spring Street storm drain and Center Street storm drain. Riverside County Transportation Department will maintain local drainage structures and facilities within the public rights-of-way and drainage easements including curb inlets/catch basins and storm drains less than 36 inches in diameter. The Master Homeowner's Association will maintain drainage facilities located outside street rights-of-way and drainage easements.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Safety Element Flood and Inundation Hazard Abatement policies are applicable to the proposed project:

S 4.11: Require new projects anywhere in the County to mitigate any impacts that it may have on the carrying capacity of the local storm drain system

Project Consistency. Proposed improvements to the storm drain system utilize existing and proposed streets, open channels, natural drainage courses, and the project storm drain system to collect and convey storm water runoff through the entire project site. The proposed detention basins (on and offsite) will attenuate the 100-year storm water runoff peak flow rate to pre-developed conditions within the residential development (PA-1 and PA-2). Approximately 36 acres of the 44-acres in PA-3 will be parkland and open space; thus, runoff from the portion of the project site is considered to be minimal and would not impact the carrying capacity of the local drain system. Runoff from PA-3 will be directed to the Center Street storm drain, an existing 42" RCP in Center Street. Therefore, the project is consistent with this relevant hydrology policy of the General Plan.

b. Highgrove Area Plan. The following Highgrove Area Plan (HAP) policies are applicable to the proposed project:

HAP 3.5: The Riverside County Flood Control and Water Conservation District shall review development within areas subject to flooding, including Springbrook Wash. Land use types and intensities permitted shall recognize and mitigate local flooding problems.

HAP 3.7: Developments adjacent to the Springbrook Wash shall be limited to the bluffs overlooking the wash itself. A development application proposing any alteration of the wash's banks must obtain approval of the Riverside County Flood Control and Water Conservation District.

Project Consistency. Drainage and flood control facilities and improvements are proposed in accordance with the RCFCWCD guidelines and the master drainage plans are subject to review and approval of the RCFCWCD. As identified in this section of the EIR, the proposed project will mitigate all flooding issues to levels that are considered to less than significant. The Springbrook Estates Specific Plan does not propose development within Springbrook Wash; Springbrook Wash will be retained as natural open space as part of this development proposal. Therefore, the proposed project is consistent with these relevant hydrology policies of the HAP.

C. MITIGATION MEASURES

The proposed Springbrook Estates Specific Plan incorporates the following drainage and flood control standards that will mitigate impacts to hydrology, flooding, and drainage to below a level of significance:

1) Drainage and flood control improvements shall be provided in accordance with RCFCWCD requirements.

2) Major constructed drainage facilities located within the project site, including the Spring Street storm drain and Center Street storm drain shall be maintained by the RCFCWCD. Local drainage devices including inlets/catch basins and storm drains shall be constructed in roadway rights-of-way and drainage easements shall be maintained by the Riverside County Transportation Department. The Master Homeowners' Association shall maintain drainage inlet facilities outside of street rights-of-way, and between and behind lots.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures above will reduce project related hydrology, flooding, and drainage impacts to levels that are considered less than significant.

VI.A.7 Water Quality

The information used in preparing this water quality analysis was obtained from a report titled *Drainage Study for Springbrook Estates Specific Plan No.330* prepared by The Keith Companies, Inc., September 2002, and a report titled *Groundwater Flow and Contaminant Transport Model Report*, prepared by ATC Associates, Inc., March 7, 2000. These reports are included as Appendix G, in this document.

A. EXISTING CONDITIONS

1) Surface Water

Portions of the Springbrook Estates site have historically been used for farming operations. Due to the past agricultural use of the site, it is anticipated that site runoff likely contains agricultural pollutants, such as fertilizers, pesticides, herbicides, sediment, bacteria, etc.

On the national scale, serious deterioration of water quality, resulting from a rapidly expanding population and accompanying urbanization during the period between 1945 and 1970, prompted legislative actions intended to reverse the trend. The California Porter-Cologne Water Control Act of 1968 and the Federal Water Pollution Control Act Amendment of 1972 required that comprehensive water quality control plans be developed for all waters within the State of California. In order to accomplish this, the California State Water Quality Control Board divided the State into sixteen (16) planning basins. The Springbrook Estates project area is located within the Santa Ana Basin and is under the purview of the California State Water Quality Control Board, Santa Ana Region (SARWQCB).

2) Groundwater

Groundwater levels can be expected to vary across the site from being at the surface in the incised drainages to below 100 feet in the subsurface in the higher terraces. Prior irrigation of the citrus groves is likely the source of much of the free groundwater encountered in the lower-elevation portions of the site during previous investigations. According to Santa Ana Regional Water Quality Control Board (SARWQCB), the majority of project site is underlain by non-water bearing soils.

Riverside County has several groundwater monitoring wells associated with the Highgrove Landfill offsite and within the closed Highgrove Landfill site, located east of the project site. Data from these wells indicate groundwater has been found to contain volatile organic compounds (VOCs), including chlorinated VOCs (tetrachloroethylene [PCE] and trichloroethylene [TCE] and aromatic VOCs [benzene]). Groundwater data also shows the plume may extend west of the landfill site. Riverside County Waste Management Department final closure of the Highgrove Landfill includes remediation, monitoring and maintenance procedures, which address groundwater quality. To date, remediation includes the installation of a landfill gas (LFG) collection system and flare on the landfill site, which serves to reduce the groundwater concentration of TCE. The landfill has been capped, which will reduce and possibly eliminate groundwater recharge potential on the landfill site and decrease the movement of contaminates from the source area. On-going remediation also includes installation of a groundwater pump and treat facility, and an energy recovery facility to convert LFG to electricity. Final closure procedures for the landfill site began in September 2000 and closure procedures for the landfill were completed in July 2001.

a. **Wastewater Treatment Requirements.** Effluent requirements for discharge of treated wastewater are under the jurisdiction of several state and local agencies. Federal and California State laws for reuse water are outlined in the California Water Code. The California Department of Human Health Services (DOHS) has mandated reuse water quality standards under Section 13521 of the Porter-Cologne Act. DOHS have developed comprehensive reuse water regulations that establish treatment processes, water quality criteria and treatment reliability requirements to ensure public health and safety. These regulations are listed in the California Code of Regulations Title 22, Article 4.

Water Reclamation Requirements (WRRs) for producers and users of reclaimed water in the Santa Ana River Basin consists of performance standards found in an adopted order. This order is adopted for environmental protection purposes, through a public review process implementing water quality protection laws administered by the SARWQCB. Tertiary treated effluent used in spray irrigation for landscaped areas must comply with effluent limitations as regulated by the SARWQCB and listed in Table VI.A.7-1, below:

Table VI.A.7-1: Effluent Limitations for Spray Irrigation Landscape Irrigation

Constituent	Effluent Limitation
Coliform	23 per 100ml (in any sample); 2.2 per 100ml (median 7-day sampling)
Biological Oxygen Demand (BOD)	5 mg/l
Total Suspended Solids (TSS)	5 mg/l
Turbidity	2 NTU
Nitrogen	10 mg/l (current); 5 mg/l (future)
Chlorine Residual	5 mg/l
Source: SARWQCB, November 2002.	

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact if it will:

- Violate water quality standards or waste discharge requirements; or
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table level; or

- Create or contribute runoff water which would result in substantial sources of polluted runoff; or
- Otherwise degrade water quality.

2) Project Related Impacts

a. Surface Water. Implementation of the Springbrook Estates Specific Plan would result in grading cut and fill operations that would result in short-term erosion and sedimentation impacts. Project grading would result in the creation of temporarily exposed ground surfaces, thereby creating the potential for erosion and sedimentation of local drainage courses, especially in Springbrook Wash. Pursuant to requirements of the State Water Resources Control Board, a statewide general National Pollution Discharge Elimination System (NPDES) construction permit will apply to all construction activities. Construction activities include: cleaning, grading, or excavation that results in the disturbance of at least five acres of total land area, or activity that is part of a larger common plan of development of five acres or more. Therefore, as mitigation for the project, the developer or builder shall obtain the appropriate NPDES construction permit prior to commencing grading activities. Mitigation measures may include, but not be limited to: onsite detention; covered storage of all outside storage facilities; vegetated swales; monitoring programs; etc. All development within the specific plan boundaries shall be subject to future requirements adopted by the County of Riverside to implement the NPDES program. Therefore, the developer or builder of the Springbrook Estates project will be required to obtain the appropriate State NPDES permits prior to commencing grading activities.

All development within the proposed Springbrook Estates Specific Plan area will be subject to future requirements adopted by the County to implement the NPDES program. Also, the proposed Specific Plan includes development standards in Section V.A.3, *Drainage Plan*, and Section V.A.4, *Grading Plan*, in the Specific Plan. These requirements and standards will, altogether, reduce potential impacts to water quality from project construction activities to below a level of significance.

Implementation of the project will also alter the composition of the surface runoff through the grading of site surfaces; by construction of impervious streets, roofs and parking facilities; and by irrigation of landscaped areas. The Environmental Protection Agency (EPA) has identified street surfaces as the primary source of pollution in urban areas. The street-generated pollutants typically contain atmospheric pollution, tire-wear residues, petroleum products, oil and grease, fertilizer and pesticide washoffs, as well as litter and animal dropping types of wastes. The pollutants are washed off from the street surfaces by a rainfall. The amount of pollutants washed off the street surface is a function of the amount of pollutants on the street surface and the rainfall amount. The EPA has determined that 0.5 inches of runoff over a one-hour period is sufficient to remove 90 percent of the total accumulated pollutants on the street surfaces. Urban runoff is considered a "non-point" source, meaning that the sources or causes of pollution cannot be readily identified. Runoff that will originate from the project site will be typical of urban use and, therefore, has potential to incrementally contribute to degradation of the water quality downstream.

The proposed Springbrook Estates Specific Plan project is designed to utilize natural drainage patterns for the flow. Treatment of urban runoff will be accomplished with natural processes in natural drainages and with natural vegetation, both of which will promote physical and chemical actions that allow pollutants to settle out or be otherwise removed from the discharge waters. The majority of the runoff emanating from the project site will discharge into onsite detention basins, eventually draining into the Santa Ana River. The proposed Master Drainage Plan includes both surface and underground facilities that have the capacity and ability to convey the development runoff from the proposed project, as discussed in Section VI.A.6, *Hydrology, Flooding and Drainage*.

b. Groundwater. Pursuant to requirements of the California State Water Resources Control Board, enacted in November of 1991, a Statewide general NPDES construction permit applies to all construction activities associated with the proposed project site. Provisions of the NPDES program require testing and remediation of subsurface water encountered prior to discharge into the surface water system. Therefore, implementation of projects in the Springbrook Estates Specific Plan will be required to comply with the appropriate State NPDES provisions and conditions during grading activities.

The project's domestic water needs will be served by extension of either the Riverside Highland Water Company (RHWC) or the City of Riverside existing domestic water supply systems (see Section VI.A.14). No groundwater extraction wells are planned or required within the project site or immediate vicinity.

The Springbrook Estates Specific Plan includes the possible onsite reuse of tertiary-treated effluent through spray irrigation within the project site. Irrigation water may have the potential to reach shallow groundwater located within the lower-elevation portions of the project site.

Sanitary sewage treatment service will be provided by a waste water treatment plant (WWTP) to be constructed in SP 323, via the tie into the City of Colton wastewater facilities or through the City of Riverside.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Multipurpose Open Space Element Water Quality policies are applicable to the proposed project:

OS 3.1: Encourage the innovative and creative techniques for wastewater treatment including the use of local water treatment plants.

OS 3.3: Minimize pollutant discharge into storm drainage system and natural drainage and aquifers.

Project Consistency. The proposed project will connect either to the City of Colton's wastewater facilities or to the proposed WWTP, which will be located east of the project site within the Spring Mountain Specific Plan project. The project, as required, will comply with the

SARWQCB Water Reclamation Requirements, which will ensure that pollutants will not be discharged into the storm drainage system (e.g., Springbrook Wash) of natural drainage and aquifers in the project area. No significant impacts to water quality are anticipated. Erosion and sedimentation would be controlled by proper grading practices. Only pesticides and herbicides typical of urban uses are expected. The proposed project is considered consistent with these applicable water quality policies of the General Plan.

The following County of Riverside General Plan Circulation Element Environmental Considerations policy is applicable to the proposed project:

C 21.13: Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting the groundwater supply.

Project Consistency. As identified in the mitigation measures included in this section, pursuant to requirements of the California State Water Resources Control Board, a Statewide general NPDES construction permit will apply to all construction activities associated with the proposed project. This permit will include the use of Best Management Practices. Therefore, the proposed project is considered consistent with this applicable water quality policy of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 3.8: Development projects within the Highgrove Community Plan Area shall implement best management practices for urban pollutant runoff as prescribed by the Santa Ana Regional Drainage Area Management Plan (SAR-DAMP) and its supplements.

Project Consistency. As required, the Springbrook Estates Specific Plan project has been designed to control urban pollutant runoff, in accordance with the SAR-DAMP. Thus, the project is consistent with this relevant policy of the HAP.

C. MITIGATION MEASURES

Surface Water

1) Pursuant to requirements of the California State Water Resources Control Board, a Statewide general NPDES construction permit shall apply to all construction activities associated with the proposed project. Construction activities include clearing, grading, or excavation that results in the disturbance of at least five acres of total land area or activity which is part of a larger common plan of development of five acres or greater. Therefore, the developer or builder for the Springbrook Estates, shall be required to obtain the appropriate State NPDES permits prior to commencing grading activities.

2) The project shall comply with the requirements of the SARWQCB (WRR) for wastewater producers and users.

Groundwater

3) The project shall comply with the requirements of the SARWQCB Water Reclamation Requirements for wastewater producers and users.

Implementation of the proposed project includes provision of domestic water from existing water supply systems. No well extraction is planned or required within the project site or immediate vicinity to serve the project. Therefore, the provision of water service to the project site will not be affected by groundwater conditions onsite and in the immediate vicinity and no mitigation measures are required.

D. LEVEL OF SERVICE AFTER MITIGATION

Implementation of the above mitigation measures would reduce water quality impacts to less than significant.

VI.A.8 GEOLOGY AND SEISMICITY

The following discussion is based upon a series of geotechnical studies prepared by C.H.J. Incorporated (C.H.J. Inc.) in April 2002, May 2002, July 2002, June 2003, and December 2003. The studies evaluated the geology of the parcels that comprise Springbrook Estates project and provided general engineering recommendations for development planning. The investigations included: 1) a review of aerial photographs, 2) logging and sampling of exploratory borings and trenches for testing and evaluation, 3) laboratory testing on selected samples, and 4) evaluation of the geotechnical and engineering data to provide recommendations relating to site grading, foundation design, and mitigation of potential geotechnical and geologic constraints. These reports are provided in their entirety in Appendix B of this document.

A. EXISTING CONDITIONS

1) Geology

The Highgrove area is in the northwest portion of the Perris Block of the Peninsular Ranges geomorphic province. Although fault-bounded, the Perris Block is a relatively stable highland of crystalline bedrock with a thin and discontinuous cover of sediments. The project site is in the Santa Ana River valley, which is the topographically lowest portion of the Perris Block. The Springbrook Estates project is on the west side of the granitic Box Springs Mountains and consists of granitic hillsides flanking a stream-dissected slope apron and pediment.

Provided below, in order from oldest to youngest, are descriptions and pertinent engineering properties of geologic units located on the project site (see Appendix B). Table VI.A.8-1 summarizes these geologic units, which were also encountered in the subsurface tests. In general, the nomenclature is consistent with the regional geologic mapping by Morton (1978) and Morton and Cox (1994). Appendix B of this document provides detailed descriptions of subsurface deposits encountered by these excavations.

a. **Granitic Bedrock (Kgr).** The granitic basement of this area is a very weathered to relatively fresh hornblende tonalite (quartz diorite) displaying faint, southwest-dipping foliation. At the higher elevations, outcrops appear boulder-like due to exfoliation. The exploratory boreholes and trenches of this investigation were restricted to the lower elevations and did not penetrate beyond the veneer of Quaternary sediments. However, similar excavations made for the some of the earlier Geotechnical/ Geologic Feasibility Investigation encountered underlying crystalline basement.

b. **Older Alluvium (Qoa).** The site's terraces have been shaped by stream dissection of the alluvium and colluvium comprising the slope apron, and consist mostly of late Pleistocene poorly sorted, silty, granitic sand. They display strong soil development, including argillic enrichment and local duripans, with surficial disturbance by cultivation. In general, the older alluvium is in a medium dense to dense state of compaction, whereas the younger colluvium is in a loose to medium dense state of compaction.

Table VI.A.8-1: Geologic Units Encountered on the Surface and in Exploratory Borings and Trenches

Geologic Unit	Symbol	Typical Material Encountered	Areas With Exposures
Fill	f	Silty sands, poorly graded sands	Steep hillsides and older terrace areas on south and central portions of site
Younger Alluvium	Qya	Silty sands, poorly graded sands, sandy silts	Terrace areas
Colluvium	Qc	Silty sands, poorly graded sands, silty sands with clay	Slope faces of the granitic bedrock and older alluvium
Older Alluvium	Qoal	Silty sands, poorly graded sands	In bottoms of incised drainages in canyons
Older Alluvium	Qoam	Sands and silty sands with minor to moderate clay	Disturbed native soil associated with citrus farming
Granitic Bedrock	Kgr	Tonalite (quartz diorite)	In canyon bottoms, side slopes of terraces, and as canyon fills
Source: C.H.J. Incorporated, July 2002 and June 2003.			

c. **Colluvium (Qc).** Colluvium consists of locally derived silty sands and silty sands with clay that comprise the faces of the natural slopes and discontinuously obscure the older alluvium and crystalline basement. Most of the colluvium is weakly compacted, although some is medium dense. These relatively shallow deposits have little affect on the soil profile. Observed colluvium was very porous and riddled with animal burrows. Soil creep, soil slip, and other evidence of surficial failure were observed on the lower slopes covered with loose colluvium. Colluvium is unstable on moderate to steep slopes.

d. **Younger Alluvium (Qya).** Young stream deposits are mostly confined to the drainage channels. During times of reduced streamflow, alluvium accumulates in the incised channels of the slope apron and pediment. Recent channel-fill sands display little or no soil development, weak compaction, and abundant animal burrows.

Consolidation testing revealed that the younger alluvium in the canyon bottoms has slight compressibility and a moderate to high potential for significant hydroconsolidation when subjected to surcharge.

e. **Fill (f).** Substantial amounts of fill exist in isolated areas of the canyon bottoms, at the heads of the truncated canyons, and on the canyon slopes, but most deposits are too small for demarcation on the geologic map. Derived from agricultural and road-building activities, most of the fill consists of poorly graded, silty sands. In some areas, it has

extended the low-relief terrain. Additional fill may be recognized during grading of the cultivated areas.

Soils encountered during this investigation are generally granular and considered non-critically expansive. Results of soluble sulfate testing indicate a "negligible" anticipated exposure to sulfate attack.

All of the exploratory boreholes experienced slight caving upon removal of the drilling augers; trenches did not exhibit caving. Appendix B contains borehole logs with detailed descriptions of the subsurface.

2) Seismicity

a. Faulting. The site does not lie within or immediately adjacent to an Alquist-Priolo Earthquake Fault Zone, designated by the State of California where there is evidence of active faulting. Published geologic maps do not show any active faults on, or in the immediate vicinity of, the site.

The collision of the Pacific Plate and the North American Plate has resulted in the rotation of the western Transverse Ranges and the creation of right-lateral, strike-slip faults throughout much of California. Most of the movement occurs along the San Andreas fault and other northwest-trending faults (e.g., San Jacinto, Elsinore) that are part of the same translational system. Related compressional and extensional stresses have resulted in dip-slip offsets, such as those of the Cucamonga fault, the Crafton Hills fault zone, and the blind thrust faults of the Los Angeles Basin (Matti and others, 1992; Morton and Matti, 1993).

Aerial photographs and field observations reveal a topographic and vegetational lineament matching a fault trending. Evidence of the fault includes a steep dipping scarp, nearly vertical shear planes in bedrock, and springs. Because the fault is not expressed in alluviated areas crossed by this trend, it is probably an inactive, ancient fault in the bedrock.

The main trace of the San Jacinto fault is located approximately 2½ miles northeast of the site (Dutcher and Garrett, 1963; Morton, 1978; Morton and Matti, 1991). More large historic earthquakes have occurred on this fault than on any other in southern California (Working Group on California Earthquake Probabilities, 1988). Based on the data of Matti and others (1992), the San Bernardino Valley segment of the San Jacinto fault may be accommodating much of the motion between the Pacific Plate and the North American Plate in this area. Matti and others (1992) suggest that this motion transfers to the San Andreas fault in the Cajon Pass region by "stepping over" to parallel fault strands such as the Glen Helen fault. The Working Group on California Earthquake Probabilities (1995) tentatively assigned a 37% (± 17%) probability of a major earthquake on the San Bernardino Valley segment of the San Jacinto fault for the 30-year interval from 1994 to 2024.

The San Andreas fault zone is located along the southwest margin of the San Bernardino Mountains, approximately 10 miles northeast of the site. The toe of the mountain in the San Bernardino area roughly demarcates the active trace of the San Andreas fault, which is characterized by youthful fault scarps, vegetational lineaments, springs, and offset drainages. The Working Group on California Earthquake Probabilities (1995) tentatively assigned a 28% (± 13%) probability to a major earthquake occurring on the San Bernardino Mountains segment of the San Andreas fault between 1994 and 2024.

The southern margin of the San Gabriel Mountains coincides with a series of east-west trending, predominantly reverse and thrust faults known as the Transverse Ranges frontal fault system. Movement along its San Fernando fault produced the 1971 preferred magnitude (M) 6.7 San Fernando earthquake. The Cucamonga fault, also in this system, is located at the base of the San Gabriel Mountains, approximately 13 miles northwest of the site. Evidence of its recent activity includes fresh scarps, sag ponds, and disrupted Holocene alluvium (Dutcher and Garrett, 1963; Yerkes, 1985; Morton and Yerkes, 1987).

Well data, geophysical data, and microseismicity suggest the presence of several faults lacking surface expression in the general vicinity of the site (Dutcher and Garrett, 1963; Fife and others, 1976; Ziony and Yerkes, 1985). Of note is the Rialto-Colton groundwater barrier, which trends northwest and roughly parallels the San Jacinto fault zone approximately 2½ miles north of the site. Although the seismic hazards presented by these faults are not fully understood, they are generally considered low.

b. Historical Earthquakes. A map of recorded earthquake epicenters is included in Appendix B of this EIR. The epicenters and magnitudes shown are based on historical descriptions and modern seismograms. Small dots indicate epicenters of earthquakes with magnitudes less than 5.5 that were recorded from 1980 through January 1994. The larger circles represent earthquake epicenters with magnitudes equal to or greater than 5.5 that were recorded from 1836 to January 1994.

The Working Group on California Earthquake Probabilities (1988) lists seven M 6.0 or greater earthquakes that have occurred on the San Jacinto fault since 1899, although they acknowledge that several of these earlier episodes may have occurred on other nearby faults. Two of these earthquakes took place in the San Bernardino Valley. An 1899 M 6.5 event near Lytle Creek and a 1923 M 6.2 event near Loma Linda may have occurred on the San Jacinto fault. However, Fife and others (1976) and Matti and Carson (1991) suggest that the 1923 event took place on an unnamed fault parallel to and east of the San Jacinto fault.

No large earthquakes have occurred on the San Bernardino Mountains segment of the San Andreas fault within the regional historical timeframe. Jacoby and others (1987) utilized dendrochronology to infer that on December 8, 1812, a great earthquake ruptured the northern reaches of this segment. Recent trenching found evidence of displacement on the San Andreas fault at Wrightwood occurred within this timeframe (Fumal and others, 1993). Comparison of evidence at Wrightwood and Pallett Creek, and analysis of reported intensities at the coastal missions, led Fumal and others (1993) to conclude that the 1812 event ruptured the San Bernardino Mountains segment of the San Andreas fault

largely to the southeast of Wrightwood and possibly extending into the San Bernardino Valley.

Surface rupture occurred on the Mojave segment of the San Andreas fault in the great 1857 Fort Tejon earthquake. The Coachella Valley segment of the San Andreas fault produced the 1948 M 6.5 earthquake in the Desert Hot Springs area and the 1986 M 5.6 earthquake in the North Palm Springs area.

No significant historic earthquakes have been attributed specifically to the Cucamonga fault or the Rialto-Colton fault.

c. **Groundwater and Liquefaction.** The site does not lie within an area of liquefaction susceptibility as identified in the County of Riverside General Plan Seismic Safety Element. Free groundwater or evidence of shallow groundwater, such as gleying or mottling, was not encountered within any of the exploratory borings placed on the site to a depth of approximately 51.5 feet.

Depth to groundwater data available from Western Municipal Water District (1995 through 2001) and the California Department of Water Resources (1990, 2001) were reviewed. Data from State Well Number 2S/4W09E01 show a depth to groundwater as 144.6 feet below the ground surface in the spring of 2000 (Western Municipal Water District, 1995 through 2001). This well is located approximately ½-mile northeast of the site. State Well Number 2S/4W08M01, located approximately1/2-mile west of the site, indicated a depth to groundwater of 60 feet on December 2, 1997 (Western Municipal Water District, 1995 through 2001).

Liquefaction is a process in which strong ground shaking causes saturated soils to lose their strength and behave as a fluid (Matti and Carson, 1991). Ground failure associated with liquefaction can result in severe damage to structures. The geologic conditions for increased susceptibility to liquefaction are: 1) shallow depth to groundwater (i.e., less than 50 feet); 2) presence of unconsolidated sandy alluvium, typically Holocene in age; and 3) strong ground shaking. All three of these conditions must be present for liquefaction to occur. Based upon the data reviewed during this investigation, only tow of the three geologic conditions for increased liquefaction susceptibility (strong ground shaking and sandy alluvium) are expected to exist on the site. Due to depth of groundwater, density of the older alluvial soils, and anticipated densities of replaced soils, liquefaction is not considered to be a significant hazard, and further evaluation of the liquefaction potential of the site is not warranted.

d. **Slope Stability.** C.H.J. conducted an investigation to evaluate the stability of the existing bluff slopes along the project site's interface with the Springbrook Wash and adjacent to Pigeon Pass Road. Along the project site's southern boundary, the Springbrook Wash contains modified natural slopes that generally occur at a slope of 2:1 (horizontal to vertical); however, there are more localized slope areas that are as steep as 1.25:1. Some of the slopes are mantled by loose colluvium and undocumented fills. Additionally, the report prepared by C.H.J. noted that there are areas of significant, nearly vertical, headward erosion along some of the buff slopes. This erosion appears to be a result of

runoff from citrus production. However, there was no evidence of deep-seated landsliding on these slopes. Within PA-2 roadway cut slopes up to a height of 40 feet and as steep as 1.25:1 were observed.

e. **Flooding and Erosion.** There is no evidence of historic flooding on the project site. A review of hazard maps indicates that the likelihood of hazards occurring in relation to major flooding is minimal. However, the onsite soils are susceptible to erosion from running water.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon geology and soils if:

- There is evidence of geologic hazards, such as landsliding or excessively steep slopes that could result in exposure to hazards or slope failure due to improper grading or design; or
- It would expose people or structures to major geologic hazards; or
- The subsurface soil conditions are subject to liquefaction or other secondary seismic hazards in the event of groundshaking.

2) Project Related Impacts

a. **Geology.** The younger alluvium and fill is not suitable for foundation or embankment support. Such unconsolidated and uncompacted sediments are prone to several inches of settlement as the result of hydroconsolidation. This is a potentially significant impact that will require additional geotechnical investigation, as specific development plans become available. Remediation measures shall be contingent upon the ultimate land use and may include removal and replacement of these materials.

Based on the geomorphic expression and information obtained from the exploratory borings, it appears that canyon filling has occurred to facilitate grove development. These areas of fill will not provide adequate or uniform support for structures or roadways. Therefore, development of these areas could result in a significant impact. As additional plans become available, further evaluation for the existence and extent of these fills will be needed.

The following provides conclusions relating to development upon the various geologic units located at the project site:

1. Granitic Bedrock. Foundations embedded entirely in the crystalline basement should provide adequate and uniform support for the proposed structures. No impacts are anticipated.

2. Older Alluvium. In general, these sediments will provide adequate support for the planned residential structures near existing grade provided that compacted fill is utilized under foundations and slabs-on-grade. In areas where the cuts exceed four to five feet and are beyond the zone of influence of the citrus roots, embedding the entire foundation into uniformly dense, undisturbed native earth materials may also be considered.

   The older alluvium will provide a satisfactory source of fill and backfill material and should excavate readily with conventional earth-moving equipment. No impacts are anticipated.

3. Colluvium. In general, the colluvium will provide a source of quality fill and backfill material. However, these deposits do not provide satisfactory support for structures because they generally lack consistency. In addition, some of the colluvium has significant clay content that may not be suitable as a base for slabs, foundations, and pavement. Colluvium should be removed from the slope faces prior to construction of fill slopes. The expansion potential of colluvium will be evaluated during future site-specific geotechnical investigations. Proper handling in accordance with the County standards and codes will reduce these impacts to less than significant.

4. Younger Alluvium. Consolidation testing conducted on samples of younger alluvium selected from within the upper 20 feet indicate that these sediments have a moderate to high potential for significant hydroconsolidation when inundated with water. Future development, which may include landscape irrigation, could provide the water necessary to induce unacceptable settlement in this material. This is considered a potentially significant impact. Hydroconsolidation potential and appropriate remediation techniques will be determined during subsequent site-specific geotechnical investigations.

   In general, once the hydroconsolidation potential has been mitigated, younger alluvium should provide adequate support for the planned development, utilizing a compacted fill mat beneath the footings and slabs-on-grade. Encountered alluvium was granular and non-critically expansive, and should provide a satisfactory source of fill and backfill material.

.5. Fill. In accordance with the recommendations within the preliminary geotechnical investigation, all fill material identified at this time and any additional fill encountered during later site-specific geotechnical investigations and/or during construction must be removed. This will ensure that any potential impacts are reduced to a less than significant level. After being cleaned of deleterious material, the fill materials should provide suitable fill and backfill material.

b. Seismicity. The geologic field reconnaissance and the review of aerial photographs found evidence of faulting immediately south of the site. This fault is apparently confined to the bedrock with no evidence of activity within the past 11,000 years. The

project site does not occur within an Alquist-Priolo Earthquake Fault Zone and no active faults are noted within or in the immediate vicinity of the site on published geologic maps. Fault rupture at the site is a less than significant impact.

As with most of the southern California, the site could experience moderate to severe seismicity during the lifetime of the proposed project. This impact will be reduced to a less than significant level through adherence to the applicable UBC standards and the recommendations contained within the geotechnical analysis.

c. **Groundshaking Zones.** The County of Riverside General Plan Seismic Safety Element does not identify the project area as being within an existing or recommended fault zone.

Normal low-risk land uses are generally considered suitable for location in the project area. Normal low-risk land uses are single-family residential, multi-family of 100 or less units, small-scale commercial, small hotels and motels, light industrial, and warehousing.

Expected levels of groundshaking in these zones are generally less or equal to design levels as defined in the UBC. Code-designed buildings may experience no damage or minor damage in this zone.

d. **Groundwater and Liquefaction.** Firm, dense older alluvium and granitic bedrock underlie most of the site. As state previously, Due to depth of groundwater, density of the older alluvial soils, and anticipated densities of replaced soils, liquefaction is not considered to be a significant hazard, and further evaluation of the liquefaction potential of the site is not warranted. Therefore, the impact is not considered significant.

e. **Slope Stability.** On the basis of field and laboratory investigations and the results of the slope stability calculations performed by C.H.J., Inc. the existing slopes, which are to remain on site are not anticipated to present a geologic hazard in relation to deep seated gross failure conditions; however, calculations indicated that the slopes may experience impacts in relation to relatively shallow gross failure. However, project implementation will be designed and constructed in accordance with the UBC and incorporate the recommendations set forth in the geotechnical report, thereby reducing project related slope stability impact to less than significant.

f. **Flooding and Erosion.** The onsite soils are susceptible to erosion by running water. Water should not be allowed to flow over graded areas or slope faces so as to cause erosion. The existing slope areas with pronounced headward erosion, especially the areas located within areas adjacent to Springbrook Wash in PA-2 may tend to direct and concentrate surface and subsurface water flow, which may increase the susceptibility of these areas to various erosional and surficial modes of instability.

3) **General Plan and Area Plan Relationship**

a. **General Plan Relationship.** The following County of Riverside General Plan Safety Element Seismic Hazards policies are applicable to the proposed project:

S.2.2: Require geological and geotechnical investigations in areas with potential for earthquake-induced liquefaction, landsliding, or settlement, as part of the environmental and development review process, for any structure proposed for human occupancy, and any structure whose damage would cause harm.

S.2.3: Require that a State-licensed professional investigate the potential for liquefaction in areas designated as underlain by "Susceptible Sediments" and "Shallow Groundwater" for all general construction projects.

S.2.5: Require that engineered slopes be designed to resist seismically induced failure. For lower risk projects, slope design could be based on pseudo static stability analyses using soil engineering parameters that are established on a site specific basis. For higher risk projects, the stability analyses should factor in the intensity of expected groundshaking, using a Newmark-type deformation analysis.

Project Consistency. C.H.J. Inc. conducted geological and geotechnical investigations, which examined the geology and soil suitability of the site for development. Geotechnical reports were prepared in April 2000, May 2002, July 2002, and June 2003. The studies evaluated a variety of geotechnical issues and constraints associated with the proposed project, including, but not limited to, earthquake induced hazards such as liquefaction, landsliding, or settlement and seismically induced failures related to engineered slopes. The reports provide general engineering recommendations for development planning. The investigations included 1) a review of aerial photographs, 2) logging and sampling of exploratory borings and trenches for testing and evaluation, 3) laboratory testing on selected samples, and 4) evaluation of the geotechnical and engineering data. C.H.J. determined the site does not have a significant potential for liquefaction or seismically induced hazards. Moreover, C.H.J., Inc. has provided recommendations relating to site grading, foundation design, and mitigation of potential geotechnical and geologic constraints. These reports are provided in their entirety in Appendix B of this document. Therefore, the proposed project is consistent with these relevant geology and seismicity policies of the General Plan.

The following County of Riverside General Plan Safety Element Seismic Slope and Soil Instability Hazards policies are applicable to the proposed project:

S.3.3: Before the issuance of building permits, require certification regarding the stability of the site against the adverse effects of rain, earthquakes, and subsidence.

S.3.4: Require adequate mitigation of potential impacts from erosion, slope instability, or other hazardous slope conditions, or from loss of aesthetic resources for development occurring on slope and hillside areas.

S.3.5: During permit review, identify and encourage mitigation of onsite and offsite slope instability, debris flow, and erosion hazards on lots undergoing substantial improvements.

S.3.6: Require grading plans, environmental assessments, engineering and geologic technical reports, irrigation and landscaping plans, including ecological restoration and revegetation plans as appropriate to assure the adequate demonstration of a project's ability to mitigate the potential impacts of slope and erosion hazards and loss of native vegetation.

Project Consistency. C.H.J. has prepared a series of geological and geotechnical reports for the project, which have been included as Appendix B of this EIR. In addition, the U.S. Department of Agriculture Soils Report has been used to analyze on-site soil conditions and slope stability. From these reports, appropriate measures to control erosion and dust were identified. Also, a detailed geotechnical engineering investigation will be performed prior to preparing the project's final development plans to address slope erosion and slope instability issues in an effort to ensure stability of the slopes against adverse effects (i.e., rain, earthquakes, subsidence, etc.). Preliminary earthwork indicates that 165,000 cubic yards of fill will be required for the site; however, it is anticipated that during final engineering that earthwork will be balanced by lowering the site. Detailed grading plans shall be prepared prior to any on-site grading and reviewed/approved by Riverside County Department of Building and Safety and other County Departments, where appropriate. All cut and fill slopes shall be designed and constructed per County of Riverside standards. The project's Conceptual Grading Plan proposes limited slope heights up to approximately 45 feet. Therefore, the proposed project is consistent with these relevant geology and seismicity policies of the General Plan

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 22.1: Protect life and property from seismic related incidents through adherence to policies in the Seismic Hazards section of the General Plan Safety Element.

Project Consistency. As discussed under item a, General Plan Relationship, above, the proposed project is consistent with the policies in the Seismic Hazards section of the General Plan Safety Element. Therefore, the proposed project is consistent with this relevant policy of the HAP.

C. MITIGATION MEASURES

General Site Grading

1) The grading plan shall be reviewed by the geotechnical engineer and the engineering geologist. No clearing or grading operations shall be performed without the presence of a representative of the geotechnical engineer. An onsite pre-job meeting with the developer, the contractor, and the geotechnical engineer shall occur prior to all grading related operations

2) All areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials shall be removed from the site for disposal.

Initial Site Preparation

3) If encountered during construction, uncontrolled fills shall be completely removed and after cleaning of deleterious materials, the fill may be reused as compacted fill.

4) In order to prepare the ground to receive fill, a mandatory subexcavation operation in all areas to be graded shall be performed. This subexcavation operation (at least the upper five feet of the loose to medium dense soils and maximum removal on the order of twenty-five feet in the area of younger alluvium) shall include observation and testing of the exposed surface by the engineering geologist or geotechnical engineer prior to the processing for fill placement. If unsuitable soils are still present, then further removal shall be required.

Preparation of Fill Areas

5) Prior to placing the fill and after the mandatory subexcavation, the approved surfaces of all areas to receive fill shall be scarified to a depth of approximately twelve inches. The scarified soils shall be brought to between optimum moisture content and two percent above and recompacted to a relative compaction of at least ninety-five percent in accordance with ASTM D 1557-91.

Preparation of Footing Areas

6) All footings and post-tensioned slabs shall rest entirely on at least eighteen inches of properly compacted fill material. In areas where the required thickness of compacted fill is not accomplished by the mandatory subexcavation operation and by the site rough grading, the footing areas shall be subexcavated to a depth of at least eighteen inches below the proposed footing base grade, with subexcavation extending at least five feet beyond the footing lines. The bottom of the excavation shall then be scarified to a depth of at least twelve inches, brought to between optimum moisture content and two percent above, and recompacted to at least ninety-five percent relative compact in accordance with ASTM D 15557-91, prior to refilling the excavation at grade as properly compacted fill.

7) Footings shall not be allowed to span from shallow to deep fill soil conditions. Should grading result in a situation where footings of a single structure bear on a fill depth differential of more than ten feet, such as along transition areas and younger alluvium removal areas within drainages, the subexcavation of the building pad shall be deepened as necessary to provide a relatively uniform fill mat below the bottom of the footing. This deepening of the subexcavation may involve additional removals of older alluvium areas. The resultant fill shall not vary in thickness from one side of the building area to the other by more than ten feet.

Compacted Fills

8) Provided that the onsite soils are free from roots and other deleterious materials, they should provide adequate fill material. Rock or similar irreducible material, such as

asphalt concrete and Portland cement concrete, with a maximum dimension greater than eight inches shall not be buried or placed in fills. Rock materials greater than six inches shall not be placed in the upper three feet.

9) Import fill, if required, shall be inorganic, non-expansive, granular soils free from rocks or lumps greater than six inches in maximum dimension. Sources of import fill shall be observed and approved by the geotechnical engineer.

Shrinkage and Subsidence

10) Final grades shall be adjusted and/or contingency plans to import or export material shall be made to accommodate possible variations in actual values for shrinkage and subsidence (in relation to those estimated and presumed in the geotechnical report) during site grading.

Cut Slope Construction

11) Slopes cut in alluvium up to twenty-five feet in height shall be constructed no steeper than 2:1 (horizontal to vertical). Undocumented fill or collapse prone alluvial soils are considered unsuitable for slope construction and shall be removed and replaced with properly compacted fill as recommended. Cut slopes higher than twenty-five feet, if proposed, shall be evaluated by the engineering geologist and the geotechnical engineer prior to and during construction. Slopes shall be terraced and provided with drainage as per the current edition of the UBC.

Fill Slope Construction

12) Fill slopes shall be constructed in accordance with the current UBC requirements in regard to benching and drainage and shall be constructed no steeper than 2:1. Fill slopes shall be over-filled during construction and then cut back to expose fully compacted soils.

Structure Setback from Descending Slopes

13) All structures proposed above steep slopes shall be set back an adequate distance from the top of the slope. At a minimum, the recommended setback for structures is a plane projected upward at a 2:1 inclination from the toe of the slope or the steepest part of the slope, whichever is greater. Areas where unsuitable materials such as colluvium and undocumented fill will remain at the top of the slope or where erosion may occur along the toe of the slope may need to be setback further. All slope setbacks shall be reviewed on a lot-by-lot basis by the engineering geologist and geotechnical engineer.

Improvement Setbacks

14) Roadways and retaining walls shall be set back in accordance with the recommended 2:1 inclination.

Slope Protection

15) Remaining non-vegetated slopes shall be planted with drought resistant native vegetation. If watering is necessary to sustain plant growth on the slopes, the watering shall be minimized, maintained, and monitored to assure proper operation of the water system to prevent over-watering.

16) Surface water shall be prevented from flowing over slope faces. Additional erosion control measures may be required along the project's interface with the Springbrook Wash east of Mount Vernon Avenue. Homeowner's shall be cautioned not to alter the proper drainage characteristics of their lots.

Expansive Soils

17) During grading operations the geotechnical engineer shall conduct additional examinations for soil expansion potential.

Soluble Sulfates

18) Additional testing for soluble sulfates shall be performed when the final foundation bearing soils are in place.

Foundation Design

19) If the site is prepared as recommended, the proposed structure, in areas where the maximum fill thickness is less than thirty feet and the fill depth differential across the structure is less than ten feet, may be safely founded on conventional spread foundations. The foundations shall consist of either individual spread footings and/or continuous wall footings, bearing either a minimum of eighteen inches of compacted fill. Footings shall be a minimum of twelve inches wide and shall be established at a minimum depth of twelve inches below the lowest adjacent final subgrade level.

20) For the minimum width and depth, footings shall be designed for a maximum safe soil bearing pressure of two thousand pounds per square foot (psf) for dead plus live loads. This allowable pressure may be increased by 400 psf for each additional foot of width and by 700 psf for each additional foot of depth to a maximum safe soil bearing pressure of three thousand psf for dead plus live loads. These bearing values may be increased by one-third for wind or seismic loading.

21) Structure footings shall be set back from all natural and constructed slopes in accordance with the recommendations in the current UBC.

Foundation Design (Post-Tensioned Slabs)

22) If the site is prepared as recommended, the proposed residential structures in the area of deeper fills (greater than thirty feet) may be safely founded on post-tensioned slab foundations. The compacted fill shall not vary in thickness from one side of the building

pad area to the other by more than ten feet. Post-tensioned slabs shall be designed in accordance with Section 1819 of the 1997 UBC for a maximum differential settlement of 1 in 480. Thickened slab edges shall be a minimum of twelve inches wide and shall be established at a minimum depth of twelve inches below the lowest adjacent final subgrade level. The post-tensioned slab shall be designed for a maximum safe soil bearing pressure of 1,700 psf for dead plus live loads. This value may be increased by one-third for seismic loading.

Lateral Loading

23) Resistance of lateral loads shall be provided by passive earth pressure and base friction. For footings bearing against compacted fill, base friction shall be computed at 0.45 times the normal load.

24) For preliminary retaining wall design purposes of footings, bearing against compacted fill, the passive, at-rest, and active earth pressures may be utilized for backfills at different locations per the recommendations of C.H.J., Inc.

25) Foundation concrete shall be placed in neat excavations with vertical sides or concrete shall be formed and the excavations properly backfilled as recommended fill for the site.

Slabs-on-Grade

26) Concrete slabs-on-grade shall bear a minimum of eighteen inches of compacted soil. The soils shall be compacted to ninety-five percent relative compaction. The final pad surfaces shall be rolled to provide smooth dense surfaces.

27) Slabs to receive moisture-sensitive coverings shall be provided with a moisture-vapor barrier. This barrier shall consist of an impermeable membrane. Two inches of sand over the membrane will reduce punctures and aid in obtaining a satisfactory concrete cure. The sand shall be moistened just prior to the placement of the concrete.

Settlement Monitoring

28) Settlement monitoring shall be performed immediately following grading in all fills over thirty feet in thickness.

29) To verify completion of compression of the fill, an initial reading of the settlement monitors shall be taken immediately after construction. The fill shall then be monitored on consecutive months until two consecutive settlement readings do not differ by more than 0.002 feet.

30) The settlement monitors shall be placed at three different levels within the fill: one at the bottom; one at mid-height, and one at the top. All fills greater than thirty feet deep shall be monitored.

31) Locations of settlement monitors shall be clearly marked and readily visible (red flagged). Clearance shall be maintained from heavy equipment operations. The fills placed within the clearance areas shall be hand compacted to project specifications in vertical increments not to exceed eight inches. A two-inch diameter PVC sleeve or approved equivalent shall be placed around the riser pipe before placing backfill.

Geologic In-Grading Observation

32) In-grading observation shall be performed as necessary by the engineering geologist.

Construction Observation

33) All grading operations, including site clearing and stripping shall be observed by a representative of the geotechnical engineer. The presence of the geotechnical engineer's representative is for providing observation and field testing, and it will not include supervising or directing of the actual work of the contractor, employees, or agents.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures recommended above will reduce potential project related geology and soil impacts to levels that are considered less than significant.

VI.A.9 Landform and Topography/Slopes and Erosion

A. EXISTING CONDITIONS

1) Landform and Topography

The Springbrook Estates project site encompasses approximately 183.95 acres in the Highgrove area of northwestern Riverside County. The project site is generally characterized as a dissected alluvial fan. Site elevations above mean sea level range from approximately 1,020 feet at the stream channel at the eastern extreme to 1,200 feet on the northeast corner. Figure VI.A.9-1, *Topographic Map*, illustrates the existing topography of the project site. Approximately five percent of the project site consists of slopes greater than a 25 percent gradient. The analysis in this section of the EIR is based on three geotechnical reports by C.H.J., Inc. For reference purposes, these reports are included as Appendix B of this EIR.

2) Slopes and Erosion

As discussed in Section VI.A.8 of this EIR, *Geology and Seismicity*, the project site is underlain by what is known as the "Perris Block." The Perris Block is bound by the Elsinore Fault Zone to the southwest and the San Jacinto Fault Zone to the northeast. It is composed essentially of very old crystalline igneous rocks, considered basement complex rocks, which are either exposed at the surface or covered by a thin veneer of relatively young alluvium up to an estimated 15 to 20 feet thick. The geotechnical reports concluded that the project site is generally suitable for development.

Specifically, most of the project site is relatively flat. An alluvial terrace slope with a gradient of up to 1.5:1 (33°) extends along the southern areas of the site. The evidence of creep and debris flows indicate this slope's instability. Aerial photographs show no indication of deep-seated landsliding, which additionally, was not evident in the field survey. Given the general trend of the weakly developed foliation that dips into the natural slope, no landslides are expected. The field investigation did not observe any precarious boulders.

Underlying soils are discussed in Section VI.A.10, *Soils and Agriculture*, of this EIR. Three different soil series are present on the site. Table VI.A.10-1, *Soil Associations on the Springbrook Estates Project Site*, (see Section VI.A.10 of this EIR), identifies the limitations of the on-site soils in relation to construction and permeability rates. Several active stream channels are adjacent to the site (i.e., Springbrook Wash). On-site soils and unconsolidated sediments are susceptible to erosion by running water. The on-site soils and younger sediments are moderately to highly susceptible to erosion by running water. Water flowing over graded areas during construction could result in significant erosion impacts. Moreover, the project site is located in an area that is identified as a wind erosion hazard zone as shown on the *County of Riverside General Plan Wind Erosion Susceptibility Map*.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact on landform and topography if it will:

- Result in cut and fill slopes that are greater than 2:1 (horizontal to vertical), unless such cuts are recommended to be safe in a slope stability report prepared by a soils engineer; or

- Result in cut and fill slopes that are greater than a height of 10 feet, unless greater heights are recommended to be safe in a slope stability report prepared by a soils engineer; or

- Result in County dedicated and maintained roads as well as site access roads that are graded to a finished grade greater than fifteen percent (15%), unless otherwise recommended by the County Transportation Department;

- Result in slopes that are subject to instability, erosion, or slippage.

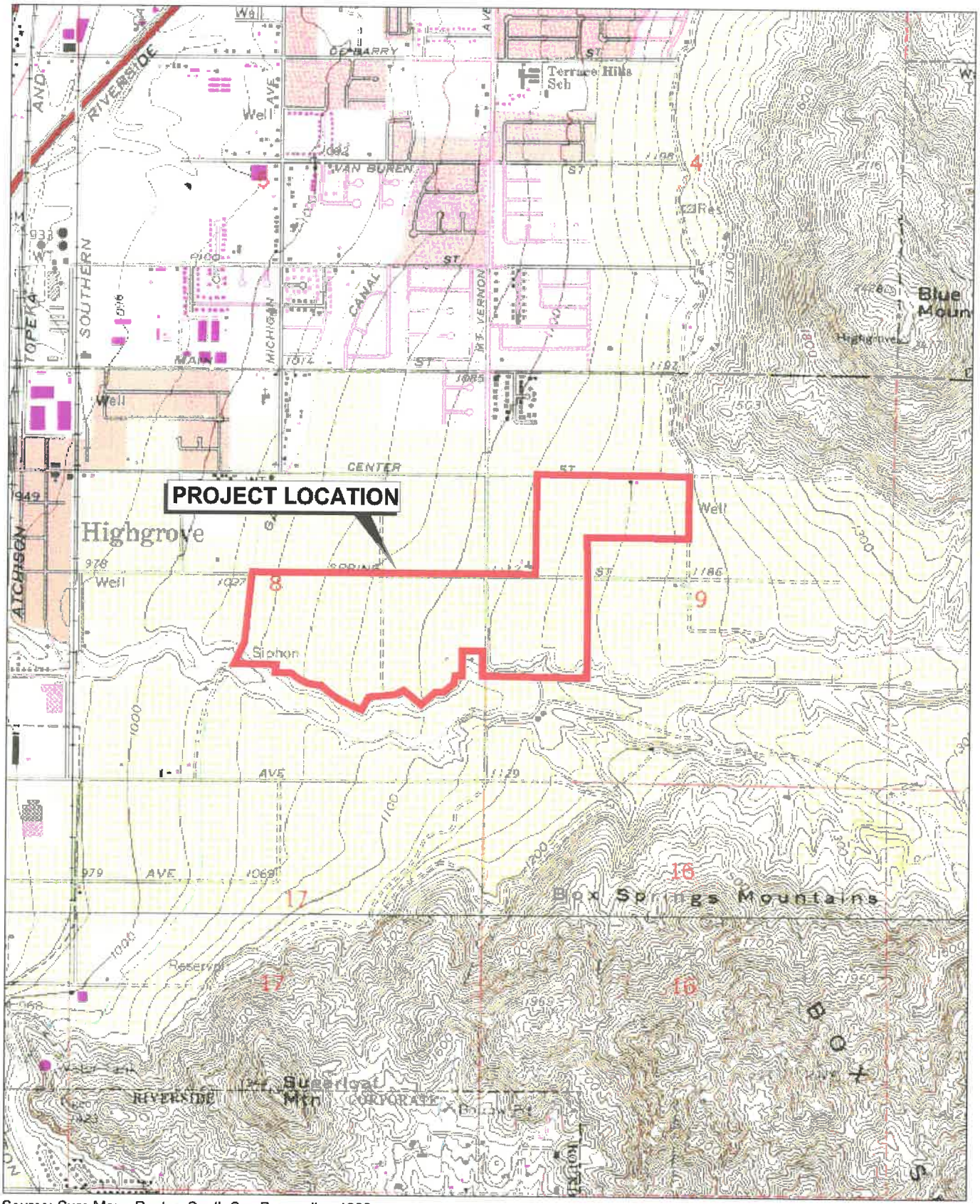
2) Project Related Impacts

The project will result in the creation of manufactured slopes along a short span of the development area. Manufactured slopes would generally be less than 30 feet in height. Manufactured slopes in excess of 30 feet will be designed with terrace drains, as necessary. Recontouring and landscaping of manufactured slopes would be required to mitigate the potential for impacts to landform and topography. The project site is considered feasible from a geologic and geotechnical engineering perspective and is further described in the mitigation measures included in Section VI.A.8, *Geology and Seismicity*. All areas proposed for development would be potentially affected by low, moderate, or high erosion susceptible soils. Therefore, in developing the site, erosion control techniques would need to be implemented in order to minimize erosion potential. Suitable erosion control techniques also are discussed under mitigation measures in Section VI.A.10, *Soils and Agriculture.*

No precarious boulders were observed during the investigation. However, the location of planned human occupancy structures not adjacent but "near" the granitic hillside should be further evaluated for potential rockfall hazards. This is not considered a significant impact.

Topography indicates cut slopes possibly will be constructed to a height of approximately 30 feet. Cut slopes will probably expose granitic rock or competent older alluvium. Slopes cut at an inclination of 2:1 (~26°) in this material are expected to be grossly and surficially stable up to a height of 30 feet. There is no way to verify strength parameters of undocumented fill. Slopes exposing undocumented fills should not be relied on, and they would result in a potentially significant impact. If slopes higher than 30 feet are planned, they should be evaluated by the engineering geologist and geotechnical engineer on a case-by-case basis.

The project site is located in an area that is identified as a wind erosion hazard zone as shown on the County of Riverside General Plan Wind Erosion Susceptibility Map. However, in the short-term, the impacts of atmospheric dust, such as respiratory discomfort and abrasive soil blowing as a result of wind erosion were considered in the context of air quality. As such, dust abatement measures are included in Section VI.A.3, *Air Quality,* of this EIR. In the long-term, the proposed project will transform the undeveloped lands and inactive orchards to suburban uses that will convert the project site to impermeable uses (residential units, roadways, etc.) and permeable landscaped lands. Thus, project implementation will result in reducing the occurrence of wind blown erosion. Moreover, the site is surrounded by existing and planned suburban uses. Hence, it is unlikely that the long-term operation of the project site will be impacted by wind erosion hazards.



Source: Sure Maps Raster, South San Bernardino, 1980.

NORTH

1,375 687.5 0 1,375

SCALE IN FEET

Michael Brandman Associates

21970012 • 10/2003 | topographic map.cdr

Figure **VI.A.9-1**

Topographic Map

SPRINGBROOK ESTATES EIR

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Safety Element Slope and Instability Hazards policy and Land Use Element Hillside Development and Slope policy are applicable to the proposed project:

S.3.3: Before the issuance of building permits, require certification regarding the stability of the site against the adverse effects of rain, earthquakes, and subsidence.

S.3.4: Require adequate mitigation of potential impacts from erosion, slope instability, or other hazardous slope conditions, or from loss of aesthetic resources for development occurring on slope and hillside areas.

S.3.5: During permit review, identify and encourage mitigation of onsite and offsite slope instability, debris flow, and erosion hazards on lots undergoing substantial improvements.

S.3.6: Require grading plans, environmental assessments, engineering and geologic technical reports, irrigation and landscaping plans, including ecological restoration and revegetation plans as appropriate to assure the adequate demonstration of a project's ability to mitigate the potential impacts of slope and erosion hazards and loss of native vegetation.

S.3.11: Require studies that address the potential of this hazard on proposed development within "High" and "Very High" wind erosion hazard zones as shown on Figure S-8, Wind Erosion Susceptibility Map.

Project Consistency. A series of geological and geotechnical reports for the project have been prepared and are included as Appendix B of this EIR. In addition, the U.S. Department of Agriculture Soils Report has been used to analyze on-site soil conditions and slope stability. From these reports, appropriate measures to control erosion and dust were identified. The impacts of atmospheric dust, such as respiratory discomfort and abrasive soil blowing as a result of wind erosion were considered in the context of air quality. As such, dust abatement measures are included in Section VI.A.3, *Air Quality*, of this EIR. In addition, a detailed geotechnical engineering investigation will be performed prior to preparing the project's final development plans to address slope erosion and slope instability issues in an effort to ensure stability of the slopes against adverse effects (i.e., rain, earthquakes, subsidence, etc.). Detailed grading plans shall be prepared prior to any on-site grading and reviewed/approved by Riverside County Department of Building and Safety and other County Departments, where appropriate. Preliminary earthwork indicates that 165,000 cubic yards of fill will be required for the site; however, it is anticipated that during final engineering that earthwork will be balanced by lowering the site. All cut and fill slopes shall be designed and constructed per County of Riverside standards. The project's Conceptual Grading Plan proposes limited slope heights up to approximately 45 feet.

b. **Highgrove Area Plan Relationship.** The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 23.1: Protect life and property through adherence to the Hillside Development and Slope policies of the General Plan Land Use Element and the Slope and Soil Stability Hazards policies of the General Plan Safety Element.

Project Consistency. As discussed under item a., *General Plan Relationship*, above, the proposed project is consistent with the policies of the Hillside Development and Slope policies of the General Plan Land Use Element and the Slope and Soil Stability Hazards policies of the General Plan Safety Element.

C. MITIGATION MEASURES

Site Preparation

1) Prior to development within any planning area of the Specific Plan, an overall Conceptual Grading Plan for the planning area in process shall be submitted for Planning and Building Department approval. The Grading Plan for each planning area shall be used as a guideline for subsequent detailed grading plans for individual stages of development within that planning area, and shall include: 1) techniques employed to prevent erosion and sedimentation during and after the grading process, 2) approximate timeframes for grading; 3) identification of areas that may be graded during high probability rain months (January through March), and 4) preliminary pad and roadway elevations. Grading on the project site shall conform to County regulations. If County regulations conflict with the Conceptual Grading Plan, County regulations shall take precedence.

2) All grading procedures shall be in compliance with the Riverside County Grading Standards, including requirements for erosion control during rainy months. The requirements for compliance with Riverside County Grading Standards shall be noted on all grading plans.

3) Prior to issuance of grading permits, a soils report and geotechnical study shall be performed to further analyze on-site soil conditions and slope stability and shall include the appropriate measures to control erosion and dust as mentioned in the first mitigation measure.

4) Where cut and fill slopes are created higher than three feet, detailed Landscaping and Irrigation Plans shall be submitted to the Planning Department prior to grading permit issuance. The plans shall be reviewed for type and density of ground cover, shrubs, and trees to ensure that plant material will be effective as erosion control and that all slopes will be landscaped per County Ordinance No. 457.

5) All streets shall have a gradient not to exceed 15 percent.

6) Slopes steeper than 2:1 or higher than ten feet are allowed provided they are recommended to be safe in a slope stability report prepared by the soils engineer or

engineering geologist. The slope stability report shall also contain recommendations for landscaping and erosion control. The Uniform Building Code (UBC), County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in Riverside County shall be observed.

7) Potential brow ditches, terrace drains, or other minor swales, determined necessary by the County of Riverside at future stages of project review, shall be lined with natural erosion control materials or concrete.

8) Graded but undeveloped land shall be maintained weed-free and planted with interim landscaping within 90 days of completion of grading, unless building permits are obtained.

9) All grading shall be conducted in conformance with recommendations contained within the Geotechnical Reports included as Appendix B of this EIR.

Unconsolidated Deposits

10) On-site soils are sufficiently granular to preclude any potential for expansion. Thus, specialized construction procedures, such as the inclusion of steel reinforcement in footings and slabs and the moisture-treatment of the slab subsurface, are not anticipated. The soils engineer should perform additional evaluations for soil expansion potentials during later site-specific investigations and grading operations.

11) When construction encounters clay-bearing colluvium, an attempt should be made to mix it with more granular onsite material prior to placement. Colluvium on slope faces should be removed prior to construction of fill slopes. Future site-specific geotechnical investigations will further evaluate the expansion potential of these deposits.

12) Remediation techniques for hydroconsolidation of younger alluvium include, among others, removal and replacement. The hydroconsolidation potential and appropriate remediation for a specific site will need to be addressed during the later site-specific, detailed geotechnical investigations.

13) All fill material encountered during site-specific geotechnical investigations and construction should be completely removed. After being cleaned of deleterious material, these fill materials should provide suitable fill and backfill material.

Natural Slopes

14) Loose colluvium and undocumented fills typically cover alluvial terrace slopes on the site. Future detailed investigations for construction near these slopes will need to address the gross and surficial stability of these slopes, as well as remediation methods. Remediation measures might include careful selection of building sites and/or construction of diversion or containment structures.

Subdrains

15) Subdrains shall be emplaced in the deepest part of planned fills, where this condition occurs. Appendix B of this report includes a typical subdrain design.

16) If encountered, springs and seeps in cut areas shall be evaluated on a case-by-case basis as to the most practical mitigation recommendations. At the time of grading, the engineering geologist shall make recommendations regarding subdrains or alternative mitigation. It is imperative that free water on or near building pad areas be mitigated prior to placement of structures.

Potential Erosion

17) The potential for erosion shall be mitigated by proper drainage design. Water shall not be allowed to flow over graded areas or natural areas so as to cause erosion. Graded areas shall be planted or otherwise protected from wind and water erosion.

General Site Grading

18) It is imperative that no clearing and/or grading operations be performed without the presence of a representative of the soils engineer. An onsite pre-job meeting of the developer, the contractor, and the soils engineer shall occur prior to all grading-related operations. Operations undertaken at the site without the presence of the soils engineer may result in exclusions of affected areas from the final compaction report for the project.

19) At a minimum, grading of the site shall be performed in accordance with the recommendations noted above and those emanating from future site-specific investigations, as well as with applicable portions of the current Uniform Building Code and the Riverside County Grading Ordinance (RCGO). The following recommendations should assist in establishing proper grading criteria.

a. In general, all areas to be graded shall be stripped of significant vegetation and other deleterious materials. These materials shall be removed from the site for disposal.

Undocumented fills shall be completely removed, and after cleaning of significant deleterious materials, may be reused as compacted fill.

In order to determine the suitability of the ground to receive fill, subexcavation of all fill areas will be mandatory. This operation shall include removal of at least the upper two feet of the existing substratum and observation of the newly exposed surface by the engineering geologist or geotechnical engineer prior to processing for fill placement.

b. The on-site deposits shall provide adequate quality fill material provided they are free from roots and other deleterious materials. Rock or similar irreducible

material with a maximum dimension greater than 6 inches shall not be buried or placed in fills.

Import fill, if required, shall be inorganic, non-expansive, granular material free of rocks or clumps greater than 6 inches in maximum dimension. Sources for import fill shall be observed and approved by the soils engineer prior to their use.

It is anticipated that the areas of deep fill will be in canyon bottom areas underlain by younger alluvium with the potential for significant hydroconsolidation. Future site-specific investigations shall address methods of mitigating potential hydroconsolidation settlement in these alluvial deposits. Such mitigation measures could involve complete removal. In addition, the deep fill requires specialized grading techniques to minimize potential settlement. These methods typically consist of (1) bringing the fill to 3% above optimum moisture prior to compaction, (2) compressing the fill to 90% relative compaction (ASTM 1557), and (3) adopting a program of settlement monitoring following the grading operation.

Structure placement should avoid areas with large fill depth differentials, in accordance with the RCGO.

c. Slopes cut in granitic rock or firm, dense older alluvium up to 30 feet in height shall be constructed no steeper than 2:1 (~26°). Undocumented fill shall be considered unsuitable for slope construction and shall be removed and replaced with properly compacted fill as recommended. Significant amounts of colluvium exposed in cut slopes should be removed. Prior to and during construction, the engineering geologist and geotechnical engineer shall evaluate all cut slopes higher than 30 feet. Slopes shall be terraced and provided with drainage as per the current edition of the Uniform Building Code (International Conference of Building Officials, 1997) and RCGO. The final investigation of the site shall provide more specific data on slope stability, once the location and height of the slopes are known.

d. Fill slopes shall be constructed no steeper than 2:1 (two horizontal to one vertical). Fill slopes shall be overfilled during construction and then cut back to expose the fully compacted material. A suitable alternative would be the compaction and rolling of slopes to provide dense, erosion-resistant surfaces.

Where fills are to be placed against existing slopes steeper than 5:1, the existing slopes shall be terraced into competent native materials, thereby removing the compressive and permeable veneer and providing a series of level benches on which to seat the fill. The benches should be a minimum of 8 feet in width, constructed at approximately 2-foot vertical intervals. In addition, a shear key shall be constructed across the toe of the slope. The shear key shall be a minimum of 15 feet wide and should penetrate a minimum of 2 feet beneath the toe of the slope into firm, competent material (see Appendix B). The hydroconsolidation potential of these sediments shall be mitigated as necessary.

e. In as much as the native materials are susceptible to erosion by running water, it shall be necessary that all slopes at the project be planted as soon as possible after completion. The use of succulent ground covers, such as iceplant or sedum is not recommended. If irrigation is necessary to sustain plant growth on slopes, the system shall be monitored to assure proper operation and to prevent overwatering. Measures shall be taken to prevent surface water from flowing over slope faces.

f. Preliminary indications are that residential structures may be founded on conventional spread foundations, either individual spread footings and/or continuous wall footings, utilizing a compacted fill mat or direct embedment of footings into dense, undisturbed materials. A compacted fill mat will most likely consist of a minimum of 18 inches of compacted fill beneath the footings. The geotechnical engineer must approve the suitability of any natural deposit that will support a foundation. Footings must not span from cut to fill, or from deep fill to shallow fill.

Foundation design shall accommodate liquefaction-prone substrates.

Determination of allowable bearing pressure and lateral earth pressures shall be based on the results of supplemental geotechnical investigation data. For planning purposes, however, the following bearing values may be utilized.

Utilizing a minimum width of 12 inches and depth of 12 inches, preliminary footings probably can be designed for a maximum safe soil-bearing pressure of at least 1,800 pounds per square foot for dead plus live loads, with allowable bearing pressure increases of 400 pounds per square foot for each additional foot of width, and with 800 pounds per square foot for each additional foot of depth, to a maximum safe soil-bearing pressure of 3,000 pounds per square foot for dead plus live loads. In addition, increases of one-third may be considered for wind or seismic loading.

Footings shall be setback from all natural and constructed slopes in accordance with the recommendations shown in Appendix B of this report, and in accordance with detailed investigations conducted after formulation of specific development plans.

g. Once the initial planning for the site has been completed, a complete site-specific investigation shall be performed for each development phase. The reports developed from such site-specific investigations can be utilized to provide final design geotechnical and geological parameters for planned construction.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures above will reduce impacts to landform and topography to levels that are considered less than significant.

VI.A.10 SOILS AND AGRICULTURE

This EIR provides an evaluation of potential impacts associated with soils and agriculture as required by the County Planning Department. Information contained in this section has been derived from the Soil Survey, Western Riverside Area, California, published by the U.S. Department of Agriculture and information provided by the California Department of Conservation Farmland Mapping and Monitoring Program, as well as from other EIRs and supporting reports prepared for projects in the immediate vicinity. In accordance with CEQA Guidelines, Section 15050, the relevant discussions and supporting technical reports regarding soils and agriculture contained in these and other EIRs are herein incorporated by reference. These documents are listed in Section VI.D *Organizations, Persons and Documents Consulted*, and are on file at the referenced locations.

A. EXISTING CONDITIONS

1) Soil Associations

According to the *Soil Survey, Western Riverside Area, California*, published by the U.S. Department of Agriculture Soil Conservation Service, there are two types of soil associations on the project site:

a. **Cienaba-Rockland-Fallbrook Association.** Well-drained and somewhat excessively drained, undulating to steep, very shallow to moderately deep soils that have a surface layer of sandy loam and fine sandy loam; on granitic rock.

b. **Hanford-Tujunga-Greenfield Association.** Very deep, well-drained to excessively drained, nearly level to moderately steep soils that have a surface layer of sand to sandy loam, on alluvial fans and flood plains.

2) Soil Series

Three soil types occur on the project site (see Figure VI.A.10-1). Provided below are their general descriptions series (see Table VI.A.10-1):

a. **Greenfield sandy loam. (GyC2).** Soils of the Greenfield series are on alluvial fans and terraces. Slopes are 0 to 25 percent. These well-drained soils developed in alluvium consisting mainly of granitic materials. In a typical profile, the surface layer is brown sandy loam about 26 inches thick. The subsoil is brown sandy loam and pale-brown loam and extends to a depth of about 60 inches. Shrink-swell potential is low.

Permeability of this soil is moderate. Runoff is slow to medium, and the hazard of erosion is slight to moderate. The available water holding capacity is 7.5 to 10.0 inches. The root zone is more than 60 inches deep.

b. **Hanford coarse sandy loam. (HcC).** The Hanford series consists of well-drained and somewhat excessively drained soils on alluvial fans. Slopes are 0 to 15 percent. These soils developed in alluvium made up of granitic materials. Typically, the upper 18 inches

of the profile is grayish-brown coarse sandy loam. Underlying this is brown, stratified coarse sandy loam and loamy sand. Shrink-swell potential is low.

This soil is well drained. Its permeability is moderately rapid. Runoff is slow to medium, and the hazard of erosion is slight to moderate. The available water holding capacity is 5.0 to 7.5 inches. The root zone is more than 60 inches deep.

c. **Terrace escarpments (TeG).** Terrace escarpments consist of variable alluvium on terraces or barrancas. Slopes range from 30 to 75 percent. Small areas of recently deposited alluvium may be near the bottom of the escarpments. This land type may have exposed "rim pan" gravel, cobblestones, stones, or large boulders in variable quantities. Approximately one-fourth of the acreage is made up of eroded spots and active gullies that head toward the terrace top. This land is unaltered alluvial outwash derived from granite, gabbro, metamorphosed sandstone, sandstone, or mica schist. It has various soil profiles that are commonly truncated. The material is light grayish brown to brown in color and slightly acidic to neutral in reaction.

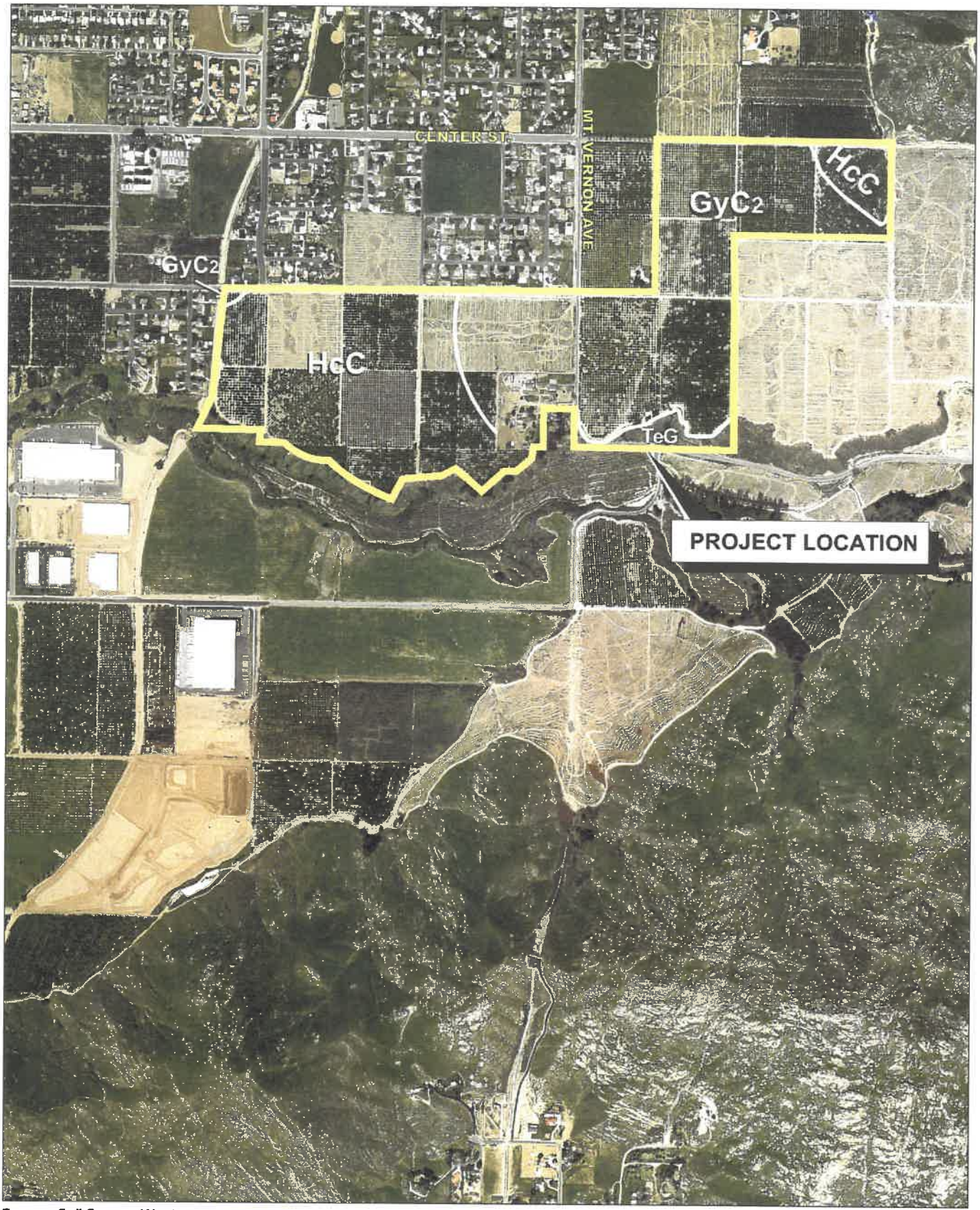
Table VI.A.10-1: Soil Associations on the Springbrook Estates Project Site

Map Symbol	Mapping Unit	Capability Unit	Erosion Susceptibility	Runoff Potential	Storie Index Grade	Permeability (inches/hour)	Shrink/ Swell Potential
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	IIe-1 (19) irrigated	Slight to Moderate	Slow to Medium	1	2.0-6.3	Low
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	IIe-1 (19) irrigated	Slight to Moderate	Slow to Medium	1	2.0-6.3	Low
TeG	Terrace escarpments	VIIe-1 (19) dryland	—	—	5	variable	—
Source: Soil Survey, Western Riverside Area, California, 1971.							

3) Agriculture

Survey data compiled by the United States Soil Conservation Service (1982) identifies County farmlands and divides them into four types according to soil characteristics, climatic conditions, and water supply. The classifications are, in order of importance, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Local Important Farmland. Criteria used for classification include soil type, moisture content, water supply, soil temperature, acidity, salinity, depth, drainage, water table, flooding, slope, erodibility, permeability, rock content, rooting depth, growing season, crop type and value, and other economic factors.

The project site is situated within an agricultural area that has been devoted to citrus farming for many years, as the sandy soil provides good drainage and there are reliable sources of groundwater for irrigation.



Source: Soil Survey, Western Riverside Area, USDA Soil Conservation Service, November 1971 and PBS&J,1995.

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21970012 · 9/2002 | soils map.cdr

Figure **VI.A.10-1**
Soils Map

SPRINGBROOK ESTATES EIR

The California Department of Conservation Farmland Mapping and Monitoring Program's Important/Interim Farmland Overlay reveals that approximately 95 percent of the Springbrook Estates project site is classified as Prime Farmland while the other 5 percent is Farmland of Statewide Importance.

a. **Agricultural Soils on the Project Site.** As identified in Table VI.A.10-1, a Storie Index accompanies each of the three soil types described within this section (GyC2, HcC, and TeG). A Storie Index is a rating of a soil's suitability for general intensive farming. The index is based on soil characteristics obtained by an evaluation of soil depth, texture of the surface soil, density of subsoil, drainage, salts and alkali content, and topographic relief. Other factors that might also determine the ability to farm in a given locality, such as availability of water for irrigation, climate and distance from the market place, are not included in the evaluation. Therefore, the Storie Index gives a general idea of the quality of soils for agricultural use.

   Storie Indices are divided into six grades: 80-100 are categorized as Grade 1, 60 to 79 are categorized as Grade 2, 40 to 59 are categorized as Grade 3, 20 to 39 are categorized as Grade 4, 10 to 19 are categorized as Grade 5, less than 10 are categorized as Grade 6. Grade 1 soils have few or no limitations that restrict their use for crops. Grade 2 soils are suitable for most crops, but they have minor limitations that narrow the choice and they have a few special management needs. Grade 3 soils are suited to a few crops or to special crops and require special management. Grade 4 soils are severely limited for crops and require careful management. Grade 5 soils generally are not suited to cultivated crops, but can be used for pasture and range. Grade 6 consists of soils and land types that generally are unsuitable for farming.

   Based upon Storie Index ratings, the project site spans across two grades (see Table VI.A.10-1). Grade 1 is represented on the site by two soil series (GyC2 and HcC), which cover approximately 95 percent of the property. According to the California Department of Conservation Farmland Mapping and Monitoring Program (1995), two of the site's soil series (GyC2, and HcC) meet the criteria for Prime Farmland.

b. **Agricultural Preserves.** Riverside County participates in the California Land Conservation Act (CLCA) of 1965, also known as the Williamson Act. This program allows owners of agricultural land to have their properties assessed for tax purposes based on agricultural production rather than current market value. Participation in this program is voluntary, and requires 100 contiguous acres of agricultural land under one or more ownerships to file an application for agricultural preserve status with the Riverside County Planning Department. The Comprehensive Agricultural Preserve Technical Advisory Committee (CAPTAC) reviews the application, which is then submitted to the Board of Supervisors for public hearing. The Board of Supervisors may approve, approve with changes, or deny the application. After an agricultural preserve has been established, the land within the preserve is automatically restricted to agricultural and compatible uses. The land may also be subject to agricultural rezoning.

In order to have land within an agricultural preserve assessed on the basis of agricultural production rather than full market value, the property owner(s) and the County of Riverside must enter into a Land Conservation Contract. Either party may file a Notice of Nonrenewal, which will cause the contract to expire in ten years.

After the contract has expired, a landowner may apply to remove that property from an agricultural preserve. The landowner also has the option of petitioning the Board of Supervisors for the cancellation of the contract. Early cancellation of the contract involves payment of a substantial cancellation fee. For a cancellation to be consistent with the Land Conservation Act of 1965, the Board must make all of the following findings:

- The cancellation is for land on which the Notice of Nonrenewal has been served.
- The cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- The cancellation is for an alternative use that is consistent with the applicable provisions of the Riverside County General Plan.
- The cancellation will not result in non-contiguous patterns of urban development.
- That there is no proximate non-contracted land that is both available and suitable for the use to which it is proposed that the contracted land be put; or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.

Currently, there is one property within the project site that is being processed for an agricultural preserve diminishment.

c. **County Ordinance 625 (Right to Farm).** The County of Riverside has adopted a Right to Farm Ordinance, so as to conserve, protect, and encourage the development, improvement, and continued viability of its agricultural land and industries for the long-term production of food and other agricultural products, and for the economic well-being of the County's residents. It is also the intent of the County to balance the rights of farmers to produce food and other agricultural products with the rights of non-farmers who own, occupy, or use land within or adjacent to agricultural areas. It is the intent of this ordinance to reduce the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon soils and agriculture if it will:

- Result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use; or

- Conflict with existing zoning for agricultural use or a Williamson Act contract; or

- Involve other changes in the existing environment, which due to their location or nature, could individually or cumulatively result in the loss of Farmland to non-agricultural use.

2) Project Related Impacts

a. **Soils.** Each soil type description provided above includes a hazard of erosion rating. Erosion susceptibility is moderate to high and, therefore, there will be a need to control erosion during grading activities. Erosion control techniques would need implementation in order to reduce erosion potential to below a level of significance; these techniques are discussed under *Mitigation Measures*.

The shrink-swell potential of soils refers to the change in volume of the soil that results from a change in moisture content. Soils that contain a larger amount of clay generally have a high shrink-swell potential, whereas coarser textured soils have a low shrink-swell potential. High shrink-swell characteristics affect construction of roads, foundations of structures, and sites for reservoirs. Soils with high shrink/swell potentials therefore require excavation and recompaction in conformance with standard grading and building practices. Two of the three soil types on the site have low shrink-swell potentials; the remaining soil types have no moderate shrink-swell potential (see Table VI.A.10-1). None of the project site soils contain large amounts of clay. Thus, no significant impacts are anticipated as a result of high shrink/swell potential soils.

The Highgrove Area Plan (HAP) requires that all grading procedures comply with Riverside County Grading Standards. According to the preliminary earthwork, the Springbrook Estates project will require approximately 500,000 cubic yards of cut and 665,000 cubic yards of fill; however, it is anticipated that during final engineering that the site will be balanced by lowering the site.

b. **Agriculture.** The Springbrook Estates project will result in converting land that is zoned for agricultural uses into residential, parkland, and school uses. The conversion of agriculturally zoned lands conflicts with the County's Right to Farm Ordinance to conserve and protect farmland; however, according to the County, it is not the intent of the ordinance to limit the right of any property owner to request that the County consider a change in the zoning classification in accordance with the procedures set forth in the Riverside County Land Use Ordinance, as will occur as a result of the Springbrook Estates project. Moreover, as discussed in Section VI.A.1, *Land Use and Planning*, the project site is not surrounded by agricultural land uses; thus, implementation of the Springbrook Estates project will not result in the cessation of agricultural land uses on adjacent lands or in land use conflicts between urban and rural land uses. However, project implementation will result in urban development in the areas identified as Prime Farmland and Farmland of Statewide Importance. Urban development in this area, as

anticipated by the HAP, will be considered significantly adverse in relationship with the General Plan's classification of Prime Farmland and Farmland of Statewide Importance since such soils will be removed from the project site.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Agriculture policies are applicable to the proposed project.

LU 16.1: Retain agriculturally designated lands where agricultural activity can be sustained at an operational scale, where it accommodates lifestyle choice and in locations where impacts to potentially incompatible uses, such as residential uses are minimized.

LU 16.4: Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production.

Project Consistency. The project site consists in part of farmlands that are Prime Farmlands and Farmlands of Statewide Importance. However, currently these lands support no active agricultural activities that would accommodate lifestyle choices of residents in the project area. Moreover, with residential development to the east and west of the project site, these lands are fragmented and constrained by urbanization.

b. Highgrove Area Plan Relationship. There are no applicable Highgrove Area Plan (HAP) policies that relate to soils and agriculture.

C. MITIGATION MEASURES

Soils

1) Prior to any onsite grading activities, a soil report and geotechnical study shall be prepared to further analyze site conditions, including slope stability and permeability. The study shall be submitted to the County of Riverside Planning Department and shall include analyses of 1) soils engineering qualities of underlying soils and rock conditions (e.g., soil bearing, consolidation, expansion, etc.), 2) seismic refraction traverses to determine rippability characteristics of crystalline rock units, if any, and 3) seismic parameters for building construction.

2) To minimize the potential for occurrence of erosion and sedimentation on-site and downstream of the site, the following measures shall be implemented:

a. All cut and fill slopes shall be landscaped to prevent erosion and sedimentation from occurring. Detailed Landscaping and Irrigation Plans shall be submitted to the County Planning Department prior to Grading Plan approval. The plans shall be reviewed for type and density of groundcovers, shrubs, and trees to ensure that selected plant material will be effective as erosion control and that all slopes shall be landscaped per County Ordinance No. 457.

b. Slopes steeper than 2:1 or higher than ten feet are permitted, provided they are recommended to be safe in a slope stability report prepared by the soils engineer or engineering geologist. The slope stability report shall also contain recommendations for landscaping and erosion control. The Uniform Building Code, County Ordinance No. 457, and all other relevant laws, rules, and regulations governing grading in Riverside County shall be observed.

c. Graded, but undeveloped land, shall be maintained and planted with interim landscaping within 90 days of completion of grading activities, unless building permits are obtained from the County.

d. In order to minimize erosion and sedimentation concerns on the property and downstream, potential brow ditches, terrace drains, or other minor swales determined necessary by the County of Riverside at future stages of project review shall be lined with natural erosion control materials or concrete.

Agriculture

The proposed project would have a significant impact on agriculture. The project site is not in an Agricultural Preserve and other Agricultural Preserves in the surrounding area have already filed for a Notice of Non-Renewal and disestablishment. However, there are no feasible mitigation measures for the loss of Prime Farmland and Farmland of Statewide Importance.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

There are no feasible mitigation measures to reduce the loss of Prime Farmland and Farmland of Statewide Importance to less than significant. Therefore, the project will have a significant unavoidable adverse impact related to soils and agriculture.

VI.A.11 AESTHETICS, VISUAL ANALYSIS, LIGHT AND GLARE

A. EXISTING CONDITIONS

The Springbrook Estates project site consists of approximately 183.95-acres of contiguous property that was primarily utilized for citrus farming. The project site is characterized by flat terrain with slight elevation variations. The primary groundcover consists of orchard operations, and grassland vegetation. The citrus groves have been in production for over twenty years. With the exception of slight topographic variations, the project site is approximately 1,100 feet above mean sea level.

Views into the project site are mainly from the residential homes to the west of the project site. Homes located along Mount Vernon Avenue will also have views of the site.

Photographs were taken to document the existing physical characteristics and visual conditions within and around the project site as presented in Figures VI.A.11-2 through VI.A.11-7 *Site Photographs*. Please refer to Figure VI.A.11-1 *Photographic Index,* for photograph locations. Below is a description of each photograph.

1) Site Photographs

a. **Photograph 1.** This photograph was taken from the intersection of Spring Street and the Gage Canal, looking southeast along the northwestern corner of the project site. The photograph is looking southeasterly at the existing citrus groves in the forefront and the Box Springs Mountains in the far background.

b. **Photograph 2.** This photograph is taken from the intersection of Spring Street and Murphy Avenue, looking south into the project site. In the foreground are vacant land and the electrical transmission lines and poles that traverse along the alignment of Spring Street. To the west are the citrus groves that are located along Spring Street. At this vantage point, it is apparent that as Murphy Avenue traverses across the project site it becomes a restricted access dirt road. In the middle ground are views of the existing citrus groves and a home orchard operation located within the project site, but not on the central portion. The background is dominated by views of Box Springs Mountains.

c. **Photograph 3.** This photograph was taken from the intersection of Spring Street and Mount Vernon Avenue, looking southwest into the project site. The electrical transmission lines, electrical poles, and vacant land dominate foreground views. Further south in the middle ground the existing adjacent homes and citrus groves are visible. In the background are views of adjacent Box Springs Mountains.

d. **Photograph 4.** This photograph is looking south into the project site across Center Street, between the California Aqueduct on the east and Mount Vernon Avenue on the west. Visible in this photograph are the citrus groves that comprise the northeastern portion of the project site.

e. **Photograph 5.** This photograph is taken from Mount Vernon Avenue south of its intersection with Pigeon Pass Road, looking north into the project site. The foreground is vacant and disturbed land. Debris is scattered throughout the foreground area, which is off-site. In the middle ground are both operational and non-operational citrus groves.

f. **Photograph 6.** This photograph is looking northeast into the project site from Mount Vernon Avenue, just south of Pigeon Pass Road and Springbrook Wash. Raw and undeveloped lands dominate the viewshed at this location. Due to the elevational differences, the Blue Mountain is visible from this location; however, it does not dominate the background views.

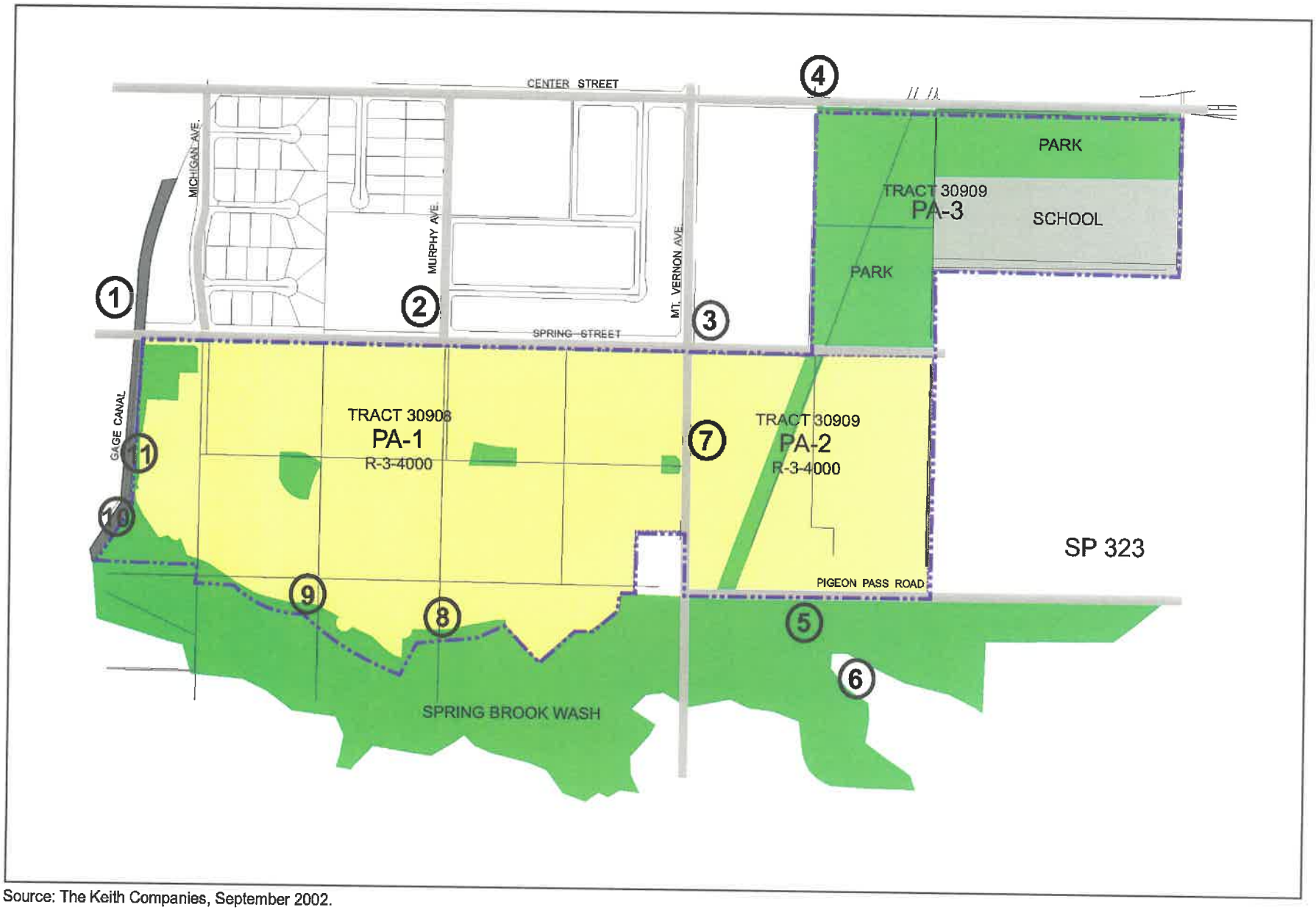
g. **Photograph 7.** This photograph is taken from Mount Vernon Avenue between, Spring Street and Pigeon Pass Road, looking west into the project site. Visible is the existing residence, located immediately adjacent but outside of the project boundaries. In the foreground, looking northwest into the project site, the topography is flat and the land is barren.

h. **Photograph 8.** This photograph is taken from the southern terminus of Murphy Avenue at the southern boundary of the project site, looking north. The viewshed at this location is dominated by citrus groves.

i. **Photograph 9.** This photograph is looking north from the southern terminus of an unnamed dirt road at the southern boundary of the project site. This viewshed is dominated by citrus groves.

j. **Photograph 10.** This photograph is looking north/northeast along the alignment of the Gage Canal, from a point just west of the southwestern boundary of the project site. A wooden fence runs along the boundary of the adjacent homes and the Cage Canal (left portion of the photo). The top of the swale next to the citrus trees on the right portion of the photo marks the approximate western boundary of the project.

k. **Photograph 11.** This photograph was taken from the midpoint of the western boundary of the project site, midway between the southern boundary of the site and Spring Street, along the Gage Canal. The dry earthen canal and the existing citrus groves within the project site dominate the foreground. The Box Springs Mountains are visible in the right background while Blue Mountain is visible in the left background.



Source: The Keith Companies, September 2002.

NORTH

Michael Brandman Associates

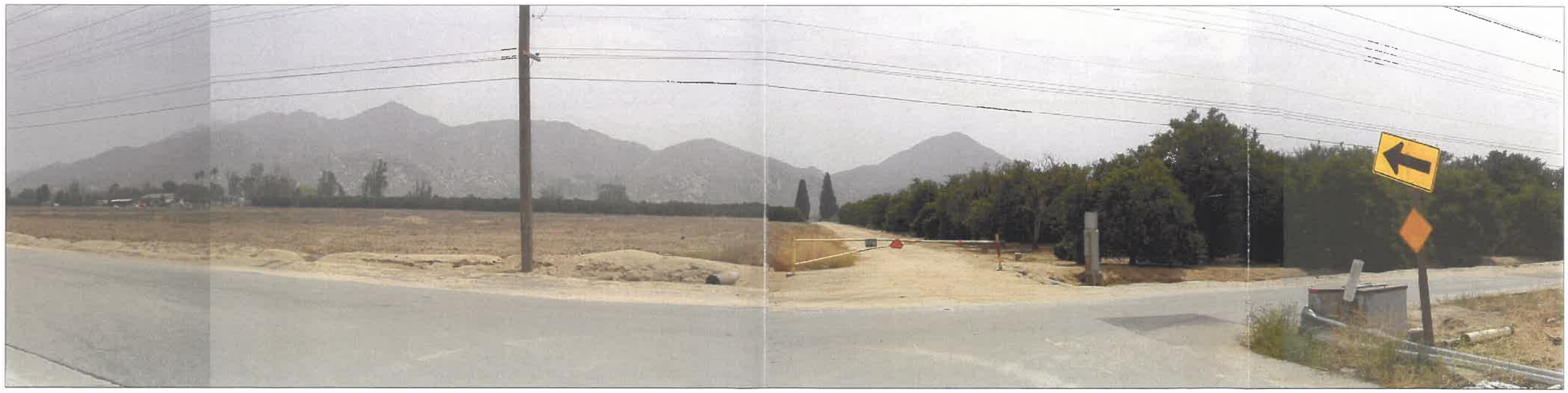
21970012 - 10/2003 | photo index map.cdr

Figure **VI.A.11-1**

Photograph Index

SPRINGBROOK ESTATES EIR

Photograph 1: This photograph was taken from the intersection of Spring Street and the Gage Canal, looking southeast along the northwestern corner of the project site.



Photograph 2: This photograph is taken from the intersection of Spring Street and Murphy Avenue, looking south into the project site.

NORTH

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21970012 • 9/2002 | site photos 1 and 2.cdr

Figure **VI.A.11-2**
Site Photographs
SPRINGBROOK ESTATES EIR

Photograph 3: This photograph is taken from the intersection of Spring Street and an unamed dirt road, looking southwest into the project site.

Photograph 4: This photograph is looking south into the project site along Center Street, east of the California Aqueduct.

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21970012 • 9/2002 | site photos 3 and 4.cdr

Figure **VI.A.11-3**
Site Photographs
SPRINGBROOK ESTATES EIR

Photograph 7: This photograph is taken from Mount Vernon Avenue, between Spring Street and Pigeon Pass Road, looking west into the project site.

Photograph 8: This photograph is taken from the southern terminus of Murphy Avenue, at the southern boundary of the project site, looking north.

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Figure **VI.A.11-5**
Site Photographs
SPRINGBROOK ESTATES EIR

Photograph 5: This photograph is taken from Mount Vernon Avenue, south of its intersection with Pigeon Pass Road, looking northeast into the project site.

Photograph 6: This photograph is looking northeast into the project site from Mount Vernon Avenue, just south of Springbrook Wash.

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Figure **VI.A.11-4**
Site Photographs
SPRINGBROOK ESTATES EIR

Photograph 9: This photograph is looking north from the southern terminus of an unamed dirt road at the southern boundary of the project site.

Photograph 10: This photograph is looking north/northeast along the alignment of the Gage Canal, from the southwestern boundary of the project site.

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Figure **VI.A.11-6**
Site Photographs
SPRINGBROOK ESTATES EIR

Photograph 11: This photograph was taken from the western boundary of the project site, midway between the southern boundry of the site and Spring Street, along the Gage Canal.

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Figure **VI.A.11-7**
Site Photographs

SPRINGBROOK ESTATES EIR

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant aesthetic impact if it will:

- Substantially alter existing views of scenic vistas or resources; or
- Substantially damage scenic resources, including but not limited to, trees, rock outcropping, and historic buildings within a state scenic highway; or
- Substantially degrade the existing visual character or quality of the sites and its surroundings; or
- Create new sources of substantial light and glare, which will adversely affect day or nighttime views in the area.

2) Project Related Impacts

The proposed project involves the transition of approximately 183.95-acres from citrus orchards, agricultural uses, and vacant land to residential land uses that will support 623 single-family residential units, parks, and a school.

Implementation of the Springbrook Estates project will result in the transformation of the vacant site into a planned community. At build-out of the Springbrook Estates project, views of the site from surrounding areas will change from flat agricultural fields to urban residential land uses; however, the proposed project will not result in impacts to a scenic highway. Implementation of the proposed project will, however, result in a substantial change to the existing visual environment, but this alteration of the existing conditions is not considered significantly adverse. The Highgrove area is already in the process of being transformed from agricultural uses to urban uses. Additionally the lands immediately to the east of the project site are being developed with 1,461 single-family homes, commercial, educational, and open space land uses.

Development of the Springbrook Estates project will occur in phases over approximately 2-3 year period. The project site is divided into Planning Areas: PA-1, PA-2, and PA-3. Planning Area PA-1 is located in the western and southern portion of the project site, consists of approximately 105-acres and will be developed with approximately 13-acres of parkland and 92 acres of residential uses (430 units). PA-2 is located south of Spring Street and north of Pigeon Pass Road in the central portion of the project site and consists of approximately 35-acres, which is to be developed with 31-acres of residential use (183 units) and 4-acres of parkland. PA-3, which comprises the northern and eastern most portion of the project site encompasses approximately 44-acres is to be developed with an approximate 36-acre park and 7.5-acres for an expanded K-8 combination school site (with the 14-acre school site south of PA-3, which is not part of the Springbrook Estates project).

a. **PA-1 and PA-2.** PA-1 has little topographic variation and consists primarily of citrus groves. The southwestern portion of PA-2 near the existing Pigeon Pass Road/Mount

Vernon Road intersection is topographically varied. The remainder portion of PA-2 is primarily flat.

Development within PA-1 and PA-2 will be primarily visible from the nearby residential land uses to the north. The residential land uses to the west (west of the Gage Canal) may have views into the project site; however, the existing fence along the western edge of the Gage Canal will serve to obstruct some views into the project site as will a landscaped trail along the western edge of the project. While the visual character of the project site will be altered by project implementation, development of the Springbrook Estates project will be consistent with the surrounding residential development.

Along the southern perimeter of PA-2, Pigeon Pass Road is a designated scenic recreational and transportation corridor. Project implementation will not include any residential development directly adjacent to Pigeon Pass Road. To the north, landscaped slopes will buffer project development from Pigeon Pass Road and to the south, the natural landscape will be retained.

b. **PA-3.** PA-3 consists of approximately 44-acres, which comprises the northern and easternmost portions of the project site. Center Street forms the northern boundary and Spring Street comprises a portion of the southern boundary of this planning area. Currently, PA-3 consists primarily of both operational and non-operational citrus groves. This area has little topographical variation and views south across this portion of the project site are relatively unobstructed. Along the northern boundary, Center Street becomes a dirt roadway as it traverses east; however, the adjacent Spring Mountain Ranch project (east and south of PA-3) will improve Center Street along the site to urban standards. Project implementation will result in the transition of the citrus groves into recreational and educational land uses. Views of these and residential uses in PA-1 and PA-2 will be consistent with the surrounding residential land uses to the north of Center Street.

Lands surrounding PA-3 consist of citrus groves and vacant land. Blue Mountain is to the northeast. Further west along the west side of Mount Vernon Avenue are residential land uses. Given that this area is relatively flat and there are existing citrus groves along the east side of Mount Vernon Avenue, separating the existing residential land uses from the project, the residential land uses along Mount Vernon Avenue will have minimal views into the project site that will not be significantly affected.

c. **Light and Glare.** New sources of light and glare will be introduced into the project area as a result of project implementation. Light and glare will be generated by the use of residential, street, and security lighting as well as light emanating from the increase in traffic generation within the project site and surrounding areas. Due to the existing rural nature of the project site and the surrounding areas, the proposed project will result in the introduction of substantial new light sources. However, if properly mitigated these new light sources are not expected to result in significant adverse night lighting impacts.Moreover, the proposed project is not located within the designated special lighting area associated with the Mt. Palomar Observatory.

3) General Plan and Area Plan Relationship

a. General Plan. The following County of Riverside General Plan Land Use Element Project Design policy and Land Use Designation policy are applicable to the proposed project:

LU 4.1: Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts:

a Compliance with the design standards of the appropriate land use category.

b. Require that structures be constructed in accordance with the requirements of the County's zoning, building, or other pertinent codes and regulations.

c. Require than an appropriate landscape plan be submitted and implemented for development projects subject to the discretionary review.

d. Require that new development utilize drought tolerant landscaping and incorporate adequate drought-conscious irrigation systems.

e. Pursue energy efficiency through street configuration, building orientation, and landscaping to capitalize on shading and facilitate solar energy as provided for in Title 24 of the California Administrative Code.

f. Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought tolerant landscaping, and water recycling, as appropriate.

g. Encourage innovative and creative design concepts.

h. Encourage the provision of public art.

i. Include consistent and well-designed signage that is integrated with the building's architectural character.

j. Provide safe and convenient vehicular access and reciprocal access between adjacent commercial uses.

k. Locate site entries and storage bays to minimize conflicts with adjacent residential neighborhoods.

l. Mitigate noise, odor, lighting, and other impacts on surrounding properties.

m. Provide and maintain landscaping in open spaces and parking lots.

n. Include extensive landscaping.

o. Preserve natural features, such as unique natural terrain, drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.

p. Require that new development be designed to provide adequate space for pedestrian connectivity and access, recreational trails, vehicular access and parking, supporting functions, open space, and other pertinent elements.

q. Design parking lots and structures to be functionally and visually integrated and connected.

r. Site buildings access points along sidewalks, pedestrian areas, and bicycle routes, and include amenities that encourage pedestrian activity.

s. Establish safe and frequent pedestrian crossings.

t. Create a human-scale ground floor environment that includes public open areas that separate pedestrian space from auto traffic or where mixed, it does so with special regard to pedestrian safety.

LU 22.10: Require that residential units/projects be designed to consider their surroundings and to visually enhance, not degrade the character of the immediate area.

Project Consistency. A Master Landscape Plan has been prepared for the proposed project. The key components of the landscape plan include the incorporation of landscape materials that are native to the project area and accentuate the natural areas surrounding the site, the enhancement of significant wildlife corridors (i.e., Springbrook Wash), and open space preservation and trails, which will be accessible to the general public for walking and hiking. The Master Landscape Plan, which is part of the Specific Plan, is subject to County review and approval. As indicated in Section VI.A.3, a tree-planting program is to be implemented, allowing landscaping to capitalize on shading and facilitate solar energy. The project's architectural design guidelines aim to create attractive and comfortable street scenes that, not only employ energy efficiency through their orientation, but also integrate "architecture forward" techniques (i.e., de-emphasizing garages) that visually enhance the character of the surrounding area. Therefore, the proposed project is considered to be consistent with these aesthetic resources policies of the County General Plan.

The following County of Riverside General Plan Circulation Element Environmental Considerations policy is applicable to the proposed project:

C 16.19: Require that trail alignments provide access to and/or link scenic corridors, schools, parks, and other natural areas, where feasible and appropriate.

Project Consistency. Pigeon Pass Road is a designated scenic and transportation corridor from Mount Vernon Road to its terminus in the vicinity of the closed Highgrove landfill. Thus, the portion of Pigeon Pass Road that traverses the southern portion of the property is a designated scenic and transportation corridor. The trail system within the Springbrook Estates project, which consists of community and multi-purpose trails, links Pigeon Pass Road to the school and park in the northern portion of the property. Therefore, the proposed project is considered to be consistent with this aesthetic resources policy of the County General Plan.

b. Highgrove Area Plan. The following Highgrove Area Plan (HAP) policies are applicable to the proposed project:

HAP 1.1: Development applications shall incorporate to the maximum extent feasible elements of the existing orange groves as a design feature. The intent is to provide visual and other buffering that will sustain the traditional rural sense of place that has long defined Highgrove.

HAP 1.2(e): Development applications that incorporate designated scenic recreational and transportation corridors within the project boundaries shall construct or cause to be constructed the following recreational and transportation amenities for the use and enjoyment of the general public, according to the current applicable Riverside County standards:

e. Adequate vegetative or other buffering features between the above facilities to increase their attractiveness, to promote privacy, and to reduce potential conflicts between uses.

HAP 13.1: Require development to adhere to the standards detailed in the Design Standards and Guidelines for Development in the Fifth Supervisorial District.

Project Consistency. A Master Landscape Plan has been prepared for the proposed project. The key components of the landscape plan include the incorporation of landscape materials that are native to the project area and accentuate the natural areas surrounding the site, the enhancement of significant wildlife corridors (i.e., Springbrook Wash), and open space preservation and trails, which will be accessible to the general public for walking and hiking. Project implementation will include landscaped slopes that will buffer views of the project from Pigeon Pass Road, consistent with the policies that guide development along scenic and recreational corridors. The Master Landscape Plan, which is part of the Specific Plan, is subject to County review and approval. Moreover, the proposed project would adhere to the standards detailed in the Design Standards and Guidelines for Development in the Fifth Supervisorial District. Therefore, the proposed project is considered to be consistent with these aesthetic resources policies of the HAP.

C. MITIGATION MEASURES

The proposed project would be in compliance with the Land Use policies as set forth in the County of Riverside Comprehensive General Plan and the County of Riverside Ordinance No. 655. Additionally, the proposed project are recommended to implement landscaping and architectural design features that would reduce aesthetic and light and glare impacts to a level that is less than significant. These measures include the following:

1) Prior to the issuance of grading permits, the project applicant shall prepare landscape plans for the project area to provide visual relief from project structures.

2) Prior to the issuance of building permits, the project applicant shall outline specifications for outdoor lighting locations and other intensely lighted areas. The specifications shall identify minimum lighting intensity needs and design lights to be directed towards intended uses. Methods to reduce light impacts and spill over lighting may include low-intensity light fixtures and hooded shields.

3) Prior to the issuance of building permits, the project applicant shall submit and obtain County approval of lighting plans. The lighting plans shall verify that outdoor lighting on private residences is designed so that all direct rays are confined to the site and that adjacent residences are protected from substantial light and glare.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures recommended above will reduce project related aesthetic, light, and glare impacts to levels that are considered less than significant.

VI.A.12 Population and Housing

A. EXISTING CONDITIONS

1) Population

Regionally, the proposed project lies within the planning boundaries of the Southern California Association of Governments (SCAG), which includes the Counties of Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial. Sub-regionally, the Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) address subregional planning issues within the County of Riverside. The Springbrooks Estate project is located within the WRCOG subregion.

As identified in Table VI.A.12-1, the County as a whole has experienced a 7.0 percent growth in population for the five-year period between 1994 and 1999, resulting in an increase of 96,000 persons. The eastern portion of the County grew at a somewhat greater pace (11 percent) relative to the western portion of the County (6 percent). Comparatively, the unincorporated areas of the County grew at a rate of 1.1 percent during that same period.

Table VI.A.12-1: Countywide, Subregional, and Regional Population Trends

Area	1994	1999	Percent Change
Riverside County	1,376,877	1,473,307	+7.0
Cities	992,858	1,084,928	+9.3
unincorporated	384,019	388,379	+1.1
WRCOG Area	1,082,996	1,147,629	+6.0
Cities	768,272	829,332	+7.9
unincorporated	314,724	318,297	+1.1
CVAG Area	293,881	325,678	+10.8
Cities	224,586	255,596	+13.8
unincorporated	69,295	70,082	+1.1
SCAG region	15,603,036	16,545,220	+6.0
Source: County of Riverside General Plan, September 2003			

According to the SCAG, in the year 2000, the project area had a population of 5,526 and 1,834 households. The project site itself supports a single agricultural-related residence.

2) Housing

Table VI.A.12-2, identifies the distribution of housing type in the unincorporated portions or Riverside County. As indicated in Table VI.A.12-2, the predominate housing type within western Riverside County is single-family detached (70 percent), while in eastern Riverside County, the predominate housing type is mobile homes (47 percent).

Table VI.A.12-2: Housing Inventory for Unincorporated Riverside County

Planning Area	SF Detached	SF Attached	Multiple 2-4	Multiple 5+	Mobile Homes	Total
Western County Area	80,558 (70%)	1,548 (1%)	2,051 (2%)	5,030 (4%)	26,100 (23%)	115,287 (100%)
Eastern County Area	14,661 (40%)	1,657 (5%)	1,111 (3%)	1,920 (5%)	17,119 (47%)	36,468 (100%)
Total	95,219 (63%)	3,205 (2%)	3,162 (2%)	6,950 (5%)	43,219 (28%)	151,755 (100%)
Source: County of Riverside General Plan, September 2003.						

According the SCAG's *Regional Housing Plan Guide*, as of 2000, the Community of Highgrove had 1,986 households. The project site currently supports a single residence.

In November 2000, SCAG approved the Regional Housing Needs Assessment (RHNA) for the County of Riverside for the years ranging from 1998 to 2005. As identified in Table VI.A.12-3, the County needs an additional 30,677 housing units to meet projected demand and, of those units, 24,626 units are needed within the WRCOG area, of which the project is located.

Table VI.A.12-3: Regional Housing Needs Assessment for Unincorporated Riverside County

	Total Adjusted Need	Income Category			
		Very Low	Low	Moderate	Above Moderate
WRCOG Area	24,626	6,331	3,980	4,478	9,837
CVAG Area	6,051	1,649	1,028	1,150	2,224
Total	30,677	7,980	5,008	5,628	12,061
Source: SCAG, Final Regional Housing Needs Assessment, November 2000					

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant population and housing impact if it will:

- Exceed regional projections; or
- 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; or
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

2) Project Related Impacts

Currently, the Springbrook Specific Plan project site is primarily vacant and supports a single agricultural-related residence; therefore, the proposed project will not displace a substantial amount of existing housing or populations. However, implementation of the proposed project will result in introducing new populations into the project area. Regardless, it is not anticipated that the proposed project will result in inducing substantial growth through the introduction of entirely new infrastructure in the project area (i.e. roadways, water lines, sewer lines, etc.) since there is existing development to the north and west and approved development to the east of the project site (Spring Mountain Ranch). However, infrastructure from the proposed project will need to be extended to these existing and/or planned areas of development. For example, the extension of some services, such as sewer to the plant in the approved Spring Mountain Ranch project to the east of the project site (see Section VI.A.14) will allow the existing residents west and north of the site the opportunity to connect to wastewater treatment facilities; hence, new infrastructure is intended not only to serve the proposed project, but existing uses in the project area, as well.

The SCAG *2001 Regional Transportation Plan* year 2025 growth forecast projects a population of 11,683 persons for the community of Highgrove (see Table VI.A.12-4) at the time of area plan buildout. The proposed project will introduce approximately 1,594 persons and 613 households into the project area. With the inclusion of an additional 613 households, the project area will have a population of 7,120 and 2,447 households. Since buildout of the project will be phased over several years, individually, the project is consistent with SCAG forecasts for the project area.

Table VI.A.12-4: Population Forecasts for Highgrove

Highgrove	Year 2005	Year 2010	Year 2015	Year 2020	Year 2025
Population	6,584	7,759	8,778	10,140	11,683
Households	2,103	2,506	2,856	3,267	3,757
Source: SCAG 2001 Regional Transportation Plan, April 2001.					

On a more regional basis, the SCAG *2001 Regional Transportation Plan* identified the following projections for the unincorporated areas of the Western Riverside County Subregion (See Table VI.A.12-5).

Table VI.A.12-5: Population Forecasts for the Western Riverside County Subregion

Unincorporated Western Riverside	Year 2005	Year |2010	Year 2015	Year 2020	Year 2025
Population	414,347	492,412	565,188	666,472	773,086
Households	132,742	160,417	186,054	217,842	252,902
Source: SCAG 2001 Regional Transportation Plan, April 2001.					

In the year 2010, the proposed project will account for less than 1.0 percent of the population and households within the subregion, thus the project is consistent with subregional forecasts. Moreover, according to the County of Riverside General Plan, unincorporated western Riverside County has a buildout capacity of 1,245,973 persons by the year 2020 and at the time of General Plan buildout (year 2025), the project will account for 0.2 percent of the population and households within the subregion. Therefore, the proposed project will not result in any significant population and housing impacts.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The County has developed a five-year action plan, a schedule of actions that the County is undertaking or intends to undertake to implement the policies and achieve the goals of the Housing Element of the General Plan. The policies of the five-year action plan that are applicable to the proposed project are as follows:

1.2: Ensure the availability of suitable sites for the development of affordable housing to meet the needs of all household income levels, including farmworkers and other special needs populations

1.7: Encourage innovative housing, site plan design, and construction techniques to promote new affordable housing by the private sector.

Project Consistency. Implementation of the Springbrook Estates Specific Plan will result in the development of 613 dwelling units on the approximately 183.95 acre project site. The project proposes single-family housing products for a range of incomes and has been designed and will be constructed to promote affordable housing onsite.. However, the project does not propose to set aside a specific increment of residential development on-site for affordable housing. According to the General Plan (Housing Element action 1.7a) it is the intent of the County to provide for greater flexibility in the design of single-family housing through the processing of PDs, Specific Plans, and Area Plans, and applications of density bonus provisions, when requested to allow varying lot sizes and development standards than normally requested in residential districts. The proposed project is requesting the adoption of the Springbrook Estates Specific Plan, which will result in greater densities than established under the existing land use designation. As a result of the clustering of units and smaller lot sizes, the project proponent will be able to offer more affordable housing in comparison to a development designed in accordance with the site's Medium Density Residential designation. Therefore, the proposed project is consistent with these applicable Housing Element policies of the General Plan.

b. Highgrove Area Plan Relationship. There are no applicable Highgrove Area Plan (HAP) policies that relate to population and housing.

C. MITIGATION MEASURES

No mitigation measures are required.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project is considered to have a less than significant population and housing impact.

VI.A.13 CULTURAL RESOURCES

This section summarizes information contained in the cultural resources report prepared for the proposed project by MBA in August 2002, revised in August 2003 and finalized in January 2004. The cultural resource technical report may be reviewed in its entirety in Appendix C of this EIR.

A. EXISTING CONDITIONS

Significant resources are those that meet specific criteria of the California Environmental Quality Act (CEQA). Section 15064.5(a) of the 1999 CEQA Guidelines defines the criteria for an "historical resource" as:

- A resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.).

- A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirement section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) including the following:

  - 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 values; or

  - Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that

the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

1) Cultural Resources.

Archeological and historic resources record searches were conducted by MBA and Robin Laska of the Archeological Information Center in April 2002 at both the Eastern Information Center at the University of California – Riverside (EIC) and the Archeological Information Center at the San Bernardino County Museum (AIC). Inventories and databases researched included the California State Historic Resources Inventory, the National Register of Historic Places, California Register of Historic Resources, California Historical Landmarks, and California Points of Historical Interest. In addition, listings and mappings of recorded historic and prehistoric archaeological sites within the project site itself and within a one-mile radius extending from the project site boundary were also reviewed. The limits of the search radius may be referenced within Appendix C of this EIR. Additionally, MBA conducted a site reconnaissance in April and May 2002.

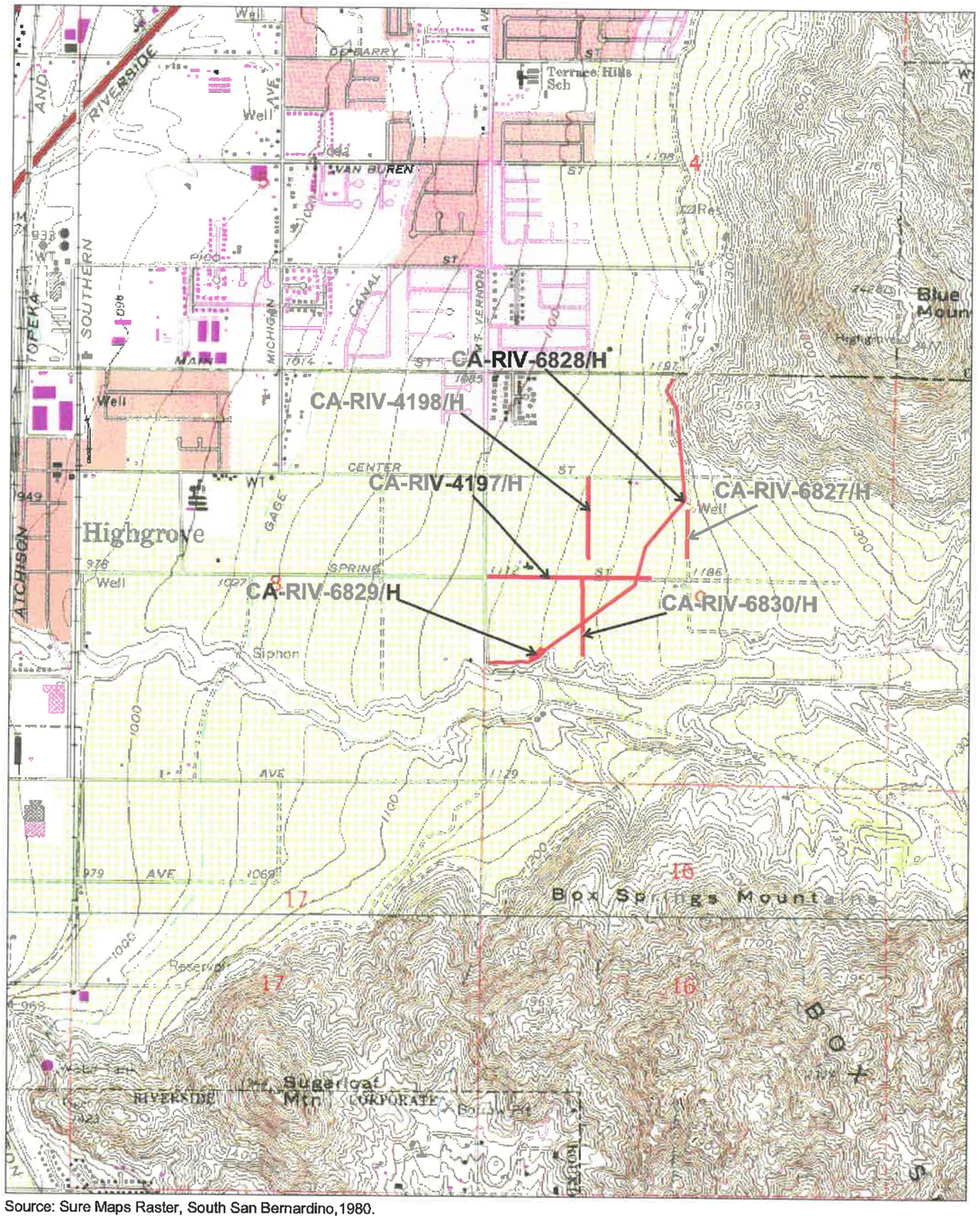
a. Prehistoric Archeological Resources. Aboriginal populations in southern California were basically hunter-gatherers throughout the prehistoric period. The earliest occupations documented for the Riverside area are from around 200 B.C., in what is referred to as the Intermediate Horizon or Campbell Tradition. Temporary food gathering/processing sites characterize land usage until about A.D. 1500, when the area received an influx of population with different subsistence exploitation strategies.

At the time of European contact, the Springbrook Estates project site was within the territory of the Luiseño people and near the southwestern extent of the Cahuilla ethnic boundary. The Luiseño, named for their association with Mission San Luis Rey de Francia in present-day Oceanside, spoke a language of the Shoshonean linguistic family. Their territory extended from southwestern Riverside County to northern San Diego County and eastern Orange County.

The cultural resources assessment conducted for the proposed project included an archival records check and a literature search performed at the EIC. No prehistoric archeological sites are located within the project boundaries and two prehistoric archeological sites are within a one-mile radius of the project site boundaries.

b. Historic Archeological Resources. The historic resources assessment was based on the California Historical Resources Information System, the National Register of Historic Places Index, the Office of Historic Preservation's Archaeological Determinations of Eligibility list, the Office of Historic Preservation's Directory of Properties in the Historic Property Data File, and the USGS San Bernardino 15' (1898) topographic map.

The results of the record search indicated that there are two historic archeological sites (CA-RIV-4197H and CA-4198H) within the project boundaries that had been previously surveyed. Furthermore, the field survey revealed an additional four historic archeological sites within the project boundary (CA-RIV-6827H, CA-RIV-6828H, CA-RIV6829H, and CA-RIV6830H). Figure VI.C.13-1 identifies the locations of these sites.



Source: Sure Maps Raster, South San Bernardino, 1980.

NORTH

1,375 687.5 0 1,375

SCALE IN FEET

Michael Brandman Associates

21970012 • 07/2003 | cultural resources location map.cdr

Exhibit **VI.A.13-1**

Cultural Resources Location Map

SPRINGBROOK ESTATES • EIR

1. CA-RIV-4197H. This site consists of a single feature intended to direct orchard irrigation runoff into a larger ditch or sewer system. The site consists of a cobble-lined ditch. CA-RIV-4197H is located within the eastern portion of the project site, generally south of Spring Street and west of Mount Vernon Avenue.

2. CA RIV-4198H. This site consists of a ditch feature intended to direct orchard irrigation and storm water runoff into sewer systems adjacent to Center Street. Much of the ditch is composed of stacked stone blocks and mortar covered with spread cement. Currently the ditch is in a state of disrepair with collapsing walls. Maintenance of the ditch has not occurred for a substantial period.

3. CA-RIV-6827H. This site consists of a historic gravity irrigation feature that is related to the intake of water from the Riverside-Highland Mutual Water Company (RHMWC) conduit and the associated reservoir. In general, there are three features associated with this site that together collected, directed, and transported irrigation waters and storm water runoff.

4. CA-RIV-6828H. This site consists of a segment of the RHWC Highgrove conduit that serves agricultural operations. CA-RIV-6828H is a cement conduit pipe placed in a cement flume. The conduit begins at the county line traverses through the project area.

5. CA-RIV-6829H. This site consists of a large retaining wall, which is intended to prevent orchard lands from eroding into Spring Brook Canyon. The site is comprised of a poured concrete and buttressed wall segment enjoined with a stacked cement slab. While gaps do exist in the wall, it is generally intact.

6. CA-RIV-6830. This site consists of a historical retaining wall. This wall served to prevent erosion and direct water runoff into site CA-RIV-4197H.

2) Paleontological Resources

A paleontologic records search at the San Bernardino County Museum revealed that, although the Springbrook Estates property has no documented fossil localities, Pleistocene horses and camels have been recovered from alluvial deposits exposed along the Santa Ana River five miles to the west.

Field surveys conducted by MBA further support the records search data. The project study area is underlain by a basement of plutonic igneous rock (a granitic rock called biotite tonalite) and alluvial fan sediments (mostly coarse sands) derived from it. Plutonic rocks are devoid of fossils because they crystallize from magma that slowly cools at great depths below the biosphere. Tectonic uplift and subsequent erosion exposed the tonalite to surficial weathering processes that have been effectively disaggregating it. During the wetter climate of the Pleistocene Epoch, erosion of the tonalite by sheet wash and stream runoff created alluvial fans of gravel and sand at the base of the mountains. Because debris flows resulting from heavy rains can rapidly incorporate or bury what is ahead, this "older

alluvium" may contain significant fossils of terrestrial vertebrates, although its paleontologic potential is low. During the drier climate of the Holocene Epoch, seasonal runoff has been dissecting the fans and redistributing their sediments. This young alluvium has a very low paleontologic potential because it has been reworked and deposited slowly.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon cultural resources if it will:

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

2) Project Related Impacts

a. **Prehistoric Archaeological Resources.** Project construction will involve site clearance, grading, earth moving, cut and fill operations, and travel of heavy-duty construction vehicles and equipment over the development site. These construction activities will substantially alter the land area within the grading limits of the designated site. No known prehistoric archeological sites are located within the project site, thus impacts to prehistoric archeological resources are considered be less than significant.

b. **Historic Archeological Resources.** There are six known historic archeological sites located within the project site (see Figure VI.A.13-1). Careful observations of the project area, with reference to previous studies, revealed that the original upper two to four feet of topsoil in the study area has been completely altered by man during the last 100 years. The evidence suggests that almost all of the property was utilized for citrus crop production. Citrus crop production requires that the orchardist furrow, year after year, rows for water runoff and excavate trenches for primary feeder water lines. Such agricultural demands require the orchardist to severely alter the topsoil such that most historic and prehistoric sites will be buried from view.

The six recorded historic archeological sites are believed to be not significant because they do not fulfill criteria underlying Section 106 of the National Historic Preservation Act (NHPA) and nearly identical criteria associated with the California Register of Historical Resources:

- The sites are not associated with significant events;

- The sites are not associated with important persons;
- The sites do not embody distinctive construction characteristics; and
- The sites do not have the potential to yield important prehistoric or historic information.

Additionally, recording these sites during the Phase I study will serve to lessen construction-related impacts to less than significant. However, a review of archival documents revealed that project related construction may potentially impact buried portions of two of the recorded historic properties (CA-RIV-6829H and CA-RIB-6827H). It is believed that portions of these two sites are in part, buried beneath these churned topsoils. In general, the chance for impacts to buried historic archaeological resources is considered moderate-to-high. If additional resources or features are detected during construction, such resources should be recorded and added to the existing DPR523 form sets.

c. **Paleontological Resources.** A paleontologic records search revealed that, although the Springbrook Estates property has no documented fossil localities, Pleistocene horses and camels have been recovered from alluvial deposits exposed along the Santa Ana River five miles to the west.

The conclusions of the site reconnaissance further supported the data compiled by MBA. A basement of plutonic igneous rock (a granitic rock called biotite tonalite) and alluvial fan sediments (mostly coarse sands) derived from plutonic igneous rock underlay the project site. Plutonic rocks are devoid of fossils since they crystallize from magma that slowly cools at great depths below the biosphere. Tectonic uplift and subsequent erosion exposed the tonalite to surficial weathering processes that are effectively disaggregating it. During the wetter climate of the Pleistocene Epoch, erosion of the tonalite by sheet wash and stream runoff created alluvial fans of gravel and sand at the base of the mountains. Since debris flows resulting from heavy rains can rapidly incorporate or bury what lies within their path, the "older alluvium" may contain significant fossils of terrestrial vertebrates, although its paleontologic potential is low. During the drier climate of the Holocene Epoch, seasonal runoff dissected the fans and redistributed their sediments. This young alluvium has a very low paleontologic potential since it has been reworked and deposited slowly.

The project field surveys for paleontologic resources examined the sedimentary regimes of all properties, particularly the cliffs of older alluvium. No fossiliferous material was observed.

3) General Plan and Area Plan Relationship

a. **General Plan Relationship.** The following County of Riverside General Plan Multi-Purpose Open Space Element - Cultural and Paleontological Resources policies are applicable to the proposed project:

OS 19.2: Review all proposed development for the possibility of archaeological sensitivity.

Project Consistency. A cultural resources assessment was prepared for the proposed project, which included a review of the California State Historic Resources Inventory, the National Register of Historic Places, California Register of Historic Resources, California Historical Landmarks, and California Points of Historical Interest, as well as a site reconnaissance. The proposed project will not affect any significant archeological, paleontological, or historic resources as identified by the County Historic Resources Survey and Inventory, the General Plan Resources Maps, and/or the findings of the cultural resources assessment. Therefore, the proposed project is consistent with this relevant cultural resource policy of the General Plan.

b. Highgrove Area Plan Relationship. There are no applicable Highgrove Area Plan (HAP) policies that relate to cultural resources.

C. MITIGATION MEASURES

Archaeological Resources

1) Prior to any clearing and grubbing and/or earth moving activities on the parcel, a qualified archaeologist retained by the Proponent and approved by the County of Riverside shall review the approved development plan. The archaeologist shall participate in a pre-construction project meeting with the development staff to ensure an understanding of the mitigation measures required during construction.

2) Prior to issuance of a grading permit, a qualified archaeologist will develop a mitigation plan and a discovery clause/treatment plan, which will be implemented during earth moving on the parcel. The treatment plan will allow for the recovery and subsequent treatment of any archaeological remains and associated data uncovered by brushing, grubbing or earth moving.

3) Archaeological monitoring by a qualified archaeologist of any earthmoving of the upper limits of the soil will be conducted. Monitoring will be conducted on a full-time basis until the project archaeologist determines that additional resources are not likely to be encountered.

4) If archaeological remains are found by the archaeological monitor, earth moving will be diverted temporarily around the deposits until they have been evaluated, recorded, excavated and/or recovered as necessary. Earth moving will be allowed to proceed through the site when the archaeological supervisor determines the artifacts are recovered and/or site mitigated to the extent necessary.

5) If a previously unknown site is encountered and it requires additional mitigation, a plan or proposal will be submitted to the client outlining the plan of action that needs to be implemented in an attempt to mitigate the site.

6) Any recovered archaeological resources will be identified, sites recorded, mapped and artifacts catalogued as required by standard archaeological practices. Examination by an archaeological specialist will be included where necessary, dependent upon the artifacts, features or sites that are encountered. Specialists will identify, date and/or determine significance potential.

7) A final report of findings will be prepared by the archaeologist for submission to the client, Eastern Information Center and the County of Riverside. The report will describe parcel history, summarize field and laboratory methods used, if applicable, and include any testing or special analysis information conducted to support findings.

8) If human remains are unearthed during earth moving activities, earth moving activities shall be immediately halted and no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to CEQA regulations and Public Resources Code Section 597.9

Paleontological Resources

1) Prior to any earth moving in the parcel, a project paleontologist retained by the Proponent and approved by the County of Riverside Planning Department will develop a storage agreement with the LACMVP, SBCM, or another acceptable museum repository to allow for the permanent storage and maintenance of any fossil remains recovered in the parcel as a result of the mitigation program, and for the archiving of associated specimen data and corresponding geologic and geographic site data.

2) Prior to issuance of a grading permit, the project paleontologist will develop a mitigation plan and a discovery clause/treatment plan to be implemented during earth moving in the parcel. The treatment plan will allow for the recovery and subsequent treatment of any fossil remains and associated data uncovered by earth moving.

3) Prior to any clearing and grubbing and/or earth moving activities on the parcel, a qualified paleontologist retained by the project proponent and approved by the County of Riverside shall review the approved development plan. The paleontologist shall participate in a pre-construction project meeting with the development staff to ensure an understanding of the mitigation measures required during construction.

4) Paleontologic monitoring of earth moving will be conducted by a monitor in areas of the parcel underlain by previously undisturbed sedimentary rock that will be disturbed by earth moving. Earth moving in areas of the parcel where previously undisturbed rock will be buried but not otherwise disturbed will not be monitored.

5) Monitoring will be conducted on a full-time basis in areas of the parcel underlain by rock units in which there is a high potential for fossil remains being encountered by earth moving,

on a half-time basis in areas in which there is a moderate or an undetermined potential, and on a quarter-time basis in areas in which there is a low potential.

6) If the monitor discovers fossil remains, earth moving will be diverted temporarily around the fossil site until the remains have been recovered. Earth-moving can then proceed through the area only after approval by the monitor. If fossil remains are found in an area underlain by a rock unit where there is a low or moderate/undetermined potential for fossil remains being encountered by earth moving, the level of monitoring will be increased to half or full time, respectively. On the other hand, if too few fossil remains are found after 50% of earth moving in those areas of the parcel underlain a particular rock unit has been completed, monitoring can be reduced or discontinued in those areas at the project paleontologists direction.

7) In the event that any fossil remains are encountered by earth moving when the monitor is not present, earth moving will be diverted around the fossil site and the monitor called immediately to recover the remains.

8) If fossil remains are found, up to 6,000 pounds of fossiliferous sedimentary rock will be recovered from the fossil site and processed to allow for the recovery of smaller fossil remains. The total weight of all processed samples from the fossil-bearing rock unit will not exceed 6,000 pounds.

9) Any recovered fossil remains will be prepared to the point of identification and identified to the lowest taxonomic level possible by knowledgeable paleontologists. The remains then will be curated (assigned and labeled with museum repository fossil specimen numbers and corresponding fossil site numbers, as appropriate; placed in specimen trays and, if necessary, vials with completed specimen data cards) and catalogued. Associated specimen data and corresponding geologic and geographic site data will archived (specimen and site numbers and corresponding data entered into appropriate museum repository catalogs and computerized data bases) at the museum repository by a laboratory technician. The remains then will be accessioned into the museum repository fossil collection, where they will be permanently stored and maintained. The associated specimen and site data will be made available for future study by qualified investigators.

10) A final report of findings will be prepared by the project paleontologist for submission to the County of Riverside Planning Department and the museum repository following accessioning of the specimens into the museum repository fossil collection. The report will describe parcel geology/stratigraphy, summarize field and laboratory methods used, include a faunal list and an inventory of curated/catalogued fossil specimens, evaluate the scientific importance of the specimens, and discuss the relationship of any newly recorded fossil site in the parcel to relevant fossil sites previously recorded from other areas.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures listed above will reduce project related cultural resources impacts to levels that are considered less than significant.

VI.A.14 Public Services and Utilities

FIRE SERVICES

The information provided in this discussion and analysis is based upon correspondence with the Riverside County Fire Department. A copy of this correspondence is provided in Appendix L of this document.

A. EXISTING CONDITIONS

The Riverside County Fire Department provides a full range of fire services throughout unincorporated areas of the County and with contracting cities within the county. The County of Riverside contracts with the California Department of Forestry and Fire Protection for career staffing, supervision, and support services to provide countywide fire and emergency medical services to unincorporated areas, as well as ten incorporated cities. This is done in conjunction with the State of California's responsibility for fire protection for wildland vegetative areas. As within all areas serviced by the Riverside County Fire Department, all resources necessary to mitigate an emergency medical or fire situation will be serviced by the 79 career and 9 volunteer staffed stations operating 240 engines, rescue squads, paramedic ambulances, aerial ladder trucks, bulldozers, and support vehicles.

There are over 600 uniformed and civilian personnel with 800 volunteer firefighters providing services to various functions of fire suppression and emergency medical assistance. Included with the inventory are those personnel and resources provided by the California Department of Forestry and Fire Protection that are integrated into the response plans. There are no jurisdictional restrictions on response criteria for emergencies between the department's unincorporated area and the ten contract cities. Current staffing provides for a minimum of two firefighters per responding unit (one Fire Officer/Operator and one Firefighter).

The current response staffing in the project area for a typical initial response to a structural fire includes a total of eight personnel minimum for single family residential or ten personnel minimum for multi-family, commercial and industrial. For a multi-family, commercial, or industrial structure fire, the typical initial response would be 12 personnel. For a wildland fire, initial response includes a total of 48 personnel minimum during period of high fire danger. The nearest County Fire Stations to the project site are:

- Fire Station No. 19: 469 Center Street, Highgrove
- Fire Station No. 38: 3590 Rubidoux Boulevard, Rubidoux
- Fire Station No. 18: 7545 Mission Boulevard; Riverside

Fire Station No. 19, the station closest to the project site is equipped with one Type 1 engine with paid personnel and one Type 1 engine with volunteers.

The Riverside County Fire Protection Master Plan contains four fire response categories that are utilized to determine the response time/travel distance for primary and secondary fire stations, according to the anticipated buildout of community areas. The project area currently receives a "Rural – Category III" level of service wherein the project area is within five miles of roadway distance of a fire station and a full first alarm assignment within 20 minutes. In addition, there is no other infrastructure to support fire suppression activities such as a fire hydrant system, or paved access to all areas. Portions of the project

site are classified by the California Department of Forestry and Fire Protection as State Responsibility Area (SRA), having a Very High Fire Severity Zone.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant fire hazard impact if it will:

- Increase the demand for fire services beyond the capacity of the Riverside County Fire Department; or
- Increase risk to fire hazards; or
- Increase need for emergency preparedness above the capacity of the existing programs.

2) Project Related Impacts

The Riverside County Fire Protection Master Plan will require the need for an "Urban – Category II" level of service at the project site. This service criteria requires a fire station within three miles of all areas of the project by roadway distance and a full first alarm assignment operating on the scene of a fire within 15 minutes of dispatch. All medical emergencies will be required to have treatment initiated within 10 minutes of report of alarm.

In accordance with the levels established by the Riverside County Fire Protection Master Plan, the proposed project will not require the need for new fire protection services or fire fighting facilities. Rather, the existing resources of the County Fire Department (i.e., Fire Station 19) will be able to adequately serve the site at the LOS of "Urban - Category II."

The project applicant will be required by the California Civil Code to disclose the potential for damaging wildfires in the area. Although the project site will not be located within a designated "Hazardous High Fire Area" following development, surrounding vegetated open space areas may increase the fire potential for future residents of Springbrook Estates. The Riverside County Fire Protection Ordinance No. 787 requires that a Fire Fuel Modification Zone be maintained along residential edges at natural open space areas in order to reduce potential impacts from fires in the nearby natural open space as well as to help reduce the potential for fires within developed areas to spread to the natural open space. The project proposes to establish a fuel modification zone that is a minimum of 100 feet wide measured from the neighborhood property line into the natural open space area.

The fire fuel modification proposed by the Springbrook Estates Specific Plan as described in Section VC.2 (h) of the Specific Plan consists of four landscape zones. Zone 1, closest to the homeowner property line, will be planted with drought tolerant, low fuel generating sub-shrubs and groundcover. Zone 1 will also be irrigated with a permanent irrigation system providing 100% coverage. Zones 2, 3, and 4 will consist of native vegetation that has been selectively removed and thinned. Zone 2 will have 70-percent, Zone 3 60-percent, and Zone 4 will have 50-percent native vegetation removed. The selective plan removal shall be subject to the following guidelines:

- Selectively remove highly flammable plant species.
- Selectively thin out large, dense groupings of plant materials.
- Remove plant material in a manner that will promote a natural appearance to fuel modification areas.
- Maintenance of fuel modification area shall be maintained by a homeowner's association or maintenance district.

3) General Plan and Area Plan Relationship

a. **General Plan Relationship.** The following County of Riverside General Plan Safety Element Fire Hazards and Land Use Element Infrastructure, Public Facilities, and Service Provision policies are applicable to the proposed project:

S 5.1(a): Develop and enforce construction and design standards that ensure that proposed development incorporates fire prevention features through the following:

a. All proposed construction shall meet minimum standards for fire safety as defined in the County Building or Fire Codes, or by the County zoning, or as dictated by the County Engineer based on the building type, design, occupancy, and use.

LU 5.1: Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

Project Consistency. Implementation of the Springbrook Estates project will achieve an adequate level of fire protection service through the required compliance with County construction and design standards. As identified in Section VC.2 (h) of the Specific Plan, the project incorporates fire prevention measures such as fuel modification zones, fire resistant roofs, adequate fire suppression flow, etc. Moreover, the proposed project is required to participate in the Development Fee Impact program (see *Mitigation Measures)*, which will ensure that the appropriate fire protection services are available to service the project site. Therefore, the proposed project is consistent with the applicable Fire Hazards section of Safety Element policies of the General Plan.

b. **Highgrove Area Plan Relationship.** The following Highgrove Area Plan (HAP policies are applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

HAP 21.1: Protect life and property from wildfire hazards through adherence to policies in the Fire Hazards section of the General Plan Safety Element.

Project Consistency. Implementation of the Springbrook Estates project will achieve an adequate level of fire protection service through the required compliance with County construction and design standards. As identified in Section VC.2 (h) of the Specific Plan, the project incorporates fire prevention measures such as fuel modification zones, fire resistant roofs, adequate fire suppression flow, etc. Moreover, the proposed project is required to participate in the Development Fee Impact program (see Mitigation Measures), which will ensure that the appropriate fire protection services are available to service the project site. Therefore, the proposed project is consistent with the applicable Fire Hazards section of Safety Element policies of the General Plan and, therefore, the relevant HAP policies.

C. MITIGATION MEASURES

The proposed project will result in urban development requiring fire protection services at a Category II level of service. To ensure the project site is adequately served, the following measures shall be applied:

1) The applicant shall participate in the Development Impact Fee program as approved by the County Board of Supervisors and provide for the funding of the project's fair share toward the improvement of fire protection services.

2) As described in Section 1503 of the Uniform Building Code, construction of all on-site structures shall be with fire retardant roof materials and the use of wood shingles is prohibited within the Springbrook Estates project area.

3) Achieve fuel modification zones by establishing a minimum 100-foot zone consisting of four (4) zones with a range of 50-100 percent vegetation removal. This will allow for a graduated transition from native vegetation into the irrigated landscaped building areas of the project. Maintenance of the fuel modification zone shall be the responsibility of a homeowners association or maintenance district. Prior to the approval of any development plans for lands adjacent to open space areas, the project applicant shall submit a Fire Protection/Vegetation Management Plan to the County Fire Department for review and approval.

4) All water mains and fire hydrants providing required fire flows shall be constructed in accordance with the appropriate sections of Riverside County Ordinance No. 460 and/or No. 787, subject to the approval by Riverside County Fire Department. Fire flows over 1,500 gallons per minute shall be for two hours duration.

D. LEVEL OF SERVICE AFTER MITIGATION

Implementation of the mitigation measures above will reduce project-related fire service impacts to less than significant.

SHERIFF SERVICES

The following discussion and analysis is based on correspondence received from the Riverside County Sheriff's Department. A copy of this correspondence is provided in Appendix L of this document.

A. EXISTING CONDITIONS

The Riverside County Sheriff's Department provides police services for the project area. The Jurupa Valley Station serves the project site and is located at 7477 Mission Boulevard approximately 5 miles from the project site. The station is a relatively new facility, which was dedicated and occupied in September 1998. The station was designed with some expectation of operational growth.

Within the past three to five years the geographic area serviced by the Jurupa Valley Station was reduced and reapportioned to adjoining stations with the Sheriff's Department. As such, the Jurupa Valley Station has been the recipient of increases in manpower, resources, and the development of more specialized teams. Additionally, within the past year the Riverside County Sheriff's Department initiated a Centralized Homicide Unit for both the eastern and western areas of the County. This reorganization reduced individual station response by investigators.

Generally, the number of officers available to respond to the project area in an event for a request for assistance is eight per shift. However, this number does not reflect the work status of any specialty teams. Typically, the station assigns one patrol deputy per shift to the Highgrove area. The eastern portion of the Highgrove area (east of I-215) has an assigned community-policing officer with a 40-hour workweek of carrying shifts and responsibilities.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant sheriff services impact if it:

- Increases in development, population, size of events, or response times will require expanding the existing staff and equipment level to maintain an adequate level of protection throughout the area; or

- Causes a substantial amount of police emergencies that cannot be adequately served by available police department personnel or equipment.

2) Project Related Impacts

Based on the proposed construction of 613 housing units, it is estimated that the project will result in a population increase of approximately 1,594 persons within the community of Highgrove. Subsequently,

as an effect of this population increase, a corresponding increase in the number of reported thefts, burglaries, vandalism, and other criminal activity is anticipated. The proposed project would, therefore, result in an increased demand for the services of the County Sheriff's Department.

According to correspondence received from the County Sheriff's Department, the Jurupa Valley Station is a relatively new facility, which was designed with some expectations of operational growth. Furthermore, the Department has indicated that it will be able to service the proposed project.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.1 Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

Project Consistency. The proposed project was preliminarily reviewed by the County of Riverside Sheriff's Department, which concluded that, the Jurupa Valley Station has sufficient resources in both manpower and equipment to maintain adequate service within its jurisdiction. However, the project will be subject to the standard conditions and requirements described below (see *Mitigation Measures*), and would conform to all applicable crime prevention policies of the Sheriff's Department. Therefore, the proposed project is consistent with applicable sheriff service policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

Project Consistency. The proposed project was preliminarily reviewed by the County of Riverside Sheriff's Department, which concluded that the Jurupa Valley Station has sufficient resources in both manpower and equipment to maintain adequate service within its jurisdiction. However, the project will be subject to the standard conditions and requirements described below (see *Mitigation Measures*), and would conform to all applicable crime prevention policies of the Sheriff's Department. Therefore, the proposed project would be consistent with all sheriff service policies of the HAP

C. MITIGATION MEASURES

The proposed project would result in an increase in population and development that will require police protection services. The following mitigation measures, which include County standard conditions and requirements, will be applied to the project in order to ensure police services impacts remain less than significant:

1) The applicant will pay fees in accordance with the provisions of Ordinance No. 659 to offset the cost of any new facilities required as the need arises, due to the rapid growth in the region.

2) The project applicant will inform the Crime Prevention Unit of the Sheriff's Department of all new Homeowner's Associations. These associations can be used as the foundation for establishing Neighborhood Watch Programs.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will comply with the applicable County standards and thus the project does not require additional mitigation. Adherence to the County standard conditions and requirements will reduce impacts to sheriff services to less than significant.

WATER AND SEWER SERVICES

A. EXISTING CONDITIONS

1) Water Facilities

The domestic water system in the immediate Riverside County Area is an extension of the existing Riverside Highlands Water Company (RHWC) domestic (potable) water system. The water supply for the system is from vertical wells in four separate water-bearing basins. A network of distribution mains conducts the water in the vicinity of the project area. Any extension of the water system will require the construction of pipelines, reservoirs, booster stations, wells and appurtenances to the system to provide a level of service now enjoyed by the customers in the existing system. Currently, RHWC water system to the project site consists of several irrigation pipelines, which supply non-potable water to the existing citrus groves.

The RHWC currently has eight wells capable of supplying a total of 10,500 gallons per minute (gpm) of domestic water. The company has existing capabilities of constructing additional wells to supplement the existing water source.

2) Sewer Facilities

The City of Riverside currently provides sewer service to Hunter Business Park located directly south and west of the project site; however there is no entity providing wastewater collection, treatment, or disposal to the unincorporated areas of Riverside County in the project vicinity. Thus, currently, there is no sewer service within the project site.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon water and sewer services if it will:

- Have insufficient water supplies available to serve the project from existing entitlements and resources; or
- Require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, of which the construction could cause significant environmental effects.

2) Project Related Impacts

a. Water Impacts. The RHWC prepared a Water Supply Assessment in compliance with SB 610 for the proposed project. The project includes the provision of domestic (potable) water service and the provision of tertiary-treated water (non-potable) for landscape irrigation purposes within the project site. The project includes provision of recycled wastewater for irrigation purposes within the project site, encouraging conservation of the potable water supply for domestic uses. RHWC has additional non-potable wells available for supplemental irrigation, as required.

1. Domestic Water Service. Domestic water service to the site will be provided by the RHWC or the City of Riverside. The domestic water system will be designed to provide adequate water service during the peak hour of the maximum day or during the maximum day plus fire suppression flows. The design location of minimum service will be the most remote and highest services in the respective zones. To accomplish this level of service, it was assumed that the maximum day demand is 0.695 million gallons per day (mgd) and peak hour demand is 1.390 mgd. Table VI.A.14-1 identified the water demands for the proposed project.

Table VI.A.14-1: Springbrook Estates Specific Plan Water Demands

Annual Demand	
Domestic	346.0 Acre Feet
Irrigation	329.3 Acre Feet
Daily Domestic Demands	
Average Daily Demand	308,952 Gallons Per Day
Maximum Daily Demand	651,142 Gallons Per Day
Peak Hour Demand	1,390,284 Gallons Per Day
Source: RHWC, October 2003.	

The domestic water requirements are a result of the population and land use within the service area. All pumping plants will have sufficient capacity to pump at the design rate of flow with the highest capacity pump not operating. Design pumping capacity is the capability to pump the maximum day requirement quantity over an I8-hour period or less. All water system facilities will be designed and constructed in accordance with the applicable standards of the American Water Works Association, State of California, the RHWC, or the City of Riverside.

2. Landscape Irrigation Water. Non-potable landscape irrigation within the project will be needed for approximately 44 acres (36.6-acres of parkland and 7.5-acres of school land) of common area and will be largely provided by non-potable water sources. In the event that the wastewater treatment plant located east of the project site is constructed (see Sewer Impacts), this plant will be the primary source of irrigation water. Existing non-potable groundwater wells in the surrounding area will supplement this supply as needed. It is estimated that approximately 183,035 gallons per day will be required to irrigate project common areas. The recycled water distribution system will incorporate the design requirements described in the Environmental Protection Agency's *Process Design Manual, Land Treatment of Municipal Wastewater* (EPA825/I-8I-Ol3).

Based on the design criteria for the proposed water system, the average water demand at the project site is approximately 308,952 gallons per day for the residential uses with additional demands occurring when the school site becomes operational. This demand will be served by either the RHWC or the City of Riverside. To serve the Springbrook Estates project, additional facilities and supplies are required as set forth in the Development Agreement between RHWC or the City of Riverside and the project proponent. The proposed water system will consist of a network of pipelines, pumps, and reservoirs. Each system will operate on distribution reservoirs and will provide water during the peak hour periods and water for fire suppression. The proposed water system will provide adequate water service to the proposed project, in accordance with the applicable standards of the American Water Works Association, State of California, the RHWC, or the City of Riverside. No significant impacts will result from project implementation.

b. Sewer Impacts. Three options are being considered to provide sewer services to the proposed project, 1) the extension of offsite sewer facilities from the Highgrove area to the City of Colton sewer service system limits; 2) the extension of sewer facilities from a wastewater treatment plant (WWTP) that will be constructed in conjunction with the development of the adjacent Spring Mountain Ranch Specific Plan project site; or 3) the project may be served by the City of Riverside. It should be noted that only one of these three options will be implemented to provide area-wide sewer service and implementation of either of these options is not entirely contingent upon the development of the Springbrook Estates project.

1. City of Colton Option. A sewer feasibility study (see Appendix J of this EIR) was prepared, which examined the physical feasibility of extending off-site sewer facilities from the Highgrove area to the City of Colton sewer service system limits. Two alternative sewer alignments were evaluated based upon a tributary area that encompassed both the Springbrook Estates and the Spring Mountain Ranch Specific Plan project sites, the Box Springs study area, and future connections within the Highgrove area. Figure VI.A.14-1, identifies the alignments of the two City of Colton Option alternatives. The findings of the sewer feasibility study are that both alternative alignments are physically feasible and could provide adequate sewer service to the site. Moreover, the City of Colton has indicated that they have reserved sufficient capacity to serve the proposed project. With this option, the sewer and distribution system would be implemented under special district CSA 152 or by the RHWC.

2. Springbrook Estates Wastewater Treatment Plant Option. This option includes the provision of sewer services from a proposed WWTP, within the Spring Mountain Ranch Specific Plan project area, located east of the Springbrook Estates project site. The ultimate wastewater requirements for the Springbrook Estates project are based on the *Draft Criteria for Sewer Facility Design* and are summarized in Table VI.A.14-2. The WWTP, which will be constructed in multiple phases will have a capacity to treat 0.5 million gallons per day It is intended that the CSA 152 will manage the WWTP. The WWTP will provide recycled irrigation water for landscape purposes within the Springbrook Estates project site.

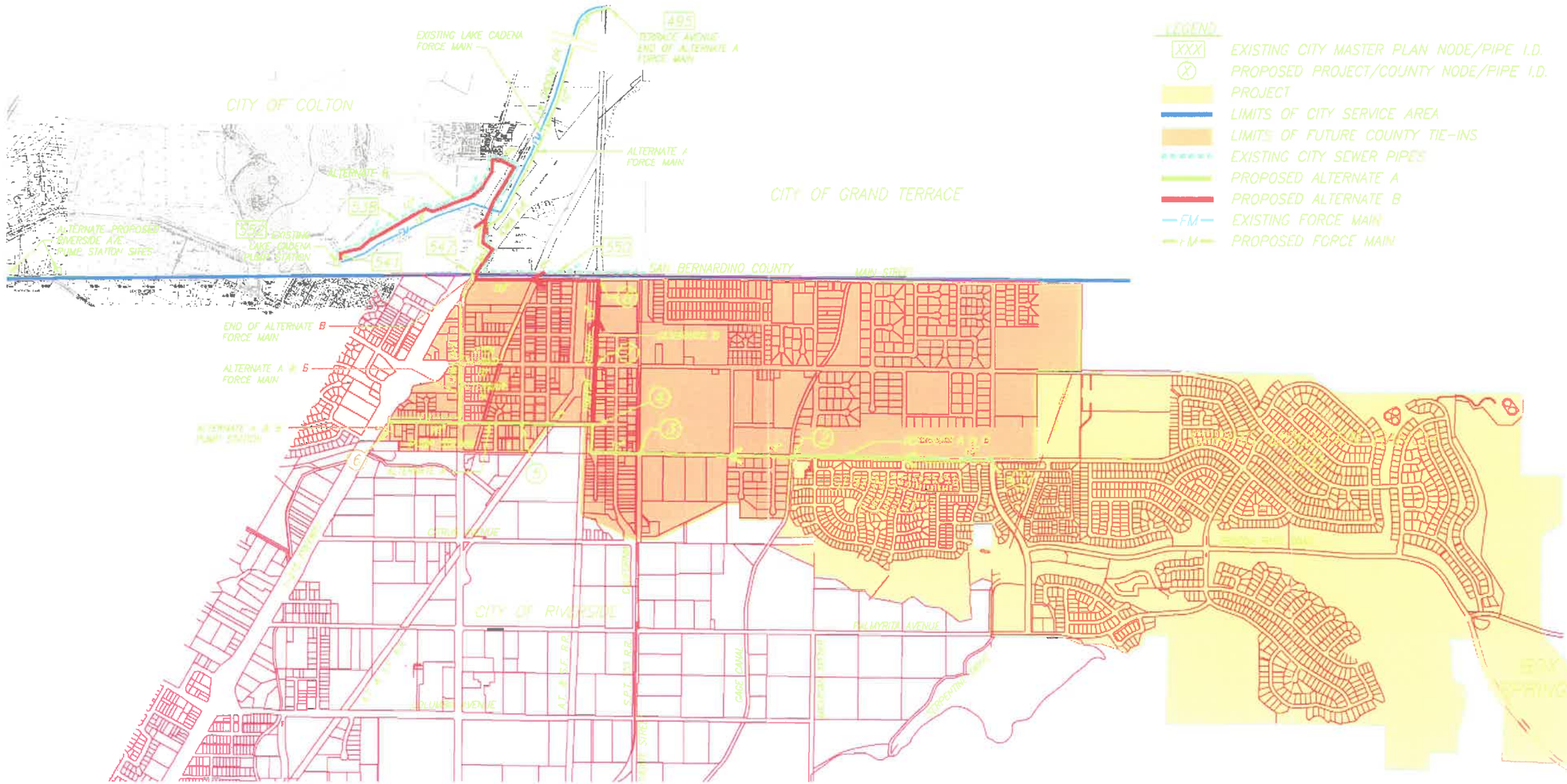
Table VI.A.14-2: Design Criteria for Sewer Facilities

Type of Development	Design Criteria
Residential	Average Flow = 90 gallons/day/capita Occupancy of 2.88 people/dwelling unit
Schools	10 gallons/day/capita
Source: PBS&J, November 2000.	

The WWTP, which was examined in conjunction with the EIR approved by the County Board of Supervisors for the Spring Mountain Ranch Specific Plan No. 323, has been designed to accommodate the generation of wastewater from projected growth within the project area. Thus, in the event that this option is implemented, the proposed project will not result in impacts to sewer service.

Table VI.A.14-3: Effluent Limitations for Landscape Irrigation

Type of Development	Design Criteria
Coliform	23 per 100ml (in any sample); 2.2 per 100ml (median 7-day sampling)
Biological Oxygen Demand (BOD)	5 mg/1
Total Suspended Solids (TSS)	5 mg/1
Turbidity	2 Nephelometric Turbidity Units
Nitrogen	10 mg/1 (current); 5 mg/1 (future)
Chlorine Residual	5 mg/1
Source: PBS&J, November 2000.	



Source: The Keith Companies, September 2003.

NORTH

Michael Brandman Associates

Figure **VI.A.14-1**

Alternative Off-Site Sewers - City of Colton Option

3. City of Riverside Option. The City owns and operates a regional WTP that is designed to accept the wastewater discharge from the project area. The plant is located adjacent to the Santa Ana Rivers on Van Buren Boulevard in the western area of the City of Riverside. The extension of the existing system would include the installation of two trunk sewer lines. One line would run from La Cadena Street East along I-215 in a northeast to southwest direction, than cross the I-215 at Strong Street and continues in a northeasterly direction to the WTP. The second trunk line would run in an east west direction toward Fairmont Park and to the WTP. The City of Riverside system has reserved capacity in the event that the City would ultimately serve the project site. The sewer and distribution system would be implemented under special district CSA 152 or by the RHWC.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.2: Monitor the capabilities of infrastructure and services in coordination with service providers, utilities, and outside agencies and jurisdictions to ensure that growth does not exceed acceptable levels of service.

Project Consistency. The RHWC or the City of Riverside will provide water to the site. All water lines will be designed in accordance with their requirements. Sewer service can be provided via extensions from off-site sewer facilities from the Highgrove area to the City of Colton sewer service system limits. A sewer feasibility study determined that the provision of such services is a physically feasible option and has been coordinate with the City of Colton to ensure and adequate level of service. Alternatively, sewer service would be provided to the project site using the proposed wastewater treatment plant to the east of the site within the approved Spring Mountain Ranch Specific Plan project or through the City of Riverside.

The project includes provision of recycled wastewater for irrigation purposes within the project site, encouraging conservation of the potable water supply for domestic uses. RHWC has additional non-potable wells available for supplemental irrigation, as required. Therefore, the proposed project is consistent with applicable water and sewer service policies of the General Plan

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policies are applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is

reasonable assurance that adequate level of services will be available in the near future.

HAP 3.2: The installation of water efficient fixtures and drought tolerant landscaping and the use of reclaimed water for landscaping and dust control, and other uses not involving human consumption are encouraged as means of conserving water in the area.

Project Consistency. The RHWC or the City of Riverside will provide water to the site. All water lines will be designed in accordance with their requirements and the project's Master Water Plan. In coordination with the Specific Plan's Master Sewer Plan, sewer service can be provided via extensions from off-site sewer facilities from the Highgrove area to the City of Colton sewer service system limits. A sewer feasibility study determined that the provision of such services is a physically feasible option and has been coordinate with the City of Colton to ensure and adequate level of service. Alternatively, sewer service would be provided to the project site using the proposed wastewater treatment plant to the east of the site in the approved Spring Mountain Ranch Specific Plan project or through the City of Riverside.

In addition to the installation of water efficient fixtures, the project includes provision of recycled wastewater for irrigation purposes within the project site, encouraging conservation of the potable water supply for domestic uses. RHWC has additional non-potable wells available for supplemental irrigation, as required. As outlined in the Master Landscape and Open Space Plan, drought tolerant plants have been chosen for their ability to thrive within the project's climate and location. Therefore, the proposed project is consistent with applicable water and sewer policies of the HAP.

C. MITIGATION MEASURES

1) The RHWC requires that the project proponent pay an impact fee and/or construct infrastructure to develop local water to meet the project demands.

D. LEVEL OF SERVICE AFTER MITIGATION

With the implementation of the mitigation measure above, the proposed project is anticipated to have a less than significant water and sewer service impacts.

SOLID WASTE

The following discussion and analysis is based on correspondence with the Riverside County Waste Management Department. A copy of this correspondence is provided in Appendix L of this document.

A. EXISTING CONDITIONS

According to the Riverside County Waste Management Department (RCWMD), there are three municipal waste landfills in western Riverside County that are available to service the franchise waste hauler (Waste Management of the Inland Empire, Inc.) for the project site. The three landfills are the Badlands, Lamb Canyon, and El Sobrante Landfills, of which the Badlands and El Sobrante are the closest to the site. The

Badlands Landfill is located at 31125 Ironwood Road, north of the City of Moreno Valley and approximately 15 miles from the project area. This facility is owned and operated by the Riverside County Waste Management Department. The El Sobrante Landfill is owned and operated by USA Waste of California, a subsidiary of Waste Management, Inc. However, the RCWMD operates the gate and performs random load checking. The El Sobrante Landfill is located east of Interstate 15 and Temescal Canyon road and south of the City of Corona at 10910 Dawson Canyon Road, approximately 30 miles from the project site.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant solid waste impact if:

- The existing facilities do not have adequate capacity to accommodate the increase in solid waste or if the disposal of project-related solid waste will result in a significant reduction in the planned lifespan of a landfill.

2) Project Related Impacts

Implementation of the proposed project will involve site preparation activities that will generate waste materials including lumber, roofing material, concrete, debris, excess fill dirt, etc. Hauling and disposal of these materials will occur during the construction process and is not anticipated to result in a significant solid waste impact. Following completion and occupancy of the project site, refuse will be regularly generated.

Assuming 2.6 persons per residence, and 613 new residential units, approximately 1,594 new residents can be expected. According to the California Integrated Waste Management Board, Current Waste Disposal Rates, the average per capita disposal rates per day in 1998 was 2.4 pounds. This will result in the generation of approximately 2.1 tons per day of solid waste.

According to the correspondence received from the RCWMD, it is not anticipated that the proposed project will substantially shorten the life of the proposed landfills. However, to conserve landfill capacity, the project should participate in the county's efforts to meet and maintain the state's mandatory goal of a 50 percent reduction in the amount of waste disposed (Integrated Waste Management Act of 1989, AB939, et seq.

Because household hazardous waste is not accepted at county landfills, alternative disposal methods will need to be provided. The County Department of Environmental Health operates a mobile household hazardous waste collection program, which consists of scheduled annual collection events. The mobile collection schedule is publicized by means of newspapers and flyers. County and City residents can deliver their hazardous waste to the nearest collection event.

3) General Plan and Area Plan Relationship.

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.2 Monitor the capacities of infrastructure and services in coordination with service providers, utilities, and outside agencies and jurisdictions to ensure that growth does not exceed acceptable levels of service.

Project Consistency. According to the RCWMD, there is sufficient solid waste disposal capacity available and projected to remain adequate to serve the proposed project. The project will also participate in the County's efforts to meet and maintain the State's mandatory goal of a 50 percent reduction in the amount of waste disposed under AB 939. Therefore, the proposed project is consistent with the relevant solid waste policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

Project Consistency. According to the RCWMD, there is sufficient solid waste disposal capacity available and projected to remain adequate to serve the proposed project. The project will also participate in the County's efforts to meet and maintain the State's mandatory goal of a 50 percent reduction in the amount of waste disposed under AB 939. Therefore, the proposed project is consistent with the relevant solid waste policies of the HAP.

C. MITIGATION MEASURES

The proposed project is not anticipated to have a significant impact on solid waste services. However, in accordance with AB 939, the project applicant shall adhere to the following requirements and measures:

1) Recycle construction waste through available methods, such as onsite grinders and/or wood waste recycling facilities.

2) Coordinate with franchise waste hauler to provide for commercial recycling and curbside recycling within residential areas, for pickup of aluminum, paper, plastic, and green waste.

3) Use mulch and/or compost in the development and maintenance of common landscaping areas.

4) For green waste/woody waste generated from maintenance of common landscape areas, either compost onsite or send to a compost facility. For grass only, consider grass recycling, where lawn clippings from a mulching type mower are left on the lawn.

5) Project-related public facilities shall provide an area for the loading and collection of recyclable materials.

6) The project applicant shall promote participation in the County Department of Environmental Health mobile household hazardous waste collection program.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will have less than significant solid waste impacts.

SCHOOL SERVICES

This section is based upon correspondence with the Riverside Unified School District (RUSD). A copy of this correspondence may be referenced in Appendix L of this EIR.

A. EXISTING CONDITIONS

The Springbrook Estates project site is located within the jurisdictional boundaries of the RUSD. Currently, students residing in the proposed project area are assigned to Highgrove Elementary, University Heights Middle School, and North High School. According to RUSD, Highgrove Elementary School, University Heights Middle School, and North High School are at or near capacity.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon school services if it will:

- Result in substantial adverse physical impacts associated with the provision of a new school; or
- Result in the need for new or remodeled/expanded school facilities, the construction of which could cause significant environmental impacts; or
- Result in the inability of the school district to maintain acceptable service ratios or other performance objectives.

2) Project Related Impacts

Implementation of the Specific Plan will result in the construction of 613 single-family residential dwelling units. Therefore, residential development within the Springbrook Estates project site will increase the demand on existing educational facilities and services by generating additional students to be served by RUSD. By applying generation rates supplied by the District, approximately 228 elementary

school students, 68 middle school students, and 109 high school students could result from the project implementation, as shown in Table VI.A.14-4.

Table VI.A.14-4: Student Generation from Springbrook Estates

Schools	Springbrook Estates Student Generation Rate	Number of Springbrook Estates Single-Family Dwelling Units	Number of New Students from SE
Highgrove Elementary (Grades K – 6)	0.3713	613	228
University Heights Middle School (Grades 7 & 8)	0.1113	613	68
North High School (Grades 9 – 12)	0.1776	613	109
Total			405

Source: Correspondence with Janet Dixon, RUSD Director/Facilities Planning, November 2002.

According to RUSD numbers, the Specific Plan project will generate students in excess of available capacity at the elementary, middle, and high school levels. Both University Heights Middle School and North High School are near capacity. Moreover, according to District projections, there already exists a shortage of capacities for both the middle and high school levels in the RUSD. If the Springbrook Estates project and other projects in the area are built, these shortages will become much more pronounced. The proposed project will provide a school site within PA-3. This site will be made available to the RUSD for construction of a combined elementary and middle school facility. State law requires mitigation of school impacts by paying the state-mandated fee, which is currently set at $2.23 per square foot of construction for residential uses. This fee is paid at the time that building permits are obtained. According to the RUSD, implementation of this school facility and the payment of state-mandated fees to the District will reduce school impacts to less than significant

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.1 Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

Project Consistency. The applicant is working with the RUSD to mitigate the student impact that will occur due to project development. The proposed school site is to be sold to the RUSD for construction of a school as the need warrants and a Community Facilities District will be established to pay for school services and facilities. In addition, developers are required to pay state-mandated fees to the District that are used to acquire sites, construct schools and classrooms,

and acquire portable classrooms to ensure adequate services are provided. Therefore, the proposed project would be consistent with applicable school policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

Project Consistency. The applicant is working with the RUSD to mitigate the student impact that will occur due to project development. The proposed school site is to be sold to the RUSD for construction of a school as the need warrants and a Community Facilities District will be established to pay for school services and facilities. In addition, developers are required to pay state-mandated fees to the District that are used to acquire sites, construct schools and classrooms, and acquire portable classrooms to ensure adequate services are provided. Therefore, the proposed project would be consistent with applicable school policies of the HAP.

C. MITIGATION MEASURES

The project applicant will comply with the following regulation as required:

1) The applicant shall be required to pay statutory SB-50 fees at the time of building permit issuance.[1]

In addition as outlined in the Specific Plan, the applicant, as negotiated with RUSD, will comply with the following recommendations:

2) As warranted, the proposed school site shall be sold to RUSD for the construction of a school.

3) A Communities Facility District shall be established to pay for school services and facilities.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Payment of SB-50 fees together with the negotiated agreements between the applicant and RUSD will reduce direct and cumulative impacts of the project on public education to a level that is considered less than significant.

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[1] Riverside Unified School District recently approved their SB-50 "School Facilities Needs Analysis for Consideration for Alternative School Fees." The Alternative No. 2 Fee is established at $2.23 per square foot of residential units.

LIBRARIES

A. EXISTING CONDITIONS

The Springbrook Estates project lies within the Riverside Public Library service area. The City of Riverside has its Main Library located at 3581 Mission Inn Avenue, and it maintains four branches: Arlington Branch at 9556 Magnolia Avenue, Casa Blanca Branch at 2985 Madison Street, La Sierra Branch at 4600 La Sierra Avenue, and Marcy Branch at 3711 Central Avenue.

The Riverside Public Library offers, by special access, TDD for the Deaf, Voice Line for the Deaf, and Home Library Service. The La Sierra Branch offers an adult literacy program.

The Eastside Cybrary Connection, located at 4016 Chicago Avenue in Riverside, is a library and information skills center for youth. The project is designed to integrate electronic technology and print into dynamic community/cultural context with special appeal to young people, ages 8 to 17. The Cybrary provides free computer and information skills training and Internet access for the children and families of the Eastside.

The County of Riverside has adopted a minimum titles-per-capita of 1.2 and a higher level of service is considered 1.5 titles-per-capita. The county also uses a standard of 0.5 square foot of library space per capita.

B. PROJECT IMPACT/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon library services if:

- Existing or planned facilities are not adequate to serve the proposed project; or
- The project will require the expansion or construction of facilities that will have a physical impact on the environment.

2) Project Related Impacts

Development of the Springbrook Estates Specific Plan project would increase the region's population, creating in turn and additional demand for library facilities and services. The County of Riverside uses a standard of 0.5 square foot of library space per capita. Using the County's population multiplier of 2.6 persons per single-family unit, this EIR estimates that the proposed project will increase population by 1,594 persons. If it is assumed that current library space and number of holdings are in accordance with the County standards noted above, adding a population of 1,594 persons will require an additional 797 square feet of building at a cost of $194,468 (at $244 per square foot). The cost of adding a book title is $29.43 (in 1995 dollars), which could require an initial outlay of $56,300 to purchase 1,913 books/items to maintain the 1.2 titles-per-capita standard. These costs are equivalent to $91.84 per residential unit for the proposed Springbrook Estates Specific Plan.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.1: Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

Project Consistency. The proposed project will be required to pay a library impact mitigation fee (see *Mitigation Measures)*, which will provide funds to ensure that the Riverside County library system can adequately serve the project as well as existing library patrons. Therefore, the proposed project is consistency with the relevant library policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

Project Consistency. The proposed project will be required to pay a library impact mitigation fee (see Mitigation Measures), which will provide funds to ensure that the Riverside County library system can adequately serve the project as well as existing library patrons. Therefore, the proposed project is consistent with the relevant library policies of the HAP.

C. MITIGATION MEASURES

Impacts to library services resulting from project implementation will be reduced to below a level of significance by application of the following mitigation measure:

1) The project shall be subject to the payment of mitigation fees in accordance with the provisions of Riverside County Ordinance No. 659. A portion of these fees may be utilized by the County to provide additional library facilities and staff.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measure above will reduce library impacts to levels that are less than significant.

HEALTH SERVICES

A. EXISTING CONDITIONS

The proposed project lies within the service parameters of several major health care facilities. The closest healthcare facility is the Riverside Community Hospital, located at 4445 Magnolia Avenue in Riverside. This facility has 369 beds and a staff of more than 350 physicians. Services offered at Riverside Community Hospital include the Family BIRTH place with 11 labor-delivery-recovery rooms and eight family suites, a Neonatal Intensive Care Unit for seriously ill infants, the Health Care Center offering a full range of inpatient and outpatient cardiovascular services including open heart surgery, a 24-hour Emergency Department with Level II Trauma Services, 'Home Health Care' a Transitional Care Unit, and many other ancillary services

Kaiser Permanente Hospital, located at 10800 Magnolia Avenue in Riverside is a full-service medical care center serving 144,000 Health Plan members in the Riverside County Area. More than 1,600 employees and 130 physicians are employed at the medical center. The 39-acre facility consists of two primary care structures - the three-story Park Sierra Medical Offices and the five-story, 215-bed hospital and medical office tower. Services offered at the medical center include family practice, optometry, pediatrics, ob/gyn, radiology, physical therapy, emergency services, and general surgery, among others. In addition to the medical center, the Service Area is home to four satellite medical office buildings - three in the Riverside area and one in Moreno Valley.

Parkview Hospital is a 193-bed facility located at 3865 Jackson in Riverside. Its medical services include general surgery, orthopedics, pediatrics, osteoporosis treatment, and disease management. It has specialty centers for women and children, occupational medicine, cancer, neonatal intensive care, wounds, and urgent care.

Also serving the area is the Riverside County Regional Medical Center (Riverside General Hospital-University Medical Center), located at 26520 Cactus in Moreno Valley, and numerous private care facilities, such as retirement/nursing homes, substance abuse, child and sexual abuse clinics, and counseling centers.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon health services if:

- Existing or planned facilities are not adequate to serve the proposed project; or
- The project will require the expansion or construction of facilities that will have a physical impact on the environment.

2) Project Related Impacts

Adverse impacts to health services are not anticipated as a result of implementation of the Springbrook Estates project. The presence of the medical community generally increases commensurate with the increase in population associated with new development. Health care service is a regional issue that generally responds to current demand.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision policy is applicable to the proposed project:

LU 5.1: Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

Project Consistency. There are several medical facilities located within the project area, which offer a variety of services including outpatient clinic care to full-service medical care centers. The proposed project is consistent with area growth plans. As such, it is anticipated that the medical needs have been accounted for in medical service plans. Therefore, the proposed project is consistent with the applicable health service policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policy is applicable to the proposed project:

HAP 2.3(a): Prior to the approval of any proposed amendments that would permit more intense usage of a specific site, findings must be made that:

a. The existing level of public facilities and services available to serve the project is adequate for the more intense land use, or there is reasonable assurance that an adequate level of services will be available in the near future.

Project Consistency. There are several medical facilities located within the project area, which offer a variety of services including outpatient clinic care to full-service medical care centers. The proposed project is consistent with area growth plans. As such, it is anticipated that the medical needs have been accounted for in medical service plans. Therefore, the proposed project is consistent with the applicable health service policies of the HAP.

C. MITIGATION MEASURES

No mitigation measures are required.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will have less that significant health services impacts.

PARKS, RECREATION, AND OPEN SPACE

A. EXISTING CONDITIONS

The Riverside County Regional Park and Open-Space District includes 31 sites, two of which are within close vicinity of Springbrook Estates. Box Springs Mountain Reserve is located approximately 2 miles to the southeast in Moreno Valley and consists of 1,155 acres with equestrian and hiking trails. The Trujillo Adobe Historic Area occupies one acre on the north side of the City of Riverside, approximately 1.5 miles west of the project site.

Several county park sites are located within 12 miles east of Springbrook Estates, in the Rubidoux-Riverside area. Rancho Jurupa Park consists of 350-acres with 70 campsites, equestrian and hiking/interpretive trails, fishing, picnic facilities, and a nature center. The 40-acre Martha McLean-Anza Narrows Park has picnic facilities and equestrian, hiking, and biking trails. The 1300-acre Hidden Valley Wildlife area can be explored via equestrian and hiking trails. Rubidoux is home to the Louis Rubidoux Nature Center, the 30-acre Jensen-Alvarado Historic Ranch and Museum.

The largest regional recreational facility serving western Riverside County is the 6,440-acre Lake Skinner Recreational Area, located approximately 28 miles southeast of the proposed project site and 10 miles north of Temecula. This facility is a Riverside County regional park, while the lake itself is a Metropolitan Water District (MWD) facility. The park offers over-night camping, fishing, boating, hiking, equestrian trails, hiking/interpretive trails, picnicking, and other recreational facilities.

There are a number of major lakes in western Riverside County: Lake Matthews, Lake Perris, Lake Elsinore, Canyon Lake, Lake Skinner, and Vail Lake. State recreation areas are located at Lake Elsinore and Lake Perris, and a County park is located at Lake Skinner. The Lake Elsinore State Recreation Area (SRA) is located approximately 21 miles south of the project site and encompasses approximately 3,000 acres, including the lake itself and day-use parks. This lake provides opportunities for water skiing, boating, fishing, swimming, camping, and picnicking. The State charges a fee for day-use entry. Use of the lake is not totally regulated by the State because private property adjoins a portion of the lake edge. The 8,200-acre Lake Perris SRA, located approximately 21 miles northwest of the site, provides opportunities for water sports along with hunting, hiking, bicycling, horseback riding, rock climbing, and overnight camping. The lake has a water surface area of 2,318 acres with nine miles of shoreline. Perris Dam, located at the west end of the lake, is 128 feet high and 2.2 miles long. Lake Matthews is located approximately 11 miles southwest of the project site. The lake is owned by the MWD, is fenced, and provides no recreational opportunities. Canyon Lake is privately owned, located approximately 20 miles southeast of the project site, and is not open to the public. Vail Lake, located approximately 60 miles southeast of the site, is also privately owned and does not offer recreational opportunities to the public.

In 1991, the MWD Board of Directors authorized construction of the largest reservoir in southern California. Located in the Domenigoni and Diamond Valleys southwest of the City of Hemet, the Domenigoni Valley Reservoir, when completed, will be able to store up to 800,000 acre-feet of water, or more than 260 billion gallons. The reservoir project will include a new outdoor recreation complex with

fishing and boating, large parks outside the eastern and western dams, and an extensive trail system. Environmental reserves associated with the project will protect more than 13,000 acres for the area's rare and endangered plants and animals.

The Santa Rosa Plateau, which is a cooperative venture between the County of Riverside, the Nature Conservancy, the California Fish and Game Department, and the United States Fish and Wildlife Service, is located near the City of Murrieta, off Clinton Keith Road. This facility consists of a 7,000-acre nature park, which is open free to the public from sunrise to sunset. The park offers several trail systems, one of which is self-guided (trail guides and pamphlets are available for this purpose). The park also offers guided Saturday morning walks each weekend beginning at 9 a.m., and bird walks twice monthly. The Santa Rosa Plateau harbors approximately 50 endangered animal species, including the San Diego horned lizard, burrowing owl, willow flycatcher, western pond turtle, Stephen's kangaroo rat, and red-legged frog. The plateau also has several endangered plant species, including one of the last strands of Engelmann oak, thought to be at least 300 years old. Large vernal pools on the plateau collect rainwater during the winter months and become ringed with wild flowers in the spring and summer months as the pools dry up.

In addition to the recreational facilities noted above, the project site is 8 miles southwest of the San Bernardino National Forest and 16 miles northeast of the Cleveland National Forest. These mountainous areas offer additional outdoor recreation opportunities.

Local recreational facilities include community parks in the community of Highgrove and the City of Riverside, as well as recreational amenities on public school campuses. Recreational amenities on school campuses generally consist of playing fields, playing courts, and playground equipment.

The Riverside County Parks and Recreation Department Standards require one acre of developed regional parkland per 1,000 persons. The Highgrove Community Plan indicates that the project is within Riverside County's Regional Parks and Open Space District, which utilizes a standard of three acres of neighborhood and community parkland per 1,000 in population. The county Ordinance pertaining to parkland requirements, which is authorized under the State Quimby Act, requires a minimum of three acres per 1,000 in population for neighborhood and community parks. The State of California's Quimby Act was established by the California Legislature for the purpose of preserving open space and providing park facilities for California's growing communities. The Quimby Act allows local agencies to establish ordinances requiring residential subdivisions to provide land or "in lieu of" fees for park and recreation purposes.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact on parks and recreation if it will:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated; or

- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

2) Project Related Impacts

Development of the Springbrook Estates project involves the construction of 613 single-family dwelling units, which are estimated to generate 2.6 persons per home, for a total population of 1,594 persons. To meet the Quimby Act requirements, the proposed project will require approximately 5 acres of parkland. Implementation of the proposed project will result in the development of approximately 50 acres of parkland/open space. Thus, in relation to the Quimby Act and the Highgrove Community Plan Standards, the proposed project will result in exceeding the established parkland standards by allocating approximately 45 acres more than required. Therefore, the project's allocation of approximately 50 acres of parkland/open space is considered a beneficial impact related to parks, recreation, and open space.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The County of Riverside General Plan Land Use Element Infrastructure, Public Facilities, and Service Provision and Open Space, Habitat, and Natural Resource Preservation policies are applicable to the proposed project:

LU 5.1: Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services such as libraries, recreational facilities, transportation systems, and fire/police/medical services.

LU 8.2: Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.

LU 8.3: Incorporate open space, community greenbelt separators, and recreational amenities into Community Development Areas in order to enhance recreational opportunities and community aesthetics, and improve the quality of life.

LU 8.4: Allow development clustering and/or density transfers in order to preserve open space, natural resources, and/or biologically sensitive resources.

LU 8.5: Prior to the approval of any residential project, require that the project site be annexed into an existing parks and recreation district or CSA providing for community park maintenance.

Project Consistency. At build-out, the Springbrook Estates project will have approximately 50 acres of parkland/open space, which exceeds the state and local requirements for parkland. The park facilities are intended to serve the residents of the Springbrook Estates development. Open space areas that will be developed have been designed to create a separation in residential areas, allowing for the opportunity to enhance recreation opportunity and creation of neighborhood identity. The approximately 36-acre park in the northeastern portion of the site will also serve as a buffer between the project uses and adjacent open space (i.e., Blue Mountain). Project design

incorporates landscaped slopes and the retention of natural open space that will enhance the community aesthetics. More specifically, by intensifying the residential density, the project will allow for the retention of surrounding open space amenities and biological resources, such as Blue Mountain to the north and Springbrook Wash to the south. Moreover, the project will include a combination of a community park, pocket parks, a community trail, and multi-purpose trail, all of which will enhance recreational opportunities within the project area.

Given that approximately 36 acres of parkland will be located in the northeastern portion of the project site, along Center Street it is likely that residents of the surrounding neighborhoods will take advantage of the local park. The allotment of approximately 50 acres of parkland/open space is more than adequate to serve the residents of Springbrook Estates (in relation to Quimby Act and Highgrove Area Plan standards).

Compliance with CEQA is achieved through the EIR process and Sections VI.A.3 and VI.A.7, address issues relating to the Clean Air Act and the Clean Water Act.

Upon adoption by resolution by the Board of Supervisors of the community park and recreation plan, as submitted by the public agency, those policies and standards for development of neighborhood and community parks contained within the adopted community park and recreation plan will become the adopted policies and standards of the County for neighborhood and community parks development within the plan area.

Therefore, the proposed project is consistent with relevant parks, recreation, and open space policies of the General Plan.

The following County of Riverside Circulation Element Non-Motorized Transportation and Multi-Purpose Recreation Trails policies are applicable to the proposed project:

C 15.1: Encourage and support maintenance of existing non-motorized facilities.

C 15.2: Provide non-motorized alternatives for commuter travel as well as recreational opportunities within the trails network.

C 16.1: Implement the County trail system as depicted in the Bikeways and Trails Plan, Figure C-5.

C 16.2: Develop a multipurpose recreational trail network and support facilities that provide a linkage with regional trail facilities.

C 16.3: Provide separate rights-of-way for non-motorized trails whenever economically and physically feasible.

C 16.4: Provide integrated non-motorized trails to maximize safety and minimize potential conflicts with pedestrians and motor vehicles through design, construction, and implementation standards.

C 16.6: Consider the use of public access utility easements for trail linkages to the regional trails system and/or other open space areas as a first priority land use. Potential corridors to use include rights-of-way for:

a. water mains;
b. water storage project aqueducts;
c. irrigation canals;
d. flood control;
e. sewer lines; and
f. fiber optic cable lines. (AI 40, 41)

C 16.11: Maintain recreation trails within the County right-of-way with the support of local public agencies.

C 16.12: Utilize trail design standards that will minimize maintenance due to erosion or vandalism.

C 16.13: Install, where appropriate, diamond-shaped warning signs indicating "Warning: Trail Crossing" or depicting the equivalent international graphic symbol at locations where regional or community trails cross public roads with high amounts of traffic.

C 16.14: Require that development proposals provide for access to the trails system, where feasible and appropriate.

C 16.15: Identify all required ultimate trail rights-of-way and easements that have been dedicated and approved concurrent with the approval of any development proposal. The approved easements shall be consistent with the goals, objectives, policies, and Recreation Trails Plan Map of the General Plan and with current Riverside County design criteria, standards, and practices. Plans for recreational trails must illustrate how trail systems integrate with backbone trails, environmental corridors, recreational facilities, and schools.

Project Consistency. The proposed project includes the development of a trail system consistent with the General Plan and approved by the County Department of Parks and Recreation. The trail system includes a multi-purpose trail and a community trail, which provide for non-motorized linkages throughout the project site and the surrounding area. The trail system will connect with the approved Spring Mountain Ranch trail system to the south and east of the project site and will provide access to the school site and the approved neighborhood commercial uses, located southeast of the project site. Precise rail alignments have been designed to respond to the physical characteristics of the property and portions of the trail system, specifically the multi-purpose trail will be located within a California Department of Water Resources easement. Trail design will be in accordance with all applicable County standards. Therefore, the proposed project is consistent with relevant parks, recreation, and open space policies of the General Plan.

b. Highgrove Area Plan Relationship. The following Highgrove Area Plan (HAP) policies are applicable to the proposed project:

HAP 4.1: The Riverside County General Plan's Regional Trails Map and the Highgrove Community Policy Area trails policies depict conceptual trail alignments. The precise alignment of a trail shall be based on the physical characteristics of the area. Where practical, trails have been aligned along road rights-of-way and flood control and utility easements.

HAP 4.2: Trails will be developed in accordance with current Riverside County design criteria, standards and practices. Function, safety, and scenic quality are the main criteria for their location and design.

HAP 4.3(c, d): In order to implement any non-motorized regional multi-purpose trails represented in the Highgrove Community Policy Area trails policies, trail routes will need to be acquired. The County's Regional Parks and Open Space District will be responsible for the development and maintenance of such trails. Proposed non-motorized multi-purpose trails for the Highgrove area include the following:

c. Along Mount Vernon Avenue, from Main Street to its intersection with Pigeon Pass Road

d. From Gage Canal within or along the Springbrook Wash to Mount Vernon Avenue, continuing through or along the wash to a point of intersection with the current terminus of Serpentine Road.

Project Consistency. The Springbrook Estates project provides an extensive trail system that traverses the project site, including a multi-purpose trail extending from Mount Vernon Road to the north of the site traversing along the California Aqueduct easement and a community trail that will extend from the Gage Canal to Mount Vernon Avenue. The County of Riverside Parks and Recreation District has agreed to the alignment of the community trail in the southern portion of the project site rather than the HAP designated multi-purpose trail. These trails, especially those identified on the Habitat Conservation Plan (HCP) "Current and Proposed Trails Designation" map will be implemented in accordance with current Riverside County design criteria, standards and practices. To ensure further consistency with County requirements, these trails will be designed and acquired with function, safety, and scenic quality as the main criteria for their location and design. Therefore, the proposed project is consistent with relevant parks, recreation, and open space policies of the HAP.

C. MITIGATION MEASURES

1) Implementation of the Springbrook Estates project would provide 50.24 acres of open space/parks, which includes an approximate 36-acre community park, two neighborhood parks and a multi-purpose trail system that traverses throughout the project site.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will have less than significant parks and recreation impacts.

ENERGY RESOURCES AND CONSERVATION

The following discussion and analysis is based on correspondence received from the utility companies that would provide service to the project site. A copy of this correspondence is provided in Appendix L of this document.

A. EXISTING CONDITIONS

1) Electricity

The proposed project is within the service boundaries of the Southern California Edison Company (SCE) for electricity. The project site includes several easements owned by SCE. In addition, there are numerous transmission and distribution facilities on the property.

2) Natural Gas

The Southern California Gas Company provides natural gas in the project vicinity.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant impact upon energy resources if:

- Electrical/natural gas supplies are not available to meet the demand of the project; or
- The project will require the construction of new electrical/natural gas facilities or the expansion of existing facilities, which will lead to significant environmental effects; or
- The project cannot be serviced by the existing provider.

2) Project Related Impacts

a. Service. The following electricity and natural gas impacts will occur with project implementation.

1. Electricity. Implementation of the Springbrook Estates project will result in a substantial increase in demand for electricity and will require the extension of electrical facilities to serve the proposed development. Electrical service will be provided by SCE, which will maintain primary responsibility for the installation of new electrical facilities onsite. SCE has stated that they are capable of providing service to the project site

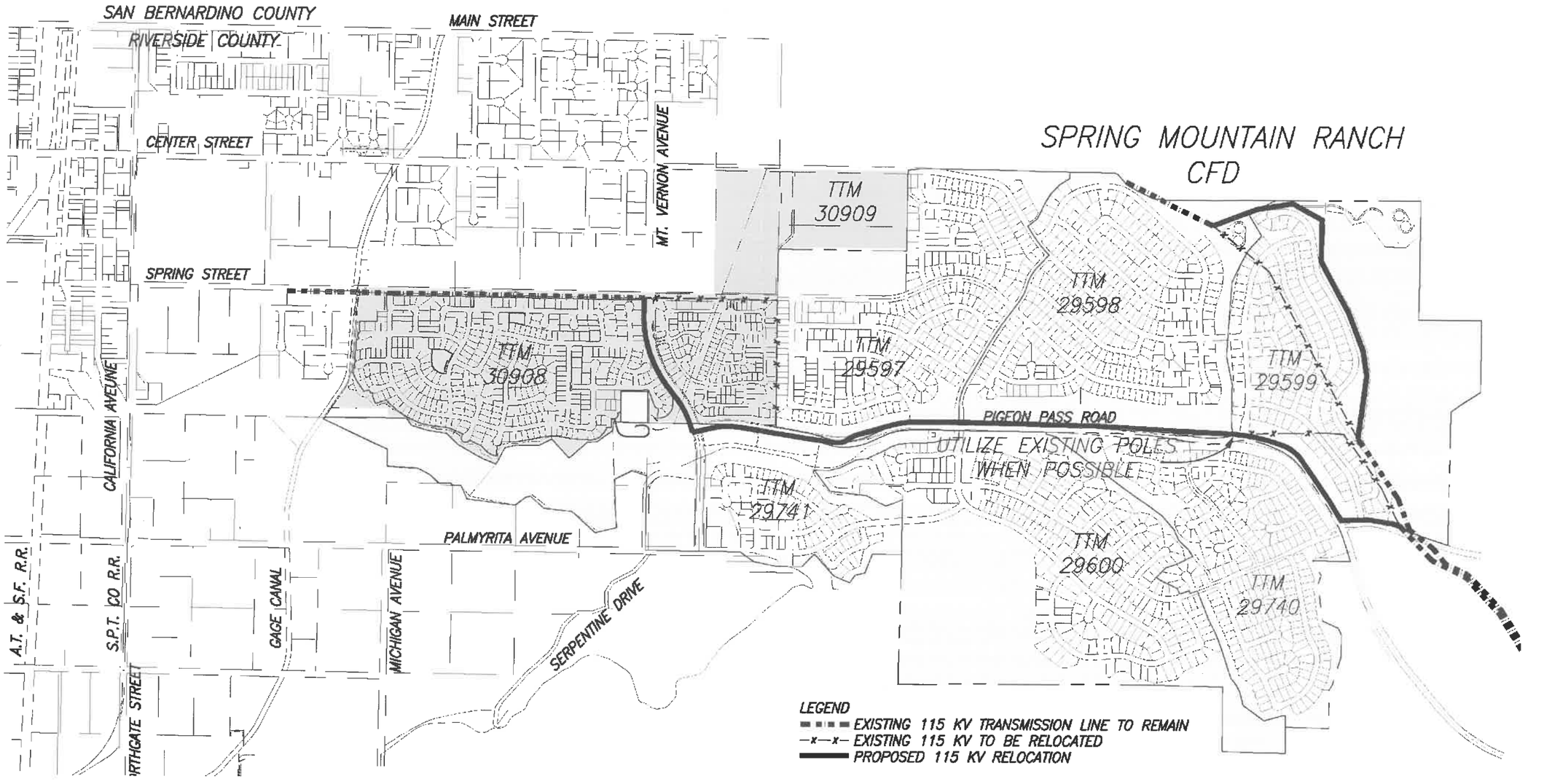
   In addition, as part of proposed project, it will be necessary to relocate and replace sections of two separate 115 kilovolt (kV) transmission lines. The Alessandro-Highgrove Maxwell 115 kV transmission line and the Alessandro-Highgrove-Maxwell Tanker 115 kV transmission lines will be required to be

relocated. The existing lines shall be relocated from two separate existing easements in SCE's favor, into two separate new exclusive easements to which locations shall be determined later and easements shall be provided by the developer for the sole purpose of housing the existing SCE Transmission lines (see Figure VI.A.14-2).

2. Natural Gas. According to correspondence received from the Gas Company, typical demand for natural gas by a single-family residence is 799 therms/year per dwelling unit. Development of the Springbrook Estates project will result in the construction of 613 residential units. Demand from the residential component of the proposed project is therefore anticipated to be approximately 489,787 therms/year. The Gas Company has stated that they foresee no impact on the environment associated with providing future service to the project site.[2]

b. Conservation. Building energy conservation will be largely achieved through compliance with Titles 20 and 24 of the Energy Conservation Code. Title 24, California Code of Regulations Section 2-5307(b) is the California Energy Conservation (CEC) Standard for New Buildings, which prohibits the installation of fixtures unless the manufacturer has certified to the CEC compliance with the flow rate standards. Title 24, California Code of Regulations Sections 2-5452(I) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Title 20, California Code of Regulations Section 1604(f) and 1606(b) are Applicable Efficiency Standards that set the maximum flow rates of all plumbing fixtures and prohibit the sale of non-conforming fixtures.

[2] Personal communication, Ken Kennedy of the Gas Company, September 4, 2002.



Source: The Keith Companies, September 2003.

NORTH

Michael Brandman Associates

Figure **VI.A.14-2**
Electrical Transmission Line Relocation Plan

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The following Riverside County General Plan Multipurpose Open Space Element Energy Resources policies and the Air Quality Element Energy Efficiency and Conservation policies are applicable to the proposed project:

OS 16.1: Continue to implement Title 24 of the State Building Code. Establish mechanisms and incentives to encourage architects and builders to exceed the energy efficiency standards of Title 24.

OS 16.5: Utilize federal, state, and utility company programs that encourage energy conservation,

OS 16.9: Encourage the use of passive solar design and day-lighting in existing new structures.

AQ 5.4: Encourage the incorporation of energy-efficient design elements including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

Project Consistency. As required, the proposed project will be in accordance with Title 20 and Title 24 of the State Energy Conservation Code. The Specific Plan and the associated architectural design guidelines have provisions for the inclusion of solar panels and skylights, which would provide passive solar energy. As identified in Section VI.A.3, several energy efficiency measures are to be incorporated into the proposed project including window glazing, wall insulation, and efficient ventilation methods, and a tree planting program. Therefore, the proposed project is consistent with the relevant energy resource and conservation policies of the General Plan.

b. Highgrove Area Plan Relationship. There are no applicable Highgrove Area Plan (HAP) policies that relate to energy resources and conservation.

C. MITIGATION MEASURES

The proposed project is not anticipated to result in significant impacts associated with the provision of electricity or natural gas to the project site. However, to ensure impacts remain less than significant, the following standard conditions and requirements will apply.

1) Development plans shall be provided to SCE and The Gas Company as they become available in order to facilitate engineering, design, and construction improvements necessary to provide electrical and natural gas service to the project site.

2) The applicant shall comply with guidelines provided by SCE and The Gas Company regarding easement restrictions, construction guidelines, and potential amendments to right-of-way in the areas of any existing utility easements.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project will have less than significant energy resources and conservation impacts.

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VI.A.15 TOXIC SUBSTANCES/HAZARDOUS WASTES

This section of the EIR addresses the potential for toxic substances and/or hazardous waste to occur on the project site. Hazards related to air quality, noise, geology, hydrology, traffic, and water quality are addressed in their respective sections within this EIR. Information presented in this section is also derived from the Phase I Environmental Site Assessment (ESA) prepared for the project site by RM Environmental in August 2002 and May 2003 (see Appendix K of this document).

A. EXISTING CONDITIONS

Toxic substances include hazardous materials such as trace metals, chemical compounds, radioactive materials, explosives, infectious wastes, and industrial wastes. A hazardous material is defined as injurious substances, including pesticides, herbicides, toxic metals and chemicals, volatile chemicals, explosives, and nuclear fuels and materials. Hazardous waste is any waste substance that may contribute to serious illness or death, or may pose a substantial threat to human health and the environment when improperly managed; these substances are generally toxic, corrosive, flammable, or reactive. The use of hazardous materials is commonplace in modern industrial and commercial activities. Since these materials are increasingly used in urban settings, and since they represent such a serious potential threat to human health and safety, strict laws and regulations have been developed to control their use, storage, disposal, and transport.

In some cases, waste at one facility can be used as a raw material at another facility. In those cases, the materials would be regulated under hazardous materials regulations, and not hazardous waste regulations.

Common hazardous wastes found throughout Riverside County include acids, solvents, and paint sludge from industrial operations. In order to properly regulate the disposal of such wastes, the County of Riverside has assigned waste categories to the various waste materials indicating their potential threat to health and water quality.

- Group 1 Wastes: Toxic or hazardous substances. Municipal saline fluids; incinerator ashes and chemical toilet wastes. Industrial brines; operational fluids; ashes, mine tailings, chemical mixture and rotary drilling muds. Agricultural pesticides; discarded chemicals and other toxic wastes.

- Group 2 Wastes: Special wastes such as asbestos and ash (not accepted in Group 3 Wastes).

- Group 3 Wastes: Typical household rubbish.

The State Department of Health Services - Toxic Substance Control Division is responsible for the regulation and control of hazardous materials including hazardous wastes. Locally, the County of Riverside Department of Environmental Health Hazardous Materials Branch has the primary responsibility for hazardous waste regulation. Additionally, the Regional Water Quality Control Board, the local Air Quality Management District, and the fire department are responsible for implementing and enforcing various hazardous waste regulations.

1) Field Reconnaissance

A field reconnaissance was conducted by RM Environmental. RM Environmental staff traversed the site to observe surficial soil conditions, structures, possible generators or storage of hazardous materials, drainage, land use, vegetation, and notable surface conditions, which would indicate the presence of hazardous waste or petroleum product contamination on or near the site. Identified during the field reconnaissance were three 200 to 300-gallon and one 550-gallon underground storage tanks (USTS), one mobile above ground fuel tank, four 55-gallon drums and two 5-gallon containers of waste oil and a residential structure potentially containing asbestos materials.

2) Pesticide Sampling

Past and present systematic uses of pesticides and herbicides in agricultural production may have tainted soils within the project site. It is common for lands utilized for agricultural production to contain residual concentrations of pesticides and herbicides in surficial soils and therefore, the intense and regular use of chemical applications may result in the presence of residues of these chemicals in the soils of the project site. Subsurface sampling indicated that there are elevated concentrations of DDE and dieldrin in the northeastern and south-central portion of the site (Assessors Parcel Number 255-190-009 and APN 255-130-005).

3) Eastern Highgrove Landfill

Highgrove Landfill is located east of the Springbrook Estates Specific Plan area, east of the project site. The disposal site was originally operated as a burn site when it opened in 1947 and was converted to a solid waste landfill disposal site in the 1970's. The site was closed in 1998 and final closure procedures for the landfill have begun with completion projected before or during the second quarter of 2001. The existing landfill site occupies approximately 71 acres and a total of approximately 3,708,754 tons of municipal solid waste are in place. The site also contains an approximately 2.53-acre old munitions disposal and two asbestos disposal pits totaling approximately 0.67 acres.

Riverside County has several groundwater monitoring wells associated with the Highgrove Landfill within the project vicinity including within the closed Highgrove Landfill site, located about one-half mile east of the project site. Data from these wells indicate groundwater has been found to contain volatile organic compounds (VOCs), including chlorinated VOCs (tetrachloroethylene [PCE] and trichloroethylene [TCE] and aromatic VOCs [benzene]). Groundwater data also shows the plume may extend west of the landfill site. To date remediation includes the installation of a landfill gas (LFG) collection system and flare on the landfill site. Additional remediation includes landfill-capping, installation of a groundwater pump and treatment facility, and an energy recovery facility to convert LFG to electricity. These measures are anticipated to reduce and possibly eliminate VOC transport. Site monitoring and maintenance is required for a minimum of 30 years.

B. PROJECT IMPACTS/GENERAL PLAN AND AREA PLAN RELATIONSHIP

1) Thresholds of Significance

The proposed project is considered to have a significant toxic substances/hazardous wastes impact if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

2) Project Related Impacts

a. Historical Use of Hazardous Materials and Waste. Implementation of the proposed project will not result in impacts associated with known and/or suspect hazardous materials. However, there is a potential that previously unknown hazardous materials contamination from historical use of this property onsite may be encountered during the project development activities. However, it should be noted that should such contamination be found, existing federal, state, and local policies and procedures will require the delineation and remediation of sites containing hazardous substances to the satisfaction of the designated local enforcement agency. Moreover, it is unlikely that any such contamination will be extensive beyond the capacities of typical remediation measures. In addition, Phase I ESAs were conducted and if applicable, further site investigations or remediation were recommended, as outlined in the mitigation measures presented in this section.

b. Future Use of Hazardous Materials and Waste. Implementation of the Springbrook Estates project will introduce new land uses to the project area and hence will result in the additional use of hazardous materials in limited quantities associated with normal residential use, and an increase in hazardous waste generated onsite. Such wastes include janitorial and cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations, standards, and guidelines established by the EPA, state, county, and local agencies relating to the storage, use, and disposal of hazardous waste will reduce the potential risk of hazardous materials exposure to a level that is less than significant.

3) General Plan and Area Plan Relationship

a. General Plan Relationship. The Riverside County Hazardous Waste Management Plan (CHWMP) was adopted by the Board of Supervisors on September 12, 1989.Using a framework of 24 existing and recommended programs, the CHWMP serves as the County's primary planning document for the management of hazardous substances, as such, it has been incorporated into the General Plan. The following objectives as stated in the CHWMP apply to the proposed Springbrook Estates project:

- To ensure the proper handling, storage, and disposal of hazardous waste materials and wastes through a comprehensive program of education, assistance, inspections, and enforcement.

- To provide for the proper disposal of household hazardous wastes.

Project Consistency. The proposed project will result in the development of residential land uses. As identified in Section VI.A.14 of this document, household hazardous waste is not accepted at County landfills, thus alternative disposal methods will need to be provided. The County Department of Environmental Health operates a mobile household hazardous waste collection program, which consists of scheduled annual collection events. The mobile collection schedule is publicized by means of newspapers and flyers. County and city residents can deliver their hazardous waste to the nearest collection event. The project applicant will promote participation in the County Department of Environmental Health mobile household hazardous waste collection program. Therefore, the proposed project is consistent with these relevant hazardous materials policies of the General Plan.

b. Highgrove Area Plan Relationship. There are no applicable Highgrove Area Plan (HAP) policies that relate to toxic substances/hazardous wastes.

C. MITIGATION MEASURES

1) Prior to the issuance of grading permits, the grading plans shall specify that in the event that hazardous waste is discovered during site preparation or construction, the property owner/developer shall ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5) and according to the California Administrative Code, Title 30, Chapter 22.

2) Prior to the issuance of grading permits, the five USTs, one AST, four 55-gallon drums and two 5-gallon waste oil containers shall be removed under the guidance of the County of Riverside Department of Environmental Health. Soil sampling shall be conducted in the area of these tanks to evaluate the potential for hydrocarbon soil and/or groundwater contamination. In the event that soil sampling reveals contamination beyond accepted levels for residential park and education land uses, further remediation shall occur as determined by the Regional Water Quality Control Board.

3) Once the orchards have been cleared and the surficial soils have been disturbed, additional soil sampling shall be conducted in the areas where elevated levels of DDE and dieldrin were detected to evaluate the presence of residual pesticides in the near surface soils. Soil sampling shall be done in accordance with and under the guidance of the County of Riverside Department of Environmental Health.

4) In the event that groundwater is to be utilized for project development, a groundwater characterization study shall be conducted.

5) Prior to the issuance of a grading permit, an asbestos survey shall be performed on the residential structure found on APN 255-130-018. If asbestos containing materials are present, removal and disposal shall be in accordance with all applicable state, local, and federal laws.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures above will reduce project related toxic substances and hazardous waste impacts to levels that are considered less than significant.

VI.B EFFECTS FOUND NOT TO BE SIGNIFICANT

Pursuant to CEQA Section 15063, an Environmental Initial Study was conducted for the proposed Springbrook Estates project. The result of the Initial Study (IS) determined that the project would not have potential to cause significant adverse affects associated with mineral resources. Therefore, this issue has not been addressed in this EIR. Provided below is a brief explanation why each of this environmental issue-area was not found to be significant.

1. Mineral Resources

The County of Riverside General Plan Multipurpose Open Space Element identifies the project site as Mineral Resource Zone 3 (MRZ-3), and are where the available geologic information indicates that mineral deposits are likely to exist; however, the significance of the deposit is undetermined. The Land Use Element of the County's General Plan does not designate the project site as Open Space - Mineral Resource, which is a land use designation that in part, is intended to identify areas that are held in reserve for future mining activities. Rather, as discussed in Section VI.A.1 of this EIR, the County's General Plan identifies the project area as an area that is intended to be developed with residential land uses. Moreover, mineral extraction does not currently and has not historically occurred on-site. Thus, there would be no impacts to mineral resources with implementation of this project.

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VI.C MANDATORY CEQA TOPICS

The information and analysis presented in this section is based in large part on the information contained in other EIRs prepared for projects in the vicinity of the Springbrook Estates project site. These environmental documents are listed in Section VI.D, *Organizations, Persons, and Documents Consulted.*

1. Cumulative Impacts

Per Section 15355 of the State CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. These individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely, related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over time.

A. PROJECTS EVALUATED FOR CUMULATIVE IMPACTS ANALYSIS

This section examines cumulative impacts on a regional or local basis depending upon the nature of the impact. For the purposes of this cumulative impact analysis, several scenarios of potential cumulative effects were considered. First, build-out of the County of Riverside and City of Riverside General Plan areas in the vicinity of the project site were evaluated for consideration of cumulative effects. For evaluation of potential cumulative effects associated with traffic circulation, the study area was expanded to include build-out of the region as anticipated by the forecast. Cumulative air quality impacts evaluated build-out of the South Coast Air Basin as projected by the Southern California Association of Governments' (SCAG) Regional Comprehensive Plan and Guide. Cumulative impacts to biological resources, schools, parks, water quality and groundwater recharge, and solid waste disposal are evaluated in relation to impacts associated with land development in the region and the local area. Additionally, specific development projects also have been considered. These projects are identified in Figure VI.C-1, *Cumulative Development Location Map*. Table VI.C-1 identifies the major projects proposed and approved for development within the Springbrook Estates Specific Plan area.

Table VI.C-1: Proposed and Approved Development in the Area Cumulative Project

Tentative Tract Map No.	Land Use	Proposed Quantity[1]
29597	Single-Family Detached Residential Elementary/Middle School	366 DU 750 STU
29598	Single-Family Detached Residential	326 DU
29599	Single-Family Detached Residential	137 DU
29600	Single-Family Detached Residential	273 DU
29740	Single-Family Detached Residential	270 DU

Table VI.C-1 (Cont.): Proposed and Approved Development in the Area Cumulative Project

Tentative Tract Map No.	Land Use	Proposed Quantity[1]
29741	Single-Family Detached Residential Day Care Center Commercial Retail (104 TSF)	94 DU 4.0 TSF 104.0 TSF
29168	Single-Family Detached Residential	31 DU
29170	Single-Family Detached Residential	17 DU
29768	Single-Family Detached Residential	17 DU
Columbia Business Center	Opening Yr. - Warehousing Buildout - Warehousing	approx. 1,700 TSF

[1] DU = Dwelling Unit 1,500 TSF
STU = Students
TSF = Thousand Square footage
Source: Urban Crossroads, Inc., September 2002.

B. CUMULATIVE PROJECT IMPACTS

1) Land Use and Planning

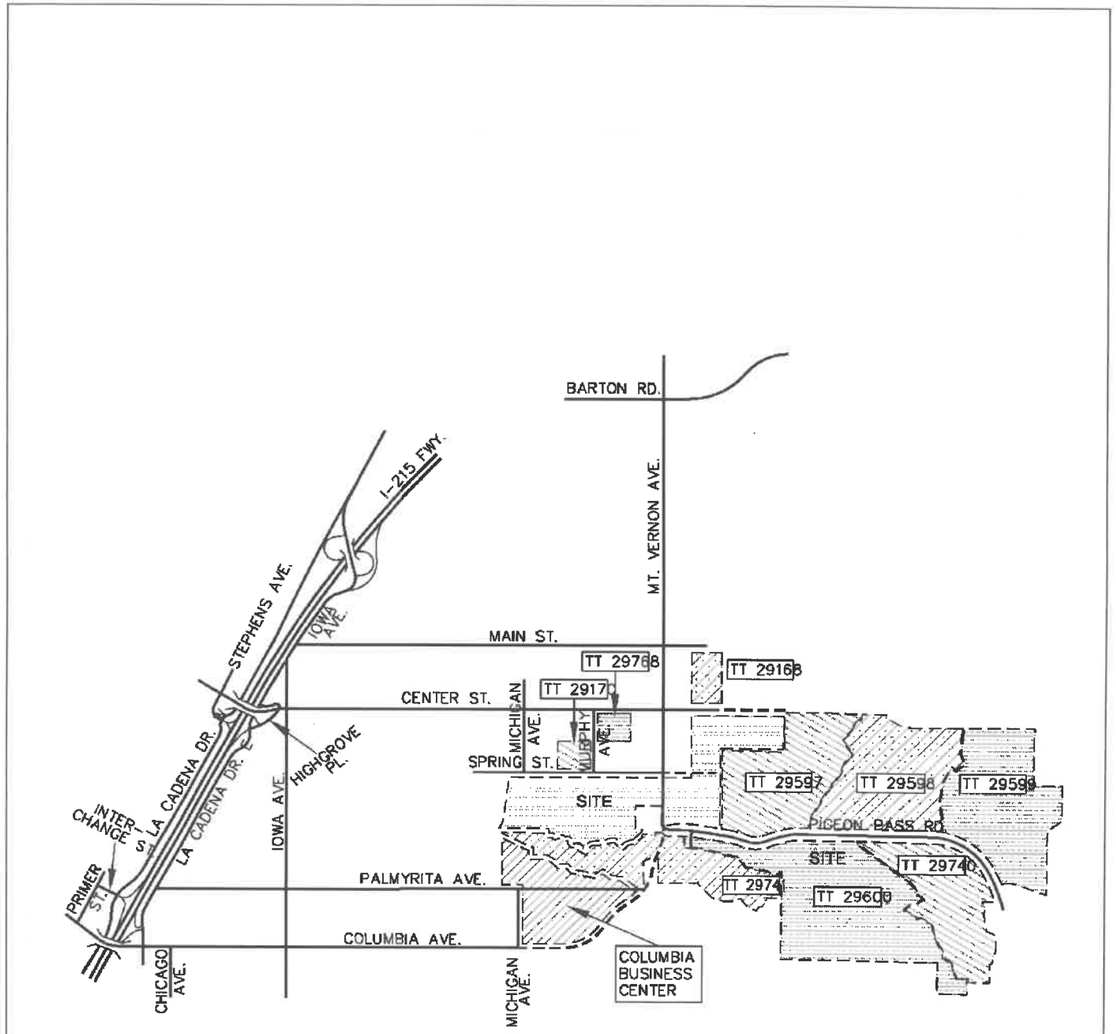
The study area for cumulative land use impacts takes into consideration both the related project and proposed project consistency with the policies of the County of Riverside General Plan and the Highgrove Area Plan (HAP).

The related projects are detailed in Table VI.C-1. Proposed development within the cumulative project area consists primarily of single-family detached residential land uses. As with the proposed project, each of the related projects will be subject to environmental review to determine consistency with the County of Riverside General Plan, the Highgrove Area Plan (HAP), and the County Zoning Ordinance.

The cumulative land use compatibility influence area includes the project site and the immediate surrounding area. The areas surrounding the project site have been primarily developed or have been approved for development with similar residential land uses. Due to the types of land uses surrounding the project area, land use compatibility with more distant areas will likely not be affected by the land uses to be developed under the Springbrook Estates Specific Plan. Thus, the Springbrook Estates Specific Plan is anticipated to have a less than significant cumulative land use and planning impact.

2) Circulation and Traffic

The proposed project is projected to generate 7,389 daily vehicle trips as at build-out. Of this total, it is expected that approximately 1,199 vehicles per hour are to be generated during the morning peak hour, and 878 vehicles per hour shall be generated during the evening peak hour. The assessment of future development of the surrounding areas was developed through the review of previous traffic studies for project area development, input from the County of Riverside Transportation Department staff, and the



SOURCE: Urban Crossroads, September 2002.

NORTH

Michael Brandman Associates

Figure **VI.C-1**

Cumulative Development Location Map

Riverside County Integrative Plan (RCIP) traffic model forecasts. Additionally, Urban Crossroads, Inc. updated the initial version of the RCIP model to incorporate the most recent (2025) regional socioeconomic data projections.

The proposed project will contribute traffic in areas where congestion is anticipated and traffic improvements will be necessary. This is particularly true of unsignalized intersections in the vicinity of the proposed project. The incremental addition of project related traffic will result in cumulative significant impacts, if improvements are not made. The following intersections will operate at an unacceptable LOS under cumulative conditions without improvements:

La Cadena Drive West (NS) at:
- Interchange Street (EW)
- I-215 Northbound Ramps (EW)
- Columbia Avenue (EW)

Highgrove Place (NS) at:
- Center Street (EW)

Iowa Avenue (NS) at:
- Main Street (EW)
- Center Street (EW)
- Palmyrita Avenue (EW)
- Columbia Avenue (EW)

Mount Vernon Avenue (NS) at:
- Main Street (EW)
- Center Street (EW)
- Spring Street (EW)
- Pigeon Pass Road (EW)

a. **Mitigation Measures.** In addition to the improvements identified in Section VI.A.2, of this EIR, the project proponent shall participate in the funding or construction of the following offsite improvements:

1. La Cadena Drive (NS) at:
   - Columbia Avenue
     - Second westbound through lane

2. Iowa Avenue (NS) at:
   - Center Street (EW)
     - Eastbound right turn lane
   - Palmyrita Avenue (EW)
     - Westbound left turn lane
   - Columbia Avenue (EW)
     - Second eastbound through lane.

b. Level of Significance After Mitigation. With the implementation of the mitigation measures outlined in Section VI.A.2 of this EIR and the mitigation measures above, the proposed project will have less than significant cumulative circulation and traffic impacts.

3) Air Quality

The South Coast Air Basin including that portion in which the project is located is designated a non-attainment area for ozone, carbon monoxide, and PM-10. The project-specific evaluation of emissions presented in Section VI.A.3 shows that even with recommended mitigation measures, NOx, CO and ROC emissions exceed the recommended South Coast Air Quality Management District (SCAQMD) thresholds. The greatest cumulative impact on regional air quality will be incremental pollutant emissions from increased traffic in the area and increased energy consumption from this project and other planned projects. This will be a significant air quality impact both on a project level and on a regional basis. Ultimate development of the area will generate thousands of additional vehicle trips per day based on standard trip generation conditions. While this amount of additional pollution can be considered cumulatively considerable, the proposed project will comply with applicable transportation management and emission control measures imposed by the SCAQMD pursuant to the current and pending Air Quality Management Plan. Compliance with the currently adopted (and any future) Air Quality Management Plan is likely to reduce future emissions and reduce this significant impact; however, not to levels that are considered less than significant. Thus, the proposed project will contribute to a significant unavoidable cumulative air quality impact.

4) Noise

Noise during construction activities will impact noise conditions in the project vicinity on a short-term basis. It is expected that any cumulative construction noise impact will be mitigated as the projects evaluated for this analysis are physically separate from one another for the most part, and construction hours will be limited.

The long-term project-related noise contributions for (Buildout Year 2025) are presented Table VI.C-2.

Table VI.C-2: Buildout Project Contributions

Road	Segment	CNEL at 100 Feet (dBA)		
		No Project	With Project	Project Contribution
Michigan Avenue	s/o Center Street	51.9	54.9	3.0
Murphy Avenue	s/o Center Street	52.5	55.2	2.7
Mt. Vernon Avenue	s/o Barton Road	66.3	66.5	0.3
Mt. Vernon Avenue	n/o Main Street	63.4	64.0	0.6

Table VI.C-2 (Cont.): Buildout Project Contributions

Road	Segment	CNEL at 100 Feet (dBA)		
		No Project	With Project	Project Contribution
Mt. Vernon Avenue	s/o Main Street	64.8	65.4	0.6
Mt. Vernon Avenue	n/o Spring Street	63.9	64.7	0.8
Mt. Vernon Avenue	s/o Spring Street	64.2	65.4	1.1
Main Street	w/o Mt. Vernon Avenue	59.1	59.6	0.6
Main Street	e/o Mt. Vernon Avenue	53.9	53.9	0.0
Center Street	w/o Michigan Avenue	64.3	65.0	0.7
Center Street	e/o Michigan Avenue	64.0	64.6	0.6
Center Street	w/o Mt. Vernon Avenue	62.5	63.2	0.7
Spring Street	w/o Mt. Vernon Avenue	53.4	56.4	3.0
Spring Street	e/o Mt. Vernon Avenue	56.9	60.1	3.2
Pigeon Pass	e/o Mt. Vernon Avenue	64.5	64.6	0.1
Palmyrita Avenue	e/o Iowa Avenue	64.6	64.8	0.2
Palmyrita Avenue	w/o Michigan Avenue	64.9	65.2	0.3
Columbia Avenue	e/o Iowa Avenue	72.4	73.0	0.7
Columbia Avenue	w/o Michigan Avenue	72.3	72.9	0.7
Columbia Avenue	e/o Michigan Avenue	70.6	71.5	1.0
Source: Urban Crossroads, Inc., November 2002.				

As identified in Table VI.C-2, the Springbrook Estates project will result in a greater than 3 dBA (but not greater than 5 dBA) noise level increase at only one roadway segment, Spring Street east of Mount Vernon Avenue. However, presently there are no noise sensitive land uses located within this area; furthermore, the overall dBA will not exceed the standard for sensitive land uses with or without the project.

Similar to the opening year, noise levels are also elevated along Columbia Avenue, yet the project related contribution is 1 dBA or less along all Columbia Avenue segments examined for this report. Additionally, the noise levels along Columbia Avenue will exceed the 65 dBA standard, with or without the proposed project.

Three roadway segments along Mount Vernon Avenue (south of Barton Road, south of Main Street, and south of Spring Street) also exceed the standard for sensitive land uses yet again the project contribution

is no greater than 1.1 dBA for any of the three roadway segments. However, on two of the Mount Vernon roadway segments (south of Main Street and south of Spring Street), project related traffic for year 2025 is anticipated to result in increasing the noise levels from below the 65 dBA to above the 65 dBA standard, thus impacts along these roadway segments are considered significant. Likewise, Palmyrita Avenue west of Michigan Avenue is projected to have a noise level of 65.2 dBA under the year 2025 scenario; however again the project's contribution is 0.3 dBA at this roadway segment. Yet, project related traffic along this roadway segment is forecasted to result in a noise increase from below the 65 dBA standard to above the 65 dBA standard, hence resulting in a significant impact along this roadway segment.

Additionally, The County of Riverside determines the need for noise attenuation based upon the maximum carrying capacity of roadways. While the proposed project's future noise generation is not anticipated to result in exceeding the established thresholds for significance, in the event that these roadways were to operate at their maximum capacity, significant noise impacts will occur. Thus, in accordance with the County of Riverside, mitigation is required along these roadways.

To meet the County of Riverside noise standard, a 6-foot high noise barrier will be required for homes facing Mount Vernon Avenue and Spring Street. The following mitigation is recommended in relation to those barriers. Incorporation of this mitigation will reduce project-related cumulative impacts to less than significant.

a. Mitigation Measures. The following mitigation measures are recommended to reduce project related cumulative noise impacts:

3. The designed noise screening shall be at least 3.5 pounds per square foot of face area. The screening shall have no decorative cut outs or line of site openings between shielded areas and roadways. The noise control barrier may be constructed with masonry block, stucco veneer over wood framing (or one inch tongue and groove wood of sufficient weight per square foot), glass or other transparent material (one-quarter inch thick or of sufficient weight per square foot) earthen berm, or any combination of the materials thereof.

4. To obtain the interior noise level of 45 dBA, as required by the County of Riverside, homes facing Mount Vernon Road and Spring Street will require a mechanical ventilation system that will permit a "windows closed" condition. The mechanical ventilation system shall supply two air changes per hour for each habitable room, with a minimum of 15 cubic feet per minute of outside air per occupant. The fresh air inlet duct shall be of sound attenuating construction and shall consist of a minimum of ten feet of straight or curved duct or six feet plus one sharp ninety-degree bend.

b. Level of Significance After Mitigation. With the implementation of the mitigation measures above, the proposed project is considered to have less than significant cumulative noise impacts.

5) Biological Resources

Potential cumulative impacts on biological resources are primarily related to both the regional and local loss of existing plant communities and habitat they afford wildlife. Potential cumulative effects include habitat fragmentation, disruption of wildlife corridors, extirpation of species from the region, introduction of predators and non-native species, such as ravens and cats, as well as the decrease of genetic fitness through inbreeding of small, isolated populations. However, as identified in Section VI.A.5, the majority of the project site is already developed. Moreover, the proposed project will replace on-site habitat loss through off-site preservation in conservation areas. Thus, the project's contribution to the cumulative loss of vegetation, habitats, and wildlife populations existing in the area from the proposed project is expected to be less than significant.

6) Hydrology, Flooding, and Drainage

The project site lies within the boundaries of the Riverside County Flood Control and Water Conservation District. Drainage patterns and the quality, velocity, and composition of run-off will be altered by large scale grading of areas planned for construction, as well as the creation of impervious surfaces including roads, driveways, parking lots, patios, and similar surfaces.

Runoff entering the storm drain system will only slightly increase flows and would contain minor amounts of pollutants typical of urban use; thereby impacting downstream water quality in the area. Siltation resulting from exposed ground surfaces from grading, prior to establishment of plant species and construction of structures and hard surfaces, also may affect downstream water quality. Infiltration of water used for irrigation of landscape areas throughout the vicinity may affect the abundance and distribution of ground water.

The typical measures to implement the NPDES program could include covered storage of all outside storage facilities, vegetated swales, detention basins and monitoring programs. Therefore, cumulative run-off of water into area creeks and streams is less than significant, since run-off will be controlled on-site and by adherence to the Flood Control District's Master Drainage Plan and the National Pollution Discharge Elimination System (NPDES).

7) Water Quality

The majority of the cumulative projects affecting water quality will impact the Springbrook Watershed. Runoff entering these streams and tributaries may contain minor amounts of pollutants typical of urban use, thereby resulting in the potential to degrade downstream water quality in the area. Siltation resulting from exposed ground water surfaces from grading also may affect down stream water quality. Infiltration of water used for irrigation of landscaped areas throughout the vicinity may affect the abundance and distribution of groundwater.

As each cumulative project is constructed, each individual project will be required to obtain a NPDES permit, which includes requirements for storm water discharge and construction activities. Operation of the nearby wastewater treatment facility will require authorization from the Santa Ana Regional Water Quality Control Board for discharge of tertiary-treated effluent via spray irrigation. The conditions associated with these permits will mitigate cumulative impacts to water quality to below a level of significance.

8) Geology and Seismicity

Most of the project area has been previously graded or disturbed as a result of past agricultural production activities in the project area. Geology and soil impacts affect the project site through seismic and other potentially hazardous influences that occur naturally, which can be mitigated through fairly standard mitigation measures and compliance with the applicable requirements of the Uniform Building Code and adherence to the County General Plan. Moreover, since soil and geologic influence are site specific and there is little if any cumulative relationship between the future development envisioned at the project site and the buildout of related projects within the cumulative impact assessment. Thus, the proposed project is considered to have less than significant cumulative geology and seismicity related impacts.

9) Landform and Topography/Slopes and Erosion

The proposed project will not result in significant impacts to landform and topography and will not result in the creation of significant manufactured slopes. The project will be subject to erosion impacts associated with underlying soils. Measures will be incorporated into the proposed project that will reduce the project's direct and cumulative effects associated with erosion to a level that is considered less than significant.

Impacts resulting from grading for construction of the Springbrook Estates project are similar to other development projects in the area. Cut and fill operations will be necessary in areas designed for development of lots and pads. This may, in some cases, require extensive cut and fill operations, which will impact landforms in the project area. However, it is anticipated that the amount of cut and fill will be balanced onsite. Impacts to landform and topography and slopes and erosion will be mitigated by application of erosion control practices. Furthermore, each individual tract will be required to conform to Riverside County grading standards. In this manner, the County has in-place standards and requirements, which if implemented, will reduce cumulative impacts to below a level of significance.

10) Soils and Agriculture

Construction of various projects in the vicinity of the Springbrook Estates project will continue and possibly accelerate the trend of the development of agricultural lands in Riverside County. According to the California Department of Conservation Farmland Mapping and Monitoring Program's Important/Interim Farmland Overlay, land located within the Springbrook Estates project is designated either as Prime Farmland or Farmland of Statewide Importance. According to the Storie Index Rating, the majority of the project site contains soils that have few or no limitations that restrict their use for crops. The only portion of the site that is not suitable for cultivated crops is the southern portion of PA-2. Approval of the Springbrook Estates project will result in impacts to agricultural soils onsite. Moreover, in general, development of these cumulative projects may increase the economic pressures on other surrounding agricultural properties to develop with urban uses. (See Section VI.A.10, *Soils and Agriculture*.)

The County has an established process, which requires evaluation of impacts associated with the conversion of agricultural lands to urban development, if the subject property is covered by a Williamson Act Contract. With the exception of one property that is in the process of being processed for an agricultural preserve diminishment, all of the properties within the project site are not within a preserve. Therefore, the land is either no longer, or soon will not be, in an agricultural preserve and may be

developed. The results from this, however, will not result in a conversion in land uses in the area since most of the surrounding area has already converted or is in the process of being converted to suburban land use. The project will directly change the land use of the project site from agriculture to suburban within a greater area that is transforming from agricultural to suburban land uses. Therefore, the project is considered to have a significant unavoidable cumulative soils and agriculture impact.

11) Aesthetics, Visual Analysis, Light and Glare

The Springbrook Estates project in conjunction with other projects within the project area will result in the increasing urbanization of the general area. The proposed project coupled with related projects in the immediate vicinity will result in land use intensifications; however, no new land uses will be introduced into the project area that would significantly impact aesthetic resources such as Mt. Palomar Observatory or designated scenic highways. Moreover, project related light and glare impacts will be limited to the project site and the immediate vicinity, since project design incorporates natural buffers, such as the parkland, open space/flood control, and the Springbrook Wash, which will temper light and glare impacts. Therefore, the cumulative aesthetic impacts are considered less than significant.

12) Population and Housing

The SCAG *2001 Regional Transportation Plan* year 2025 growth forecast projects a population of 11,683 persons and 3,757 households within the community of Highgrove. The proposed project will introduce approximately 1,594 persons and 613 households into the project area. According to SCAG, in the year 2000, the project area had a population of 5,526 and 1,834 households. With the inclusion of an additional 613 households, the project area will have a population of 7,120 and 2,447 households. Since buildout of the project will be phased over several years, individually, the project is consistent with SCAG forecasts for the project area. However, when considered collectively with other planned residential projects within the Highgrove area, cumulatively the project will exceed current population forecasts. SCAG is currently updating its *2001 Regional Transportation Plan*, which will adjust population forecasts to include development approved since the *2001 Regional Transportation Plan.* Therefore, the project will not result in significant cumulative population and housing impacts.

13) Cultural Resources

The proposed project may impact yet unknown buried archeological historic resources on the property. These impacts will be mitigated by preparing and submitting the appropriate DPR 523 forms. On a cumulative basis, impacts to cultural resources will be mitigated on a project-by-project basis as required by the County so these impacts will not be cumulatively significant.

14) Public Services and Utilities

a. Fire and Sheriff Services. Growth in the project area will increase the demand for fire and sheriff services provided by the County of Riverside and the State of California law enforcement and fire protection agencies. It is expected that each project applicant will cooperate with local jurisdictions to assure that sufficient effective services are provided to serve each project, thereby ensuring a safe environment throughout the area. The payment of fire impact mitigation fees of $400 per residential unit will be applied towards construction of additional fire stations and the purchase of equipment. In

addition, the proposed project along with the related cumulative projects will pay fees in accordance with the provisions of County Ordinance 659, which will fund any new facilities as needed. With payment of these fees, cumulative fire and sheriff impacts will not be significant.

b. **Water and Sewer Services.** Increased development in the project area will increase the demand for water and sewer services. Additional lines and facilities will be required, and improvement and assessment districts will need to be formed to provide these services effectively to all developments in the area. Annexation fees, as well as water and sewer service fees charged on a per unit basis, will be applied to all units constructed. These fees are adequate to cover the costs of necessary infrastructure improvements to water and sewer facilities, and cumulative impacts will not be significant.

c. **Solid Waste.** When considered in conjunction with other projects, this project will incrementally contribute to the decreased lifespan of the various landfill sites being used for disposal in the area. This accentuates the importance of long range planning for replacement landfill sites or alternative disposal systems. The implementation of comprehensive recycling programs for paper, cardboard, plastic, glass, and other recyclables as required by State law, will further reduce cumulative impacts to landfills. With adherence to waste-reduction and recycling programs, cumulative solid waste impacts are considered less than significant.

d. **School Services.** On a cumulative basis, students generated by all of the projects developing in the project area could result in significant impacts to area schools. Each project is required to provide mitigation in accordance with State law, such that cumulative impacts to schools will be mitigated to below a level of significance.

e. **Library Services.** Development of the cumulative projects will result in the need for additional library facilities including books, tapes and other resource materials; building space; and library staff. Cumulative impacts to library services will be mitigated to less than significant by the payment of the mitigation fees in accordance with the provisions of Riverside County Ordinance 659.

f. **Health Services.** Implementation of the cumulative projects will cumulatively impact health services in the area. This could require expansion and/or renovation of existing hospital and medical facilities, as well as the expansion of ambulance and paramedic service. Health care will continue to be funded privately. It is anticipated that health services and facilities will continue to be market-driven and that there will be sufficient availability of services and facilities to adequately meet the demand created by growth in the Highgrove area. Cumulative impacts will not be significant.

g. **Parks, Recreation, and Open Space.** The project proposes to provide park facilities that may include athletic playing fields, tot lots, and other similar uses in addition to open space totaling approximately 50-acres. The project will require approximately 5 acres of active park uses according to the State Quimby Act. As such, the Springbrook Estates project meets the County park standards of three acres per 1,000 population with the designated 50.24acres of parkland and open space. Therefore, the proposed project will

not contribute to any cumulatively significant parks, recreation, and open space impacts since the project is meeting its own park demands. Other projects have been reviewed on a project-by-project basis to ensure park and open space needs are met and in conformance with Riverside County requirements, so cumulative impacts to parks will be mitigated to a level that is considered less than significant.

h. **Energy Resources and Conservation.** The addition of 613 dwelling units in the project area will create a need for additional electricity and natural gas service. Southern California Edison and the Gas Company have indicated that they can adequately service the site. With an estimated cumulative total of 4,087 dwelling units in the project vicinity, the ultimate residential demand for electricity will be approximately 25 million kwh/year and the ultimate demand for natural gas will be 3.3 million therms/year. Additional electricity and natural gas will be required to serve the 7.5 acres of educational uses. Given that the service providers have indicated that they can service the site and the cumulative project area development, the proposed project is considered to have a less than significant cumulative energy resources and conversation impact.

15) Toxic Substances and Hazardous Wastes

At the State level, the Department of Health Services - Toxic Substance Control Division, is responsible for the regulation and control of hazardous materials, including hazardous wastes. At the local level, the County of Riverside Department of Environmental Health - Hazardous Materials Branch has the primary responsibility for hazardous waste enforcement. Other supporting agencies including the Regional Water Quality Control Board, the local Air Quality Management District, and the Fire Department, are responsible for implementation and enforcing the provisions of the various hazardous materials programs throughout the County. Caltrans' responsibilities include the containment, identification, cleanup, and disposal of hazardous substance spill locations within highway rights-of-way.

The proposed project will result in a cumulative increase in the generation of household hazardous wastes, such as household cleaning and janitorial supplies, solvents, paint thinners, herbicides, and insecticides. The cumulative increase in the use of such items is considered less than significant. Moreover, the proposed project will result in the removal of the four underground storage tanks and the one above ground storage tank presently located onsite, which will result in a beneficial cumulative impact.

2. Unavoidable Adverse Impacts

This EIR addresses potential environmental effects of the proposed Springbrook Estates project and determines that, with the exception of loss of Prime Farmland and Farmland of Statewide Importance, and cumulative air quality impacts, all potentially significant impacts can be reduced to below a level of significance with the incorporation of mitigation measures presented in this EIR.

3. Growth Inducing Impacts

According to Section 15126.2(d) of the CEQA Guidelines, an EIR must *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would*

remove obstacles to population growth..." Under CEQA, growth is not necessarily considered beneficial, detrimental or of little significance to the environment. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide the needed public services, or if it can be demonstrated that the potential for growth, in some other way, results in significantly adverse effects to the environment.

The Springbrook Estates project proposes the development of 613 residential dwelling units. Based upon the factor of 2.6 persons per household for single-family units (County Ordinance No. 460, Section 10.45) the project site will accommodate 1,594 people. Buildout of the project site will be growth inducing by facilitating increases in local population and housing.

The development of a residential community will result in growth impacts to typical residential support infrastructure, including the circulation system, utilities and services, healthcare and school systems, museums, and libraries. Many of these needs will be met through the development of the Springbrook Estates project, which includes residential land uses. Other needs will be met through other projects, which have been proposed or approved in the area. The project will also provide infrastructure improvements to serve the project area. These include the extension of water, electrical lines, gas mains, and public streets and the provision of sewer services. The provision of project-related infrastructure, including the sizing and phasing of infrastructure, is consistent with local land use plans and project-specific utility and service requirements.

With the project's development of new homes, park facilities, extension of infrastructure, and the provision of a school site, it is reasonable to conclude that undeveloped areas adjacent to the project could develop more quickly. This type of growth, called secondary growth, could be both physical (new development) and economic (increased revenue from property and sales taxes).

The site is not anticipated to substantially accommodate physical secondary growth, since the project site is topographically restricted to the northeast by Blue Mountain and surrounded by existing development to the north and west and approved development, such as the Concordia Business Park, Columbia Business Center, University Research Park, and the Spring Mountain Ranch Specific Plan 323, to the south and east. However, there are pockets of vacant land where development may be more easily accommodated due to the project-related extension of infrastructure to the area. Development of these vacant parcels will not lead to a wide-scale conversion of agricultural land to suburban uses since the parcels are fragmented; yet, this type of growth will lead to the overall conversion of the project area from agricultural to suburban.

The proposed project will result in secondary economic growth, such as increased revenue from property from property tax. Economic activity in the surrounding region because of increases in spending or increased population associated with new housing opportunities may induce employers and/or businesses to relocate to the area, which would supply a source of new employees. A project may also be considered growth inducing if it is expected to create growth substantially beyond that predicted in the jurisdiction's general plan. Although the project may create an incentive to economic growth, population growth associated with the project will not exceed population estimates for the County and therefore the proposed project will not be adversely growth inducing.

4. Significant Irreversible Impacts

Implementation of the proposed Springbrook Estates project will irreversibly commit approximately 183.95-acres of the project site to development of residential lots, parkland, education facilities and associated infrastructure. In addition to a commitment of specific land uses, the proposed project will result in a long-term, irreversible change in the visual character of the project site. The undeveloped character of the site will be transformed into a master-planned community. These changes to the visual environment are considered consistent with the general trend in the project vicinity to convert vacant parcels to urban development. Night lighting in the project area will incrementally increase as a result of the proposed development.

The degradation of regional air quality caused by the cumulative effect of numerous projects in the Highgrove area, including the Springbrook Estates Specific Plan is considered a significant unavoidable impact.

Development of the project will result in the utilization of various new materials, such as lumber, sand and gravel for construction. Some of these resources are already being depleted worldwide. The energy consumed in developing and maintaining the site for urban use is considered a permanent investment.

5. Project Alternatives

In accordance with Section 15126(d) of the CEQA Guidelines, an EIR must contain *"a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project." An EIR must also include evaluation of "the comparative merits of the alternatives" and "describe the rationale for selecting the alternatives." "The discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to below a level of insignificance, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly."*

In accordance with Section 15126(d) of the CEQA Guidelines, each alternative will be evaluated in relation to the proposed project and in relation to the ability of the alternative to meet the project objectives as identified in the Specific Plan.

For purposes of this EIR, a No Development and two No Project Alternative scenarios are described and analyzed. The No Development Alternative addresses environmental impacts no development of the project site (i.e. existing conditions). The No Project Alternatives address 1) a development scenario that could occur under the site's existing zoning (No Project - Existing Zoning Alternative) and 2) a development scenario that could occur under the site's existing General Plan designation (No Project - Existing General Plan Alternative). Both of the No Project Alternatives examine what would reasonably be expected to occur based on current plans. CEQA also requires that an environmentally superior project (in relation to the alternatives evaluated) be identified in an EIR. If the environmentally superior alternative is the No Development Alternative, CEQA requires that the EIR also identify an environmentally superior alternative among the other alternatives. Provided below is a brief summary of each of these alternatives.

A. NO DEVELOPMENT ALTERNATIVE

The No Development Alternative assumes that there are no project approvals in effect, and no future development of the project site would occur. Development of the project site would be limited to the former agricultural uses.

1) Environmental Analysis of Alternative

a. **Land Use and Planning.** Land use and planning impacts are considered to be less than significant with the implementation of the proposed project. However, the No Development Alternative, may result in inconsistencies with the policies of the County of Riverside General Plan and the Highgrove Area Plan (HAP), which: promote the development of infill development and underutilized parcels that are located in Community Development areas; encourage the development of single and multi-family residential units in areas appropriately designated by the General Plan and area plan land use maps; and support a land use mix at the countywide and area plan levels based on projected need. Therefore, the proposed project is considered superior to the No Development Alternative in relation to land use and planning.

b. **Circulation and Traffic.** The EIR determined that traffic generated by the proposed project has the potential to contribute traffic in areas where congestion is anticipated and improvements will be necessary. Measures will be implemented which will mitigate, the project's incremental contribution to cumulatively significant circulation and traffic impacts to levels that are considered less than significant. Under the No Development Alternative no additional traffic would be generated, therefore this alternative would not result in contributions of traffic on existing and planned roadways. However, implementation of the No Development Alternative would not provide for additional construction of important circulation element roadways that are part of Riverside County's Master Plan of Arterial Highways. There may be a reduced need for these roadways, since no further traffic would be associated with the No Development Alternative. Under the No Development Alternative funding for any of these Circulation Element roadways, would then become the responsibility of other developers in the area or the County, which may delay improvements. Since the project will reduce project related traffic and circulation impacts to levels that are considered less than significant and contribute to the construction of important circulation element roadways, thus the proposed project is considered superior to the No Development Alternative in relation to traffic and circulation.

c. **Air Quality.** Short-term air quality impacts are generally associated with construction activities while long-term air quality impacts are generally associated with vehicle emissions. Project related construction activities may incrementally increase local particulate matter. Additionally, traffic associated with the proposed project will result in the generation of emissions thereby potentially increasing the level of air pollutants on an incremental level. While construction-related impacts can be mitigated to below a level of significance, air quality impacts associated with automobile travel will result in incremental contributions to the cumulative degradation of air quality in the region. Although the No Development Alternative would not eliminate cumulative air quality

impacts, it would avoid air quality impacts associated with the proposed project and would be, therefore, superior to the proposed project in relation to air quality.

d. **Noise.** The project proposes urban development in an area where no urban development has occurred. Traffic generated by the project in concert with traffic generated by other proposed or approved projects in the area will create traffic on proposed/planned roadways, which will generate noise. However, according to the significance criteria, the proposed project will not result in opening year noise impacts and it will not significantly contribute to cumulative noise impacts. Yet, the No Development Alternative would not result in an increase in project area traffic generation and thus this Alternative would not result in a contribution to project area traffic related noise levels. Compared with the proposed project, the No Development Alternative would be superior with regard to noise.

e. **Biological Resources.** Since no development would occur under this alternative, impacts to on-site biological resources would be avoided. However, there are no sensitive species located on the project site. Moreover, the project will replace on-site habitat in off-site conservation areas resulting in no net loss of habitat. Yet, the project will result in disturbance; therefore, the No Development Alternative is considered nominally superior to the proposed project in relation to biological resources.

f. **Hydrology, Flooding and Drainage.** Presently, runoff from Blue Mountain drains in a southwesterly direction to the project site. A series of roadside swales and irrigation ditches convey storm water through the project site. Storm water from the project site flows in a west-northwest direction. Runoff from the northeastern portion of the project site drains to the Center Street storm drain. Runoff from the remainder of the site drains to an existing concrete channel on the south side of Spring Street, which eventually discharges into the Springbrook Wash. Other minor areas that are limited in size drain directly to Springbrook Wash. The project site is not subject to significant flooding.

Under project conditions, site drainage will be collected and transported via storm drains in road rights-of-way and drainage easements. A majority of the project site (PA-1 and PA-2) will have flows that are ultimately directed into Springbrook Wash; however, as discussed in Section VI.A.6, the proposed project will not significantly affect hydrology in the area. Relative to hydrology and flooding, the No Development Alternative would have similar characteristics as the proposed project. Relative to drainage, the No Development Alternative would not require controlling of run-off through storm drains. Run-off would flow across the site uncontrolled. Since the site is generally flat, run-off due to heavy rains would not likely result in flooding and uncontrolled drainage through the undeveloped site that would be regarded as significant. In relation to hydrology, flooding, and drainage, the No Development Alternative and the proposed project are considered to have similar impacts; thus, neither scenario is considered relatively superior.

g. **Water Quality.** Project implementation will result in altering the composition of surface run-off; the construction of impervious surfaces, such as streets, roof and parking areas; and the irrigation of landscaped areas. Run-off entering the storm drain system will

contain small amounts of urban pollutants, which will ultimately discharge into natural areas and drainage corridors, contributing to the incremental degradation of downstream water quality. The project will be required to obtain a NPDES permit, which includes requirements for storm water discharge and construction activities. In contrast, the No Development Alternative would eliminate impacts to water quality. No urban pollutants would be generated to avoid impacts to downstream water bodies. However, fertilizers, pesticides and other chemical activities used by agricultural operations would continue to be used on-site. Thus, the No Development Alternative would be marginally superior to the proposed project relative to water quality impacts.

h **Geology and Seismicity.** Similar to other areas in Southern California the project site is located in an area that has the potential to be affected by seismic activities. Implementation of the No Development Alternative would avoid introducing new structures or populations to the project area. Thus, this alternative eliminates the potential for human injury or damage of structures associated with seismic impacts. However, the project's required adherence to the standard conditions of approval and the Uniform Building Code, reduce project related geology and seismic impacts to a level that is considered less than significant. Yet, since the No Development Alternative would not introduce new populations or structures into a seismically active area, this alternative is considered superior to the proposed project in relation to geology and seismicity.

i. **Landform and Topography/Slopes and Erosion.** Implementation of the No Development Alternative would not alter the existing physical state of the project site, thus impacts associated with landform, topography, slopes and erosion would be avoided. However, as identified in Section VI.A.9 of this EIR, the proposed project will not result in significant impacts to landform, topography and slopes, since the topography of the project site is generally level. Relative to erosion, portions of the project site are underlain by soils, which exhibit a slight to moderate erosion susceptibility and low to medium runoff potential. As stated in Section VI.A.9 of this EIR, the incorporation of standard grading requirements will avoid significant erosion impacts. The No Development Alternative would eliminate erosion hazards associated with grading. Natural erosion of soils associated with agricultural activities would occur at a rate and intensity similar to present conditions. Therefore, the No Development Alternative is considered superior to the proposed project in relation to landform and topography/slopes and erosion.

j. **Soils and Agriculture.** The project site is identified as Prime Farmland and Farmland of Statewide Importance; however, the project site is not within an Agricultural Preserve. The proposed project will result in significant unavoidable adverse impacts associated with the removal of Prime Farmland and Farmland of Statewide Importance. The No Development Alternative would not result in a significant impact to agricultural soils and therefore is considered superior to the proposed project in relation to soils and agriculture.

k. **Aesthetics, Visual Analysis, Light, and Glare.** The proposed project will result in the transformation of the vacant, undeveloped site into residential neighborhoods, educational uses, and parkland. New sources of light will include light emanating from

vehicles traveling on project area roadways, street lighting and the lighting of homes, parkland, and schools. Although the visual environment would be substantially altered, this impact is not considered significantly adverse, since measures are incorporated into the Springbrook Estates project, which promote an aesthetically pleasing development. Lighting will be designed in accordance with Riverside County Ordinance No. 655, thus project related impacts to Mount Palomar Observatory will be minimal. Additionally, the project will be a continuation of the trend toward urban development in this area; therefore, the Springbrook Estates project is considered consistent with the visual environment, which is anticipated to occur on adjacent properties. As identified in Section VI.A.11 of this EIR, project impacts associated with aesthetics, visual analysis, light and glare are not regarded as significant. In contrast, implementation of the No Development Alternative would result in a continuation of the existing conditions at the project site. New sources of lighting would not be introduced, avoiding further effects on dark skies. Hence, the No Development Alternative is considered superior to the proposed project with regard to aesthetics, visual analysis, light, and glare.

l. Population and Housing. The No Development Alternative would not result in introducing new populations or housing into the project area. As identified in Section VI.A.12 and VI.C, of this EIR, individually, the Springbrook Estates Specific Plan is consistent with the population and housing projections for the Highgrove area. However, cumulatively, the proposed project along with other related projects will exceed the current population and housing forecasts for the community of Highgrove. SCAG is currently updating its *2001 Regional Transportation Plan*, which will adjust population forecasts to include development approved since the *2001 Regional Transportation Plan.* Moreover, the General Plan amendment associated with the Springbrook Estates Specific Plan would accurately identify the long-term population of the project site for inclusion into regional growth projection forecasts. Regardless, since the proposed project will contribute to cumulatively exceeding the current projections, the No Development Alternative is considered to be superior to the proposed project in relation to population and housing.

m. Cultural Resources. The proposed project has the potential to impact subsurface prehistoric resources. Measures have been made a part of the project, in the event subsurface resources are determined to be significant, reducing impacts to below a level of significance. The No Development Alternative avoids the potential to impact limited cultural resources onsite and therefore, would be marginally superior to the proposed project relation to cultural resources.

n. Public Services and Utilities

1. Fire and Sheriff Services. The proposed project will result in introducing populations into an area, which is presently uninhabited. Urban land uses will require fire and sheriff services. In conjunction with proposed and approved developments in the project area, fire and sheriff services could be adversely affected requiring the addition of staff, the expansion of services, and/or the construction of new facilities. The project includes measures, which will mitigate project related impacts to fire and sheriff services to a level that is

considered less than significant. Since new populations and infrastructure would not be introduced into the project site under the No Development Alternative, impacts to fire and sheriff services would be avoided, and the No Development Alternative would be regarded as superior to the proposed project in relation to fire and sheriff services.

2. Water and Sewer Services. The proposed project will require the provision of water and sewer service to the area. The project will incorporate water conservation measures, as required by local ordinances and state laws. Impacts are considered less than significant. The No Development Alternative would not require the provision of water and sewer service and would not result in an incremental increase in water use in the area. Therefore, the No Development Alternative would be superior to the proposed project relative to water and sewer services.

3. Solid Waste. The proposed project will generate solid waste that will be disposed of at County landfills. The project will promote recycling and other trash reduction measures as required by County ordinances and State laws. Significant impacts are not anticipated. The No Development Alternative would avoid the generation of solid waste and thereby eliminate the project's effect, albeit insignificant, on local landfills. In this manner, the No Development Alternative would be superior to the proposed project in relation to solid waste.

4. Schools. Typical of residential development, it is anticipated that the Springbrook Estates project will result in the relocation or the introduction of school-age children into the project area. School services will be provided by the RUSD and project implementation will result in the allocation of land for the future development of a school. It is anticipated that future onsite school facilities will serve students residing within Springbrook Estates as well as students residing in the surrounding residential developments.

   The No Development Alternative would not result in the relocation or introduction of school-age children within the project site or the allocation of land for a future school site. As the project related school facilities are expected to serve developments in the surrounding area, as well as the Springbrook Estates project, the No Development Alternative could result in the need to locate future school sites in other areas. Thus, while the No Development Alternative would not create a need for additional school facilities, this Alternative would not provide for the allocation of land for future school sites, for which there is an existing demonstrated need. Therefore, neither development scenario is considered relatively superior in relation to school services.

5. Libraries. The proposed project will result in an increase in population in the area, thereby creating a greater demand for library facilities. However, the County Department of Library Services has indicated that project implementation will not affect the ability department to provide adequate library services. The No Development Alternative would not generate an additional demand for library

services. Thus, while the project's library service impacts are less than significant, the No Development Alternative is considered superior to the proposed project in relation to library services.

6. Health Services. Future residents, visitors and employees of the proposed project will result in an increased need for health services. Health services are available in the project area, and the proposed project will not significantly affect the ability of healthcare providers to serve the Springbrook Estates project or development in the project area. Since no land uses would be generated under the No Development Alternative, the need for health services would be eliminated. Thus, the No Development Alternative would be superior to the proposed project in relation to health services.

7. Parks, Recreation, and Open Space. Project implementation will result in the development of approximately 50-acres of parkland and open space as well as recreational facilities. Parkland will be designed according to County regulations. The project will meet County park requirements, and will not result in significant impacts. The No Development Alternative would eliminate development on the project site avoiding the need to provide parks and recreational facilities and retaining the majority of the site as open space. However, the under the No Development Alternative, the public accessibility to the site would be limited, since this alternative would not result in the development of the community and multi-purpose trail. Therefore, the ability to utilize the recreational open space is constricted. Thus, neither development alternative is considered relatively superior in relation to park and recreation services.

8. Energy Resources and Conservation. As addressed in this EIR, the Springbrook Estates Specific Plan project would consume energy resources commensurate with proposed land uses. Energy consumption would not be excessive, and conservation measures consistent with State and local policies would be a part of the project. Impacts associated with energy resources and conservation would not be significant. The No Development Alternative would avoid energy use as no land uses would be constructed and the property would remain vacant. Thus, the No Development Alternative would be superior to the proposed project in relation to energy resources and conservation.

o. **Toxic Substances and Hazardous Waste.** The proposed project will generate toxic substances that are typical of residential developments, such as household cleaning and janitorial products, herbicides, insecticides, and solvents. Likewise, the No Development Alternative would result in the potential to generate toxic substances associated with the existing agriculture uses. Such toxic substances may include the use and storage of pesticides and fuel (e.g., diesel). Therefore, neither development scenario is considered relatively superior in relation to toxic substances and hazardous waste.

2) Summary of the No Development Alternative.

The No Development Alternative is considered to be superior to the proposed project in the areas of landform and topography/slopes and erosion, soils and agriculture, population and housing, biological resources, cultural resources, geology and seismicity, air quality, water quality, noise, energy resources and conservation, water and sewer services, fire and sheriff services, solid waste, health services, and library services. The Springbrook Estates Project is considered to be superior to the No Development Alternative in relation to land use and planning and circulation and traffic. Neither development scenario is considered superior in the areas of hydrology, flooding, and drainage, school services, toxic substances and hazardous waste, and parks, recreation, and open space.

3) Reasons for Rejection of the No Development Alternative.

The No Development Alternative has been rejected, since it does not implement the basic objectives of the proposed project. It would not coordinate land uses in such a manner as to produce a cohesive, unified development through the use of comprehensive site planning and development guidelines. Moreover, this alternative would not provide for public facilities such as parks, schools, and community and multi-purpose trails, which would also serve surrounding communities; and it would not result in the construction of circulation roadways as envisioned by the County of Riverside's Master Plan of Arterial Highways. For these reasons, the No Development Alternative has been rejected in favor of the proposed project.

B. NO PROJECT - EXISTING ZONING ALTERNATIVE

This discussion of the No Project - Existing Zoning Alternative is in accordance with CEQA's requirement that the no project alternative "shall discuss ... what would be reasonably expected to occur in the foreseeable future ... based on current plans and consistent with available infrastructure and community services. "For purposes of evaluating the No Project - Existing Zoning Alternative (Existing Zoning Alternative) for the Springbrook Estates project, the Existing Zoning alternative is an analysis of the development of the site under the existing site zoning (RI-20,000; A1-10; and RA-20,000).

A comparison of land uses and intensities of development proposed for the project site and those proposed with the existing zoning is shown in Table VI.C-3, *Comparison of Proposed Project and Existing Zoning Alternative*. As identified in Table VI.C-3, the entire 183.95-acre project site would be developed with residential land uses. Thus, this alternative would not result in the allocation of the school site or the allocation of open space and parkland as envisioned with the Springbrook Estates Specific Plan. Additionally, due to the decrease in development intensity associated with this alternative, it is assumed that there would not be the need for an extensive circulation system beyond the existing system; therefore, no land has been allocated for the development of streets and roadways under this alternative.

Table VI.C-3: Comparison of Proposed Project and No Project Alternative Existing Zoning

	Proposed Project		Existing Zoning Alternative		
	Area (acres)	Development Intensity	Zoning Designation	Area (acres)	Development Intensity
Land Use Residential	86.85	613 d.u.	Land Use Residential R1- 20,000 (20,000 sq. ft. lot size minimum)	70.89	154 d.u.
			Land Use Light Agriculture A1-10 (10 acre minimum)	89.95	9 d.u.
			Land Use Residential-Agricultural RA-20,000 (20,000 sq. ft. lot size minimum)	23.10	50 d.u.
Subtotal	86.85	613 d.u.		183.95	213 d.u.
School	7.5	NA		—	—
Parkland	50.24	NA		—	—
Streets	36.28	NA		—	NA
Utility	1.50	NA		—	NA
Detention Basin	1.58	NA		—	NA
Totals	183.95	613 d.u.		183.95	213 d.u.

d.u. = dwelling unit
Source: Michael Brandman Associates, December 2003.

1) Environmental Analysis of Alternative

a. Land Use and Planning. This alternative would result in the development consistent with the County of Riverside zoning designation for the site: RA-20,000 (Residential-Agricultural with a 20,000 sq. ft. minimum lot size); R1-20,000 (Single Family Dwelling with 20,000 sq. ft. minimum lot size); and A1-10 (light agriculture, 10 acre minimum lot size. Yet this alternative is not consistent with the General Plan, which designates the site as Medium Density Residential, with a development density of 2 to 5 dwelling units per acre. Overall, this alternative would result in a reduction of 400 dwelling units on the Springbrook Estates project site. This alternative would be able to achieve the objective of some of the policies of the County of Riverside General Plan and the Highgrove Area Plan; however, development at a reduced density would promote the development of housing in other areas of the Highgrove Community to accommodate planned growth. Such a reduction would reduce open space and promote sprawl, which is inconsistent with the Area Plan policies. Moreover, this alternative would require a General Plan amendment. Additionally, the Existing Zoning Alternative may result in a reduction in open space and promote sprawl; thus, the proposed project is considered to be superior in relation to land use and planning.

b. **Circulation and Traffic.** The proposed project is anticipated to result in 7,389 vehicle trips per day. The Existing Zoning Alternative would result in an incremental decrease in trip generation proportionate to this alternative's reduction in development intensity. However, implementation of the Existing Zoning Alternative would not provide for additional construction of important circulation element roadways, which are part of Riverside County's Master Plan of Arterial Highways. Under the Existing Zoning Alternative funding for any of these Circulation Element roadways, would then become the responsibility of other developers in the area or the County, which may delay improvements. The project will reduce project related traffic and circulation impacts to levels that are considered less than significant and contribute to the construction of important circulation element roadways, thus the proposed project is considered superior to the Existing Zoning Alternative in relation to traffic and circulation impacts.

c. **Air Quality.** Air quality impacts associated with the Existing Zoning Alternative would incrementally decrease with the decrease in development intensity. However, traffic generated by the Existing Zoning Alternative would still contribute to the cumulative significant unavoidable air quality impacts within the project area; yet not to the extent of the proposed project Therefore, the Existing Zoning Alternative is the superior alternative in relation to air quality.

d. **Noise.** The proposed project will not result in opening year impacts to noise sensitive land uses and according to the significance criteria, it will not contribute to significant cumulative impacts under buildout conditions (Year 2025). However, under the Existing Zoning Alternative, noise impacts will be incrementally reduced in proportion to the reduction in development. Therefore, the Existing Zoning Alternative is considered superior to the proposed project in relation to noise.

e. **Biological Resources.** Since, under this alternative the entire project site could be graded, the Existing Zoning Alternative would result in similar impacts to biological resources as those discussed within Section VI.A.5 of this EIR. Therefore, neither alternative scenario is considered relatively superior in relation to biological resources.

f. **Hydrology, Flooding and Drainage**. Due to reduced intensity of residences, the non-point source pollutants would be decreased. Both the proposed project and the Existing Zoning Alternative would require upgrades and extensions to the existing drainage system. Moreover, both development scenarios would be subject to the conditions of a NPDES permit. However, since the Existing Zoning Alternative would result in generating less non-point source pollutants, this alternative is considered nominally superior to the proposed project in relation to hydrology, flooding, and drainage.

g. **Water Quality**. Both the Existing Zoning Alternative and the proposed project result in residential development and the potential for urban pollutants associated with the construction of impervious surfaces and irrigation of landscaped areas. It is assumed that the proposed project would have a greater amount of impervious surfaces than the Existing Zoning Alternative; thus, increasing runoff and urban pollutants. The Existing Zoning Alternative would be superior to the proposed project in regard to urban runoff and water quality.

h. **Geology and Seismicity.** Both the proposed project and the Existing Zoning alternative would be subject to the same level of impact relative to the potential for seismic events. Development associated with the Existing Zoning Alternative would be required to adhere to the UBC and other applicable County or State regulations to minimize structural damage and safety hazards associated with the project site's location in an area subject to groundshaking and seismic events. The proposed project will result in a denser site development in relation to the Existing Zoning Alternative, hence, increasing the number of people, which could be affected by seismic activity. Therefore, the Existing Zoning Alternative is superior to the proposed project in relation to geology and seismicity.

i. **Landform and Topography/Slopes and Erosion.** The proposed project as well as the Existing Zoning Alternative requires contour grading and preservation of natural landforms when possible. Generally, both scenarios will result in the grading of the majority of the project site. However, the proposed project includes approximately 50 acres of parkland and open space/flood control lands. In comparison, the Existing Zoning Alternative may result in the entire site being developed with residential and agricultural uses. The proposed project's provision of parkland and open space/flood control offers a greater opportunity to incorporate contour grading and the preservation of landforms. Therefore, the proposed project is an environmentally superior project to the Existing Zoning alternative in relation to landform and topography/slopes and erosion.

j. **Soils and Agriculture.** The site is located within Prime Farmland and Farmland of Statewide Importance. However, the site is not within an Agricultural Preserve. Under the Existing Zoning Alternative all of the land within the project site would be dedicated to residential uses and not available for agricultural uses. Therefore, similar to the proposed project, the Existing Zoning Alternative would also result in significant unavoidable soil and agriculture impacts. Thus, neither development scenario is considered superior in relation to soils and agriculture.

k. **Aesthetics, Visual Analysis, Light and Glare.** As with the proposed project, the Existing Zoning Alternative would transform the project site form agricultural to residential land uses. While development intensity would be less under the No Development Alternative, overall the visual impacts would be similar to those of the proposed project. The Existing Zoning Alternative and the proposed project would both require the implementation of streets and roads, which would require some degree of street lighting for safety purposes. The number of homes constructed as well as the amount of traffic generated would be less in the Existing Zoning Alternative; thus, the amount of light transmitted from the Existing Zoning Alternative would be less than the proposed project. However, the Existing Zoning Alternative would not result in the allocation of parkland, which is considered aesthetically beneficial. Thus, this alternative project would be slightly superior to the proposed project in relation to aesthetic, visual analysis, and light and glare.

l. **Population and Housing.** The Existing Zoning Alternative would result in the development of 213 dwelling units and introducing approximately 553 persons into the project area. As identified in Section VI.A.12, of this EIR, individually the proposed

project will not result in a population and housing impact. However, cumulatively, the proposed project in conjunction with other related projects will exceed the forecasted population and housing forecasts for the project area. Similar to the proposed project, the Existing Zoning Alternative would not result in individual impacts; however, it would contribute to the cumulative impact, although to a lesser extent than the proposed project. The General Plan Amendment associated with the Springbrook Estates Specific Plan would accurately identify the long-term population of the project site for inclusion into regional growth projection forecasts. Thus, the Existing Zoning Alternative is considered to be marginally superior to the proposed project in relation to population and housing.

m. Cultural Resources. Due to the location of the historic resources found on-site, the Existing Zoning Alternative and the proposed project would result in generally the same impacts. Moreover, both development scenarios have the potential to impact yet unknown cultural resources that could be unearthed during grading activities. Thus, neither development scenario is considered superior in relation to cultural resources.

n. Pubic Services and Utilities

1. Fire and Sheriff Services. Fire and sheriff services are required for implementation of both the Existing Zoning Alternative and the proposed project. Using the County of Riverside population generation factor of 2.6 persons per single-family residential unit, the Existing Zoning Alternative would result in a project site population of 553; in comparison, the proposed project is anticipated to result in 1,594 persons residing within the project site. Due to the fact that increased crime and emergencies are directly correlated to increased population, the proposed project will have a greater impact upon fire and sheriff services in relation to the Existing Zoning Alternative. However, the proposed project will contribute mitigation fees to assist in the construction of facilities and the allocation of staff. Yet since the Existing Zoning Alternative will not generate as great of a demand for fire and sheriff services, this alternative is considered to be superior in relation to fire and sheriff services.

2. Water and Sewer Services. The provision of water and sewer service would be required for both the proposed project and the Existing Zoning Alternative. However, it is expected that the proposed project, due to its higher density, will have a greater demand for water and sewer services. Thus, the Existing Zoning Alternative is considered the superior alternative in relation to water and sewer services.

3. Solid Waste. Due to the decreased amounts of materials used during construction and the decrease in development intensity, the Existing Zoning Alternative is the superior alternative to the proposed project regarding solid waste.

4. Schools. The number of students generated by the proposed project will be approximately 252 more than that associated with the Existing Zoning Alternative. The proposed project will provide one for sale school site that will

be offered to the RUSD as warranted. The existing zoning (R1-20,000, A1-10, and RA-20,000) does not necessarily allow for educational land uses, unlike the proposed zoning (SP), which allows for the development of public facilities. Under the Existing Zoning Alternative each home would have to pay a mitigation fee for schools and the children from these homes would attend local schools, however, it cannot be determined whether new schools would be built to serve these students within the project area. Thus, since the project will provide one on-site school site, the proposed project is superior to the Existing Zoning Alternative regarding schools

5. Libraries. The Highgrove Library is the local library that will serve the project site. While the Highgrove Library itself is relatively small, the library has access to all of the collections available throughout the entire County library system. The County Department of Library Services has the ability to adequately meet the needs of either the proposed project or the Existing Zoning Alternative. Additionally, while the Highgrove Library may experience a greater demand for services, department-wide the demand for services may remain relatively unchanged. Since the staff of the County Department of Libraries has identified no project related significant impacts, neither alternative scenario is considered relatively superior in relation to library services.

6. Health Services. Health services are available in the area to serve development of the project site under either the Existing Zoning Alternative or the proposed project. Impacts to health services would be similar. Yet, the Existing Zoning Alternative would generate less of a demand for health services; thus, the Existing Zoning Alternative is considered superior to the proposed project in relation to health services.

7. Parks, Recreation, and Open Space. Under the proposed project the total park/open space acreage will be approximately 50 acres. On-site park uses are to be developed with typical active recreational facilities. The Existing Zoning Alternative requires that each dwelling unit pay a Quimby Act fee but due to the small amount of funds that would be produced under this alternative, it is unlikely that any parks would be located within the project area. Moreover, the Existing Zoning Alternative may not necessarily retain a greater amount of open space, since residential lots will be larger; furthermore, the proposed project retains natural open space amenities, such as the Springbrook Wash. Hence, the proposed project is superior to the Existing Zoning Alternative in regard to parks, recreation, and open space.

8. Energy Resources and Conservation. The proposed project will require the resources to construct and maintain 613 residential units. In comparison, the Existing Zoning Alternative would require the resources to construct and maintain 213 residential units. However, the infrastructure for these facilities must be built to serve either project regardless of the respective housing densities. Therefore, the Existing Zoning Alternative is marginally superior to the proposed project in relation to energy resources and conservation.

o. **Toxic Substances and Hazardous Wastes.** As with the proposed project, it is assumed that the residential development associated with the Existing Zoning Alternative would require the removal of the existing onsite underground and above ground storage tanks, which is considered a beneficial impact. Moreover, like the proposed project, the Existing Zoning Alternative would result in toxic substances such as cleaning and janitorial supplies, insecticides, and solvents being utilized on the project site. However, the use of such toxic substances would incrementally decrease with the decrease in development intensity. Regardless, the use of such substances is generally not considered to create a potential environmental threat, yet since there will be an incremental decrease of the use of such substances in association with this alternative, the Existing Zoning Alternative is marginally superior to the proposed project in relation to toxic substances.

2) Summary of the Existing Zoning Alternative.

The proposed project is superior to the Existing Zoning Alternative in the areas of land use and planning, landform and topography/slopes and erosion, aesthetics, circulation and traffic, schools, and parks, recreation, and open space and conservation. The Existing Zoning Alternative is superior to the proposed project in the areas of geology and seismicity, hydrology flooding, and drainage, air quality, water quality, noise, population and housing, health services, energy resources and conservation, toxic substances, water and sewer services, fire and sheriff services, and solid waste. Neither development scenario is considered superior in the areas of soils and agriculture, biological resources, cultural resources, and library services.

3) Reasons for Rejection of the Existing Zoning Alternative.

The County General Plan identifies the intent of the County to continue to promote orderly and efficient growth by providing higher density development in infill situations and areas where services and infrastructure exist or will exist in the near future (See Section VI.A, *Land Use and Planning*). The Existing Zoning Alternative would result in the elimination of 400 dwelling units in an area that would be suitable for higher density development, since infrastructure is being extended to the general project area to support already approved development. Moreover, the Existing Zoning Alternative is not consistent with the General Plan designation for the project site. Additionally, the Existing Zoning Alternative does not support the intent of the County General Plan to encourage a jobs/housing balance, since the lack of development of 400 units would consequently result in the dispersal of these units elsewhere in the region, resulting in longer commute times, greater infrastructure needs, which are more costly and less efficient, and result in greater cumulative impacts on the environment. Additionally, as outlined in the HAP, development within the project area is constrained due to the lack of parkland. Under the Existing Zoning Alternative, the approximately 50-acres of open space and parkland may not be provided. The Existing Zoning Alternative does not meet the basic objectives of the project due the fact that a limited number of residential lots would be available and that this alternative would not create distinct neighborhoods integrating neighborhood parks, a community park, and open space through a network of community trails. Furthermore, this alternative would not meet the objective of coordinating land uses to create a cohesive and unified development. Therefore, the No Project - Existing Zoning Alternative has been rejected in favor of the proposed project.

C. NO PROJECT - DEVELOPMENT UNDER THE GENERAL PLAN ALTERNATIVE

Under the No Project - Development Under the General Plan Alternative (General Plan Alternative) the project site would be developed with single-family residential land uses consistent with the maximum density allowed under the General Plan Medium Density Residential land use designation. Under this alternative, a total of approximately 139 acres of the 183.95-acre project site would be available for residential development. Additionally, this alternative assumes that neither the 7.5 acres school site nor the 50.24 acres of parkland would be developed as envisioned under the Springbrook Estates Specific Plan; however, in accordance with the Quimby Act, 5.4 acres would be allocated within the project site for parkland uses. Specifically, as identified in Table VI.C-4 this alternative will result in the development of 695 residential units.

Table VI.C-4: Comparison of Proposed Project and No Development - Development Under the General Plan Alternative

	Proposed Project		General Plan Alternative		
	Area (acres)	Development Intensity	General Plan Designation	Area (acres)	Development Intensity
Land Use Residential	86.85	613 d.u.	Medium Density Residential at 5 units per acre	139.19	695 d.u.
Subtotal	86.85	613 d.u.		139.19	695 d.u.
School	7.5	NA		—	NA
Parkland	50.24	NA		5.4	NA
Streets	36.28	NA		36.28	NA
Utility	1.50	NA		1.50	NA
Detention Basin	1.58	NA		1.58	NA
Totals	183.95	613 d.u.		183.95	695 d.u.

d.u. = dwelling unit
Source: Michael Brandman Associates, December 2003.

1) Environmental Analysis of Alternative.

a. Land Use and Planning. The development under the General Plan Alternative is consistent with the County of Riverside General Plan and the Highgrove Area Plan. Under this alternative, the General Plan designation would allow for approximately 139 acres of the project site to be developed with single-family residential land uses. In comparison the proposed project, will preserve 50.24-acres of parkland and open space, in particular approximately 36-acres of open space that will act as a buffer between project development and open space amenities, such as Blue Mountain to the northeast of

the site. Therefore, neither development scenario is considered to be superior in relation to land use and planning.

b. **Circulation and Traffic.** The General Plan Alternative would result in the development of 695 residential units, 82 more residential units than the proposed project. The increased development intensity would result in an incremental increase in traffic generation and thus greater traffic impacts. Therefore, the proposed project is considered to be superior to the General Plan Alternative in relation to the circulation and traffic.

c. **Air Quality.** The General Plan Alternative would result in an incremental increase in the degradation of regional air quality, in relation to the increased site density and the increased traffic is associated with this alternative. Moreover, construction related air quality impacts would be incrementally increased due to an increase in construction activity from greater sized lots being developed. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to air quality.

d. **Noise.** Suburban noise impacts are typically associated with traffic. In comparison to the proposed project, the General Plan Alternative would result in an incremental increase in traffic generation in relation to the increase in development intensity. Residential land uses adjacent to circulation roadways anticipated to carry heavy traffic volumes would require noise-attenuating measures. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to noise.

e. **Biological Resources.** The General Plan Alternative would result in similar impacts to upland habitat types. Similar to the proposed project, this alternative would have impacts on Riversidean Sage Scrub, Southern Cottonwood Willow Riparian Forest, and Non-Native Grassland habitats in the site's natural open space. It is anticipated that like the proposed project, this alternative would preserve the natural open space amenities of Springbrook Wash. Thus, neither development scenario is considered superior in relation to biological resources.

f. **Hydrology, Flooding and Drainage.** Neither the General Plan Alternative nor the proposed project would significantly affect hydrology in the area. Both projects would minimize drainage impacts. The project site is not subject to significant flooding under either the proposed project or this alternative. Runoff would be conveyed via storm drains and drainage easements. Both the proposed project and the alternative propose detention basins on-site. However, the proposed project provides approximately 50 acres of parkland and open space; thus, retaining some permeable surfaces. In comparison, the General Plan Alternative would result in retaining only 5.4 acres for parkland; resulting in an increase in impermeable surfaces in relation to the proposed project Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to hydrology, flooding, and drainage.

g. **Water Quality.** Both the General Plan Alternative and the proposed project result in urban development and the potential for urban pollutants associated with construction of impervious surfaces and irrigation of landscaped areas. Grading activities could potentially increase the amount of sediment contained in runoff. Water quality impacts

associated with the General Plan Alternative would be incrementally increased in relation to the proposed project, because more area would be devoted to development and less area would be preserved in its natural state. Thus, the proposed project is considered to be superior to the General Plan Alternative relative to water quality.

h. **Geology and Seismicity.** Both the proposed project and the General Plan Alternative would be subject to the same level of impact relative to the potential for seismic events. Construction would require adherence to the Uniform Building Code and other applicable County or State regulations to minimize structural damage and safety hazards associated with the project site's location in an area subject to ground shaking and seismic events. The General Plan Alternative would result in an overall increase in development intensity in relation to the proposed project, potentially increasing the number of people and amount of structures, which would be affected by a seismic event. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to geology and soils.

i. **Landform and Topography/Slopes and Erosion.** An increase in land disturbance would occur under this alternative, since more area is proposed for development and less natural open space would be preserved. This alternative would result in an incremental increase in graded area resulting in an increase of earth exposed to erosion. Therefore, the proposed project is considered to be superior to the General Plan Alternative in relation to landform and topography/slopes and erosion.

j. **Soils and Agriculture.** As stated in this EIR, a majority of the project site is citrus groves. A majority of the project site is identified as Prime Farmland and Farmland of Statewide Importance but is not within an Agricultural Preserve. Both the General Plan Alternative and the proposed project would result in significant unavoidable adverse effects associated with agricultural soil. Thus, neither development scenario is considered superior in relation to soils and agriculture.

k. **Aesthetics, Visual Analysis, Light and Glare.** Similar types of land uses are proposed under both projects. However, the proposed project would introduce more parks and open space, which is considered to be aesthetically beneficial. Moreover, the proposed project will provide approximately 36 acres of parkland and open space in the northern portion of the site, which will act as a buffer between development and Blue Mountain. The General Plan Alternative would increase the number of dwelling units, thereby increasing the potential for light and glare impacts. Thus, the proposed project is considered to be superior in relation to aesthetics, visual analysis, light, and glare.

l. **Population and Housing.** The General Plan Alternative would result in the development of 695 dwelling units and introducing approximately 1,807 persons into the project area. As identified in Section VI.A.12, of this EIR, individually the proposed project will not result in a population and housing impact. However, cumulatively, the proposed project in conjunction with other related projects will exceed the forecasted population and housing forecasts for the project area. Individually, the General Plan Alternative would result in individual impacts; additionally, it would contribute to a greater cumulative

impact compared to the proposed project. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to population and housing.

m. **Cultural Resources.** Both the General Plan Alternative and the proposed project will result in the disturbance of the 183.95-acre project site. Similar to the proposed project, archaeological sites would be mitigated before development began; therefore, not impacting the cultural resources of the area. Therefore, neither development scenario is considered to be superior in relation to cultural resources.

n. **Public Services and Utilities.**

1. Fire and Sheriff Services. Fire and sheriff services are required for implementation of both the General Plan Alternative and the proposed project. Using the County of Riverside population generation factor of 2.6 persons per single-family residential unit, the General Plan Alternative would result in a project site population of 1807; in comparison, the proposed project is anticipated to result in 1,594 persons residing within the project site. Due to the fact that increased crime and emergencies are directly correlated to increased population, the General Plan Alternative would have a greater impact upon fire and sheriff services in relation to the proposed project. However, both the alternative and the proposed project would be required contribute mitigation fees to assist in the construction of facilities and the allocation of staff. Yet since the proposed project will not generate as great of a demand for fire and sheriff services, the proposed project is considered to be superior to the General Plan in relation to fire and sheriff services.

2. Water and Sewer Services. Water and sewer services would not be substantially different under the General Plan Alternative when compared with the proposed project. Provision of water and sewer facilities would be required for both. However, the General Plan Alternative would result in an increased demand for water and sewer usage. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to water and sewer services.

3. Solid Waste. Solid waste generated by the General Plan Alternative would be somewhat greater than that of the proposed project, increasing impacts upon County landfills. Both projects would be required to implement recycling and trash reduction measures as specified by the County and State. The proposed project would be slightly superior to the General Plan Alternative in relation to solid waste.

4. Schools. The General Plan Alternative would result in an increase in student generation in comparison to the proposed project. One school site will be constructed under the proposed project but not under this alternative; thus, the proposed project is considered superior to the General Plan Alternative in relation to school services.

5. Libraries. Development of the project site under the General Plan Alternative or the proposed project would have adverse impacts on local libraries. The General Plan Alternative impacts would be similar, although slightly greater, since the population of the alternative would be greater than that of the proposed project. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to library services.

6. Health Services. Health services are available in the area to serve development of the project site under either the General Plan Alternative or the proposed project. Yet, since the General Plan Alternative would introduce more people into the project area, this alternative would generate a greater demand for health services. Thus, the proposed project is considered to be superior to the General Plan Alternative in relation to health services.

7. Parks, Recreation and Open Space. Under the proposed project the total park/open space acreage will be approximately 50 acres. On-site park uses are to be developed with typical active recreational facilities. The General Plan Alternative requires that each dwelling unit pay a Quimby Act fee; however only three acres of parkland would be required per 1,000 persons, thus the General Plan would only be required to provide 5.4-acres of parkland. Hence, the proposed project is superior to the General Plan Alternative in regard to parks, recreation, and open space

8. Energy Resources and Conservation. In comparison to the proposed project, the General Plan Alternative will result in an increase in development density and subsequently an increase in energy consumption. Energy conserving measures would be incorporated into both the General Plan Alternative and the proposed project, avoiding the potential for significant impacts. However, because the proposed project will consume less energy, the proposed project is considered to be superior to the General Plan Alternative in relation to energy resources and conservation.

o. **Toxic Substances and Hazardous Wastes.** As with the proposed project, it is assumed that the General Plan Alternative would result in the removal of the existing onsite underground and above ground storage tanks, which is considered to be a beneficial impact. Similar to the proposed project, the General Plan Alternative would result in the use of typical household substances such as janitorial supplies, solvents, and pesticides and herbicides. As with the proposed project, no impacts associated with toxic substances would be expected under this alternative. Neither development scenario is considered to be superior in relation to toxic substances and hazardous wastes.

2) Summary of the No Project - General Plan Alternative.

Impacts of the General Plan Alternative would be greater than those of the proposed project in a number of environmental issue areas, with the exception of land use and planning, biological resources, soils and agriculture, cultural resources, and toxic substances and hazardous wastes, which would be similar to the proposed project.

3) Reasons for Rejection of the No Project - General Plan Alternative.

The General Plan Alternative is not superior to the proposed project in any of the environmental issue areas. Moreover, in relation to the proposed project, this alternative would result in a reduction of open space and parkland. Conversely, this alternative would result in the development of approximately 139-acres of the project site with residential land uses and the provision of only 5.4 acres of parklands. This alternative would not meet the project objective to create distinct neighborhoods that integrate neighborhood parks, a community park, and open space through a network of community trails or the project objective to coordinate land uses in such a manner to produce a cohesive, unified development through the use of comprehensive site planning and development guidelines. Thus, the No Project - Existing General Plan Alternative is rejected in favor of the proposed project.

D. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Altogether, three (3) alternatives have been considered in this EIR. As one might expect, the "No Development" Alternative that was evaluated is the Environmentally Superior Alternative. Of the remaining alternatives, the No Project - Development Under the Existing Zoning Alternative would be considered the environmentally superior alternative to the proposed project; however, this alternative would not meet the objectives of the proposed project and would not result in the various improvements, such as the allocation of parkland and a school site. Additionally, this alternative would not be in synchronization with the County General Plan's intent to continue to preserve open space amenities and promote efficient growth by allowing higher density development to occur in areas where services and infrastructure exist or will exist in the near future (HAP 1.3).

VI.D ORGANIZATIONS, PERSONS, AND DOCUMENTS CONSULTED

1. Organizations and Persons Consulted

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2. Documents Consulted

California, State of. 1999 (Jan. 1). *California Public Resources Code, Division 13, Sections 21000-21178.1. The California Environmental Quality Act.*

California, State of, Governor's Office of Planning and Research and Office of Administrative Law. 1999 (Mar. 29). *Title 14, California Code of Regulations, Chapter 3, and Guidelines for Implementation of the California Environmental Quality Act.*

C.H.J., Inc. 2000 (Apr.). *Geotechnical/Geologic Feasibility Investigation 137+ Acre Development, Riverside, California.* Prepared for Urban Environs.

C.H.J., Inc. 2000 (Apr.). *Preliminary Seismic Refraction Survey Lynn/Latimer Properties Highgrove Area, Riverside, California.* Prepared for Urban Environs.

C.H.J., Inc. 2002 (Apr.). *Geotechnical Investigation Springbrook Investments, LP Tentative Tract No. 30310 Riverside County, California.* Prepared for Shopoff Enterprises.

C.H.J., Inc. 2002 (May). *Geotechnical Investigation Springbrook Investments, LP Tentative Tract Nos. 30307, 30308, 30309, and 30408 Highgrove Area Riverside County, California.* Prepared for Shopoff Enterprises.

C.H.J., Inc. 2002 (May). *Geotechnical Investigation Springbrook Mountain Ranch - MRF Groves Proposed 40± Acre Residential Development, Highgrove Area, Riverside County, California.* Prepared for Eastbridge Partners.

C.H.J., Inc. 2002 (Jul.). *Slope Stability Investigation Eastbridge Estates - Highrove Area, Riverside County, California.* Prepared for Eastbridge Partners.

C.H.J., Inc. 2003 (Dec.). *Characterization of Geotechnical Conditions Tract Nos. 30908 and 30909, Riverside County, California.* Prepared for Riverside County Planning Department.

Keith Companies. 2003 (Jul.). *Drainage Study for Springbrook Estates Specific Plan No. 330 Planning Area 1, County of Riverside.*

Keith Companies. 2002 (Sept.). *Drainage Study for Springbrook Estates Specific Plan No. 330 Planning Areas 2 and 3, County of Riverside.*

Keith Companies. 2003 (Sept.). *Spring Mountain Ranch Off-Site Sewer Feasibility Study.*

Michael Brandman Associates. 2003 (July). *Air Qualty Impact Analysis Report, Springbrook Estates Project, County of Riverside.* Prepared for Springbrook Investments, L.P.

Michael Brandman Associates. 2004 (Jan.). *Archaeological Resources Assessment of the Springbrook Estates Project: A 183.95 Acre Site Located in the Community of Highgrove, County of Riverside, California.* Prepared for Springbrook Investments, L.P.

Michael Brandman Associates. 2003 (Dec.). *Biological Resources Assessment of the Springbrook Estates Project, County of Riverside, CA*. Prepared for Springbrook Investments, L.P.

PBS&J. 2000 (Feb.). *Highgrove Community/Spring Mountain Ranch Sewer Master Plan Study. Prepared for Eastbridge Partners.*

Riverside, County of. 2003 (Sept.). *Riverside County General Plan.*

Riverside Highland Water Company. 2003 (Oct.) *Riverside Highland Water Company Water Supply Assessment for Specific Plan 330, Springbrook Estates.*

RM Environmental. 2002 (Aug.). *Phase I Environmental Site Assessment for Springbrook Parcels.*

RM Environmental 2003 (May). *Phase 1 Environmental Site Assessment for Springbrook Parcels.*

Southern California Association of Governments. 1999 (Nov.). *Draft Regional Housing Needs Assessment 1999.*

Urban Crossroads. 2002 (Sept.). *Springbrook Estates Specific Plan (SP 330) Traffic Impact Analysis County of Riverside, California.* Prepared for Eastbridge Partners.

Urban Crossroads. 2003 (July). *Springbrook Estates Noise Study (Revised) Riverside County, California.* Prepared for Springbrook Investments, L.P.

Urban Crossroads. 2003 (Dec.). *Springbrook and Spring Mountain Ranch Land Use and Network Modifications.*

SPRINGBROOK ESTATES
SPECIFIC PLAN NO. 330
RESPONSE TO COMMENTS
ON
ENVIRONMENTAL IMPACT REPORT NO. 448

DECEMBER 2004

Owner/Applicant:
SPRINGBROOK INVESTMENTS, L.P.
114 Pacifica, Suite 245
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949.417.1396

Prepared for:
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SECTION 1:
INTRODUCTION AND EXECUTIVE SUMMARY OF THE EIR

1.1 INTRODUCTION

In accordance with § 15088 of the State of California Environmental Quality Act (CEQA) Guidelines, the County of Riverside, as the lead agency, has evaluated the comments received on the Draft Environmental Impact Report (DEIR) (State Clearinghouse No. 2002091026) for the Springbrook Estates Specific Plan No. 330 project and has prepared written responses to the comments received. The responses to the comments and other documents, which are included in this volume of the EIR, together with the DEIR, contribute to the Final EIR for the use of the County of Riverside Planning Commission for their review of the Springbrook Estates project.

This Response to Comments (RTC) document is organized into four sections:

- **Section 1 - Introduction**.
- **Section 2 - List of Commentors.** Provides a list of the agencies, organizations, and individuals that commented on the DEIR.
- **Section 3 - Response to Comments.** Includes a copy of all of the letters received that are being responded to. Section 3 also provides responses to comments on environmental points describing the disposition of the issues, explaining the EIR analysis, supporting EIR conclusions, or providing information or corrections, as appropriate. For reading ease, this section is organized with the letter first and the responses immediately following.
- **Section 4 - Errata and Refinements to the Draft EIR.** Includes an addendum listing refinements and clarifications, which have been incorporated into the text of the EIR.

1.1.1 PURPOSE AND SCOPE OF THE EIR

Authority

The EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code, § 21000 et seq., the State CEQA Guidelines (§ 15000 et seq. of Title 14, California Code of Regulations), and with the guidelines adopted by the County of Riverside. Specifically, the EIR was prepared in accordance with the most recently adopted State CEQA Guidelines, which was issued October 26, 1998 and became effective in February 1999.

An EIR is an informational document prepared pursuant to CEQA to provide informed decision-making. It provides decision-makers, public agencies, and the public in general with detailed

information about the potential significant environmental effects of a proposed project. It also identifies the ways in which the significant effects of a project might be avoided, minimized or mitigated, and addresses alternatives to the project. CEQA requires that an EIR contain, at minimum, certain specific elements. These elements include:

- Introduction
- Executive Summary
- Project Description
- Environmental Setting, Impacts and Mitigation Measures
- Cumulative Impacts
- Alternatives to the Proposed Project
- Growth-Inducing Impacts
- Effects Not Found To Be Significant
- Organizations and Persons Consulted
- Bibliographic References

1.1.2 DETERMINATION OF THE LEAD AGENCY

The State of California Environmental Quality Act (CEQA) Guidelines § 15367 defines the lead agency as " . . . the public agency which has the principal responsibility for carrying out or approving a project." Criteria considered in identifying the lead agency include whether the agency 1) has the greatest responsibility for supervising or approving the project as a whole; 2) is an agency with general governmental powers, and 3) will act first on the project in question (refer to State CEQA Guidelines § 15051).

The County of Riverside is the lead agency under the CEQA and is responsible for preparation of the Springbrook Estates Specific Plan/EIR (SP/EIR). The SP/EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the objectives and components of the proposed project, as well as the potential environmental impacts, and to describe mitigation measures and reasonable alternatives to the project.

The EIR is further intended to serve as the primary environmental document for subsequent actions within the Springbrook Estates project area, including all local discretionary approvals requested to implement the Springbrook Estates project. In addition, the EIR is the primary reference document in the formulation and implementation of the Mitigation Reporting and Monitoring Program for the Springbrook Estates project.

The County of Riverside, which has the principal responsibility for processing and approving the project, and other public agencies (i.e. Responsible Agencies) that may use the EIR in decision-

making or permit processing will consider the information in the SP/EIR along with other information that may be presented during the CEQA process. In accordance with CEQA, the public agencies will be required to make findings for each environmental impact of the project that cannot be mitigated to below a level of significance. If the lead agency and responsible agencies decide that the benefits of the proposed project outweigh unmitigated significant environmental effects, they will be required to make a Statement of Overriding Considerations giving reasons to support their action.

This DEIR was prepared by a team of consultants for submittal to the County of Riverside. Prior to public review, it was extensively reviewed and evaluated by the County of Riverside staff. The EIR reflects the independent judgment of the County of Riverside as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel are provided in Section VI.D of the EIR.

1.1.3 PURPOSE OF THE EIR

The Springbrook Estates EIR is a Project EIR that examines the environmental effects of a specific project. The intent of the document is to analyze the environmental effects of the proposed Springbrook Estates project to the degree of specificity required by § 15146 of the State CEQA Guidelines. It is anticipated that upon certification of the SP/EIR, no additional CEQA review will be required for project implementation. The project may require subsequent approvals including, but not limited to, grading permits, building permits, certificate of occupancy, regulatory permits, etc. The lead agency, as well as other responsible agencies, can approve subsequent actions without additional environmental documentation unless as otherwise required by Public Resources Code § 21166 and State CEQA Guidelines § 15162, § 15163 and § 15164.

1.1.4 SCOPE OF THE EIR

The EIR addresses the potential environmental effects of the proposed project. The scope of the EIR includes the areas of controversy identified by the Notice of Preparation (NOP) issued by the County, as well as issues raised by agencies and the public in response to the NOP, as described below.

Scoping Process

In compliance with the State CEQA Guidelines, the County of Riverside has taken steps to maximize the public's opportunity to participate in the environmental process. A Notice of Preparation (NOP) was distributed on September 3, 2002 via certified mail to agencies and other interested parties to solicit comments and inform the public of the proposed project. The project was described and the public was invited to review the NOP. Public comments on the issues discussed in the Initial Study were encouraged and solicited. A scoping meeting was also held on the Draft Specific Plan (SP) and

EIR at a Special Planning Commission hearing on October 30, 2002 to solicit comments on the SP/EIR.

Agencies, organizations, and interested parties not previously contacted or who did not respond to the NOP had the opportunity to comment during the 45-day public review period on the Draft SP/EIR.

The potential significant issues that related to development of the project included: land use and planning; biological resources; cultural resources; transportation and circulation; air quality; noise; geology and soils; hydrology and water quality; employment, population, and housing; public services, utilities, and energy consumption; and aesthetics.

Environmental element(s) that were determined not to be significantly affected by the proposed project—and therefore did not require evaluation in the SP/EIR, per § 15063(c) of the State CEQA Guidelines (as amended)—were as follows:

- Mineral Resources. The Mineral Resources Element of the General Plan does not indicate the presence of mineral resources on the project site. Thus, implementation of the proposed project will not result in impacts to mineral resources.

The SP/EIR includes an alternatives discussion that analyzes a reasonable range of alternatives that could feasibly attain the basic objectives of the project and evaluates the comparative merits of the alternatives. This EIR includes an evaluation of the following alternatives to the proposed project:

- No Development Alternative
- No Project - Existing Zoning Alternative
- No Project - Development Under the General Plan Alternative

1.1.5 INCORPORATION BY REFERENCE

As permitted by § 15150 of the State CEQA Guidelines, the SP/EIR has referenced several technical studies, analyses, and reports. Information from the documents that has been incorporated by reference has been briefly summarized in the appropriate section(s) of the SP/EIR. The documents and other sources that have been used in the preparation of the SP/EIR include a number of environmental and planning documents that were prepared for development projects. These documents are specifically identified in the EIR's Section VI.D, Organizations, Persons, and Documents Consulted. In accordance with § 15150(b) of the State CEQA Guidelines, the location where the public may obtain and review these referenced documents and other sources used in the preparation of the Draft SP/EIR is also identified in Section VI.D.

1.1.6 PROJECT SPONSORS AND CONTACT PERSONS

The County of Riverside is the lead agency in the preparation of the SP/EIR. Urban Environs and Michael Brandman Associates (MBA) are the consultants who prepared the SP/EIR for the project. Preparers of the SP/EIR are provided in Section VI.D and are stated below:

Lead Agency: ..... Riverside County Planning Department
Larry Ross, Project Planner
4080 Lemon Street, 9th Floor
Riverside, CA 92501
909.955.2402
909.955.3157 (fax)

SP Consultant: ..... Urban Environs
Patrick J. Meyer, AICP
133 E. Vine Street
Redlands, CA 92373
909.798.4446
909.335.9747 (fax)

EIR Consultant: ..... Michael Brandman Associates
Jason Brandman, Senior Project Manager
220 Commerce, Suite 200
Irvine, CA 92604
714.508.4100
714.508.4110 (fax)

Project Applicant: ..... Springbrook Investments, LP
William Shopoff, President
114 Pacifica, Suite 245
Irvine, CA 92618
949.417.1396
949.417.1399 (fax)

1.2 OVERVIEW OF THE DRAFT EIR

1.2.1 MODIFIED PROJECT DESCRIPTION

The project applicant has revised the Springbrook Estates project description, in part in response to the Riverside Unified School District letter dated February 20, 2004. That letter—included in Section 3 of this RTC document—states that, "The Riverside Unified School District has re-evaluated the needs for schools projected to serve the anticipated student population from the new residential development in the Highgrove Area. The District has concluded that it does not require the property within the boundaries of the Springbrook Estates project as previously identified." Moreover, as asserted in the District's response, the conversion of the previously proposed school district property to residential land uses will not negatively impact the District since the appropriate mitigation fee will

be assessed. Moreover, as described in detail below, the detention basins located in Planning Area-(PA) 1 and PA-2 have been removed and, as part of the Modified Project, the northwestern basin has been replaced with 7 additional residential lots. As identified in Figures 1, 2a, and 2b, and shown in Table 1.2-1, the following is a more detailed discussion outlining the specific characteristics of this Modified Project:

1. Elimination of the 7.50-acre elementary/middle school site within PA-3 and the addition of 30 residential units on the 7.50-acre site.

2. The elimination of the 1.58-acre detention basin, located in the northeastern portion of the project site and the addition of 7 residential units on the 1.58-acre site.

3. The reduction of 0.22 acres of Open Space/Parks, resulting in 50.02 acres.

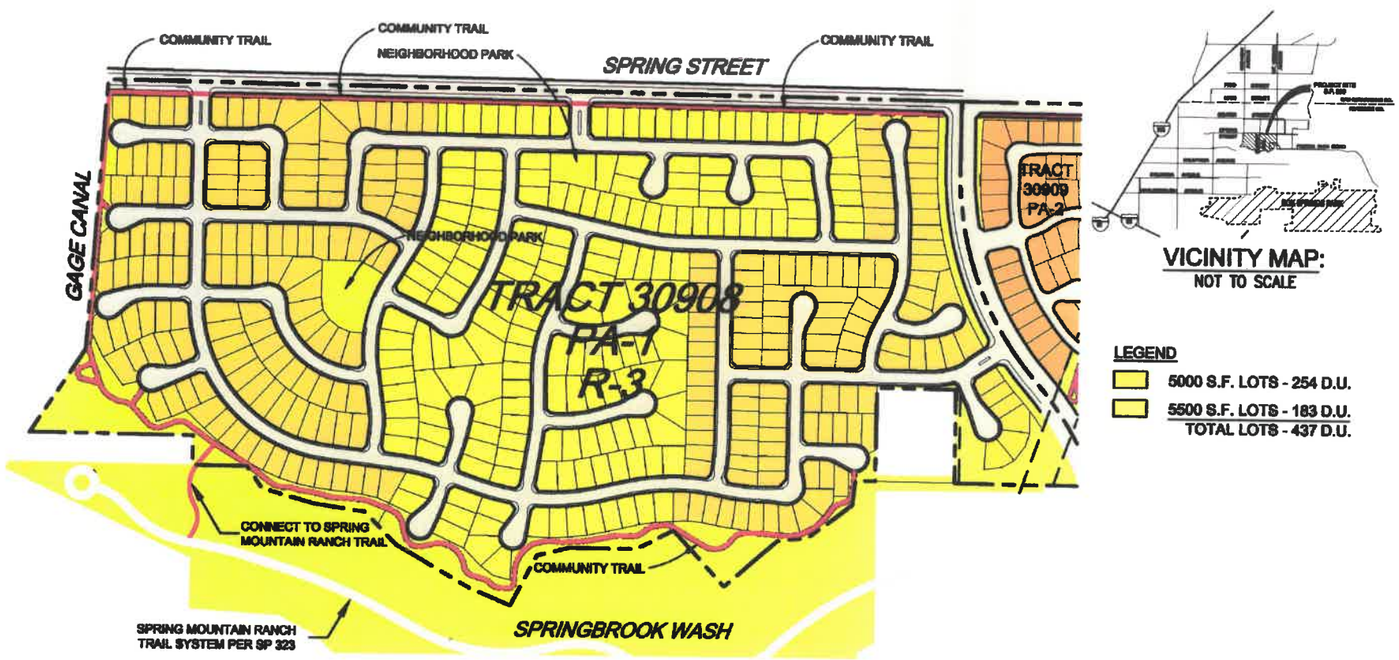
4. The addition of 4.0 acres of streets to access the new residential units.

5. The total of residential acreage development will increase by 5.42 acres from 86.85 acres, for a total of 92.27 acres.

As detailed below, these modifications result in fewer adverse impacts to circulation and traffic; hydrology, flooding, and drainage; and public services and utilities related to school services compared to the previous proposed project, and thus do not qualify as significant new information under CEQA Guidelines § 15088.5. Also as discussed below, the Modified Project will result in fewer environmental impacts than the proposed project.

Circulation and Traffic

Urban Crossroads prepared an *Alternative Trip Generation Evaluation* report to address the Modified Project Description. Urban Crossroads concluded that the project modifications, the addition of 37 residential units and the elimination of the school component, will result in an overall reduction in the project-related traffic generation. Specifically, in relation to the project as analyzed in the January 2004 DEIR, the Springbrook Estates project will result in generating 1,875 fewer daily trips, including a reduction of 699 vehicle trips during the AM peak hour and 136 vehicle trips during the PM peak hour. Moreover, the findings included in the September 2002 *Traffic Impact Analysis* will not be altered in relation to the reduction of daily vehicle trips associated with the Modified Project. On the contrary, the project impacts will be less than what was presented in that study, which can be considered a conservative analysis.



Source: The Keith Companies, April 2004.

NORTH

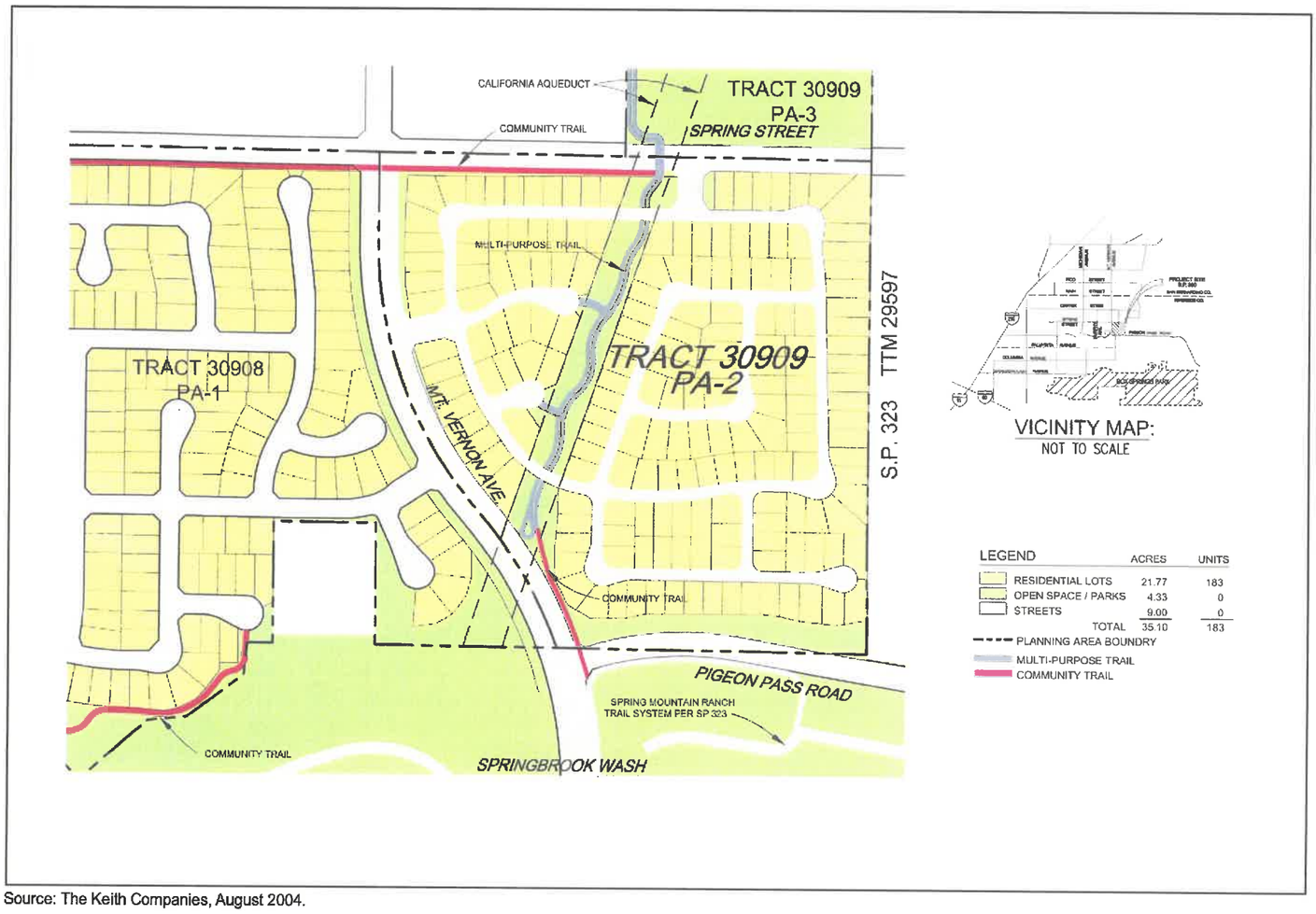
Michael Brandman Associates

21970012 • 05/2004

Figure 1

Planning Area 1

SPRINGBROOK ESTATES RTC



Source: The Keith Companies, August 2004.

NORTH

370 185 0 370

SCALE IN FEET

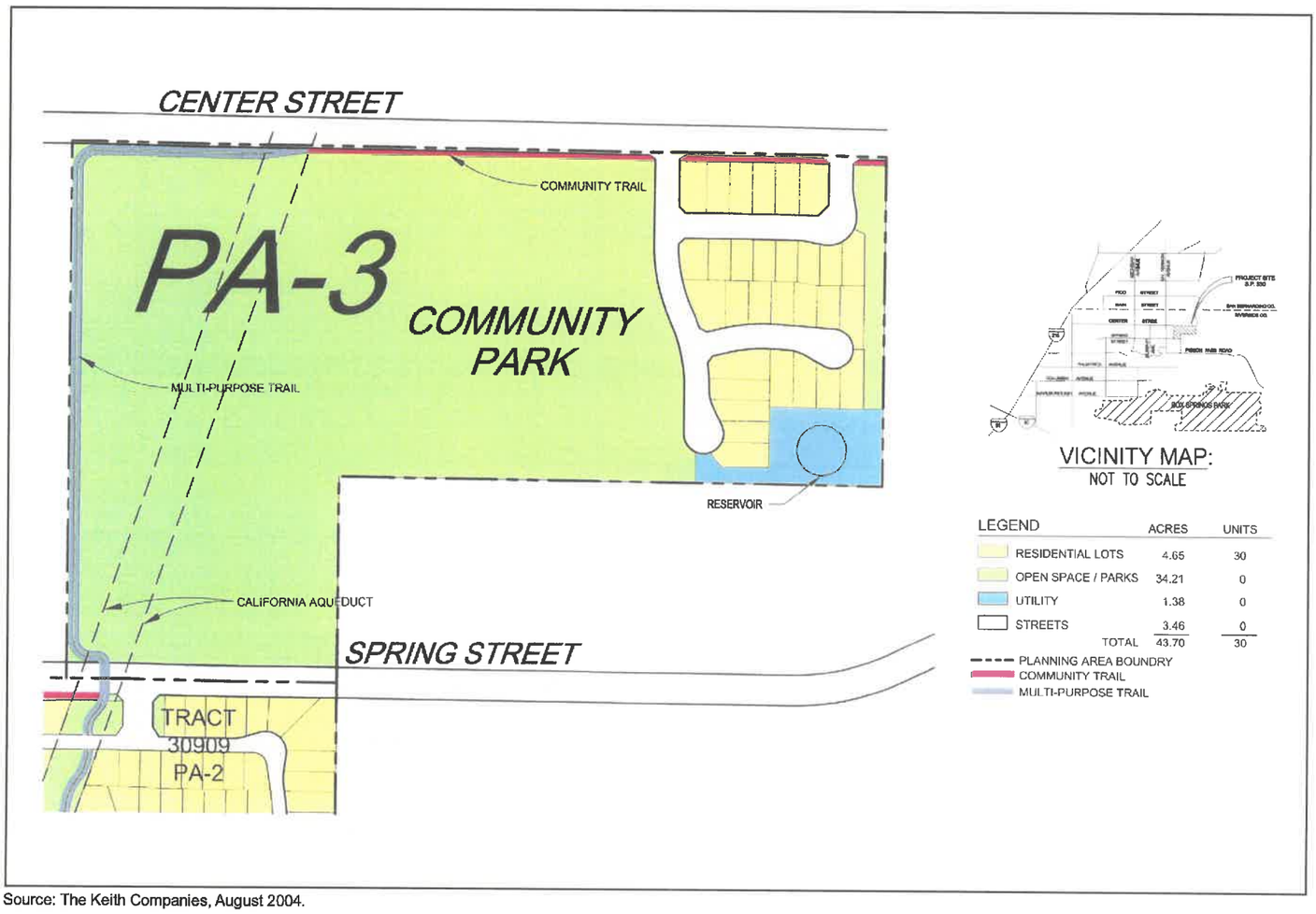
Michael Brandman Associates

21970012 • 08/2004

Figure **2a**

Planning Area 2

SPRINGBROOK ESTATES RTC



Source: The Keith Companies, August 2004.

Michael Brandman Associates

21970012 • 08/2004

Figure **2b**

Planning Area 3

SPRINGBROOK ESTATES RTC

Hydrology, Flooding, and Drainage

The Keith Companies has completed revisions to Specific Plan 330 and Tentative Tract Maps 30908 and 30909 (Springbrook Estates) in the County of Riverside based on changes in the project design including: removal of the previously proposed detention basins in PA-1 and PA-2; the removal of a 7.5-acre school site in PA-3; and, the addition of 7 residential lots in PA-1 and 30 residential lots in PA-3.

The PA-1 detention basin has been eliminated due to upstream flows that historically discharged into the Spring Street storm drain system that are now planned to be discharged directly into Springbrook Wash as part of the master drainage plan for Spring Mountain Ranch, SP 330. Based on as-built improvement plans for the Spring Street storm drain, the design flow of the 51" reinforced concrete pipe (RCP) storm drain at the northwesterly corner of PA-1 is 252 cubic feet per second (cfs). The peak flow from the Springbrook Estates project to the Spring Street storm drain system is approximately 235 cfs.

The PA-2 detention basin has been eliminated as a result of a meeting with Riverside County Flood Control and Water Conservation District (RCFCWCD), who indicated that attenuation of peak flows from PA-2 would not be required for storm drain discharges to Springbrook Wash.

The additional 30 dwelling units in PA-3 and removal of the school site does not significantly impact the design flows from PA-3. The 7.5-acre school site was removed from PA-3, while approximately 7.3 acres of residential lots were added to PA-3.

Public Services and Utilities – School Services

As identified in their February 20, 2004 comment letter on the DEIR, the Riverside Unified School District (RUSD) has re-evaluated the needs for a school site on the Springbrook Estates Specific Plan site.

According to the RUSD, removal of the school facility from the property and inclusion of residential units; described previously in this section, would not negatively impact the school district's ability to serve the site. Moreover, the project applicant would be required, by law, to pay school fees in the amount of $3.20 per square foot of residential space as mitigation for school facilities impacts. Pursuant to § 65995 (3)(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statuary fees, "is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization."

Therefore, removal of the school site from the Springbrook Estates Specific Plan would not create any new unavoidable adverse impacts relating to school services.

Modified Project Land Use Summary

The Springbrook Estates Specific Plan is a master planned residential development located in the community of Highgrove, within the Sphere of Influence of the City of Riverside. The subject property is located northeast of the City of Riverside, generally along the north and south sides of Spring Street, and easterly and westerly of Mount Vernon Avenue. The property has been assembled from contiguous properties, formerly operated as citrus ranches, forming an approximate total of 183.95 acres. The project site is located immediately west and contiguous with the Spring Mountain Ranch Specific Plan No. 323. Springbrook Wash is located immediately south of the subject site. Regional access to the project site is provided by the 60, 215, and 91 Freeways, located approximately 2 miles to the west of the project. Locally, the project site can be accessed by Center Street, Spring Street, Palmyrita Avenue, and Mount Vernon Avenue.

Springbrook Estates has been planned for the development of a single-family residential community, incorporating neo-traditional architecture and site planning techniques, interlaced with abundant landscaping and open spaces. As jointly determined by the Applicant and the County of Riverside, a Development Agreement, pursuant to Government Code § 65864 et seq., may be desirable to implement the project. Table 1.2-1 summarizes the Springbrook Estates land uses under the modified project.

Table 1.2-1: Modified Project Land Use Summary

	Area (ac.)					Dwelling Units
	Residential Lots	Utility (Reservoir)	Park/Open Space	Streets	Total	
PA-1	65.85	—	11.48	27.82	105.15	437
PA-2	21.77	—	4.33	9.00	35.10	183
PA-3	4.65	1.38	34.21	3.46	43.70	30
Total	**92.27**	**1.38**	**50.02**	**40.28**	**183.95**	**650**
Source: The Keith Companies, July 2004.						

1.2.2 SUMMARY OF ALTERNATIVES

Section 15126(d) of the CEQA Guidelines requires that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain most of the basic objectives of the project, and evaluate the comparative merits of the alternatives" but would avoid or substantially lessen any of the significant effects of the project. The EIR includes an evaluation of the following alternatives to the proposed project:

- No Development Alternative
- No Project - Existing Zoning Alternative
- No Project - Development Under the General Plan Alternative

1.2.3 MITIGATION MONITORING PROGRAM

CEQA requires public agencies to set up monitoring or reporting programs for the purpose of ensuring compliance with those mitigation measures adopted as conditions of project approval in order to mitigate or avoid significant environmental effects identified in EIRs. Mitigation measures identified within the SP/EIR have been described in sufficient detail to provide the necessary information to identify the party(ies) responsible for carrying out the mitigation, when the mitigation will be implemented, and why the mitigation has been required. A mitigation monitoring program, incorporating the mitigation measures set forth in this document, will be adopted at the time of certification of the SP/EIR.

1.2.4 SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A detailed discussion and analysis of project impacts and recommended mitigation measures is presented in Section VI, General Plan/Environmental Analysis, in the SP/EIR. Section III.B, EIR/Issues Matrix, in the SP/EIR summarizes these impacts. Refer to the full text of the January 2004 SP/EIR for a description of the environmental effects of the proposed project and feasible mitigation measures.

SECTION 2:
LIST OF COMMENTORS

Commentors	Author Code
State Agencies	
State of California, Governor's Office of Planning and Research	OPR
Regional Agencies	
Santa Ana Regional Water Quality Control Board	CRWQCB
Southern California Association of Governments	SCAG
County Agencies	
Riverside County Waste Management Department	RCWMD
Local Agencies	
Grand Terrace Community and Economic Development Department	GTCEDD
City of Riverside Planning Department	RPD
Riverside Unified School District	RUSD
Greater Riverside Chambers of Commerce	GRCC
Moreno Valley Public Works Department	MVPWD

SECTION 3:
RESPONSE TO COMMENTS

3.1 INTRODUCTION

In accordance with § 15088 of the State of California Environmental Quality Act (CEQA) Guidelines, the County of Riverside as the lead agency evaluated the comments received on the DEIR (State Clearinghouse No. 200209126) for the Springbrook Estates Specific Plan No. 330 and has prepared responses to the comments received. This RTC document becomes part of the Final EIR for the project in accordance with § 15132 of the State CEQA Guidelines.

The DEIR was distributed for public circulation by the County of Riverside in January 2004. The County used several methods to elicit comments on the DEIR. Copies of the DEIR document were distributed to state, regional, local agencies, and local libraries as well as individuals, for their review and comment.

3.2 COMMENT LETTERS AND RESPONSES

The comment letters and responses are provided on the following pages. All corrections, clarifications, and refinements are herein incorporated by reference into the DEIR text.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Jan Boel
Acting Deputy Director

March 8, 2004

Larry Ross
Riverside County Planning Department
PO Box 1409
Riverside, CA 92502-1409

Subject: Spring Brook Estates Specific Plan No. 330
SCH#: 2002091026

Dear Larry Ross:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on March 5, 2004, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. **OPR-1**

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

3.2.1 STATE AGENCIES

State of California, Governor's Office of Planning and Research

Response to OPR-1

This comment is noted and is included in the public record for review and consideration by the appropriate decision-makers.

California Regional Water Quality Control Board
Santa Ana Region

Terry Tamminen
Secretary for Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348
(909) 782-4130 • Fax (909) 781-6288
http://www.swrcb.ca.gov/rwqcb8

Arnold Schwarzenegger
Governor

February 20, 2004

Larry Ross
County of Riverside Planning Department
PO Box 1409
Riverside, CA 92502-1409

COMMENTS ON DRAFT EIR FOR SPRINGBROOK ESTATES, HIGHGROVE AREA, RIVERSIDE COUNTY, SPECIFIC PLAN NO. 330 (SCH NO. 2002091026)

Dear Mr. Ross:

Thank you for providing the opportunity to comment on the referenced Environmental Impact Report. This project appears to require a Clean Water Act Section 401 Water Quality Standards Certification (Certification) for certain project elements, particularly, the road crossing for Mount Vernon Avenue and outlet structures into Springbrook Wash. The California Department of Fish and Game will likely need to issue a Streambed Alteration Permit.

CRWQCB-1

The issuance of a Certification represents a determination by the Executive Officer that any discharge associated with the referenced project will comply with the applicable provisions of Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law. In order for such a determination to be meaningful, projects subject to Certification review are evaluated for their direct, indirect, and cumulative impacts to waters of the U.S. Best Management Practices (BMP) utilized on projects receiving a Certification must meet Best Available Technology standards that may go beyond BMPs proposed under the Riverside County Drainage Area Management Plan to include constructed wetlands, extended detention basins, vegetated swales, infiltration trenches, and sand filters, along with a variety of manufactured pre-treatment devices. Additionally, a variety of source-control, structural and non-structural BMPs will also need to be applied, including the use of porous pavements where prudent, direction of roof runoff into adjacent landscaping, and placement of permanent educational and interpretive signage.

CRWQCB-2

The project must also consist of a less adverse environmental impact where practicable. All road crossings should take the form of bridges, or alternatively, over-sized, open-bottom culverts. Outfall structures should be sized or positioned so as to minimize the need for energy dissipation downstream.

In evaluating cumulative impacts, Regional Board staff is often concerned with the viability of efforts to preserve avoided waters of the U.S. on- and off-site against the need for further "improvements" for flood control purposes. Such preservation efforts must have an extended horizon for consideration. In Orange County, waters of the U.S. that had been preserved in a semi-natural state under flood control standards in force more than 30 years ago have had to be improved as the result of a variety of reasons.

CRWQCB-3

Errors in hydrology calculations, refined methodologies, additional gains in historical rainfall data, and economic pressure to increase flood event standards have necessitated substantial changes in waters of the U.S., often from soft-sided channels to hard-armored channels. The result has been the direct degradation of the physical and biological integrity of the channels and degradation of water quality.

Long-term changes in the hydrology of channels, particularly the conversion of ephemeral drainages and washes to a perennial condition, can increase biomass within the channels, redirect flows, alter the channel's roughness coefficient, and elevate the hydraulic grade line. Optimally, channels may require limited additional armoring, or vegetation thinning or mowing, and, in the worst such cases, concrete lining. In all cases the biological integrity of the channel is impaired.

Stochastic events have also necessitated that channels, which would otherwise be left in a natural state, be cleared of vegetation. The recent fires in the San Bernardino Mountains have illustrated the effect of fires on bulking factors, given additional sedimentation and debris in subsequent storm flows. With human population increasing in the mountain foothills, such fire frequencies are likely to increase and threaten natural preserved channels.

In evaluating the remaining right-of-way allowed for Springbrook Wash, Regional Board staff will need to consider 1) the applicant's BMPs to prevent conversion of Springbrook Wash to a perennial stream and 2) what allowances have been made for vegetation in the Wash under design storm conditions. Regional Board staff recommends that the channel's design flows incorporate highly conservative methods and input parameters, in order to account for errors and fire events and allow the channel to remain in as natural a condition as possible for as long as possible.

CRWQCB - 3

If you have any questions, please do not hesitate to contact me at (909) 320-6363.

Sincerely,

Adam P. Fischer
Environmental Scientist
Region 8 401 Certification Coordinator

APF:401/springbrook est~

3.2.2 REGIONAL AGENCIES

Santa Ana Regional Water Quality Control Board

Response to CRWQCB-1

Springbrook Wash was previously used as a commercial citrus orchard. Jurisdictional waters of the United States and State within Springbrook Wash are located along the southern boundary of the Wash, as documented in the *Spring Mountain Ranch Specific Plan 323 (SP 323) Environmental Impact Report*.

The road crossing for Mount Vernon is part of the SP 323 - Phase 1 proposed improvements. A 401 Water Quality Certification was issued for SP 323 - Phase I on September 19, 2001. The California Department of Fish and Game (CDFG) issued the Streambed Alteration Agreement No 6-2001-141 for SP 323 on December 10, 2002.

The proposed Springbrook Estates storm drain improvements include outlet structures located along the northern limits of the Springbrook Wash. The outlets are located approximately 250 feet away from federal and state jurisdictional waters. No impact to federal or state jurisdictional waters will result from installation of the proposed outlet structures.

Response to CRWQCB-2

Springbrook Estates will comply with applicable federal, state and local regulations pertaining to water quality and erosion control, as administered by the County of Riverside Flood Control District and the State Water Resources Control Board Section 402 program.

Response to CRWQCB-3

This comment is noted and is included in the public record for review and consideration by the appropriate decision-makers.

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435
t (213) 236-1800
f (213) 236-1825
www.scag.ca.gov

March 1, 2004

Mr. Larry Ross
Project Planner
County of Riverside Planning Department
4080 Lemon Street, 9th Floor
P.O. Box 1409
Riverside, CA 92501

RE: **Comments on the Draft Environmental Impact Report for the Springbrook Estates Specific Plan: No. 330 – SCAG No. I 20040033**

Dear Mr. Ross:

Thank you for submitting the **Draft Environmental Impact Report for the Springbrook Estates Specific Plan: No. 330** to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

It is recognized that the proposed Project considers a Specific Plan and zone change for the development of 613 residential units. The proposed Project would also provide for an elementary/middle school, open space and parks, and additional public facilities. The approximately 184-acrs sited is located in the University Zone Area, County of Riverside.

SCAG staff has evaluated the **Draft Environmental Impact Report** for consistency with the Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP). The Draft EIR does not include an analysis of project consistency with relevant and applicable policies of SCAG's RCPG and RTP, which were outlined in our September 30, 2002 letter on the Notice of Preparation (NOP) for this Draft EIR. . It would be helpful if the Final EIR would provide a discussion and address the manner in which the proposed Project is consistent with or detracts from the achievement of RCPG and RTP policies. SCAG's September 30, 2002 letter is attached for your information.

In addition, please provide a discussion on the following growth visioning principles: SCAG-1

GROWTH VISIONING

The fundamental goal of the Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and **sustain** for future generations the region's **mobility, livability** and **prosperity**. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal.

Principle 1: Improve **mobility** for all residents

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.
- Encourage transit-oriented development.
- Promote a variety of travel choices

Principle 2: Foster **livability** in all communities
- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote "people scaled," walkable communities.
- Support the preservation of stable, single-family neighborhoods.

Principle 3: Enable **prosperity** for all people
- Provide, in each community, a variety of housing types to meet the housing needs of all income levels.
- Support educational opportunities that promote balanced growth.
- Ensure environmental justice regardless of race, ethnicity or income class.
- Support local and state fiscal policies that encourage balanced growth
- Encourage civic engagement.

Principle 4: Promote **sustainability** for future generations
- Preserve rural, agricultural, recreational and environmentally sensitive areas.
- Focus development in urban centers and existing cities.
- Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.
- Utilize "green" development techniques.

SCAG-1

We expect the Final EIR to specifically cite the appropriate SCAG policies and address the manner in which the Project is consistent with applicable core policies or supportive of applicable ancillary policies. Please use our policy numbers to refer to them in your Draft EIR. Also, we would encourage you to use a side-by-side comparison of SCAG policies with a discussion of the consistency or support of the policy with the proposed Project.

Based on the information provided in the Draft EIR, we are unable to determine whether the Project is consistent with SCAG policies. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

Attachment: SCAG Letter, September 30, 2002

Southern California Association of Governments

Response to SCAG-1

Page VI.A.1-11, the following language has been added after the third paragraph:

4) Regional Plan Relationship

a. Southern California Association of Governments Regional Transportation (SCAG) Plan. The Regional Transportation Plan (RTP) is a performance-based plan aimed at providing coordinated long-range approach to transportation improvements within Southern California. It identifies the specific performance measures necessary to meet mobility, air quality, and other regional goals. The RTP is revised and adopted every three years to update policy direction based on changing transportation infrastructure, financial, technological, and environmental conditions. The most recent update of the RTP was completed in 2001. The RTP provides a framework for transportation improvements to allow the region to meet mobility goals and demonstrate air quality conformity under a financially constrained environment, while providing flexibility to implementing agencies as they develop and refine their strategies. A discussion of the Springbrook Estates project's consistency with the goals of the 2001 SCAG's RTP is provided below:

4.01 Transportation investments shall be based on SCAG's adopted Regional Performance indicators:

- Transportation systems should meet the public need for improved access, and for safe, comfortable, convenient, faster, and economical, movements of people and goods.
- Transportation systems should ensure the ease with which opportunities are reached. Transportation and land use measures should be employed to ensure minimal time and cost.
- Transportation system should sustain development and preservation of the existing system and environment.
- Transportation system should have reasonable and dependable levels of service by mode.
- Transportation systems should provide minimal accident, death, and injury.
- The benefits of transportation investments should be equitably distributed among all ethnic, age, and income groups.
- Maximize return on transportation investment.

4.02 Transportation investments shall mitigate environmental impacts to an acceptable level.

4.04 Transportation control measures shall be a priority.

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

Project Consistency. The Springbrook Estates project site proposes new roads to be constructed within the project site and provides the necessary linkages to the adjacent communities. The project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods and community parks through a safe, efficient road network, including secondary highway, collector, and local roadways. The *Traffic Impact Analysis* identifies project related impacts including level of service deficiencies and mitigation measures are outlined (see Section VI.A.2 of this EIR) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. The *Traffic Impact Analysis*, contained in Appendix D of this EIR, details the improvements necessary upon buildout of the project. The analysis includes a summary of the regional transportation management mechanisms that maybe employed for the project. As detailed in Section VI.A.2, the circulation plan provides an efficient traffic design that meets the needs of the project. The onsite system depicted in Figure V-2, *Master Circulation Plan,* has been derived from information outlined in the Traffic Impact Analysis and will serve as the composite Circulation Plan for the Springbrook Estates project. The project will also participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway needs to provide for the improvement of street and highway service access to the proposed project.

b. **Southern California Association of Government's Regional Growth Principles.** The fundamental goal of SCAG's Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and sustain future generations, the regions mobility, livability, and prosperity. The following Regional Growth Principles apply to the proposed project:

Principle 1: Improve mobility for all residents.

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.

- Encourage transit oriented development.
- Promote a variety of travel choices.

Project Consistency. The Springbrook Estates project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods, schools, and community parks though a safe and efficient road network. Moreover, the project includes the development of a trail system consistent with the General Plan and approved by the County Department of Parks and Recreation. The trail system includes a multi-purpose trail and a community trail, which provide for non-motorized linkages throughout the project site and the surrounding area. The trail system will connect with the approved Spring Mountain Ranch trail system to the south and east of the project site and provide access to the school site and the neighborhood commercial uses located southeast of the project site.

The project site is located within close proximity to several existing and proposed business parks (Hunter and Concordia Business Parks and University Research Park) and the commercial uses within the Spring Mountain Ranch Specific Plan to the southeast and east of the project site. Therefore, it is anticipated that the project will provide housing for existing and future employees thereby reducing vehicle miles traveled.

Principle 2: Foster livability in all communities.

- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote people scaled walkable communities.
- Support the preservation of stable, single-family neighborhoods.

Project Consistency. The Springbrook Estates project concentrates development in proximity to existing suburban uses. Specifically, the project is located in an area with existing suburban uses to the north and west and approved residential and commercial uses to the southeast and east. The Springbrook Estates project will provide a logical transition of uses and will not introduce new land uses into the project area. Rather, the Springbrook Estates project will provide an array of residential community types varying in character and patterns of distribution that will serve to strengthen the residential nature of the greater project area. The project includes a

community trail system, which will serve to capitalize on multi-modal transportation opportunities.

Principle 3: Enable prosperity for all people.

- Provide, in each community, a variety of housing types to meet the housing needs of all income levels.
- Support educational opportunities that promote balanced growth.

Project Consistency. The proposed project is expected to provide an array of residential and community types varying in character and patterns of distribution. Southeast of the project site, within the adjacent Spring Mountain Ranch Specific Plan, is a Riverside Unified School District school site.

Principle 4: Promote sustainability for future generations.

- Preserve, rural agricultural, recreational, and environmentally sensitive areas.
- Focus development in urban centers and existing cities.
- Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution, and significantly reduce waste.
- Utilize "green" development strategies.

Project Consistency. To ensure the retention of the rural and open space character of the project area, the Springbrook Estates Specific Plan includes natural open space adjacent to Springbrook Wash and an allocation of approximately 50 acres of parkland and open space throughout the project site. Approximately 34 acres of active recreation parkland are located in the northeastern portion of the site, which will provide a buffer between the project development and Blue Mountain.

The Springbrook Estates project will provide a logical transition of uses from the existing residential land uses in the north and west to the approved residential land uses to the southeast and east. Mitigation measures and project design features have been incorporated into the project, which will encourage recycling and minimize pollution through the reduction of air emissions.

Riverside County
Waste Management Department
Hans W. Kernkamp, General Manager-Chief Engineer

February 13, 2004

Larry Ross, Project Planner
Riverside County Planning Department
4080 Lemon Street, 9th Floor
Riverside, CA 92501

RE: Notice of Completion of a Draft Environmental Impact Report for Specific Plan No. 330 (Springbrook Estates Specific Plan), and Change of Zone No. 6702.

Dear Mr. Ross:

The Riverside County Waste Management Department has reviewed the Notice of Completion (NOC) of a Draft Environmental Impact Report (DEIR) for Specific Plan No. 330, and Change of Zone No. 6702. The proposed project is located in the community of Highgrove, east of Freeway 215 and Michigan Avenue, south of Center Street and north of Palmyrita Avenue. The NOC indicates that the proposed site consists of 184.5 acres to be subdivided into 613 dwelling units in medium-high density residential neighborhoods. The plan also includes one (1) regional park, 23 pocket parks, and open space areas with community trails through out, totaling approximately 53.8 acres, and 7.5 acres of elementary/middle school property. The NOC states that the applicant proposes to change the existing zoning classification of the proposed site from R-1-20,000 (One Family Dwelling – 20,000 square foot minimum lot size), R-A-20,000 (Residential Agriculture – 20,000 square foot minimum lot size) and A-1-10 (Light Agriculture – 10 acre minimum) to SP (Specific Plan).

In August 2002, we had the opportunity to review your project, which at that time, consisted of a total of 135 acres, and proposed 500 residential units. In our letter dated August 14, 2002 (included in Appendix L of the DEIR), the RCWMD answered a few questions formulated by Kara Palm from Brandman Associates, and made a few recommendations. After reviewing the Notice of Completion, the DEIR, and the Change of Zone application, we would like to offer the following comments and recommendations:

1. DEIR - Page VI.A.14-17, Section 2 – Project Related Impacts, first paragraph
This text describes the generation of waste materials during the implementation/construction of the proposed project. Please explain the manner in which you plan to dispose of these materials and where would they be hauled. **RCWMD-1**

2. DEIR - Page VI.A.14-17, Section 2 – Project Related Impacts, third paragraph
This text states that the proposed project "is not anticipated to substantially shorten the life of the proposed landfills." Our letter dated August 14, 2002 stated that "Any large development as the one proposed could potentially shorten the lifespan of a landfill facility." We maintain the same position today, especially when we consider that the proposed project described in the DEIR includes more acreage (111 acres more), and a greater variety of land uses than the original project we reviewed in August 2002. Please revise the DEIR's text to reflect the comment made by RCWMD. **RCWMD-2**

3. DEIR - Page VI.A.14-17, Section 2 – Project Related Impacts, fourth paragraph
The DEIR mentions that the proposed project will be utilizing alternative disposal methods for the hazardous waste generated by the implementation of the project. The Riverside County Environmental Health – Hazardous Materials Management Division has a program through which new development is required to dispose of their hazardous materials, such as paint. This program is called Conditionally Exempt Small Quantity Generator (CESQG), **RCWMD-3**

which is a hazardous waste pick-up disposal service for eligible businesses. It requires that businesses that generate 27 gallons or 220 lbs of hazardous waste monthly, use a licensed hazardous waste hauler to manifest and transport their waste. The Riverside County counts with 25 mobile hazardous waste collection sites. To arrange an appointment for the CESQG Program, the business must call 1 (800) 952-5566. A disposal fee will be charged based on the type and amount of waste. Additional information may be obtained by calling the Hazardous Waste Information Hotline 1 (800) 304-2226. Please include this information in the DEIR as an alternative disposal method.. RCWMD-3

4. Page VI.A.14-19, Section C – Mitigation Measures, item 5
The EIR proposes that "a project-related public facilities provide an area for the loading and collection of recycling materials." Please incorporate the language used in our letter dated August 14, 2002, which reads: "Adequate areas for the collection and loading of recyclable materials are to be provided within detached, single family residential areas where solid waste is collected and loaded in a location, which serves five or more units. The design guidelines and plans for this residential development shall appropriately identify and describe these areas." RCWMD-4

5. Page VI.A.14-19 Section C – Mitigation Measures, item 6
The EIR should contain an estimate of the amount of hazardous waste, such as paint, that will be generated by the project during construction and how it will be disposed or recycled. In addition, incorporate the information regarding the CESQG available in item 3 of this letter. RCWMD-5

6. As requested earlier, in our letter dated August 14, 2002, the DEIR should provide a discussion about the following regulatory requirements regarding solid waste:

   a) Projected traffic generated by the proposed project should include estimates of truck trips attributed to the collection and transportation of waste and recyclables from land uses within the proposed project area.

   b) Potential air quality impacts associated with the collection and transportation of solid waste from the project, i.e., disposal truck traffic, on a local and cumulative level. RCWMD-6

Thank your for the opportunity to comment on the DEIR for SP 330 and CZ 6702. If you have any questions, please contact me at 909/486-3284.

Sincerely,

M Liedl

Mirtha Liedl, Planner

PD # 21766

3.2.3 COUNTY AGENCIES

Riverside County Waste Management District

Response to RCWMD-1

Construction and debris materials generated during the short-term construction phase may include lumber, paper, cardboard, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe (plastic, metal, and clay), drywall, rocks, dirt, and green waste related to land development. There are several construction and debris recycling centers within both Riverside and San Bernardino County.

Response to RCWMD - 2

Page VI.A.14-17, Section 2, Project Related Impacts, third paragraph, is revised to read as follows:

According to the correspondence received from the RCWMD, a residential project such as the Springbrook Estates project, could potentially shorten the lifespan of the landfill capacity. The Badlands Landfill accepts on average 1,630 tons per day, the Lamb Canyon Landfill accepts on average 500 tons per day, and the El Sobrante Landfill accepts on average 3,649 tons per day. At a rate of 2.1 tons per day, the Springbrook Estates project represents 0.12, 0.42, and 0.05 percent of the average daily tonnage at the Badlands, Lamb Canyon, and El Sobrante landfills, respectively. While the project will contribute to shortening the lifespan of local landfills, the project's solid waste contributions are not considered significant. However, to conserve landfill capacity, the project shall participate in the County's efforts to meet and maintain the State's mandatory goal of a 50 percent reduction in waste disposed (Integrated Waste Management Act of 1989, AB 939, et seq.).

Response to RCWMD-3

During the construction phase for Springbrook Estates, there is the potential that the project will generate more than 27 gallons, or 220 pounds, of hazardous waste monthly, such as paint. As such, the project will be subject to the County of Riverside Conditionally Exempt Small Quantity Generator Program. The project will use a licensed hazardous waste hauler to manifest and transport their waste.

Page VI.A.14-17, Project Related Impacts, first paragraph, is revised to read as follows:

Implementation of the proposed project will involve site preparation activities that will generate waste materials including lumber, roofing material, concrete, debris, excess fill dirt, etc. Moreover, project implementation may result in the generation of hazardous waste such as paint, in excess of 27 gallons, or 220 pounds, per month. As such, the project shall comply with the County of Riverside

Conditionally Exempt Small Quantity Generator Program. Hauling and disposal of construction materials, debris, and construction-related hazardous materials, will occur during the construction process; such activities will result in a significant solid waste impact. Following completion and occupancy of the project, refuse will be regularly generated.

Response to RCWMD-4

Page VI.A.14-19, Mitigation Measure 5, is revised to read as follows:

Adequate areas for the collection and loading of recyclable materials shall be provided within the single-family residential areas where solid waste is collected and loaded in a location that serves five or more units. The design guidelines for the residential development shall appropriately identify and describe these areas.

In addition, the appropriate revisions have been made to the EIR Issue Matrix in Section V.III.B of the EIR.

Response to RCWMD-5

Page VI.A.14-19, Mitigation Measure 6, has been revised to read as follows:

The project applicant shall comply with the County of Riverside Conditionally Exempt Small Quantity Generator Program during the project's construction phase and the project applicant shall participate in the County Department of Environmental Health's mobile household hazardous waste collection program during the project's operational phase.

In addition, the appropriate revisions have been made to the EIR Issue Matrix in Section V.III.B of the EIR.

Response to RCWMD-6

The Springbrook Estates Specific Plan project is a residential project, which will result in the construction of 650 residential units. As with other residential neighborhoods, the Springbrook Estates Specific Plan area will have scheduled solid waste pick up. It is anticipated that solid waste/recycling pick up will not occur more than once a week. Such trips are accommodated within the Project Related and Cumulative Circulation and Traffic and Air Quality Impact Analyses in Sections VI.A.2 and VI.A.3 of the DEIR, respectively.

The Blue Mountain City
Grand Terrace
CALIFORNIA

Community and Economic Development Department

February 19, 2004

Mr. Larry Ross
Riverside County Planning Department
4080 Lemon Street, 9th Floor
Riverside, CA 92501

Re: Specific Plan 330 – Springbrook Estates

Dear Mr. Ross:

The City of Grand Terrace is in receipt of the draft Specific Plan and EIR for the Springbrook Estates projects located in the community of Highgrove, adjacent to the Grand Terrace City Limits. The City maintains an strong interest in this project and is extremely concerned with the high densities proposed by this project and its ultimate impacts to the City of Grand Terrace.

Our traffic engineer, Craig Neustaedter, has reviewed the project traffic study and presented our staff with the following comments:

The proposed Springbrook Estates development will be located in the County of Riverside, adjacent to Mount Vernon Ave., the primary north-south arterial in the City of Grand Terrace. The proposed project consists of 653 single-family dwelling units, and elementary school, a middle school, and a neighborhood park. At build out, the project will generate over 8,150 vehicle trips per day. A high percentage of these trips will directly impact many of the arterials and residential streets in the city of Grand Terrace, including Main Street, Michigan Ave., Mount Vernon Ave., and Barton Road.

In our review of this project, our primary consideration is the potential impact it will have on traffic circulation in the City of Grand Terrace. The City is deeply concerned about any and all potential impacts to our circulation system associated with this project. It is our expectation that any impacts that are created by the project will be mitigated by the project sponsor and/or the County of Riverside.

In order to accurately quantify the impacts of the Springbrook Estates project, it is first necessary to correct the following major deficiencies that have been identified in the traffic analysis:

1) The cumulative impact analysis is incomplete. Specifically, the traffic analysis fails to address the cumulative impacts caused by the proposed alternative to extend Pigeon Pass Road to Main Street that is currently being proposed as part of the Moreno Valley to San Bernardino County CETAP Corridor Study. The Pigeon Pass Road extension will be funded as part of the County's Transportation Uniform Mitigation Fee (TUMF) program. This indicates the County's commitment to construct this project, and verifies the need to address it as part of the cumulative impact analysis. **GTCEDD-1**

2) The traffic analysis fails to address the project impacts on important components of the circulation system including freeway interchanges on I-215 at Center Street and at La Cadena; and on at-grade rail crossings on Center Street and at Main Street. These freeway interchanges and at-grade rail crossings constitute significant bottlenecks in the circulation system. Traffic generated by the Springbrook **GTCEDD-2**

Estates project will exacerbate gridlock conditions that currently exist. Consequently, these conditions will force additional Springbrook Estates generated traffic that is under estimated in the traffic analysis to be diverted to Mount Vernon Ave. and Michigan Ave. in the City of Grand Terrace. It is imperative that the traffic study analyze the impacts on these interchanges and at-grade rail crossings, and identify and an appropriate mitigation program to avoid unacceptable impacts on the City of Grand Terrace circulation system. GTCEDD-2

3) Page 1-5 of the traffic study incorrectly indicates that certain intersections in San Bernardino County are under the jurisdiction of the Riverside County Board of Supervisors, and that Level of Service (LOS) "D" is acceptable at these locations. One of these intersections is Mount Vernon Ave. at Barton Road. This intersection is under the jurisdiction of the City of Grand Terrace. The LOS standard at this intersection is "C." The Springbrook Estates traffic study and EIR should be corrected accordingly. GTCEDD-3

4) The Springbrook Estates traffic study and EIR identify Riverside County's TUMF program as a project mitigation measure to fund improvements on freeway interchanges, railroad grade separations and arterial widenings. Many, if not most, of the project traffic impacts are in San Bernardino County. Consequently, Riverside County's TUMF program is not an acceptable means for providing mitigation to these important components of the circulation system. In order to provide acceptable mitigation, it is necessary for the County of Riverside to establish a development impact fee, the benefit assessment district, or other appropriate funding mechanism which would include the Springbrook Estates project and other new developments in this area of Riverside County for the purpose of funding requisite circulation infrastructure improvements in Grand Terrace and San Bernardino County. GTCEDD-4

The City is also concerned with the proposed densities and specific lot sizes proposed in this project. We do not believe that lot sizes of 4,000 to 5,500 square feet are compatible with the overall rural residential character of the Highgrove community. We are also concerned with the growth inducement potential of such small lots on vacant property adjacent to the city limits of Grand Terrace. Increased densities adjacent to the city limits will further impact our circulation system and be incompatible with the existing single family residential (7,200 square foot) developments on the City side of Main Street. GTCEDD-5

We appreciate the opportunity to review this project and ask that we be informed of all agency review meetings and public hearings. We also reserve the right to provide additional comments during the public review process. If you have any questions regarding the our comments and concerns, please feel free to call me at (909) 430-2225.

Sincerely,

CITY OF GRAND TERRACE

Gary L. Koontz
Director of Community Development

Cc: Ed Studor, Riverside County Transportation Department
Thomas Schwab, City Manager

3.2.4 LOCAL AGENCIES

Grand Terrace Community and Economic Development Department

Response GTCEDD-1

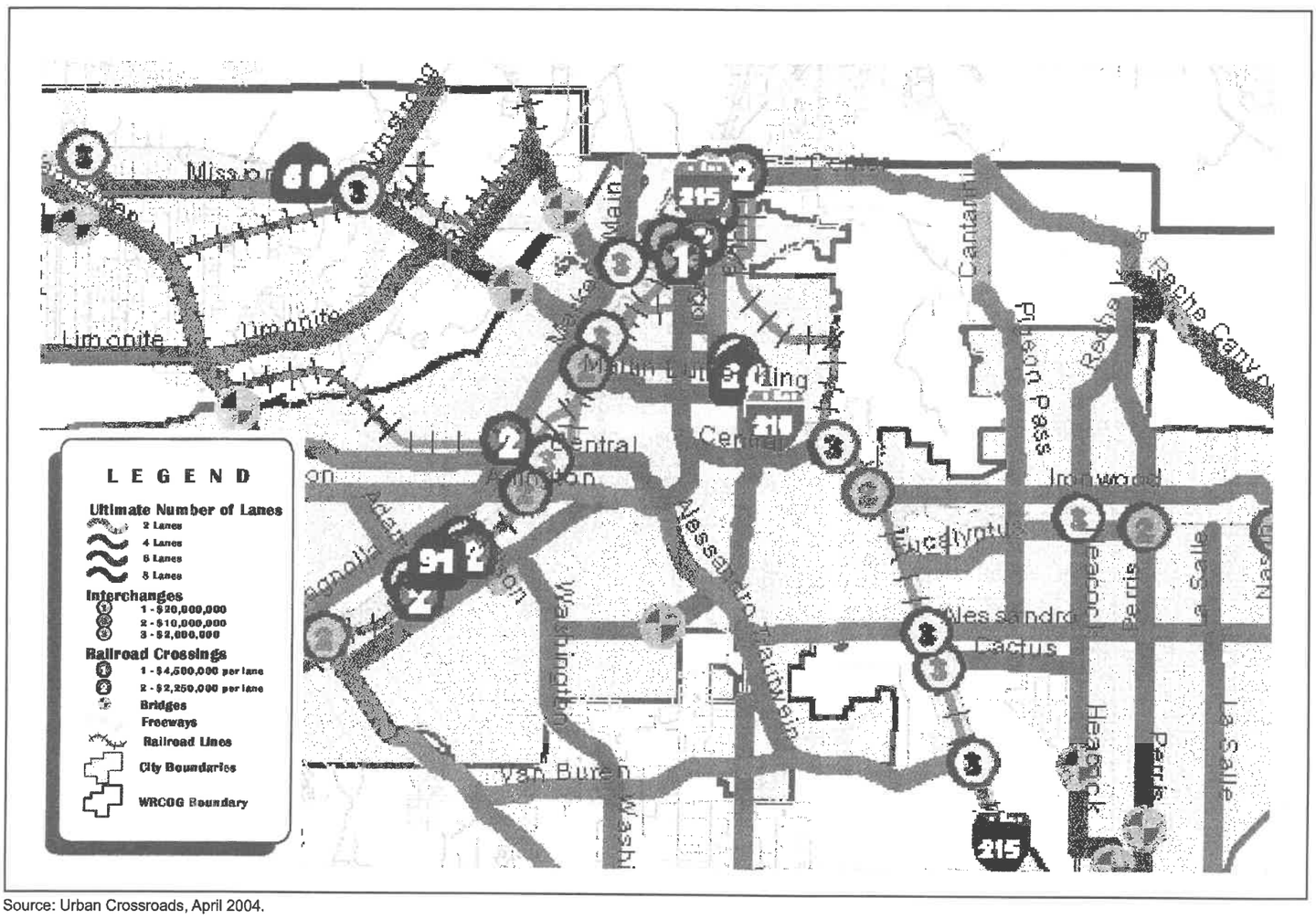
The Pigeon Pass Road extension has been included in the Transportation Uniform Mitigation Fees (TUMF) network in its conceptual form as a connection to Center Street, not Main Street, as shown in Figure 3. Inclusion of this street extension on the TUMF network does not guarantee its implementation. In fact, the County of Riverside has no commitment or intention to construct this project.

The County of Riverside has excluded the Pigeon Pass Road extension on the Riverside County Integrated Plan (RCIP) General Plan Circulation Element network (see DEIR Figure VI.A.2-2). This roadway remains unclassified on the General Plan network, and will be improved as a local collector roadway from Mount Vernon Avenue to the east project boundary of the Spring Mountain Ranch specific Plan 323 project (see DEIR Figure VI.A.2-16). Furthermore, in EIR 424 for the Spring Mountain Ranch project, which was certified by the Riverside Board of Supervisors on June 5, 2001, the recommendation in the traffic study to close Pigeon Pass Road to all traffic except emergency vehicles east of the project was accepted.

The Community and Environmental Transportation Acceptability Process (CETAP) was created to explore possible major new multi-modal corridors under the RCIP General Plan update. The Riverside County Transportation Commission (RCTC) has primary planning responsibility for CETAP through a comprehensive public outreach and community-based participation process.

Four primary linkages have been explored including Winchester to Temecula, Hemet to Corona/Lake Elsinore area, Moreno Valley to San Bernardino County and Riverside County to Orange County. Each of these routes has multiple alternatives under consideration. Each of these corridors requires significant additional review and analysis to determine feasibility, efficacy, and schedule. In most cases, precise alignment and configuration will not be known for many years. The overall planning process is multi-tiered including conceptual planning, feasibility, environmental review and analysis, preliminary design, final design and construction.

An estimated $370 million has been identified in the Riverside County Measure A Extension for CETAP corridors. This funding will be collected over a 30-year period beginning in 2009 and will cover a portion of the overall cost of implementation. Contributions from local, state, and federal sources will also be needed to complete planned facilities. Early planning activity on the Cajalco/Ramona corridor connecting Hemet and Corona/Lake Elsinore is being funded, in part, through TUMF.



Source: Urban Crossroads, April 2004.

Michael Brandman Associates

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Figure 3

Regional System of Highways and Arterials

SPRINGBROOK ESTATES RTC

Planning for the Moreno Valley to San Bernardino County corridor is being led by RCTC and the San Bernardino Associated Governments (SANBAG) and a program level EIR is currently underway.

The EIR is scheduled for completion in December 2005. Funding for this effort is being provided through discretionary sources.

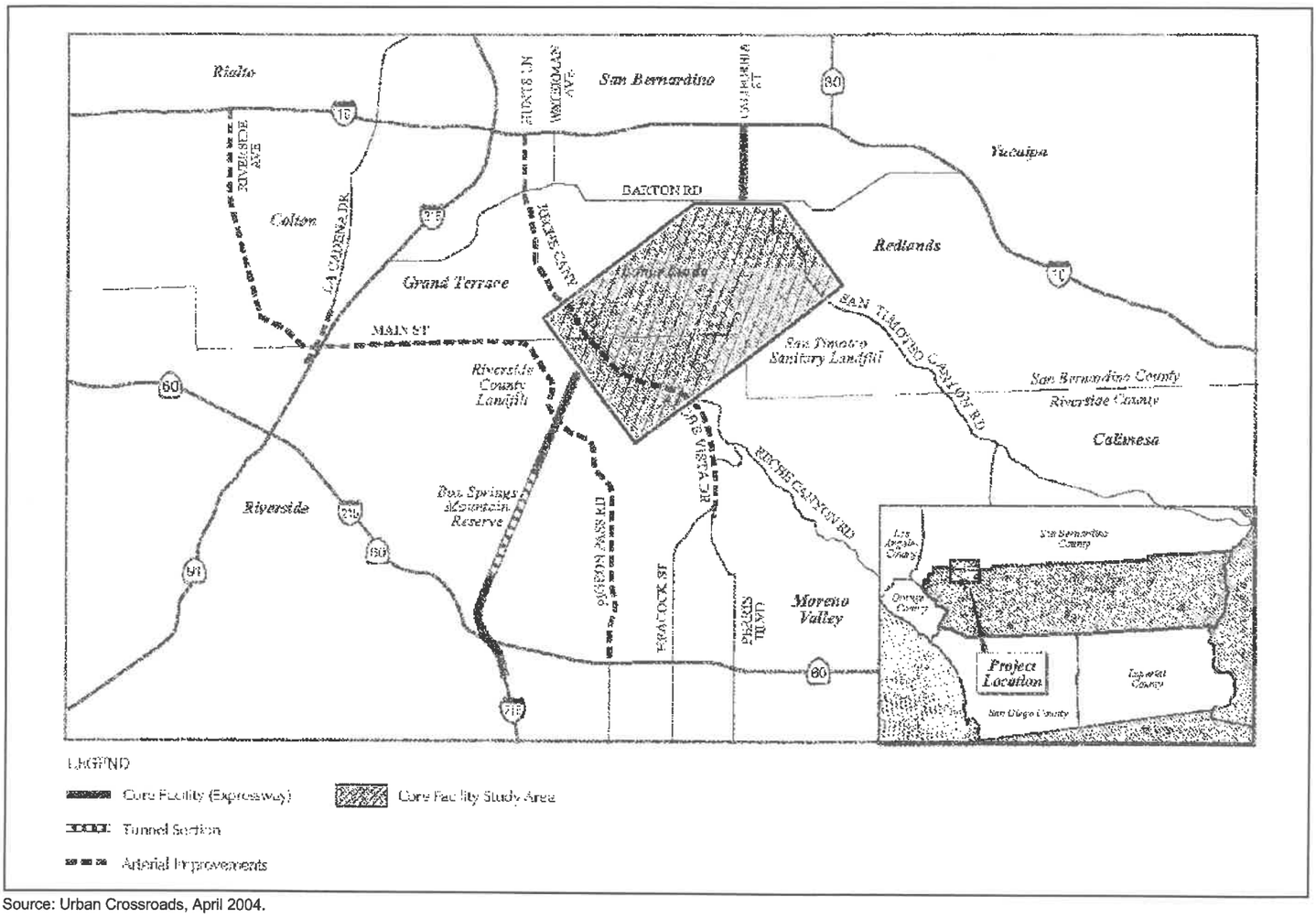
Initially, 8 alternatives proposed to improve transportation between the counties included:

- Building a new parkway from the Interstate 215/State Route 60 junction north along Morton Road and under Box Springs Mountain using a tunnel. This would connect across Reche Canyon Road to California Street at Interstate 10 in Redlands.
- Extending Pigeon Pass Road to 4 lanes and creating a new alignment to Reche Canyon Road, then widening Reche Canyon Road to connect opposite Hunts Lane in Colton.
- Widening Reche Vista Drive and Reche Canyon Road to 4 lanes and connecting opposite Hunts Lane in Colton.
- Extending Pigeon Pass Road to 4 lanes to Reche Canyon Road, and then continuing as a 4-lane or 6-lane parkway to California Street in Redlands.
- Extending Moreno Beach Drive to Reche Canyon Road and creating a new 4-lane or 6-lane parkway to connect with California Street in Redlands.
- Expanding Omnitrans and RTA service between Moreno Valley and San Bernardino County, using 1 or more of the new roads.
- Expanding existing express bus service between Riverside and San Bernardino counties to include new stops.
- Expanding Metrolink train service from San Bernardino to Moreno Valley and/or to Redlands.

The first alternative, the tunnel approach, has been adopted by the SANBAG Board of Directors and RCTC as a "core alignment" to be supported by ancillary arterial facilities as shown on Figure 4. The corridor study is expected to address cumulative impacts to a variety of transportation options.

The proposed tunnel section is included in the RCIP as shown in Figure 4. However, Pigeon Pass Road is still viewed as a local collector, consistent with the adopted Spring Mountain Ranch Specific Plan No. 323.

The cumulative impacts of any decision to change the RCIP General Plan Circulation Element by adding the Pigeon Pass Road extension to Main Street will require extensive analysis of impacts.



Source: Urban Crossroads, April 2004.

NORTH

Michael Brandman Associates

21970012 • 05/2004

Figure 4

Project Location

SPRINGBROOK ESTATES RTC

It is important to note the Pigeon Pass Road connection to Main Street is not included in the adopted Circulation Elements of adjacent cities. The traffic study is appropriately oriented toward the current County and City general plans.

Response GTCEDD-2

The traffic analysis recommends specific signalization and lane improvements to all routes from the project to I-215 as described on pages 7-3 through 7-5 of the September 17, 2002 *Traffic Impact Analysis* report. The Transportation Uniform Mitigation Fee (TUMF) has identified rail grade separation funding on Center Street. Springbrook Estates will be participating in the program. Trip distribution along Mount Vernon considers travel decisions based on both land use and traffic levels in the project area. The impacts from the project on Grand Terrace, once the mitigation measures recommended in the traffic analysis have been implemented, will be less than significant.

Response GTCEDD-3

The proposed project does not change the level of service projected to occur at this location, which is at a level of service "D" without the proposed project.

Response GTCEDD-4

Only one of the project impact locations identified in the September 17, 2002 *Traffic Impact Analysis* report is entirely in the County of San Bernardino. The County of Riverside has conditioned the adjacent Spring Mountain Specific Plan to provide a discretionary impact fee of $200 per dwelling unit on behalf of the City of Grand Terrace for improvements along Mount Vernon Avenue. A similar approach is recommended for this project.

Response GTCEDD-5

This comment is noted and is included in the public record for review and consideration by the appropriate decision-makers. The Highgrove community is no longer rural in character, but a relatively urban infill area between the developing Hunter Business Park to the south, the master planned community of Spring Mountain Ranch in the eastern part of Highgrove, the very small-lot residential area in the western Highgrove section, and the urban buildout of most of Grand Terrace immediately to the north. As such, the proposed project with a 34-acre active park serving more than just the residential units of the project is compatible with existing surrounding uses.

CITY OF RIVERSIDE

"People Serving People"

March 17, 2004

Planning County Planning Department
4080 Lemon Street, 9th Floor
Riverside, CA 92502 -1409
Attention: Ron Goldman

SUBJECT: Springbrook Estates Specific Plan No. 330 and Draft EIR No. 448

Dear Ron:

Thank you for extending the comment deadline for the City to respond to the above referenced project until March 17, 2004. On March 16, 2004, the City Council considered the attached Council Report addressing issues related to this project and took the following actions:

1. Directed the Planning Department to forward the comments and concerns identified in the attached City Council report to the County of Riverside as the City's formal response to the Springbrook Estates Specific Plan and Draft EIR.

2. Strongly recommended that the County of Riverside not certify the EIR for the Springbrook Estates Project until the City's concerns and recommendation are addressed in the DEIR.

3. Please provide the City with formal notice of any scheduled hearings regarding this matter.

4. I also request that prior to any public hearings regarding the Springbrook Estates Specific Plan and DEIR that appropriate City and County staff meet to review the approved policies and implementing actions agreed upon in the Memorandum of Understanding (MOU) for development within the City's Sphere of Influence that apply to this project.

If you have any questions or require additional information, please contact Jeff Belier, Senior Planner at 826-5874.

Sincerely,

Ken Gutierrez
Planning Director

attachment

PLANNING DEPARTMENT
3900 MAIN STREET • RIVERSIDE, CALIFORNIA 92522 • (909) 826-5371
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CITY OF RIVERSIDE

City Council Memorandum

Riverside All-America City 1998

HONORABLE MAYOR AND CITY COUNCIL **DATE:** March 16, 2004

ITEM NO.: 37

SUBJECT: SPRINGBROOK ESTATES SPECIFIC PLAN NO.330 AND DRAFT ENVIRONMENTAL IMPACT REPORT NO.448

BACKGROUND:

The City of Riverside has received the Springbrook Estates Specific Plan and Draft Environmental Impact Report from the County of Riverside for review and comment. Based on the information included in the Specific Plan and DEIR the project contains a total of approximately 184 acres located adjacent to the City's northerly boundary generally between the Gage Canal and an area to the east of Mount Vernon Avenue. The Springbrook Estates Specific Plan includes 613 single family dwelling units on approximately 86.8 acres, a school site on approximately 7.5 acres, 50.2 acres of open space and parks, 1.5 acre reservoir, 1.58 acre detention basin and 36.28 acres of streets (see Exhibit 1). The Council has previously reviewed and commented on the 792 acre Spring Mountain Ranch Project located to the east of this project which includes 1461 single family residential units on 444.89 acres, a 11.73 acre neighborhood commercial shopping center, a 13.9 acre elementary school, 304 acres of open space and 4.75 acres of institutional use.

Due to the size and density of this project and its proximity to, and potential significant impacts on the City of Riverside, staff has a number of comments and concerns regarding its compatibility with existing and planned surrounding land uses. Staff's specific responses to the Springbrook Estates Specific Plan and DEIR include the following:

General Plan Compatibility

Section VI.A.1 B. 3) of the DEIR "General Plan and Area Plan Relationship - Project Consistency" does not address the incompatibility of the project with the City's General Plan. The only reference to the impact of the project on the City's General Plan is a statement that the project is located within the Sphere of Influence of the City of Riverside. There are significant conflicts between the City's General Plan and the project that must be recognized and addressed in the Draft EIR and the unavoidable adverse impacts acknowledged if they result from the project. These conflicts include the following: RPD-1

- The project site is located within the City's Northerly Sphere of Influence adjacent to the existing City boundary. The project site area has been previously included in the City's General Plan dating back to 1994 and this area may be annexed into the City in the future. The General Plan designates most of the project area for Estate Residential Development

with typical density of 1 dwelling per acre. The remaining area is designated for Agricultural with a density of one dwelling unit per 5 acres and Open Space. The Springbrook Estates project proposes single family residential development having a typical density of 5 dwelling units per acre. As proposed the project would permit a density that is significantly greater than that allowed under the Estate Residential and Agricultural designations shown on the City's General Plan for this area

- The City's General Plan land use designations, Measure C and Proposition R further establish numerous policies related to residential development within and adjacent to the Springbrook Wash. Areas designated for Conservation/Open Space on the Springbrook Estates project do not include all the area shown for these preservation land use categories on the City's General Plan. Only a portion of the Springbrook Wash is shown for protection.

- The overall impact of the proposed project in this area is that there will be a significant increase in residential densities and urbanization in this area that is not reflected in the General Plan.

RPD-1

Land Form and Topography/Slopes and Erosion

Under Section VI.C 1. B. 9) of the DEIR "Cumulative Project Impacts - Landform and Topography and Erosion" states the proposed project will in some cases require extensive cut and fill operations which will impact land forms in the project area. However, impacts to landform and topography and slopes and erosion will be mitigated by application of erosion control practices. The proposed project includes mass grading adjacent to and within the boundaries of the Springbrook Wash in order to create relatively small single family residential lots. The proposed mitigating measures only address methods of minimizing this type of mass grading. They do not address the major adverse effects of this type of mass grading on the Springbrook Wash. The significant impact of the proposed grading on this natural land form and the unavoidable impacts should be addressed in the DEIR. The impacts include the following:

RPD-2

- The City's Grading Ordinance would not allow grading within the boundaries of the Springbrook Wash and the required 50 foot setback. The primary mitigating measure to eliminate the significant adverse impacts created by this type of mass grading within and adjacent to this natural area would be to eliminate building or grading within 50 feet of the boundaries of the Springbrook Wash and protecting the Arroyo.

Traffic/Circulation Impacts

The location of the proposed relatively high density residential development will significantly increase traffic on nearby streets within the City of Riverside including Palmyrita Avenue, Iowa Avenue and Columbia Avenue, as well as other streets within the nearby Hunter Businesses Park above levels anticipated by the General Plan. Access to the project is limited at best and the traffic study for the Specific Plan indicates that the connection from Mount Vernon in the County to Palmyrita and Columbia Avenues in the City of Riverside is projected to carry 40 % of the project traffic. It is estimated that 40% of the traffic generated by this project would create 2,956

RPD-3

additional trips per day using these streets within the City of Riverside. The DEIR indicates that the project will contribute to traffic congestion. The traffic study identifies mitigating measures that would be required in the City of Riverside to handle this amount of additional traffic. However, there is no mechanism identified in the study as to how those mitigating measures would be paid for or how the city would be able to collect the appropriate fees. In addition, there have been no discussion between the City and the County of Riverside or the developer to determine if the City would even allow this connection to be made. RPD-3

City Services

Although the project is not currently proposed for annexation, the project is within the City's Northerly Sphere of Influence, adjacent to the existing City boundary and could potentially be annexed into the City of Riverside in the future. The impacts that the project would have on City Services and infrastructure are not addressed in the DEIR should this property be annexed. The City Fire and Police Departments have reviewed and the Specific Plan and the DEIR and have the following comments regarding the project's impact on City services.

- Fire Department - The proposed development would have a significant impact on the City of Riverside Fire Department. The two nearest fire stations, University Station and Northside Station are both over five miles away from the easterly portion of the project site. Using the standards for cover for fire department response times, this would be more than double that requirement. In addition to the standards of cover being exceeded, the Fire Department would be faced with negative marks from ISO (Insurance Service Organization) as well. The City of Riverside currently has a class two rating and annexing this area without an additional fire station could jeopardize this outstanding mark Also, initial costs of building and maintaining a new fire station must be considered for this project. The estimated cost include $2,300,000 for construction of a new fire station. $350,000 for new fire equipment and an annual cost of $1,300,000 for staffing. RPD-4

- Police Department - The Police Department anticipates an additional staffing requirement of one full-time officer and one full-time civilian.

Regional Growth

Section VI.C 3. of the DEIR "Growth Inducing Impacts" indicates that although the project may create an incentive to economic growth, population growth associated with the project will not exceed population estimates for the County and therefore the proposed project will not be adversely growth inducing. As previously outlined the proposed project 1) is not consistent with the City's General Plan for this area, 2) allows mass grading which adversely affects a natural land form (Springbrook Wash), 3) does not conform the City's Grading Ordinance, and 4) will have a significant impact on City services and infrastructure that must be provided to the proposed development. In addition, the terms of the Cities/County Memorandum of Understanding have not been followed with regard to this proposed development, as is discussed later in this report. RPD-5

This section also estimates the population generated by the project based on 613 dwelling units with 2.6 persons per household at 1,594 people. Current City and Western Riverside Council of

Governments population estimates are based on the California Department of Finance Population and Housing Unit Estimates which designates the current number of persons per household at 3.1. Using this figure the estimated population generated by the proposed project is 1,900 which is significantly higher than the estimate in the DEIR. As a matter of information, the 2.6 persons per household figure was also used in the DEIR for the adjacent Spring Mountain Ranch development in determining the population generated by this project. Using the California Department of Finance Population and Housing Unit estimate of 3.1 person per household the combined population generated by these two projects would be 6,429. This is significantly higher than the 5,392 generated for the two projects using 2.6 persons per household. Also the DEIR suggests that the increased population associated with the new housing opportunities may induce employers and businesses to relocate to the area. It is true that some job opportunities will be provided within the project and the adjacent Hunter Business Park, however, this significant increase in population in the area could have a negative impact on the jobs/housing balance in the City of Riverside that needs to be addressed in the DEIR.

RPD-5

Cumulative Impact

Section VI. 1 B. of the DEIR "Cumulative Impacts" indicates that due to the types of land uses surrounding the project area the Springbrook Estates Specific Plan is anticipated to have less than significant cumulative land use and planning impacts. As mentioned above, the project is located adjacent to the City limits within the City's Northerly Sphere of Influence. It is also located adjacent to the County's 792 acre Spring Mountain Ranch project which proposes the development of approximately 1,461 single family dwelling units which also significantly exceeds the density anticipated for this area by the City's General Plan. The same concerns addressed above for the Springbrook Estates project have been previously expressed in a number of responses from the City to the County as Spring Mountain Ranch project has been reviewed. The City believes that due to the significant increase in residential density and urbanization for these projects, above that which is anticipated by the General Plan, that there will be a significant cumulative impact on existing and future City services and infrastructure needed to serve this area. Most notably, significant roadway improvements will be required within the City to serve the projects. In addition, impacts of City parks and athletic facilities would be impacted. The impacts of this development when combined with impacts from the adjacent Spring Mountain Ranch Project will create a number of significant cumulative impacts which need to be addressed in the DEIR. Should this property be contemplated for annexation at some future time, the following impacts are identified and need to be addressed by the DEIR:

RPD-6

- Construction of a new fire station and the provision of additional equipment and fire personnel.
- Additional new police equipment and personnel.
- Increased traffic levels, traffic hazards and required improvements to infrastructure.
- Construction or acquisition of required power facilities.
- Acquisition and development of park sites and libraries.

37-4

Alternative Project

Section VI.C 5. of the DEIR "Mandatory CEQA Topics - Project Alternatives" lists three project alternatives. No development of the project site, development under existing site zoning and development which would occur under the existing County General Plan. All three were rejected in favor of the existing project on the basis that they do not meet the project objective to create distinct neighborhoods, coordinate land uses in a manner that produces a unified development through the use of comprehensive site planing and development guidelines or would not be in synchronization with the County's General Plan's intent to preserve open space and efficient growth by allowing higher density development to occur in areas where services and infrastructure exist or will exist. The City believes that an additional alternative should be proposed for the project site that provides for a decrease in proposed residential development and urbanization that more closely conforms the City's General Plan and development standards. This would allow an overall increase in residential development and urbanization to support anticipated population growth, however, it would be less intense that which is proposed under this project. This development would be guided by polices included in the Memorandum of Understanding between the County and the City relating to future development within the City Sphere of Influence required to be included as part of the County's General Plan. These objectives, policies and implementing actions agreed upon in the approved Memorandum of Understanding (MOU) between the County and the City relating to future development within the City's Sphere of Influence are not addressed. In the MOU, the County has agreed to adopt the following policies/implementing actions that should be applied to the project. They should be addressed and included as mitigating measures in the DEIR.

RPD-7

- Apply development standards that are comparable to City of Riverside standards. These standards include subdivision design standards and grading standards, including arroyo setbacks.

- Require the project to "pay its own way". This would include the costs of required improvements to roadways serving the project.

- Jointly plan for development of the project. Not approve a project design within the City's Sphere of Influence that is inconsistent with the City's adopted General Plan until the County staff and appropriate City staff and the project applicant have met to review the subject development proposal. If agreement is not reached an ad hoc committee of elected representatives from both jurisdictions will meet to help resolve outstanding issues.

In summary, there are a number of potentially significant environmental impacts related to compatibility with the City's General Plan and the significant increase in residential development and urbanization within this project area that are not adequately addressed in the DEIR and Specific Plan. These could be substantial in terms of traffic impacts and potentially on other City services and infrastructure, especially when combined with the impacts of the adjacent Spring Mountain Ranch project which also significantly exceeds the density anticipated for this area by the City's General Plan.

37-5

RECOMMENDATION:

That the City Council:

1. Direct the Planning Department to forward the comments and concerns identified in this report to the County of Riverside as the City's formal response to the public hearing Springbrook Estates Specific Plan and Draft EIR and;

2. That the City Council strongly recommend that the County of Riverside not certify the EIR for the Springbrook Estates Project until the City's concerns and recommendations are addressed in the DEIR.

3. Request the Planning Director or his representative to appear at the formal County Public hearings on the proposed DEIR to formally register the City's concerns and recommendations. The City Council may wish to request one or more members to also appear.

Prepared by:

Ken Gutierrez
Planning Director

Approved by:

George A. Caravalho
City Manager

Concurs with:

for Michael Beck
Deputy City Manager

Concurs with:

Tom Boyd
Deputy Public Works Director

Approved as to ~~Form~~:

Gregory P. Priamos
City Attorney

Attachments:

Exhibit 1 - Springbrook Estates Master Land Use Plan

G:\CC\03-04\ccspringbrook estates.tjb.wpd

City of Riverside Planning Department

Section 15204(a) of the CEQA Guidelines states: "When responding to comments, lead agencies need only respond to significant environmental issues." Accordingly, the City's comments regarding a Memorandum of Understanding are noted. The County of Riverside is the responsible lead agency for the project. Project approvals, including the approval of subdivision maps, will be performed by the County in accordance with its standards and the County's General Plan. The General Plan is the primary planning document for the County, which establishes the direction for the County's land use and development. Without limiting the generality of the foregoing, the County responds to the RPD's comments as follows:

Response to RPD-1

As discussed in Section VI.A.1, Land Use and Planning, the project conforms with the Community Development - Medium Density Residential land use designation of the County General Plan and will consist of a similar density as the approved Spring Mountain Ranch development to the southeast and east of the project site. Moreover, while the density of the project site is greater than that of the existing single-family residential units to the north and west, project implementation will result in a cohesive, systematic, and unified pattern of land uses in the project area.

Additionally, the project provides approximately 50 acres of parkland and open space, which will provide a buffer between the onsite land uses and the surrounding existing and planned land uses. The City's concern about densities are further addressed by the natural buffers (Springbrook Wash) and the physical buffers (University Research Park, Columbia Business Center, and Concordia Business Park) between the project site and residential areas of the City of Riverside (see DEIR Figure VI.A.1-1, Existing and Surrounding Land Uses).

Response to RPD-2

Sections VI.A.9, Landform and Topography/Slopes and Erosion, discusses the projects impacts to natural land forms. Project implementation will include several mitigation measures to reduce project-related grading impacts. These mitigation measures are outlined on pages VI.A.8-13 and VI.A.9-8-9 of the DEIR and include, but are not limited to, slope protection and erosion control along the project's interface with the Springbrook Wash in accordance with the Riverside County Grading Ordinance. In addition, the project will adhere to the grading standards set forth in the Specific Plan.

Response to RPD-3

As identified in Response to SCAG-1 herein, the project has been designed to integrate the existing circulation network and the project's system of collector and neighborhood streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to the individual residential neighborhoods and community parks through a safe, efficient roadway network, including secondary, highway, collector, and local roadways.

Urban Crossroads prepared a *Traffic Impact Analysis* for the proposed project, which is included in Appendix D of the DEIR. That traffic study identifies improvement measures that will be necessary for certain intersections within the City of Riverside with or without the additional project related traffic. The traffic analysis recommends specific signalization and lane improvements to all routes from the project to I-215 as described on pages 7-3 through 7-5 of the *Traffic Impact Analysis*. The County has conditioned the adjacent *Spring Mountain Ranch Specific Plan* to provide a discretionary impact fee of $200.00 per dwelling units for improvements along Palmyrita Avenue. A similar approach is recommended for this project. The applicant will participate in TUMF, which serves as the "fair share" funding mechanism for regional improvements.

In addition, as outlined on pages VI.A.2-53-54 of the DEIR, the project will incorporate numerous mitigation measures that will reduce project-related traffic impacts to levels that are considered less than significant.

Response to RPD-4

As identified in the DEIR, the County of Riverside Fire Department provides fire protection (see DEIR p. VI.A.14-1) and the County of Riverside Sheriff's Department provides police services to the project site (see DEIR p. VI.A.14-5). In preparation for the DEIR, both the Fire Department and Sheriff's Department were contacted in an effort to obtain information on their existing levels of service, and the potential impacts of the project on their ability to serve their jurisdictions. Appropriate mitigation measures were recommended, which are included in the DEIR on pages VI.A.14-4 and VI.A.14-7 and will be adopted as part of the Mitigation Monitoring and Reporting Program. As identified in the DEIR, after the implementation of these mitigation measures, the project will have a less than significant environmental impact upon fire and police services.

Response to RPD-5

With respect to regional growth, the County of Riverside General Plan is the primary planning document that guides development for unincorporated lands within Riverside County. The project must therefore rely upon the standards set forth in the General Plan. The 2.6 persons-per-household value used in the DEIR is derived from the General Plan Housing Element. The same value was

previously relied upon for the County's approval of the Spring Mountain Ranch project. The project conforms with and fulfills this standard.

Response to RPD-6

Please refer to Responses to RPD-1 (density), RPD-3 (traffic) and RPD-4 (fire and police services), for responses on these issues. The acquisition of additional staff and equipment is not considered an environmental issue unless it would result in the need for new or expanded facilities, the construction of which would result in significant environmental impacts. As identified in Section VI.A.14 of the DEIR, no new or expanded facilities to serve the project are proposed or required. As noted on DEIR pages VI.C-11-12, if new facilities are needed to serve future growth, per-unit fire impact mitigation fees, as well as the funding mechanisms of County Ordinance 659, will address any cumulative impacts to fire and police services.

Additionally, it is recognized that in conjunction with other related projects, there will be an increased demand for library and parks and recreational services. However, as noted in Section VI.C of the DEIR, the project is subject to County of Riverside Development Impact Fee Ordinance No. 659, which was adopted to insure that new development bear its fair share cost of providing the facilities, open space and habitat reasonably needed to serve that development. Additionally, the project will provide approximately 50 acres of parkland. The Quimby Act requirement, which is implemented through County Ordinance 460, requires that the project provide 5 acres of active parkland. Since the project will exceed this requirement, and since all related cumulative projects are required to meet the standards of Ordinance 460, as identified on page VI.C-13 of the DEIR, the Springbrook Estates Specific Plan project will not result in a cumulative negative impact to parks and recreation. Indeed, it will more than satisfy the new demand.

In addition, the project and other related projects will result in an increased need for energy resources. Southern California Edison (SCE) and Southern California Gas Company (SCG) were contacted. Facilities will be extended to the site, and neither company identified any impediments to providing service to the site. Portions of two existing transmission lines will be relocated in SCE's favor and the proposed realignment approved by SCE is illustrated in Figure VI.A.14-2 of the DEIR. The relocation of SCE transmission lines was addressed in environmental documents prepared in connection with the Spring Mountain Ranch project.

Response to RPD-7

Section 15126.6(a) of the CEQA Guidelines states: "An EIR shall describe a range of reasonable alternatives to the project." The Springbrook Estates DEIR considered three alternatives: the No Project Alternative; the No Project - Existing Zoning Alternative; and the No Development -

Development Under the Existing General Plan Alternative. The RPD comment suggests an additional alternative that provides for a decrease in residential development. This suggestion is reasonably considered by the No Project - Existing Zoning Alternative. As identified in Table VI.C-3 on page VI.C-23 of the DEIR, this alternative would result in 213 dwelling units in comparison to the project's 650 units. As identified on page VI.C-28 of the DEIR, this alternative was rejected since it is not consistent with the General Plan designation for the project site and it does not support the intent of the General Plan to encourage a jobs/housing balance. The lack of development of 400 units would result in the dispersal of these units elsewhere in the region, resulting in longer commute times and greater infrastructure needs, which are more costly and less efficient, and would result in greater impacts on the environment.

Riverside Unified School District
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February 20, 2004

Mr. Larry Ross, Project Engineer
County of Riverside
4080 Lemon Street – 9th Floor
P O Box 1409
Riverside, CA 92502-1409

Re: Springbrook Estates EIR

Dear Mr. Ross:

The Riverside Unified School District has re-evaluated the needs for the schools projected to serve the anticipated student population from the new residential development in the Highgrove Area. The District has concluded it does not require the property within the boundaries of the proposed Springbrook Estates project as previously identified.

RUSD-1

The conversion of this property to residential uses will not negatively impact the school district since the appropriate mitigation fees will be assessed.

Please call if you have any questions or comments on this matter.

Sincerely,

Kirk R. Lewis, Ed.D.
Assistant Superintendent – Operations

/a
cc: J. Dixon
W. Shopoff

Riverside Unified School District

Response RUSD-1

This comment is noted and is included in the public record for review and consideration by the appropriate decision-makers.

The RUSD has identified there is no longer a need for Springbrook Estates to provide a school site to serve their projected needs. Moreover, the RUSD has identified that residential uses on this property would not negatively impact the RUSD in terms of their ability to serve Springbrook Estates. Therefore, the project applicant has revised the Springbrook Estates Specific Plan to include 30 additional lots on this site. A brief overview of these additional lots is included in Section 1.2.1, Modified Project Description, of this RTC.

GREATER RIVERSIDE CHAMBERS OF COMMERCE

March 5, 2004

Mr. Larry Ross – Project Planner
Riverside County Planning Dept.
4080 Lemon St 9th Floor. PO Box 1409
Riverside, CA 92502-1409

RE: Spring Brook Estates Specific Plan (Specific Plan No. 330)

Dear Mr. Ross:

The Hunter Park Division Board of Directors of the Greater Riverside Chambers of Commerce would like to request a meeting for the purposes of project review of the above-referenced master planned project. We respectfully request this meeting as we have key issues and concerns with the proposed.

In summary our key concerns are as follows:

- **Project Density**: Project is very dense with minimum lot sizes ranging from 4,000 to 6,000. This is denser than that of the present zoning by as much as 400%. Additionally Spring Mountain Ranch plan has a greater minimum lot size range of 7,000 to 10,000. **GRCC-1**

- **Project Design:** Project is not a master planned development with amenities integrated into the design. By this we mean the park/school are off to a corner and does not avail itself to provide direct amenity to compensate for the reduced parcel sizes. Currently the school site development is left up to the Riverside Unified School District to develop. This property should be used as park space (if only a maintained lawn) due to it being adjacent to the park until such a time that RUSD seeks its use as a school. In addition the plan states the park need not be built until the project is over 80 percent completed (500th unit). We believe the park should be built earlier in the project timeline. With regard to the trail system, it is a blind area though the residential portion of the project, with housing backing to the trail system instead of interfacing with the trail system. Again this "amenity" does not avail itself to provide direct amenity to compensate for the reduced parcel size by its orientation, and serves as a blind area for policing and other activities. **GRCC-2**

- **Grading**: Site is within the hillier portions of the area and would require substantial grading as noted in the site plan with the cut slopes between lots. **GRCC-3**

The Chamber...building a stronger local economy.

- **Lack of Urban Service:** Project is at a density of urban development, and therefore will have demand for urban levels of service. Issues such as police and public safety service for this dense of a project should be provided. Service levels for policing at a standard County Sheriff level should be augmented for an urban service level. Will this project formulate a CSA to provide urban level services and funding? **GRCC-4**

- **Transportation**: Project makes limited transportation improvements, but will add to the transportation requirements of the regional system. Also the system of access would be through key industrial areas and roadways impacted by the railroads, which is an issue for emergency response. These traffic issues along with the compounded traffic impacts coming from the concurrent development at Spring Mountain Ranch must be considered along with funding for the needed improvements. **GRCC-5**

- **Utility Services:** Services such as sewer, water and electrical utilities will need to be provided. With this area in the influence of the City of Riverside we are concerned that utilities may be served by another outside of the county, thereby making annexation of the area complex, difficult and confusing. **GRCC-6**

- **Respect of City/County MOU**: As noted above, the City and the County have an MOU to address development of the County within the City's area of influence. Our understanding is that the City has issues and concerns that are not being addressed (such as utility services) and we believe the spirit of the MOU is not being respected. Any MOU is only as good as its implementation, and we are concerned that in this case the MOU is meaningless. **GRCC-7**

We look forward to setting a meeting to discuss these issues.

Sincerely,

Cindy Roth
President/CEO

CR/bb

cc: County Supervisor Ashley
County Supervisor Buster
City of Riverside, Ken Gutierrez-Planning Director

Greater Riverside Chambers of Commerce

Response to GRCC-1

As identified on page VI.A.1-6 of the DEIR, "The project site is designated as Community Development - Medium Density Residential (2-5 dwelling units per acre) and zoned as RA-20,000 (Residential Agricultural with a 20,000 square foot minimum lot size), R1-20,000 (single Family Dwelling with a 20,000 square foot minimum lot size) and A1-10 (Light Agriculture, 10-acre minimum lot size)."

Implementation of the Springbrook Estates Specific Plan will result in the development of 650 residential units on 183.95 acres, at a density of approximately 3.5 units per acre, with lot sizes ranging from 4,000 to 5,500 square feet. As identified in the Springbrook Estates Specific Plan, the project is intended to provide a broad range of land uses and densities throughout the site and includes a zone change to ensure consistency with relevant County plans, policies, and land use maps.

Response to GRCC-2

The project has been designed as a master planned community; a considerable effort was expended assembling several distinct properties in order to provide for a "master planned" effect. Otherwise, the subject properties would have been developed individually at 10 and 20 acres each, by different builders, without the cohesiveness of design standards, architectural treatments, streetscapes, etc. The RUSD will make the determination for school facilities construction, if any, for the project site. The community park is an enormous undertaking, which will be an amenity not only to the residents of the project, but the larger Highgrove community. The timing of the development of the park corresponds to the park development fee obligations for Springbrook Estates. Certainly, the project could not afford to construct a several million dollar public park prior to the sale of a minimum number of homes. However, this item is still to be determined by the County of Riverside through the review process. In addition, the park, though situated at the northeast corner of the project, is actually appropriately situated to serve not only this project but also the Spring Mountain Ranch master planned community which lies east and south of the proposed park.

Response to GRCC-3

As identified on page VI.A.9-1 of the DEIR, "Approximately five percent of the project site consists of slopes greater than a 25 percent gradient." Additionally, as identified on page VI.A.8-5, "Along the project's southern boundary, the Springbrook Wash contains modified natural slopes that generally occur at a slope of 2:1 (horizontal to vertical); however, there are more localized slope areas that are as steep as 1.25:1." The project will include the construction of cut slopes. The mitigation

measures outlined in Section VI.A.9, including the conceptualized grading plan, will reduce the project's landform and topography impacts to levels that are considered less than significant.

Response to GRCC-4

The project's public services and utilities impacts are discussed in Section VI.A.14 of the DEIR. As part of the DEIR process, MBA contacted the various public services and utility providers in an effort to solicit their input and assess project related public service and utility impacts. Moreover, as identified in the Specific Plan and the DEIR, the project may be incorporated within CSA 152. It is currently within CSA 126 and will likely remain as such.

Response to GRCC-5

The traffic analysis recommends specific signalization and lane improvements to all routes from the project to I-215 as described on pages 7-3 through 7-5 of the September 17, 2002 *Traffic Impact Analysis* report. In addition to specific transportation improvements, the applicant will be participating in TUMF. TUMF has identified railroad grade separation projects in the project area to be funded by new development fees.

Response to GRCC-6

The project's public services and utilities impacts are discussed in Section VI.A.14 of the DEIR. As identified in Section VI.A.14 of the DEIR, there are 3 options for sanitary sewer service at the project site: an extension of offsite sanitary sewer facilities from the Highgrove area to the City of Colton sanitary sewer service limits; the extension of sanitary sewer service facilities from a wastewater treatment plant (WWTP) that will be constructed in conjunction with the development of the adjacent Spring Mountain Ranch Specific Plan project site; or the project may be served by the City of Riverside. A *Sewer Feasibility Study* was prepared, which is summarized in Section VI.A.14 of the DEIR, and included in its entirety as Appendix J in the DEIR. The study assessed the feasibility of the City of Colton option and the Spring Mountain Ranch Specific Plan WWTP option, both of which were concluded to be feasible. Moreover, as discussed in Section VI.A.14 of the DEIR, the City of Riverside's system has reserved capacity in the event that the City would ultimately serve the project site. The sewer and distribution system will be implemented under CSA 152 or the Riverside Highland Water Company (RHWC). Further investigation beyond that of the DEIR will be required for the implementation of any of these sewer system alternatives.

As identified in Section VI.A.14 of the DEIR, domestic water service will be provided by either the RHWC or the City of Riverside, and electrical service will be provided by Southern California Edison. In addition, the Specific Plan includes Master Water and Sewer Plans and a Master Public Facility and Special Phasing Requirements.

Response to GRCC-7

Please refer to Response RPD-1 in this RTC document.

MORENO VALLEY

Public Works Department
Transportation Engineering Division

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P.O. Box 88005
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February 24, 2004

Mr. Larry Ross
County of Riverside
Transportation and Land Management Agency – Planning Department
4080 Lemon Street, 9th Floor
Riverside, CA 92502-1409

Subject: Review Comments – Specific Plan No. 330 (Springbrook Estates), Change of Zone No. 6702 – Draft Environmental Impact Report – January 2004

Dear Mr. Ross,

Transportation Engineering staff has reviewed the Traffic Impact Analysis, dated September 17, 2002, of the Transportation/Traffic section in the January 2004 Springbrook Estates Specific Plan – Draft Environmental Impact Report (EIR). The following deficiencies should be corrected prior to finalizing the EIR:

1. Pigeon Pass Road is expected to carry significant traffic to and from the CETAP Moreno Valley to San Bernardino County corridor, as well as through to Moreno Valley. The alignment of this facility should be planned in a manner compatible with the Riverside County Integrated Project's studies for this corridor. Pigeon Pass Road should connect directly to Main Street in order to provide the traffic-carrying capacity needed to supply the forecast demand for this corridor. **MVPWD-1**

2. The traffic study assumes no traffic contribution to Pigeon Pass Road. This is unrealistic considering the employment facilities currently in existence and being planned in Moreno Valley, most of which will be conveniently served by the CETAP corridor. The trip distribution is unrealistic in light of this. A value of 10% would seem to be the minimum reasonable amount. **MVPWD-2**

3. The traffic study trip generation is calculated assuming 653 units, but the project description in the EIR describes a project with 613 units. Also, the project description refers to multiple parks, one of which is regional in nature; but the trip generation does not reflect a regional park. Please address this discrepancy. **MVPWD-3**

4. It is not clear why the trip generation calculations assume more than double the number of elementary school students as middle school students; this seems counter-intuitive. Please explain. **MVP[illegible]-4**

5. Generally, the study does not follow the format required by the Riverside County Traffic Study guidelines; for example, other project traffic should be Exhibit 9 but instead is part of the Exhibit 4-*x* series, thus rendering review difficult. **MVPWD-5**

6. No safety and operational improvements are discussed as is required by the County of Riverside traffic study guidelines. **MVPWD-6**

7. No Specific Plan Signalization Analysis is provided as is required by the County of Riverside traffic study guidelines. **MVPWD-7**

8. No CETAP Conformance discussion or figure is provided as is required by the County of Riverside traffic study guldelines. **MVPWD-8**

9. Section IID (Page 2-1): The existing zoning is reported to be SP 330. This does not match the Notice of Completion, which reports existing zoning to be a combination of R-1-20,000, R-A-20,000, and A-1-10. **MVPWD-9**

10. Table 4-1: It is unclear what the "other developments" portion of this table represents. **MVPWD-10**

11. Page 4-36: The 2.0 percent annual growth rate should be compounded to arrive at the correct future traffic levels. **MVPWD-11**

12. Center Street and Spring Street are called out for a 74-foot right-of-way on Page 1-9 but a 66-foot right-of-way on Exhibit 7-A. **MVPWD-12**

The deficiencies cited above are significant and could affect the results of the traffic study, and the proposed circulation mitigation program. We strongly recommend that the draft EIR be re-circulated after these corrections are made. If you have any questions regarding this review, please contact the Transportation Engineering Division at (909) 413-3140.

Sincerely,

Trent D. Pulliam
Public Works Director

Craig S. Neustaedter
City Traffic Engineer

Moreno Valley Public Works Department

Response MVPWD-1

The RCIP does not include a direct connection between Main Street and Pigeon Pass Road. The project will provide a direct, signalized connection at Mount Vernon Avenue and Pigeon Pass Road.

The County of Riverside has excluded the Pigeon Pass Road extension on the RCIP General Plan Circulation Element network. This roadway remains unclassified on the General Plan network, and will be improved as a local collector roadway from Mount Vernon Avenue to the east project boundary of the Spring Mountain Ranch Specific Plan 323 project. Furthermore, EIR 424 for Spring Mountain Ranch, which was certified by the Riverside County Board of Supervisors on June 5, 2001, acknowledged the recommendation in the EIR Traffic Study that no traffic, except for emergency vehicles be permitted on Pigeon Pass Road east of the Spring Mountain Ranch project.

The Community and Environmental Transportation Acceptability Process (CETAP) was created to explore possible major new multi-modal corridors under the Riverside County Integrated Plan (RCIP) General Plan update. The Riverside County Transportation Commission (RCTC) has primary planning responsibility for CETAP through a comprehensive public outreach and community-based participation process.

Four primary linkages have been explored including Winchester to Temecula, Hemet to Corona/Lake Elsinore area, Moreno Valley to San Bernardino County, and Riverside County to Orange County. Each of these routes has multiple alternatives under consideration. Each of these corridors requires significant additional review and analysis to determine feasibility, efficacy, and schedule. In most cases, precise alignment and configuration will not be known for many years. The overall planning process is multi-tiered including conceptual planning, feasibility, environmental review and analysis, preliminary design, final design and construction.

An estimated $370 million has been identified in the Riverside County Measure A Extension for CETAP corridors. This funding will be collected over a 30-year period beginning in 2009 and will cover a portion of the overall cost of implementation. Contributions from local, state and federal sources will also be needed to complete planned facilities. Early planning activity on the Cajalco/Ramona corridor connecting Hemet and Corona/Lake Elsinore is being funded, in part, through TUMF.

Planning for the Moreno Valley to San Bernardino County corridor is being lead by RCTC and the San Bernardino Associated Governments (SANBAG) and a program level Environmental Impact

Report is currently underway. The EIR is scheduled for completion in December 2005. Funding for this effort is being provided through discretionary sources.

Initially, 8 alternatives proposed to improve transportation between the counties included:

- Building a new parkway from the I-215/SR-60 junction north along Morton Road and under Box Springs Mountain using a tunnel. This would connect across Reche Canyon Road to California Street at I-10 in Redlands.
- Extending Pigeon Pass Road to 4 lanes and creating a new alignment to Reche Canyon Road, then widening Reche Canyon Road to connect opposite Hunts Lane in Colton.
- Widening Reche Vista Drive and Reche Canyon Road to 4 lanes and connecting opposite Hunts Lane in Colton.
- Extending Pigeon Pass Road to 4 lanes to Reche Canyon Road, and then continuing as a four-lane or 6-lane parkway to California Street in Redlands.
- Extending Moreno Beach Drive to Reche Canyon Road and creating a new 4-lane or 6-lane parkway to connect with California Street in Redlands.
- Expanding Omnitrans and RTA service between Moreno Valley and San Bernardino County, using one or more of the new roads.
- Expanding existing express bus service between Riverside and San Bernardino counties to include new stops.
- Expanding Metrolink train service from San Bernardino to Moreno Valley and/or to Redlands.

The first alternative, the tunnel approach, has been adopted by the SANBAG Board of Directors and RCTC as a "core alignment" to be supported by ancillary arterial facilities. The corridor study is expected to address cumulative impacts to a variety of transportation options.

The proposed tunnel section is included in the RCIP. However, Pigeon Pass Road is still viewed as a local collector consistent with the adopted Spring Mountain Ranch Specific Plan No. 323.

It is important to note the Pigeon Pass Road connection to Main Street is not included in the adopted Circulation Elements of adjacent cities. The traffic study is appropriately oriented toward the current County and City General Plans.

Response MVPWD-2

At the time the traffic study was prepared, County of Riverside staff indicated that Pigeon Pass Road would be closed to through traffic east of the project site. Only emergency vehicle access is anticipated to remain. Furthermore, EIR 424 for Spring Mountain Ranch, which was certified by the Riverside County Board of Supervisors on June 5, 2001, acknowledged the recommendation in the *EIR Traffic Study* that no traffic, except for emergency vehicles be permitted on Pigeon Pass Road east of the Spring Mountain Ranch project.

Response MVPWD-3

The EIR reflects the actual number of dwelling units sought for approval. The 653-unit figure reflected in the traffic study was preliminary and results in a higher level of traffic impacts than the ultimate project will deliver. This conservative approach is typical. The traffic study includes 34 acres of neighborhood park use.

Response MVPWD-4

The elementary school estimate provided by the applicant at the time of report preparation may be conservatively high.

Response MVPWD-5

The traffic report flow of information is consistent with County guidelines.

Response MVPWD-6

The traffic study recommended substantial operational improvements as identified in Section I and VII of the September 17, 2002 *Traffic Impact Analysis* report. A complete list of recommendations is shown below:

La Cadena Drive West (NS) at:

- Stephens Avenue (EW)
  - Traffic signal
  - Northbound left turn lane
- Interchange Street (EW)
  - Traffic signal
- Highgrove Place (EW)
  - Traffic signal
- I-215 Northbound Ramps (EW)
  - Traffic signal
  - Northbound left turn lane

- Convert northbound through lane to a shared through-left lane
- Columbia Avenue (EW)
  - Northbound left turn lane
  - Southbound left turn lane
  - Westbound right turn lane

Highgrove Place (NS) at:

- Center Street (EW)
  - Traffic signal

Iowa Avenue (NS) at:

- Main Street (EW)
  - Traffic signal
  - Second northbound through lane
  - Southbound left turn lane
- Center Street (EW)
  - Eastbound left turn lane

Michigan Avenue (NS) at:

- Center Street
  - Traffic signal

Mount Vernon Avenue (NS) at:

- Main Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
- Center Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
  - Eastbound left turn lane
  - Westbound left turn lane
- Spring Street (EW)
  - Traffic signal
  - Northbound left turn lane
  - Southbound left turn lane
  - Eastbound left turn lane
  - Westbound left turn lane
  - Westbound through lane
- Pigeon Pass Road (EW)
  - Traffic signal
  - Northbound through lane
  - Southbound left turn lane
  - Southbound through lane
  - Westbound left turn lane
  - Westbound right turn lane

Response MVPWD-7

Traffic Warrants were prepared in the traffic study placement of signals was included in the overall recommendations. See response MVPWD-6 for complete information.

Response MVPWD-8

Exhibit 3-B of the DEIR's Appendix D, Traffic Study, includes the General Plan Circulation Element. The *Traffic Impact Analysis* is oriented toward current general plans.

Response MVPWD-9

This comment is noted and is included in the public record for review and consideration by the appropriate decision-makers.

Response MVPWD-10

These trip rates are applied to the other development land uses listed in Table 4-3 of the September 17, 2002 *Traffic Impact Analysis*.

Response MVPWD-11

Compounded growth over the 4-year period produces 8.2 percent growth and represents a rounding of only two-tenths of 1 percent.

Response MVPWD-12

The 74-foot right-of-way reflects revised RCIP standards. The curb-to-curb width is correct.

SECTION 4:
ERRATA AND REFINEMENTS TO THE DRAFT SP/EIR

The Modified Project Description (see Section 1.2.1 of this RTC document), was prepared to provide the reader with an explanation for how and why the Springbrook Estates project was modified from its original concept as depicted in the January 2004 DEIR. The project modifications will provide additional benefits, lesser impacts, and will not create or increase the effects of significant impacts.

Section 1.2.1, Modified Project Description, of this RTC document provides a detailed description of the new Springbrook Estates project. The analysis in the DEIR has not been entirely revised, because it was not deemed required due to the overall reduction in the level of potentially significant environmental impact associated with the Modified Project.

However, revisions as identified in this RTC document, were provided based on comments (public agency, private organizations, etc.) and the need to define specific changes in impacts resulting from the Modified Project. Any significant changes to the DEIR that are germane to the impact analysis, as a result of these revisions, are identified below.

4.1 REVISIONS TO THE TEXT OF THE DRAFT EIR

This section includes revisions to the text of the DEIR. The revisions are listed by page number.

Page VI.A.1-11 - Project Impacts/General Plan and Area Plan Relationship

Page VI.A.1-11, the following language has been added after the third paragraph:

4) Regional Plan Relationship

a. Southern California Association of Governments Regional Transportation (SCAG) Plan. The Regional Transportation Plan (RTP) is a performance-based plan aimed at providing coordinated long-range approach to transportation improvements within Southern California. It identifies the specific performance measures necessary to meet mobility, air quality, and other regional goals. The RTP is revised and adopted every three years to update policy direction based on changing transportation infrastructure, financial, technological, and environmental conditions. The most recent update of the RTP was completed in 2001. The RTP provides a framework for transportation improvements to allow the region to meet mobility goals and demonstrate air quality conformity under a financially constrained environment, while providing flexibility to implementing agencies as they develop and refine their strategies. A discussion of the

Springbrook Estates project's consistency with the goals of the 2001 SCAG's RTP is provided below:

4.01 Transportation investments shall be based on SCAG's adopted Regional Performance indicators:

- Transportation systems should meet the public need for improved access, and for safe, comfortable, convenient, faster, and economical, movements of people and goods.
- Transportation systems should ensure the ease with which opportunities are reached. Transportation and land use measures should be employed to ensure minimal time and cost.
- Transportation system should sustain development and preservation of the existing system and environment.
- Transportation system should have reasonable and dependable levels of service by mode.
- Transportation systems should provide minimal accident, death, and injury.
- The benefits of transportation investments should be equitably distributed among all ethnic, age, and income groups.
- Maximize return on transportation investment.

4.02 Transportation investments shall mitigate environmental impacts to an acceptable level.

4.04 Transportation control measures shall be a priority.

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

Project Consistency. The Springbrook Estates project site proposes new roads to be constructed within the project site and provides the necessary linkages to the adjacent communities. The project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods and community parks through a safe, efficient road network, including secondary highway, collector, and local roadways. The *Traffic Impact Analysis* identifies project related impacts including level of service deficiencies and mitigation measures are outlines (see Section VI.A.2 of this EIR) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. The *Traffic Impact Analysis* identifies project related impacts including level of

service deficiencies and mitigation measures are outlined (see Section VI.A.2 of this EIR) that will maintain or achieve an acceptable level of service for the onsite and surrounding circulation system. The *Traffic Impact Analysis*, contained in Appendix D of this EIR, details the improvements necessary upon buildout of the project. The analysis includes a summary of the regional transportation management mechanisms that maybe employed for the project. As detailed in Section VI.A.2, the circulation plan provides an efficient traffic design that meets the needs of the project. The onsite system depicted in Figure V-2, *Master Circulation Plan,* has been derived from information outlined in the Traffic Impact Analysis and will serve as the composite Circulation Plan for the Springbrook Estates project. The project will also participate in an area-wide funding program to provide phased implementation of the long-range future (Buildout) roadway needs to provide for the improvement of street and highway service access to the proposed project.

b. Southern California Association of Government's Regional Growth Principles. The fundamental goal of SCAG's Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and sustain future generations, the regions mobility, livability, and prosperity. The following Regional Growth Principles apply to the proposed project:

Principle 1: Improve mobility for all residents.

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.
- Encourage transit oriented development.
- Promote a variety of travel choices.

Project Consistency. The Springbrook Estates project has been designed to integrate the existing circulation network with the project's circulation system of collector and neighborhood streets. The main objective of the project's Master Circulation Plan is to provide direct and convenient access to individual residential neighborhoods, schools, and community parks though a safe and efficient road network. Moreover, the project includes the development of a trail system consistent with the General Plan and approved by the County Department of Parks and Recreation. The trail system includes a multi-purpose trail and a community trail, which provide for non-motorized linkages throughout the project site and the surrounding area. The trail system will connect with the approved Spring Mountain Ranch trail system to the south and east of the project site and provide access to the

school site and the neighborhood commercial uses located southeast of the project site.

The project site is located within close proximity to several existing and proposed business parks (Hunter and Concordia Business Parks and University Research Park) and the commercial uses within the Spring Mountain Ranch Specific Plan to the southeast and east of the project site. Therefore, it is anticipated that the project will provide housing for existing and future employees thereby reducing vehicle miles traveled.

Principle 2: Foster livability in all communities.

- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote people scaled walkable communities.
- Support the preservation of stable, single-family neighborhoods.

Project Consistency. The Springbrook Estates project concentrates development in proximity to existing suburban uses. Specifically, the project is located in an area with existing suburban uses to the north and west and approved residential and commercial uses to the southeast and east. The Springbrook Estates project will provide a logical transition of uses and will not introduce new land uses into the project area. Rather, the Springbrook Estates project is will provide an array of residential community types varying in character and patterns of distribution that will serve to strengthen the residential nature of the greater project area. The project includes a community trail system, which will serve to capitalize on multi-modal transportation opportunities.

Principle 3: Enable prosperity for all people.

- Provide, in each community, a variety of housing types to meet the housing needs of all income levels.
- Support educational opportunities that promote balanced growth.

Project Consistency. The proposed project is expected to provide an array of residential and community types varying in character and patterns of distribution. Southeast of the project site, within the adjacent Spring Mountain Ranch Specific Plan, is a Riverside Unified School District school site.

Principle 4: Promote sustainability for future generations.

- Preserve, rural agricultural, recreational, and environmentally sensitive areas.
- Focus development in urban centers and existing cities.
- Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution, and significantly reduce waste.
- Utilize "green" development strategies.

Project Consistency. To ensure the retention of the rural and open space character of the project area, the Springbrook Estates Specific Plan includes natural open space adjacent to Springbrook Wash and an allocation of approximately 50 acres of parkland and open space throughout the project site. Approximately 34 acres of active recreation parkland are located in the northeastern portion of the site, which will provide a buffer between the project development and Blue Mountain.

The Springbrook Estates project will provide a logical transition of uses from the existing residential land uses in the north and west to the approved residential land uses to the southeast and east. Mitigation measures and project design features have been incorporated into the project, which will encourage recycling and minimize pollution through the reduction of air emissions.

Page VI.A.6-3 – Section 2, Project Related Impacts

Page VI.A.6-3, the first paragraph is revised to read as follows:

Surface Drainage. Pursuant to all requirements of the State Water Resources Control Board, a state-wide general National Pollution Discharge Elimination System (NPDES) construction permit will apply to all construction activities. Construction activity includes: clearing, grading, or excavation that results in the disturbance of at least one acre of total land area, or activity, which is part of a larger common plan of development of one acre or greater. Therefore, as mitigation for this specific plan, the developer shall comply with the appropriate NPDES construction permit prior to commencing grading activities. All development within the specific plan boundaries shall be subject to future requirements adopted by the county to implement the NPDES program.

Pages VI.A.6-3 – Section 2, Project Related Impacts

Page VI.A.6-3, the last paragraph is revised to read as follows:

Runoff from the area east of PA-2 will be conveyed around the project site via the proposed storm drainage system in the Spring Mountain Ranch Project (SP 323; T.T.M. 29597) and discharge into Springbrook Wash. Drainage from PA-2 that currently drains to the Spring Street storm drain system will be diverted into Springbrook Wash.

Page VI.A.6-5, Section C, Mitigation Measures

Page VI.A.6-5, mitigation measure 1 is revised to read as follows:

1) Drainage and flood control improvements shall be provided in accordance with RCFCWCD, such as, prior to the issuance of a grading permit, RCFCWCD will require letters of cooperation from property owners downstream of the diversion to the point where Spring Street storm drain confluences with the Springbrook Wash. The letters of cooperation will acknowledge and accept the diversion of drainage from the project.

Page VI.A.6-5, the following mitigation measure has been added:

3) The developer shall comply with the appropriate NPDES construction permit prior commencing grading activities and all development within the project boundaries will be subject to the future requirements adopted by the County to implement the NPDES program.

In addition, the appropriate revisions have been made to the EIR Issue Matrix is Section V.III.B of the EIR.

Page VI.A.14-17 - Section 2, Project Related Impacts

Page VI.A.14-17, Section 2, Project Related Impacts, third paragraph, is revised to read as follows:

According to the correspondence received from the RCWMD, a residential project such as the Springbrook Estates project, could potentially shorten the lifespan of the landfill capacity. The Badlands Landfill accepts on average 1,630 tons per day, the Lamb Canyon Landfill accepts on average 500 tons per day, and the El Sobrante Landfill accepts on average 3,649 tons per day. At a rate of 2.1 tons per day, the Springbrook Estates project represents 0.12, 0.42, and 0.05 percent of the average daily tonnage at the Badlands, Lamb Canyon and El Sobrante landfills, respectively. While the project will contribute to shortening the lifespan of local landfills, the project's solid waste contributions are not considered significant.

However, to conserve landfill capacity, the project should participate in the County's efforts to meet and maintain the State's mandatory goal of a 50 percent reduction in waste disposed (Integrated Waste Management Act of 1989, AB 939, et seq.).

Page VI.A.14-17 - Project Related Impacts, First Paragraph

Page VI.A.14-17, Project Related Impacts, first paragraph, is revised to read as follows:

Implementation of the proposed project will involve site preparation activities that will generate waste materials including lumber, roofing material, concrete, debris, excess fill dirt, etc. Moreover, project implementation may result in the generation of hazardous waste such as paint, in excess of 27 gallons, or 220 pounds, per month. As such, the project must comply with the County of Riverside Conditionally Exempt Small Quantity Generator Program. Hauling and disposal of construction materials, debris, and construction-related hazardous materials, will occur during the construction process; such activities will result in a significant solid waste impact. Following completion and occupancy of the project, refuse will be regularly generated.

Page VI.A.14-19 - Mitigation Measure 5

Page VI.A.14-19, Mitigation Measure 5, is revised to read as follows:

Adequate areas for the collection and loading of recyclable materials shall be provided within the single-family residential areas where solid waste is collected and loaded in a location that serves five or more units. The design guidelines for the residential development shall appropriately identify and describe these areas.

In addition, the appropriate revisions have been made to the EIR Issue Matrix in Section V.III.B of the EIR.

Page VI.A.14-19 - Mitigation Measure 6

Page VI.A.14-19, Mitigation Measure 6, has been revised to read as follows:

The project applicant shall comply with the County of Riverside Conditionally Exempt Small Quantity Generator Program during the project's construction phase and the project applicant shall participate in the County Department of Environmental Health's mobile household hazardous waste collection program during the project's operational phase.

In addition, the appropriate revisions have been made to the EIR Issue Matrix in Section V.III.B of the EIR.

Page VI.A.14-32 – Project Related Impacts, Second Paragraph

Page VI.A.14-32, Second Paragraph, has been replaced to read as follows:

In addition, on the northeast edge of the proposed Springbrook development, Southern California Edison's (SCE) existing Alessandro-Highgrove-Maxwell 115kv subtransmission line will be relocated on to a 50 ft. wide exclusive easement to be provided by the developer. SCE will relocate approximately 5 (five) wood H-frame structures and approximately 12 (twelve) wood poles into the new easement. The length of the relocation will be approximately 2600 feet.

On the southwest edge of the development, SCE[1]s existing Alessandro-Highgrove-Maxwell-Tanker 115kv subtransmission line will be relocated into an exclusive easement provided by the developer. SCE will relocate approximately 25 (twenty five) single structure wood poles, and 3 (three) bolted base tubular steel poles into the new easement, which will be located along Mount Vernon Avenue and Pigeon Pass Road. The length of the relocation will be approximately 3300 feet (see Figure VI.A.14-2).

COUNTY OF RIVERSIDE

TRANSPORTATION AND LAND MANAGEMENT AGENCY

Tony Carstens · Agency Director

Planning Department

Robert C. Johnson · Planning Director

December 28, 2005

Building and Safety Department – Grading Division – Tony Harmon
Planning and Land Use (2nd Floor) – Dianna Ross
County Parks and Recreation Department – Marc Brewer
Department of Environmental Health – Greg Dellenbach
County Fire Department – Tracy Hobday
County Flood Control and Water Quality District – Stuart McKibbin
Transportation Department – Jim Knutson
Clerk of the Board of Supervisors – Nancy Romero
CSA Administrator (2 copies)
Central Files – Rose Keathley (2 copies)
City of Riverside
Grand Terrace Community Development (1 copy)

RE: Specific Plan 330 (Springbrook Estates)

Attached are the final Specific Plan/Environmental Impact Report documents as approved by the Board of Supervisors for the above-listed project. Please discard all prior copies of the documents, and all prior final documents of this specific plan. One copy will be placed in central files, and one copy are to be placed in storage.

Should you have any questions, please give me a call at (951) 955-6646.

RIVERSIDE COUNTY PLANNING DEPARTMENT
Robert C. Johnson, Planning Director

Keith Gardner, Principal Planner

Y:\Planning Case Files-Riverside office\SP00325\Final Document letter.doc

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Appendix C:
Cultural Resources Report

ARCHAEOLOGICAL RESOURCES ASSESSMENT OF THE SPRINGBROOK ESTATES PROJECT: A 183.95 ACRE SITE LOCATED IN THE COMMUNITY OF HIGHGROVE, COUNTY OF RIVERSIDE, CALIFORNIA

Prepared for:

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Senior Archaeologist

September 16, 2002
(Updated August 2003 and January 2004)

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1	Known Cultural Sites Located Within One Mile of the Study Area	5-1

ACRONYMS

AIC .....Archaeological Information Center, San Bernardino County Museum

ARMR .....Archaeological Resource Management Report

CEQA .....California Environmental Quality Act

CRHP .....California Register of Historic Places

DPR523 .....California Department of Public Resources Archaeological Recordation Form Set (523)

EIC .....Eastern Information Center, University of California, Riverside

NEPA .....National Environmental Policy Act

NAHC.....Native American Heritage Commission

NHPA .....National Historic Preservation Act

SBBM.....San Bernardino Base Meridian

SBCM.....San Bernardino County Museum

SHPO.....State Historic Preservation Office

SECTION 1
PUBLIC INFORMATION STATEMENT

At the request of Mr. Ed Fitzpatrick of Springbrook Investments, Michael Brandman Associates (MBA) has conducted a Phase 1 cultural resource field survey on 16 adjoining parcels located in parts of Section 8 and Section 9, T2S, R4W San Bernardino Base Meridian (SBBM). The total amount of land within this parcel set is approximately 185 acres. Located a mile east of the center of the community of Highgrove, California, the study area is under County of Riverside jurisdiction. This report is associated with a plan to construct a residential development tract.

The purpose of this report is to delineate the location of the study area, identify all potentially significant cultural resources situated within the study area and, if impacted by the proposed development, propose recommendations for mitigation where necessary. Completion of this investigation fulfills the requirements of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), protocols associated with the National Historic Preservation Act (NHPA) as amended, the Antiquities Act of 1906, and Executive Order 11593 requirements. This report follows the State Historic Preservation Office (SHPO) recommended Archaeological Resource Management Report (ARMR) format. This report also describes the required paleontological mitigation measures.

Section 2 presents an introduction and reviews the goals of this study. Section 3 summarizes the environmental and cultural setting. Section 4 presents the investigative methods, while Section 5 reviews any previous cultural resource investigations in or near the study area, along with records search results. Cultural resource survey results for this project are found in Section 6. Section 7 summarizes the project and provides management recommendations. Section 8 presents a reference list, while Section 9 provides the project certification. Appendix A contains recent photographs of the study area, and Appendix B contains personnel qualifications. Appendix C reprints DPR523 forms that have been sent to the Eastern Information Center (EIC) at the University of California, Riverside the result of this study. Appendix D reprints consultation letters and required County of Riverside documents associated with the project.

Michael Dice of MBA conducted the Riverside County portion of the archaeological record search at the EIC on April 26, 2002. The research indicated that virtually none of study area has been surveyed for cultural resources. Seven historic archaeological sites, two prehistoric archaeological sites and 24 historic structures lay within a one-mile radius of the study area. Because the records search radius extended into San Bernardino County, Robin Laska of the Archaeological Information Center (AIC) of the San Bernardino County Museum (SBCM) conducted a records search on April 24, 2002. One historic site, two pending historic sites and five or more possible historic structure locations lay within a one-mile radius of the study area.

The field survey and site recordation phases of the project took place on April 30, May 1, May 2, May 14 and May 15, 2002. During the survey, it was determined that most of the parcels currently exhibit active citrus groves or citrus groves that have had irrigation water shut off in the last two years. Document reviews showed that he entirety of the property had been used for citriculture since at least 1920. Because of grove development, the level of topsoil disturbance in the project area is very high. In August of 2003, we examined a small area in Spring Brook Wash that shall be used for a water detention basin. This area is located just west of a buried flume and south of property that is not a part of the project area. No cultural resources were observed in this area.Two previously recorded historic sites and four new historic sites were detected during the survey. These sites are associated with water disbursement from a local underground pipeline and controlled runoff collection. Because of the very high level of changes in the original soil topography since 1900, there is a low-to-moderate likelihood that intact cultural resources will be impacted during earthmoving. Recordation of the historic irrigation sites and a review of background information showed that these sites are Not Significant under CEQA and NEPA. Recordation of the six sites utilizing DPR523 forms mitigates for their destruction during any future earthmoving within the project boundaries.

Cultural resource monitoring of the study area is recommended during earthmoving, but once the upper 10 feet of soil is removed in any one area, monitoring should be discontinued. Site CA-RIV-6829/H represents that segment of the historic Riverside-Highland Water Company conduit located in and near the project area. According to an informant, the currently operating buried cement pipeline was emplaced on or about 1939. During its construction, the pipeline was placed within the original 1890-1900 cement flume. The old pipeline and the older flume must be removed during the process of earthmoving. We recommend that monitoring and additional site recordation should take place during the destruction of CA-RIV-6829/H as a part of the mitigative process. We also recommend that because the chance for impacts to prehistoric and protohistoric resources during construction is moderate-to-high, Native American representatives should be given the opportunity to be included in all monitoring and possible subsurface excavation efforts.

Lastly, should potentially significant cultural resource localities (excluding isolated artifacts) be uncovered during earthmoving, such localities should be Phase 2 tested for *significance* prior to continued impact. In addition, State Health and Safety Code Section 7050.5 dictates that if human remains are unearthed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA regulations and Public Resources Code Section 5097.98.

Because a paleontologic study took place on a Tract due east and directly adjacent to the Springbrook Estates project, and because the results of that study can be applied herein, there was no need for a new records search and paleontologic survey. The results of the earlier study showed that the

potential for impacts to unknown fossil localities during construction is low. Paleontologic monitoring should take place during construction.

SECTION 2
INTRODUCTION

The following archaeological survey report has been prepared for at the request of Mr. Ed Fitzpatrick of Springbrook Investments. Michael Brandman Associates (MBA) has conducted a Phase 1 cultural resource field survey on 16 adjoining parcels located in parts of Section 8 and 9, T2S, R4W (SBBM) in the community of Highgrove, California. The sixteen Riverside County parcels investigated in this report consist of the following: APN#255-110-001, 255-130-001, 255-130-002, 255-130-003, 255-130-004, 255-130-008, 255-130-009, 255-130-010, 255-140-001, 255-140-020, 255-170-006, 255-170-007, 255-170-008, 255-170-009, 255-190-008, 255-190-009. According to the Riverside County GIS website, the total amount of land within this parcel set is approximately 185acres.

Located a mile east of the community of Highgrove (Exhibit 1), the study area is under County of Riverside jurisdiction. The direct Area of Potential Effect (APE) is located in Exhibit 2. Here, the APE is outlined in red and is termed the "Project Location". This report is associated with a plan to construct a residential development tract.

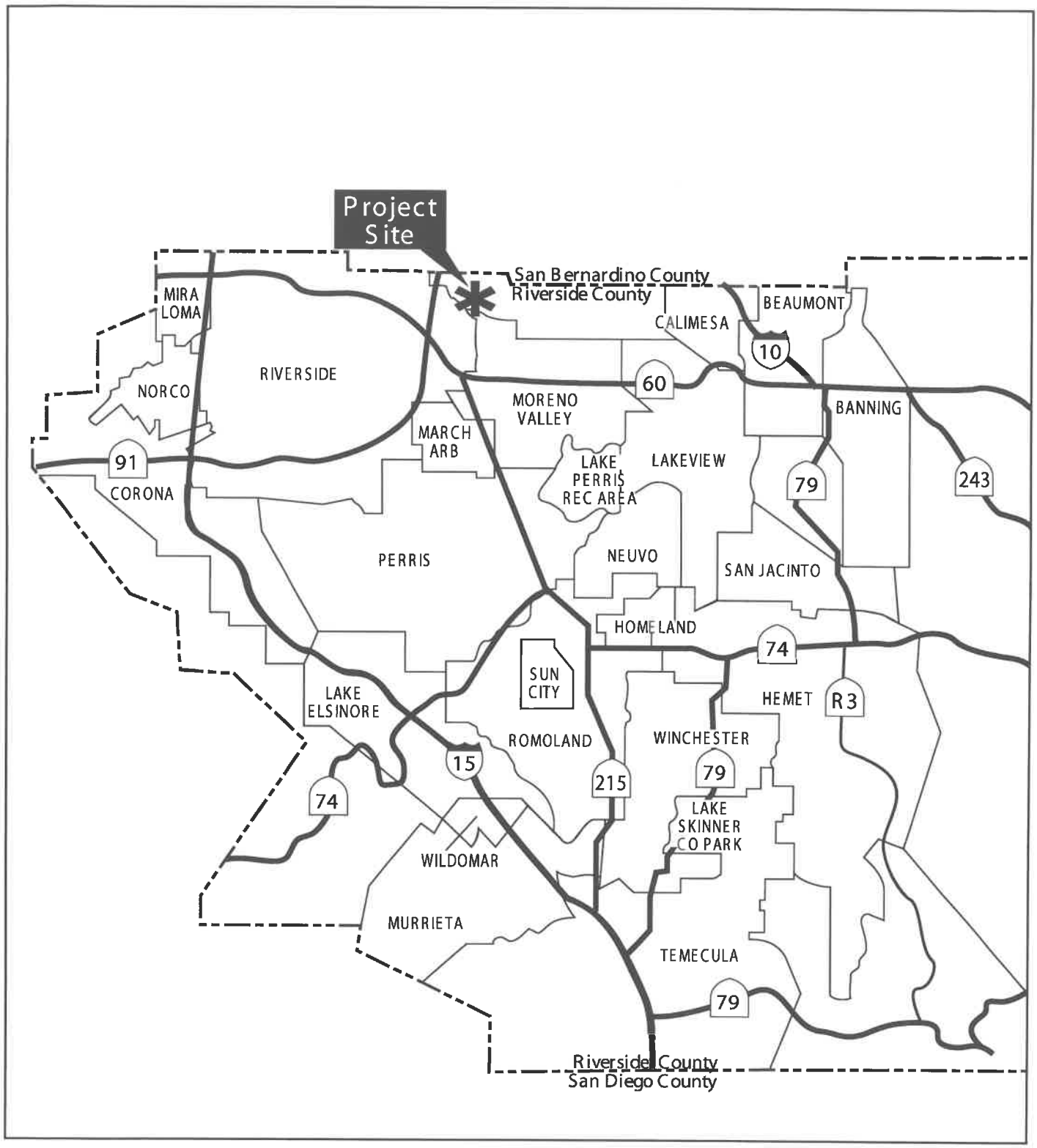
The records and map searches took place on April 24, 2002 and April 26, 2002. The cultural resource fieldwork and site recordation took place on April 30, May 1, May 14 and May 15, 2002. The project area was surveyed for cultural resources utilizing procedures noted in Section 4.0.

The cultural resource assessment was performed at the request of the Proponent in order to comply with the regulations of the California Environmental Quality Act of 1970 (CEQA, amended January 2000). Under CEQA, such studies must take place if it has been determined that there is a possibility that significant cultural resources may be adversely affected by land development. Such studies must be in accordance with State and local protocols relating to potentially significant cultural resources. The underlying federal regulations are found the National Historic Preservation Act (NHPA 1999; Archnet 1999), the National Register of Historic Places (NRHP 1999, ParkNet 2001) and the National Environmental Policy Act (NEPA). This report closely follows the ARMR reporting format as is currently recommended by SHPO.

2.1 CULTURAL AND PALEONTOLOGICAL RESOURCE ASSESSMENT GOALS

The goal of this study was to identify all significant cultural resources situated within the boundaries of the defined study area. The study consisted of four distinct efforts:

1. Cultural resources record search conducted to determine whether any previously recorded cultural materials are present within the boundaries of the study area or within a one-mile radius.



Michael Brandman Associates

NORTH

5 2.5 0 5

SCALE IN MILES

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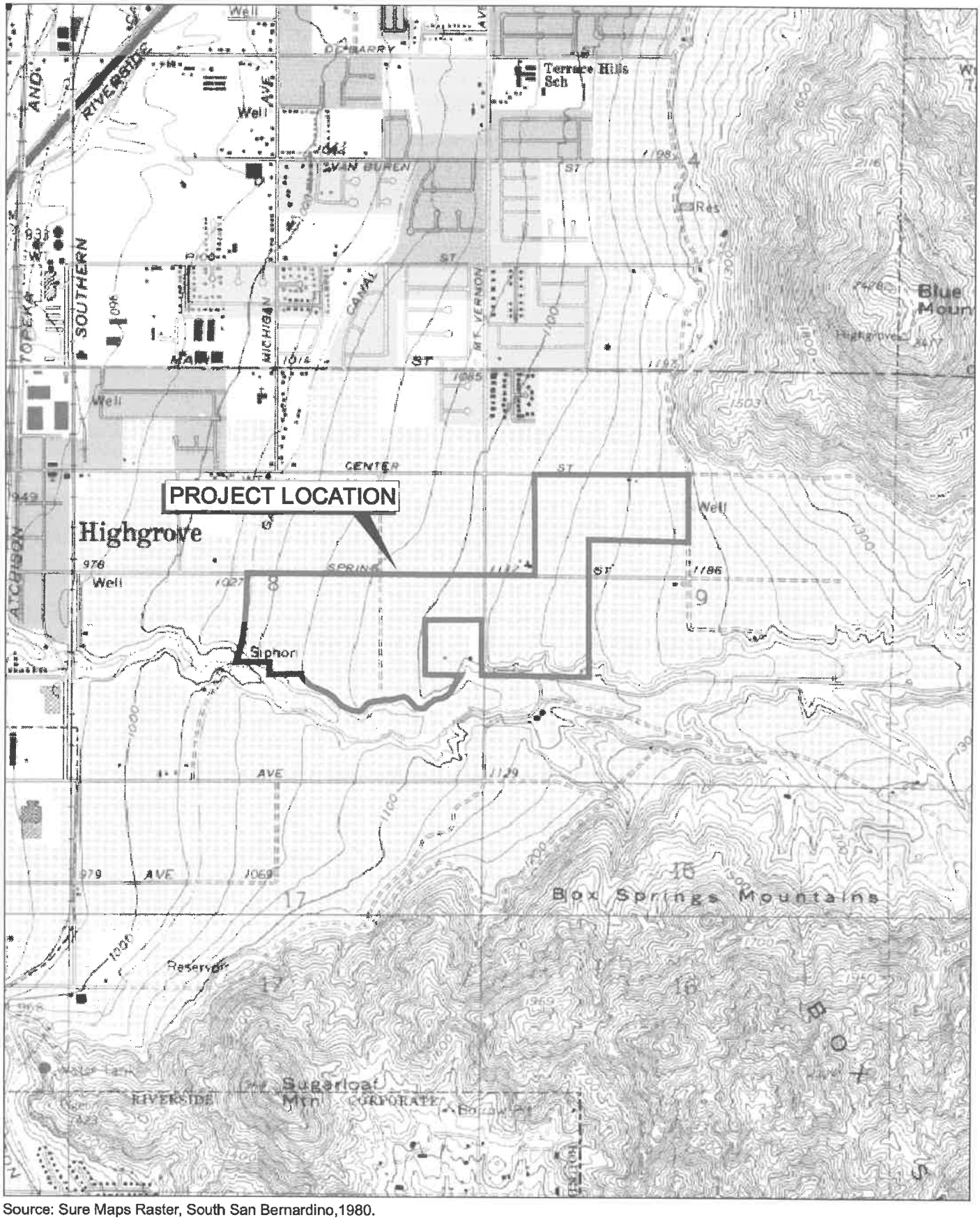
Exhibit 1

Regional Vicinity Map

SPRINGBROOK ESTATES • CULTURAL RESOURCES ASSESSMENT



Source: Sure Maps Raster, South San Bernardino,1980.

NORTH

1,375 687.5 0 1,375

SCALE IN FEET

Michael Brandman Associates

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Exhibit 2

Project Location Map

SPRINGBROOK ESTATES • CULTURAL RESOURCES ASSESSMENT

2. Protocol field reconnaissance in the form of a systematic, intensive pedestrian survey designed to identify any cultural resources within the study area.

3. Examination of archived aerial photographs, topographic maps, and road maps that might reveal historic land use.

4. Recordation, where necessary, of encountered cultural properties.

5. Development of mitigation recommendations associated with any future development.

6. Development of paleontological mitigation measures based on paleontologic data associated with an adjacent nearby residential development site.

Because the on-site and off-site project areas contain numerous known historic properties, mitigation measures must be written to assume a certain level of impact to existing cultural properties, cultural properties that are highly likely to occur on the property but cannot be directly observed through survey, and unknown properties that might be detected during construction.

SECTION 3
ENVIRONMENTAL AND CULTURAL SETTING

3.1 PROPERTY DESCRIPTION

The project area lies is low foothills between the southern San Bernardino Valley and the middle Santa Ana valley floodplain. The project area is located in parts of Section 8 and 9, T2S, R4W (SBBM) as found on the *USGS San Bernardino South, CA.* 7.5' topographic quadrangle maps (see Exhibit 2). The study area could be easily accessed and roughly 166 acres of land was surveyed to protocol. The study area was fully bounded by property lines, roads, groves and a steep and wooded area along its southern edge. The study area is mostly planted in citrus groves, some of which were still alive at the time. In others, irrigation water had been cut off and the trees were slowly dying.

3.2 TOPOGRAPHY

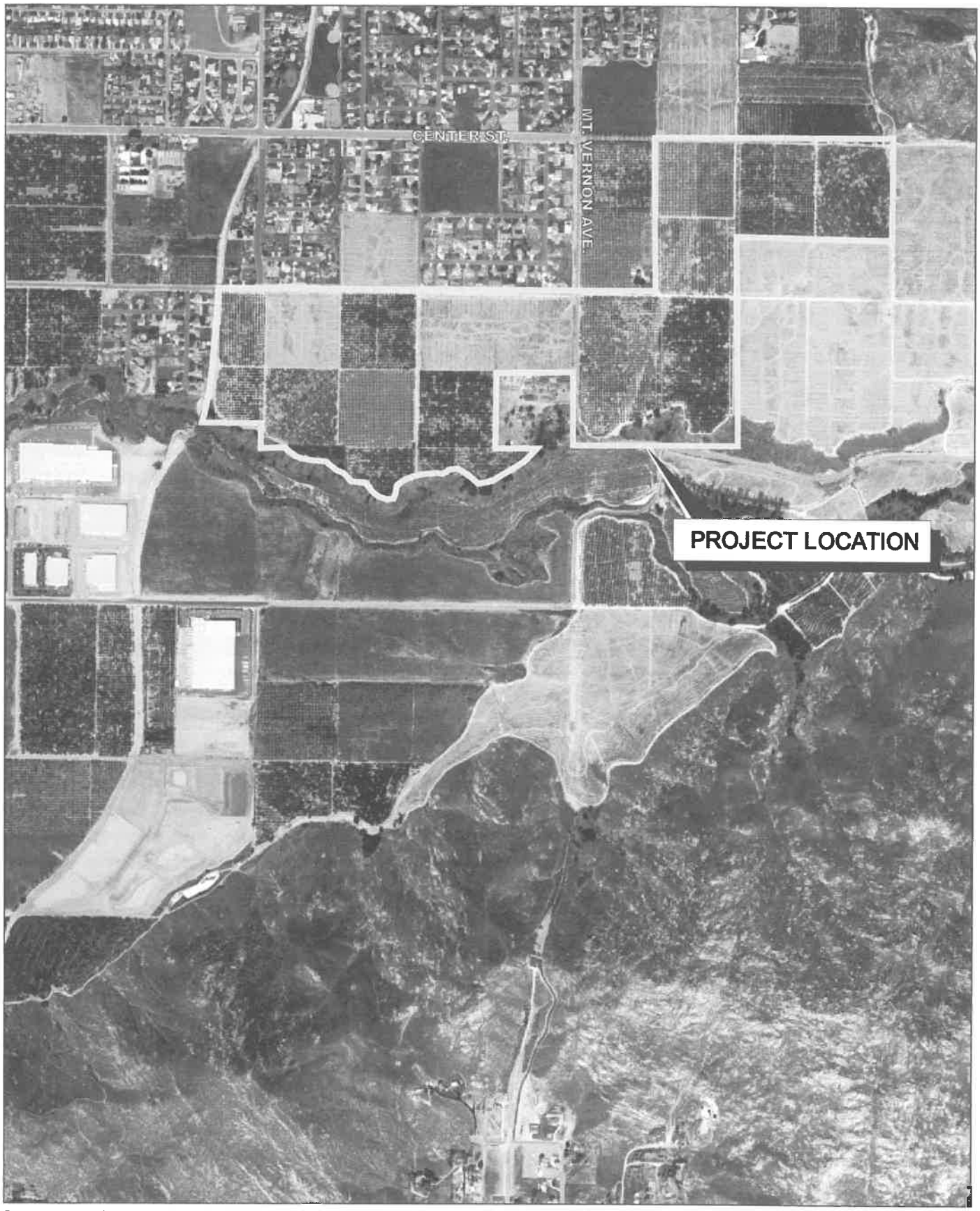
A modern aerial photograph, flown on October 3 1995, is shown as Exhibit 3. The study area consists mostly of a mesa top and edge north of Spring Brook Creek wash. The mesa has a slope of approximately three to four degrees, with an aspect to the west-southwest. The elevation of the study area ranged from 1195 to 1025 feet above mean sea level. Hills to the northeast and southeast could be seen from nearly all portion of the site.

3.3 VEGETATION

The study area is located in an area dense with orchards. Vegetation also exists in the form of ornamental plantings. Numerous fan palms were observed, along with several large Live Oak trees, Eucalyptus and Peppertrees. Several of the parcels are barren and are covered with ruderal vegetation that is tilled yearly.

3.4 GEOLOGY

The project area exhibits medium to coarse loamy soils typical of eroded granite bedrock on alluvial fans. Soils in the project area included Greenfield sandy loam and the Hanford coarse sandy loam (Knecht 1971). Prior to development by citrus growers, the site was likely an exposed mesa top covered in Riversidean sage scrub with steep sided gullies. According to Reynolds (Finger 1998), the types of sediments and bedrock in the area consist of potentially fossiliferous Pleistocene terrace (alluvial) deposits and non-fossiliferous granitic rocks.



Source:Michael Brandman Associates and PBS&J,1995.

NORTH

Michael Brandman Associates

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Exhibit **3**

USGS (10/3/95) Aerial Photograph

SPRINGBROOK ESTATES • CULTURAL RESOURCES ASSESSMENT

3.5 WATER RESOURCES

The project is located on a dry mesa top above a steep canyon characterized by sporadic and intensive flooding events. No local springs or seeps are indicated on the *San Bernardino South, CA* topographic map. Springbrook Wash lies just south of the study area. Prior to the drop of the local water table due to over-pumping of wells, this would have provided water to aboriginal and historic occupants.

3.6 PREHISTORIC AND ETHNOGRAPHIC BACKGROUND

Moratto (1984) and Chartkoff and Chartkoff (1984) provide recent overviews of California archaeology and historical reviews of the inland southern California coast, among other locales. The most accepted regional chronology for coastal and the central interior of southern California is from Wallace's four-part *Horizon* format (1955), which was later updated and revised by Warren (1968). Created to place temporal structure upon materialistic phases observed during archaeological syntheses, the advantages and weaknesses of southern California chronological sequences are reviewed by Warren (in Moratto 1984), Chartkoff and Chartkoff (1984), and Heizer (ed. 1978). As of this writing, regional archaeologists generally follow Wallace's (1955) southern California format, but the loosely established timeframes for each cultural horizon are often challenged. Most of the cultural periods described prior to about 2,000 YBP (years before present) are founded upon projectile point typologies, associated radiocarbon dates and a *lack* of characteristic temporo-cultural artifacts found elsewhere.

The project area is located between the desert and coastal ecosystems. Enviro-cultural parameters applied to the two regions are as follows:

The Paleo-Indian Period of North America and Southern California (~13,000-11,000 YBP)

Little is known of Paleo-Indian peoples in the California archaeological record, and the culture history of this period generally follows that described for North America as a whole. The period begins with the crossing of man from Siberia, following a route from the Bering Strait and into North America after the Wisconsin Ice Sheet receded (~14,000 YBP) and before the Beringia land bridge submerged (~12,000 YBP). The timing, manner and location of the crossing is under great dispute, but the initial migration probably occurred as a result of a reduction of the Laurentide Ice Sheet along the Alaskan Coast and Yukon interior. With the possible exception of the Meadowcroft Rockshelter, no unequivocally dated human settlement in North America is known prior to the earliest defined date from the Clovis complex (~11,200 YBP: Fagan 1995). This includes the controversial Monte Verde Creek site in Chile and the Meadowcroft rockshelter. Both sites exhibit strata dated roughly at 12,000 YBP.

Most of the known California Late Paleo-Indian/early Archaic sites are located near extinct desert valley lakes, in caves, and on the Channel Islands. These consist of occupation sites, butchering stations, and burials. Late Paleo-Indian/early Archaic burials are known along the southern California coast (Chartkoff and Chartkoff 1984). As glaciation receded, large stream-fed lakes were left behind throughout the American West. Many early sites in California are known along these currently dry lake margins. Dates are generally late (e.g., Moratto 1984) relative to other Paleo-Indian sites in North America. Lakeshore occupation sites exhibit artifacts such as large projectile points (Clovis and Folsom styles), debitage, and fire-cracked rock concentrations.

The Paleo-Indian period ends with a marked extinction of large game native to North America and a modification of the prehistoric toolkit. The late Pleistocene-early Holocene geologic period (~11,000 YBP) in California is marked by generally warmer temperatures in desert valleys and less precipitation in mountainous areas.

The Archaic Period, Desert and Coastal Regions (~11,000-2,500 YBP)

The earliest known cultural horizon in southern California is known as the San Dieguito tradition, which is dated to approximately 10,000-7,500 YBP (Warren 1968). This is also known as Wallaces' (1955) *Early Man Horizon* and is most thoroughly documented in the San Diego area. Believed to be a primarily hunting oriented society, these people manufactured stemmed projectile points, crescents and leaf-shaped knives. The subsistence tool kit does not suggest that grain processing was a significant portion of their overall diet. The first appearance of "millingstone" assemblages is associated with the La Jolla Complex (7500-3000 YBP as noted in Moratto 1984:158), which occurred at the same time as the Gypsum Complex. This complex of grinding stones and projectile points appears to have been an adaptation to changes in climate after 7500 YBP, which may have stimulated movements of desert peoples to the coastal regions, bringing millingstone technology with them. Peoples of the coastal regions focused on mollusks, while inland adaptations relied on wild seed gathering and acorn collecting.

Middle Archaic Period, Desert Regions (Pinto Period: 7000-4000 YBP)

In the southwestern Great Basin, this period was environmentally more challenging than that of today. The beginning of the period is marked by a shift in environment to hotter and drier conditions. It is generally believed that in the Mojave Desert and the southern Great Basin, milling stones are rare, suggesting a continued reliance on meat processing rather than plant foods. In the inland portions of California, the diagnostic Middle Archaic point is the Pinto Point. The configuration of Stahl Site toolkit(s) suggests a very generalized foraging practice (Younkin 1998). The likelihood is that peoples utilized a small-centralized village configuration near reliable water and foraged for whatever plants and animals they could find within their range. A similar situation is found amongst

the ancestral Cahuilla, suggesting that occasional lack of water in the Coachella Valley was an extreme cultural limiter.

The Late Archaic Gypsum Period, Desert Regions (4000 to ~1500 YBP)

In the southwestern Great Basin, this period is characterized as having cooler and wetter conditions than that previously experienced, an environment similar to that of today. Sites appear in previously unoccupied areas of California. The numbers of sites in some regions, especially near ephemeral lakes, seem to have risen dramatically. In the Owens Valley, permanent village sites were utilized, along with the addition of upland dry-environment sites. These changes reflect a phenomenon found throughout the western United States where an increase in population and changes in tool kits and living arrangements resulted in more specialized uses of materials and landscapes. Diagnostic artifacts associated with this period consist of Elko and Gypsum projectile points.

Late Prehistoric Period, Desert Regions (Saratoga Springs Period): 1500-800 YBP)

This period is environmentally similar to earlier periods. In the southwest Great Basin, this period is characterized by the introduction of the bow and arrow, exploitation of the pine nut and an increase in logistical complexity relative to landscape use. With these changes came a diversification of resource use and a more sedentary settlement pattern in the Owens Valley. The nature and number of sites attributed to this time period changed such that the "winter villages" became larger, numbers of such villages were reduced, and base camps in the upland areas became larger, more diversified and more numerous.

The abandonment of village sites at the end of the Late Prehistoric Period is attributed to a change in climate, and is an event mirrored in other parts of the American southwest, California and in Mexico. Trade of Coso obsidian in southern California apparently ended during this period.

Late Prehistoric Period, Coastal Regions (~2500 YBP to A.D.1769)

The late prehistoric period was characterized by the increasing importance of acorn processing, in addition to other hunting and gathering. Meighan (1954) identified the period after AD 1400 as the San Luis Rey complex. San Luis Rey I (AD 1400 – 1750) is associated with bedrock mortars and millingstones, cremations, small triangular projectile points with concave bases, and Oilvella beads. The San Luis Rey II (AD 1750-1850) period is marked by the addition of pottery, red and black pictographs, cremation urns, steatite arrow straighteners, and non-aboriginal materials (Meighan 1954:223, Keller and McCarthy 1989:6). The San Luis Rey complex most likely represents the forebearers of the Luiseño (Bean and Shipek 1978:550). Work at Cole Canyon and other sites suggest that the origins of this complex, and of the ethnographically described lifeway of the native people of

the region, is believed to have been well established by at least AD 1000 (Keller and McCarthy 1989:80).

Native American Tribes of the Southern San Bernardino Valley

The Gabrielino

The project area lies along the eastern edge of an area generally thought to have been utilized by California Indians that were once associated with the Mission San Gabriel (Bean and Vane 1979). Indigenous native culture was forever modified after the arrival of the Spanish soldiers. Bean and Smith (1978a) characterize the area as the "Interior Mountains/Adjacent Foothills" zone of the Gabrieliño culture. The arrival of Spanish explorers and the establishment of missions and outposts during the 18th century ended the prehistoric period in California.

The Gabrieliño spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family (a language family that includes the Shoshoean groups of the Great Basin). The total Gabrieliño population at about 1770 AD was roughly 5,000 persons, based on an estimate of 100 small villages of 50-200 people apiece (Goldberg and Arnold 1988). Their range is generally thought to have been located on the Pacific coast from Malibu to San Pedro Bay and south to Aliso Creek, then east to Temescal Canyon and the San Bernardino area, then north to the headwaters of the San Gabriel River. Also included were several islands, including Catalina. This large area encompasses the city of Los Angeles, much of Rancho Cucamonga, Corona, Glendale, and Long Beach. The Gabrieliño occupied most of the fertile bottomlands in the southern California basin (Keller 1995).

The first modern social analyses of Gabrieliño culture took place in the early part of the 20th century (Kroeber 1925), but by that time acculturation and disease had taken their toll. The population studied at that time was a mere remnant and a shadow of their cultural form prior to contact with the Spanish Missionaries. Nonetheless, the Gabrieliño are viewed as a chief-oriented society of semi-sedentary hunter-gatherers. Technology was sophisticated and reflected seasonal resource exploitation originating from village-centered territories (Keller 1995). Influenced by the wide variety of coastal and interior environmental settings, their material culture was quite elaborate and consisted of well-made wood, bone, stone and shell items. Included among these was a hunting stick made to bring down numerous types of game. Located in an area of extreme environmental diversity, large villages may have been permanent (such as that found on or near Red Hill in Alta Loma), with satellite villages utilized seasonally. Their living structures were large, domed and circular thatched rooms that may have housed multiple families. The society exhibited ranked individuals, possibly chiefs, who possessed a much higher level of economic power than unranked persons.

The Cahuilla

According to several researchers (Kroeber 1925, Bean 1978), the Cahuilla Indians may have occupied parts of the eastern San Bernardino valley prior to contact with Spanish Mission padres and military personnel. Bean (1972, 1978) forms the primary modern reference for this cultural group. Bean notes that of all the southern California Indians, the Cahuilla existed within the most geographically diverse region, constrained only by water supplies and topography.

Currently, it is thought that a migration of Shoshonean peoples from the Great Basin occurred approximately 1000-600 years ago, with populations moving into much of desert and coastal Southern California. Included among these migrants were the fore bearers to the modern Cahuilla. The Cahuilla spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family (a language family that includes the Shoshonean groups of the Great Basin).

The prehistoric Cahuilla were characterized by the occupation of sedentary villages in subsistence territories that permitted them to reach the majority of their resources within a day's walk. Villages were commonly located near reliable sources of water. During October to November, much of the village population moved to temporary camps in the mountains to harvest acorns and hunt game. Inland groups also had fishing and gathering spots on the coast that they visited annually. In comparison with the Gabrieliño and Luiseño, the Cahuilla appear to have had a lower population density and a less rigid social structure. The Cahuilla patterns may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers or padres to maintain imported European traditional style settlement and economic patterns (see Bean and Shipek 1978:588).

Historical Aspects of the Lower San Bernardino Region

A comprehensive historical review of the San Bernardino ~~valley is noted~~ in Swope ~~(1997)~~. ~~Hampson~~ et al (1988) divided the history of the upper Santa Ana River region into phases. The following review details information taken from these two sources.

The Spanish Period (1772-1821)

After initial contacts by the Spanish soldier Pedro Fages and Father Francisco Garcés, Mission San Gabriel representative Father Zalvidea came to the San Bernardino valley area in 1806 in search of suitable mission administrative or ranching sites. In 1810, Father Dumetz consecrated a new Mission San Gabriel outpost. Many researchers (see Lerch and Haenszel 1981) believe that the ceremony took place in the area of the existing protohistoric Indian village now known as the Guachama Ranchería. An adobe storehouse measuring 90x30 feet in size was built at the ranchería, which eventually housed locally grown crops.

The Mexican Rancho Period (1821-1848)

Administration of the southern California ranchos shifted to Mexican hands in the early 1830's. Once the ranchos were secularized, the Mexican administrators began granting vast tracts of the original Mission properties to members of prominent families whom had helped cut ties from the Spanish system.

In 1830, construction began on new adobe buildings (site SBR-2307/H) associated with the outpost, which by this time had begun cattle operations in the valley. The location of this new Spanish site, now known as the San Bernardino *Asistencia*, is found on a low finger ridge about 2500 feet north of San Timoteo Canyon. At the time, San Timoteo Canyon was a well-known route of travel between Sonora and San Gabriel, and had been utilized by Indian traders. The originally planned asistencia was abandoned for a decade or so when the new Mexican land grantees, Don Lugo and family, moved into the *asistencia* and made it their permanent home. The project area lies a few miles south of the Sonora-San Gabriel Road, but the Highgrove area may have been used as an alternative pass between San Bernardino and the Coast during times of flooding.

American Settlement Period (1848-1885)

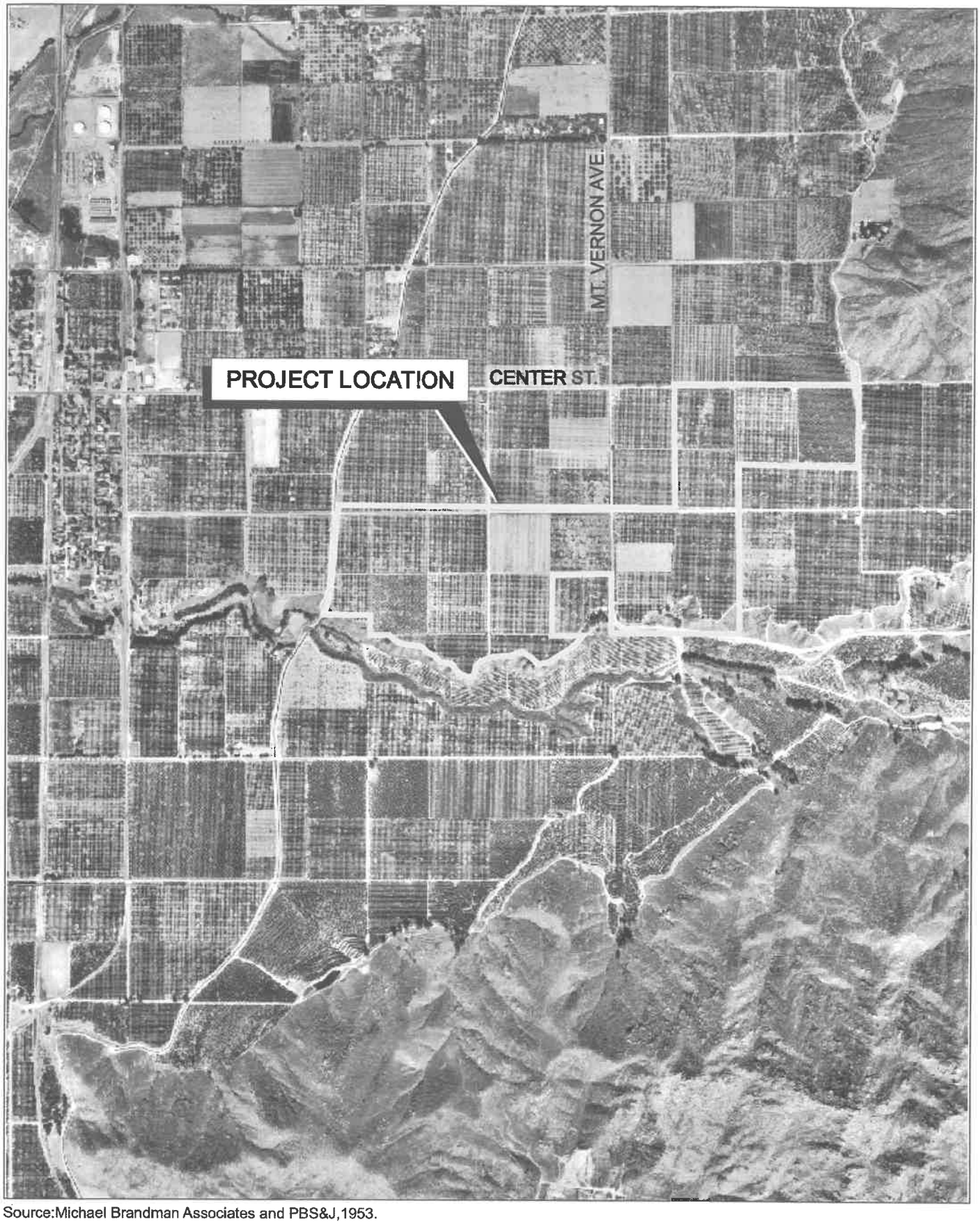
Although California shifted into American hands, exploitation of the area was slow to develop. In 1851, Mormon immigrants arrived in San Bernardino and purchased the majority of the San Bernardino Rancho from the Lugos. Mormon Bishop Tenney replaced Lugo at the asistencia, which served as a school and tithing house. Mormon agricultural fields were the only irrigated croplands in the entire valley. After the Mormons returned to Salt Lake in 1857, their properties were sold off one by one to the slow influx of ranchers and farmers.

American Developmental Period (1885-now)

During the American development phase, railroads were constructed along major thoroughfares and served as the primary transportation corridors out of and within southern California for many years. The Southern Pacific and Santa Fe Routes were built near bottomlands north and southwest of the study area.

Highgrove Citrus History

An archival aerial photograph of the project area, taken on September 22, 1953 can be seen as Exhibit 4. This image clearly shows the entirety of the Spring Brook drainage covered in citrus orchards, with the Gage Canal bisecting the east portion of Highgrove from north to the southwest.



Source:Michael Brandman Associates and PBS&J,1953.

NORTH

Michael Brandman Associates

21970012 · 9/2002

Exhibit 4

1953 Aerial Photograph

SPRINGBROOK ESTATES • CULTURAL RESOURCES ASSESSMENT

Highgrove was, from the very beginning, a community entirely devoted to orange and lemon crop production. The first orange grove planted in the San Bernardino valley region belonged to Anson van Lueven, who planted his orchard near the San Bernardino *asistencia* in 1857 (Klotz et al 1969). Utilizing the waters of the nearby *zanja*, van Lueven's orchard was a success and helped to attract other citriculture pioneers to the region. Varieties of oranges planted at this time were derived from seedlings out of Mexico, Hawaii and Tahiti.

In 1862 there were just 25,000 citrus trees in the entire state. Once the Washington seedless navel orange were planted in quantity, southern California quickly became the primary citrus production area in the country. The Washington was a seedless variety taken from Brazilian cuttings and planted by Luther or Eliza Tibbets in Riverside on or about 1871. Grove plantings of the Washington orange and various lemon varieties exploded in quantity after that date. In 1882, more than 500,000 citrus trees had been planted in California.

The dual problem of reliable water and transportation of ripe crops to the rest of the country were solved in the late 1800's. Once groundwater supplies were drained, flumes and canals were constructed that channeled water from the nearby mountain ranges and perennial streams to reservoirs ringing the newly founded citrus-based communities. Refrigerated railcars were invented that allowed product to be shipped to distribution centers in eastern states and overseas.

Historic Land Evaluation

The National Orange Company, founded by Riverside County citrus pioneer E.A. Chase, had holdings on property located just south of the project area (White et al 2002). In the July 1916 copy of the California Citrograph (CC 1916:6), the Eureka ranch holdings can be observed from a point due south of the study area. The project area can be clearly observed on the mesa north of Spring Creek, below Sunny Mountain. This image represents the first known photograph of the project area. Given the good growth of the citrus trees in this view, it is very likely that water from the Highgrove Conduit (CA-RIV-6829/H), or the Gage Canal, was used for irrigation. A packinghouse was constructed along the railroad at Highgrove for shipment of all of the fruit in the area. The orchards and the packinghouse formed the primary force for social and economic survival of people living in this area.

White et al (2002) reviewed the history of this section of Highgrove in a report for a nearby Specific Plan. Land pantent records show that Section 9 was once owned by the Southern Pacific Railroad. They state that in 1955, the Chases' National Orange Company became a co-operative of several growers, including R.L. Renfro, who owned several parcels within the Springbrook parcel set (RME 2002). Once the citrus industry became an economic force in San Bernardino (and later Riverside)

County, lands once belonging to Mexican landholders were subdivided and bought and sold to homesteaders, then to citrus growers. In the late 1800's, E.A. Chase was able to amass 3,500 acres of land in the Riverside and Corona areas, and the Eureka/Vivienda citrus ranches were located south and east of the project study area. It is likely that the Chase companies held title to most, if not all, of the lands within the Springbrook parcel set because Chase utilized irrigation water out of the Gage Canal.

The Phase 1 environmental site evaluation (RME 2002) reveals the names of individuals holding properties within the project area. Many of the landholders and their families have held the properties since the 1950's (ie: Ray Renfro, Robert Washburn, Ken Martin, Paul Olsen, etc), when the National Orange Company became a cooperative of several growers. Our historical knowledge of the area, coupled with a thorough Google search of the history of Riverside County and community of Highgrove, showed that none of the landholders identified by the RME report are historically significant figures at the National or State levels.

SECTION 4
INVESTIGATIVE METHODS

Customary procedures were utilized to produce the data for this report. Protocol guidelines for performing the cultural resource field survey and any site or isolates were previously downloaded from Federal and State websites. SHPO-mandated archaeological recordation guidelines and procedures (see OHP 1995, CHRIS 1999) follow National Park Service recordation guidelines (1983, 1985) and CEQA requirements. Any detected sites must be evaluated for significance utilizing National Register of Historic Places (NRHP) and California Register of Historic Places (CRHP) criteria.

4.1 CULTURAL RESOURCES RECORD SEARCH PROCEDURE

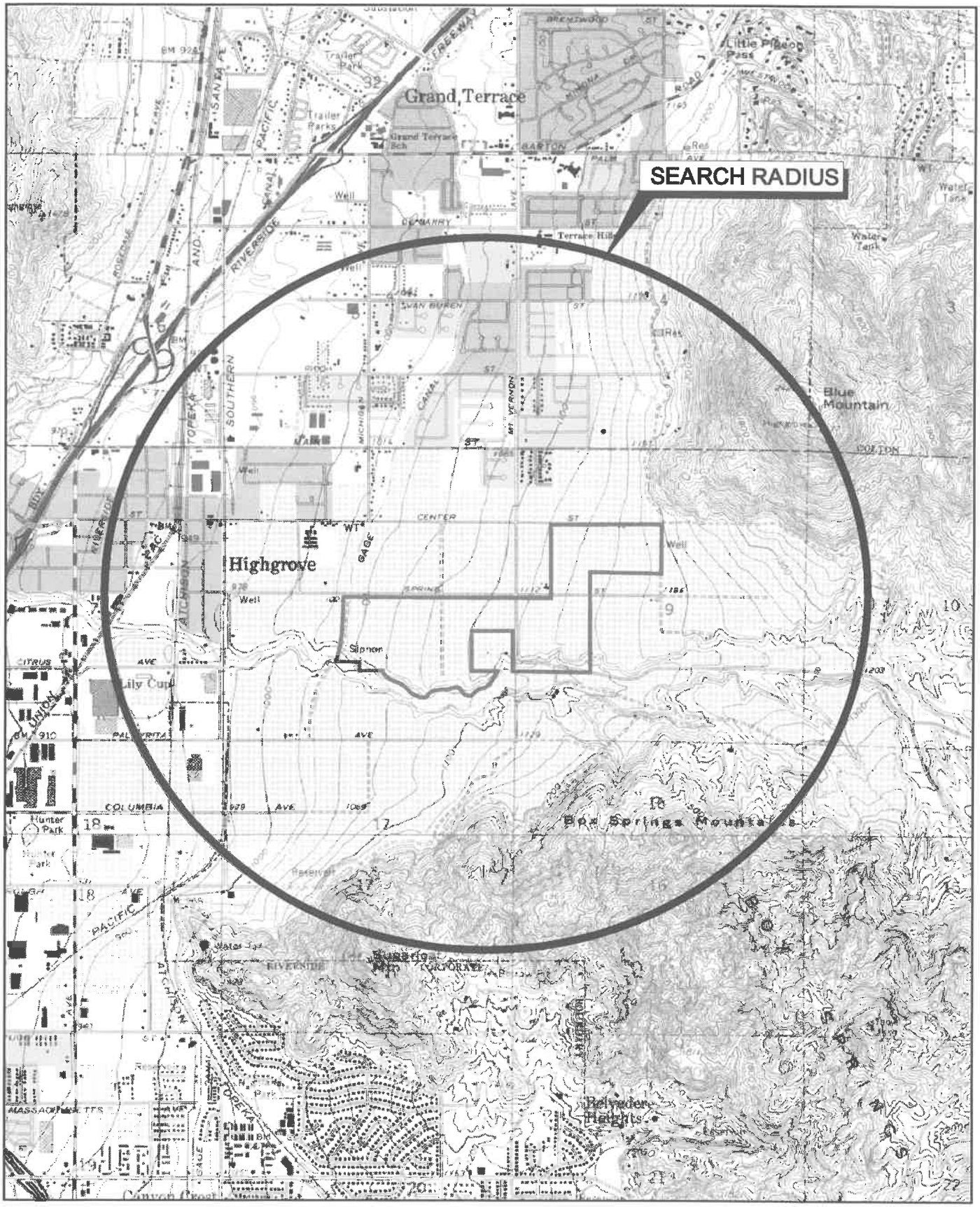
Eastern Information Center, University of California, Riverside (EIC)

The Author conducted the archaeological record search for the Riverside County search radius at the EIC on April 26, 2002. This effort consisted of a search for any previously recorded cultural resource sites and/or isolates on or within a one-mile radius about the study area. The search radius is found in Exhibit 5. Topographic maps were examined for the locations of previous studies as well as the locations of previously recorded archaeological sites. The California Office of Historic Preservation Directory of Historic Properties was reviewed, along with the current inventories of the NRHP, the California State Historic Landmarks, the California Points of Historic Interest, and the CRHP.

Archaeological Information Center, San Bernardino County Museum (AIC)

Because the study area is located near the San Bernardino County line, a second records search was required. Robin Laska of the AIC conducted the second search on April 24, 2002. Procedures for reviewing the known resources were identical to that noted above.

The author undertook a reconnaissance of the study area on April 30, May 1 and May 2, 2002. The SHPO recommends that all potentially significant or important cultural resources (sites or isolates) discovered during a survey be documented utilizing modern State of California Department of Parks and Recreation Archaeological Site Forms (DPR523 series; OHP 1995). For the purposes of this study, the presence of three or more culturally significant artifacts within a 20-meter radius constitutes the minimal definition of the term "site", as would the existence of one or more historically significant surface/subsurface "features". "Isolates" are defined as one or two artifacts within a 20-meter radius without the presence of a "feature". If impacts to sites cannot be avoided by any future development, recorded sites should be assessed using NHPA/NRHP *Significance* criteria



Source: Sure Maps Raster, South San Bernardino,1980.

Michael Brandman Associates

21970012 · 9/2002

Exhibit **5**

Cultural Records Search Radius

SPRINGBROOK ESTATES • CULTURAL RESOURCES ASSESSMENT

(see Archnet 1999, CHRIS 1999, NRHP 1999, OHP 1995) utilizing methods noted below. Site recordation took place on May 14 and 15, 2002.

4.2 CULTURAL RESOURCE FIELDWORK PROCEDURE

The author undertook a block-type archaeological survey of the study area on April 30, May 1, May 2, May 14 and May 15, 2002. A 15-meter transect spacing, where possible, was utilized. Several sites were observed and are discussed below. In August of 2003, we also examined a small piece of land located in the bottom of Spring Brook Wash that shall be utilized for a water retention basin. Located west of the Riverside-Highland Water Company flume, the basin shall be built on lands that had been used for citrus crops. No cultural resources were observed in this area.

The California SHPO recommends that all potentially significant or important cultural resources (sites or isolates) discovered during a survey be documented utilizing modern State of California Department of Parks and Recreation Archaeological Site Forms (DPR523 series; OHP 1995). For the purposes of this study, the presence of three or more culturally significant artifacts within a 20-meter radius constitutes the minimal definition of the term "site", as would the existence of one or more historically significant surface/subsurface "features". "Isolates" are defined as one or two artifacts within a 20-meter radius without the presence of a "feature". If impacts to sites cannot be avoided by any future development, recorded sites should be assessed using NHPA/NRHP *Significance* criteria (see Archnet 1999, CHRIS 1999, NRHP 1999, OHP 1995) utilizing methods noted below.

4.3 PROCEDURES FOR CULTURAL SIGNIFICANCE DETERMINATIONS

In most cases prior to impact, protocol requires that a cultural resource record search and a Phase 1 cultural resource survey take place on a property that exhibits some potential for cultural resources. According to federal NHPA/NRHP (ArchNet 1999, CHRIS 1999) and state protocol if such a survey detects cultural sites or artifactual remains, the Lead Agency, whose role is to fulfill Section 106 and CEQA requirements, must be able to determine whether the cultural resources are eligible for inclusion in the National and/or California Registers. At the federal level, a step-by-step "Section 106" process has been developed and implemented per 36 CFR 800 (NHPA 1999). As a part of this procedure, the resource must be evaluated to determine whether it is "historically significant". Federal eligibility must be determined utilizing four evaluative criteria found in implementing regulations 36 CFR part 63. The State eligibility criteria are almost identical to federal protocols (PRC5024.1 – 14 CCR Section 4852). The four State criteria include the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important to our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important to prehistory or history.

If avoidance of a site cannot occur as a result of an action, the project development plans must be evaluated in order to determine whether the action would cause a "substantial adverse change" in the *Significance* of the resource utilizing the criteria above. Under Federal (36CRF800.5) and State regulations, all archaeological or historical sites must be carefully evaluated relative to the effects of the action, even if they have not been officially listed at the time the proposed action will take place. Although avoidance of cultural resources is always the best choice, where necessary, impacts to previously listed or potentially listed resources will and must be mitigated.

Should it be determined that a cultural resource is or could be potentially listed on the California (or National) Register of Historical Resources, a Phase 2 (testing and/or historical structure evaluation) assessment of the resource must take place prior to impact. Should it be determined that the resource is *Significant* and that impacts *will cause a substantial adverse change in its significance*, that resource must undergo Phase 3 (data collection) prior to impact. Under CEQA, should Phase 2 test results determine that the resource will not qualify for listing in the California (or National) Register of Historical Resources, no further mitigation of any kind is required.

4.4 PALEONTOLOGY

A paleontological resource assessment of the Spring Creek drainage was undertaken as part of an EIR associated with the Spring Mountain Ranch development project in 1999. The results of the paleontological section of this EIR can apply to this study because the Springbrook Estates project is located in the same watershed, and the same types of rocks and depositional environment occur here.

Dr. Robert E. Reynolds of the San Bernardino County Museum determined that the Spring Creek watershed exhibited outcropping granitic rocks and potentially fossiliferous Pleistocene alluvial deposits. The nearest fossil localities were found approximately five miles from Highgrove along the Santa Ana River. The Spring Mountain Ranch was examined for fossils in June of 1998. No paleontologic resources were noted, which is not surprising given that these lands have been impacted by orchard development. In all, the Pleistocene deposits have low potential for impacts to fossiliferous resources while the granitic bedrock has no potential for impacts to fossil resources. Mitigation recommendations have been developed and can be found in Section 7.3.

SECTION 5
PREVIOUS RESEARCH AND RECORDS REVIEW RESULTS

MBA Senior Archaeologist Michael Dice, M.A. reviewed a document set associated with a cultural resource records check by Robin Laska of the AIC. The AIC research indicated that one historic archaeological site, two pending historic archaeological sites, two pending historic structures, and five or more possible historic/archaeological site locations determined from an historic map review lay within the San Bernardino County portion of the one-mile radius. Since the records search revealed several nearby sites, the AIC determined that the potential for disturbance of historic and prehistoric resources during construction of the proposed project should be considered "moderate-to-high".

In addition, the archived EIC records check documents showed that seven historic archaeological sites, two prehistoric archaeological sites and 24 historic structures lay within the Riverside County portion of the one-mile radius. Virtually none of the project area has been previously surveyed.

According to EIC and AIC files, twenty-six archaeological assessments of various types have taken place within the search radius (Chavez 1978a, 1978b, 1978c, 1978d; Drover 1979, 1983; Foster and Greenwood 1985; Foster et al 1991; Goldberg and Arnold 1988; Haenszel 1992; Hallaran and Foord 1991; Harley 1988; Hearn 1977a, 1977b; Keller 1995, 1998, 2000a, 2000b; Leonard III 1975; Love 1990; Portillo 1975; Rosenthal 1979; Scott 1976; Simpson et al 1977; Tobey et al 1977; Wlodarski 1993)

On the basis of the records search and careful reviews of all available reports, a listing of cultural resources located within the records search radius has been prepared (see Table 1). Historic resources noted in White et al (2000) that were not found in the EIC records search are also included in Table 1. Properties highlighted in bold in Table 1 are within or directly adjacent to the proposed project area.

TABLE 1
KNOWN CULTURAL SITES LOCATED WITHIN ONE MILE OF THE STUDY AREA

Site Number	Site Description
24 HRI structures in Highgrove	Riverside County: None on-site
CA-RIV-2530	Two bedrock mortars with no exposed artifacts
CA-RIV-4196H	Irrigation canal with historic trash.
CA-RIV-4197H	**Historic orchard water control feature (on-site)**
CA-RIV-4198H	**Historic orchard water control feature (on-site)**
CA-RIV-4199H	Historic concrete irrigation canal

TABLE 1 (Cont.)
KNOWN CULTURAL SITES LOCATED WITHIN ONE MILE OF THE STUDY AREA

Site Number	Site Description
CA-RIV-4200H	Formed concrete catchment basins downslope from a dry spring
CA-RIV-4768H	Riverside County portion of the Gage Canal
CA-RIV-6724	Bedrock outcrop with two grinding slicks.
CA-RIV-6946	Ethan Allen Chase House at 503 Palmyrita
CA-SBr-7168H	Gage Canal. See CA-RIV-4768H.
P1074-87H	Riverside-Highland Water Company conduit (SB County, see CA-RIV-4768H). Recorded Riverside County portion, this report.
P1074-88H	Rancheria Ditch, Vivienda Water Co (SB County)

Site forms associated with the two previously recorded sites, CA-RIV-4197/H and CA-RIV-4198/H contain irregular data. It was determined that these sites should be updated as a part of the mitigative process. Four new sites were detected during the survey and site forms were generated.

SECTION 6
CULTURAL RESOURCE SURVEY RESULTS

The cultural resource survey discovered four new historic archaeological sites within the margins of the proposed project area. Two previously recorded historic archaeological sites were evaluated for mitigative needs as the result of potential impacts during construction. Review of the history of the area (see Section 3.6) showed that none of the landholders who may have built the historic components found on-site, including E.A. Chase himself, should be considered significant figures at the National or State levels. In addition, although the development of the citrus industry throughout the whole of Riverside County could be considered a significant event at the National and/or State levels, *individual development* of small parcel sets for the purpose of growing oranges and lemons in the Highgrove area should not be considered a significant event at the National or State level.

Copies of DPR523 site forms, recently reviewed by the EIC for proper formatting, are located in Appendix C. The following data was collected during the fieldwork stage of this project.

6.1 CA-RIV-4197/H

Site CA-RIV-4197/H consists of a single feature meant to shunt runoff of waters associated with local orchard irrigation into larger ditch or sewer systems adjacent to roads found downslope. Greenwood and Associates originally recorded the site in 1990. The site description included a modern-era cement flume located along the south side of Spring Street west of Mount Vernon. This recorder does not consider this modern flume to be part of the site. The eastern end of the site may carry further east, but the flume has been buried by soil and debris.

The site consists of a split cobble and whole cobble lined ditch that was built along the northern margin of an existing orchard. Flood and irrigation runoff from orchards to the east, site SMO-2, the orchard to the south, along with some runoff from orchards to the north, was collected in this ditch. The ditch was constructed such that high-speed water from flash floods would not entirely inundate the dirt road. Eventually, this runoff would be shunted into the Highgrove sewer system located down slope. Eventually, the water would enter the Spring Brook watershed near the Gage Canal/SPRR grade. The simple stone lining consists of cobbles set into the ground with Portland cement. At the far west end, a 100' section of the ditch is composed of broken concrete rubble. The far east end (beyond the active orchard), a stretch roughly 500 feet long, is buried in debris the result of recent earthmoving.

The ditch east of Mount Vernon can be observed under magnification in the 1953 archival aerial photograph (Exhibit 4), but it is uncertain whether this feature was lined with granite rock at the time. The ditch feature appears to be about 650' long as of this date.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.2 CA-RIV-4198/H

Site CA-RIV-4198/H is consists of a ditch feature meant to shunt runoff of waters associated with local orchard irrigation and storms into sewer systems adjacent to Center Street. A retaining wall is also associated with the ditch. Greenwood and Associates originally recorded the site in 1990. The site description did not include the retaining wall that extended south to a point 120 feet north of Spring Street. Although this extended retaining wall may be from the modern era, it has been included in this description.

The site consists of a V-shaped runoff ditch located along the western margin of an existing 12.5 acre orchard. Runoff from orchards located to the east, site SMO-1, and the former orchard to the south, was collected in this ditch and sent to a pipe buried in the southern edge of Center Street. The ditch was constructed such that high-speed water from flash floods would not entirely inundate the orchards down slope and help to maintain the artificial grade of the orchard complex.

The site consists of a 3-foot deep and 2.5 wide (top) ditch with the east edge at grade and the west edge exposed. The west edge faces a dying orchard. Currently in a state of collapse, maintenance of the ditch has not taken place for several years and the upslope walls are collapsing. Much of the ditch is composed of stacked stone blocks with mortar and covered with spread cement. Sectional collapse has taken place due to ground pressure and water erosion. Water once arrived in this ditch the result of overflows from sporadic irrigation of the orchard directly to the east, rainstorms, and water shunted from SHO-1 on the opposite side of the orchard.

The potential volume of water draining into Center Street would be quite large, especially during storms, and necessitated building a ditch nearly a meter deep. The flow is from south to north, which is actually counter the natural incline of the area, but the original ground surface was heavily modified as a result of orchard construction. The depth of the ditch does not appear to increase from south to north.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield

important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.3 CA-RIV-6827/H

Site CA-RIV-6827/H was recorded during this project. This site consists of historical gravity irrigation features associated with intake of water from the Riverside-Highland Water Company Conduit (RHWC) and associated reservoir. The northern end of the site exhibits several irrigation flow portals and an access port for the RHWC (Feature 1). Water from the RHWC conduit flows downhill and under the active grove to the west. Water is also shunted into standpipe feeders for the grove located just to the west (down slope) at this point. At one time, water was also shunted to a pumphouse complex (Feature 2) located slightly south and uphill from Feature 1. Lastly, runoff water from groves once located uphill (since removed) was collected in a linear concrete retaining wall/overflow flume complex (Feature 3) that runs south to the end of the site. Here, any overflow water runs under the dirt access road and into a pipe that eventually leads to Center Street thru site CA-RIV-4198H. Broad visual aspects of these features can be observed in an archival aerial photograph from 1953.

FEATURE 1

This feature consists of a partially buried cast cement vault, a set of side vaults and additional accessory sub-features. A cement ground-level retaining wall extends to the south. A handmade cement flume port is attached to the west side of the primary vault. This is for delivering water to feeder pipes that run into the standpipe-gravity system of the nearby grove.

The flow of the RHWC conduit enters the main vault where a portion of the flow is diverted to: a) pipes that once fed Feature 2, and b) pipes leading to a standpipe distribution network for the grove directly west. The RHWC, which was active at the time of recording, enters the vault from the north and exits the vault to the southwest. Water deliveries to the grove were recently cut as the grove will be starved prior to demolition. Water once flowed from a buried cement pipe from Feature 1 into Feature 2, but this was cut off approximately five years ago.

FEATURE 2

This feature consists of the remnants of a reservoir, concrete foundation slabs, pipes and wooden framework. Irrigation water intended for the Sunny Mountain Ranch citrus groves once flowed through this central source. Water from the main vault in Feature 1 was diverted through a buried pipe about 150' long and angled some 45 meters to the south-southwest and into the main reservoir. This reservoir has decayed somewhat but consists of poured cement, plaster, cobbles and cement piping. It measures roughly 36x36' in size but is of uncertain height and construction as the

remaining framework lies in a pile to the east. Uphill flow assist pumps may have been placed on the slab to the south (measuring about 26x26' in size) and a second smaller reservoir was placed south and adjacent to the slab. This measured about 13x18' and was roughly 6' deep. The primary pumps that brought water uphill and likely into a reservoir were probably located above the groves nearly 4000' to the east.

FEATURE 3

A modern-looking retaining wall extends south from the Feature 1 vault approximate 160 feet until it reaches a joint where a historical retaining wall/runoff flume (CA-RIV-6828/H) begins. In addition, the joint was made to accept runoff water from the groves to the east. Here, streamlets created by rainfall or irrigation runoff would have crossed the dirt road and then diverted into the cement flume. Feature 3 parallels the 115kv transmission lines as seen in Image016. Keeping a cement runoff flume clear of debris after a rain would have been a back-breaking job as it would quickly fill with soil. The runoff flume exhibits small metal sliders along the west side. These would have allowed a small portion of the runoff water to escape into the grove directly down slope.

The retaining wall/flume extends to the south from the joint roughly 480 feet until a dirt road separating the grove from a vacant parcel to the south begins. Runoff that might flow into the flume originates from groves that were once located uphill, east of Feature 2. Runoff flowing out of the flume enters a pipe buried beneath the dirt road and runs due west for approximately 660 feet until the south end of CA-RIV-4198/H is reached.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.4 CA-RIV-6828/H

This site was recorded during this project. It consists of a segment of the Riverside-Highland Water Company (RHWC) Highgrove conduit that serves an fast-disappearing agricultural region spanning the Grand Terrace area of San Bernardino County to north Riverside. The RHWC owns several former agricultural pressure water conduits, but this segment is one of but a few in the area that consists of a cement conduit pipe placed into the channel of the original cement flume. Beginning at the County line, the conduit is located at a dirt road at the base of Blue Mountain, thence runs to a portal visible at site CA-RIV-6827/H, thence southwest beneath a live grove to a portal at the southern end of the live grove, thence to a portal along the dirt portion of far eastern Spring Street, thence to a portal adjacent to CA-RIV-6829/H, thence to a portal in an orchard overlooking Spring

Brook canyon, thence west to Mount Vernon Avenue, where it leaves the project area. According to an informant employed by the RHWC, the conduit eventually runs to Marlborough Avenue in Riverside.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.5 CA-RIV-6829/H

This site was recorded during this project. It consists of a large retaining wall meant to keep orchard lands from eroding into Spring Brook Canyon. The site consists of a poured concrete and buttressed wall segment joined to a stacked cement slab segment. Gaps exist in the wall, but it is mostly intact, except for that last 50 feet or so. The wall is still very effective in holding back erosion and runs from east to west. The wall is noted on a 1953 aerial photograph.

At the northeast end begins a stacked cement block type wall that follows the twisting contour of the mesa edge. Steps cut into the soil northeast of the wall tip lead to a live avocado tree that is no longer producing. The exposed wall height of the stacked portion is about one foot, thence rising to approximately seven feet near the center. Bulging around a bend in the mesa edge, this segment of the site ends at a gap located a few feet northeast of a massive oak tree. The second segment is composed of a poured concrete wall with poured buttresses. This is located along the mesa edge but is directly adjacent to two oak trees. The last 50 feet of the poured section has been impacted via some means. This portion has apparently collapsed and is now covered in earth. The width of the wall is difficult to discern, but it is likely that the segments are no more than two feet thick.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.6 CA-RIV-6830/H

The site was recorded during this project. It consists of a historical retaining wall associated with erosional maintenance of the nearby groves. In addition, the wall served to shunt water runoff into CA-RIV-4197H and may also have allowed minimal irrigation of citrus trees directly down slope (due west) of the wall.

The site exhibits a single retaining wall feature, which runs north to south along the entire length of the grove in APN#255-190-009. Rising slightly near the center, the retaining wall served to support a drop in grade of between 1.5 and 2.5 feet. The drop is the result of artificial sloping caused by grading of ground prior to planting between the existing grove and a grove that once occurred in APN#255-190-004. The wall, in excellent working condition, exhibits a slight apex at the local access port and standpipe shunt for the Riverside Highland Water Company conduit. North of the conduit, the retaining wall has a slight northerly incline. South of the port the wall has a slight southern incline. The average exposed height of the wall is between 1.5 and 2.5 feet in height. At maximum, three courses of rough cement block are exposed to view along the west face, while the east face is flush at grade.

The wall is unusual as it is made from heavily eroded cement flume sections. Most of these have decomposed and during later maintenance, cement was later used to fill in the crumbling sections. The upper course was clearly meant to carry water off site and into ditches near the roads. It may also have been possible to disburse runoff evenly as necessary, as a small metal slider is located in the exposed sides of those blocks with good preservation. Each course appears to have been made from this type of block and, although of different lengths, the fact that the wall was made of similar materials from course to course suggests that it was built as a unit.

The water carrying portions of the individual blocks are filled in with cement, including those below the upper course. It is likely, however, that the upper course originally carried water and was not filled in with cement until much later. This is suggested by the relationship of the site to nearby topographic features and site CA-RIV-4197H. At the south end of the site, a now disused pipe carried runoff from the top wall course and into a ravine that eventually joined Spring Brook. To the north, the wall top eventually ran to a pipe that carried the runoff into flume site CA-RIV-4197H

Ditches carried runoff from portions the grove to the east, across the north to south access road located immediately east of the site, then into the upper course of the wall. In addition, it is also possible that some of the water taken from the RHWC buried conduit was shunted into the wall top when it was necessary to irrigate trees planted just upslope from the standpipe system of the grove to the west. Here, water would run through the slider openings and onto the ground just west of the wall foundation.

This site is argued to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. The site is not 1) associated with significant events, 2) associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording the site serves to mitigate for impacts as a result of construction.

6.7 SUMMARY

Careful observations of the project area, with reference to previous studies, revealed that the original upper two to four feet of topsoil in the study area has been completely altered by man during the last 100 years. The evidence suggests that almost all of the property was utilized for citrus crop production. Citrus crop production requires that the orchardist furrow, year after year, rows for water runoff and excavate trenches for primary feeder water lines. Such agricultural demands require the orchardist to severely alter the topsoil such that most historic and prehistoric sites will be buried from view.

The review of archival documents showed that construction will likely impact two historic properties that are, in part, buried beneath these churned topsoils. In general, the chance for impacts to buried historic archaeological resources is considered moderate-to-high, while the chance for impacts for prehistorical archaeological resources is considered low.

The recorded sites are believed to be "Not Significant" on the basis of four criteria underlying Section 106 of the NHPA. Using an abbreviated version of the criteria (for the complete criteria see Section 4.3), each site: 1) is not associated with significant events, 2) is not associated with important persons, 3) does not embody distinctive construction characteristics and 4) does not have the potential to yield important prehistoric or historic information. Recording these sites during the Phase 1 study serves to mitigate for impacts as a result of construction. If additional resources or features are detected during construction, such resources should be recorded and added to the existing DPR523 form sets.

SECTION 7
PROJECT SUMMARY AND RESOURCE ASSESSMENT

7.1 CULTURAL RESOURCE MANAGEMENT RECOMMENDATIONS

The results of the analysis indicate that at least six *not significant* historic archaeological resources will be affected by development of the project. It has also been determined that there is a moderate likelihood that buried unrecorded cultural deposits will be encountered during earthmoving. Therefore, archaeological monitoring should take place when undisturbed earth is impacted by construction. Should unrecorded buried resources associated with any one of these sites be detected during construction, the new features should be noted, photographed and added to the existing DPR523 site recordation forms.

In general, full time monitoring is recommended during all grubbing, grading and utility trenching where intact soils between two and ten feet at grade are disturbed. Native American tribal monitors (from groups indicated by the NAHC) should be hired by the project proponent and should be on site during the grubbing, grading and utility trenching phases of the project. These monitors should also be on-site during any Phase 2 (testing) or Phase 3 (excavation) work involving prehistoric features.

Because six known sites have been mitigated for as a result of recording, no further substantive work on these sites is required prior to construction. Should monitoring reveal, however, that these sites exhibit unknown buried features that are uncovered during the process of earthmoving, those features should be documented where appropriate and the associated DPR523 site forms updated to reflect the new information. For example, site CA-RIV-6829/H likely exhibits the original flume beneath the currently active and buried conduit. Construction characteristics of this flume should be recorded during the monitoring process.

It is possible that potentially significant and previously unrecorded cultural resources will be uncovered during earthmoving. Under CEQA, such sites (excluding isolated artifacts) should be tested for *historical significance* utilizing Criterion A, B, C and/or D prior to continued impact. In addition, California State Health and Safety Code Section 7050.5 dictate that if human remains are unearthed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to CEQA regulations and Public Resources Code Section 5097.98.

The recommendations outlined below comprise an archaeological resource impact mitigation program intended to reduce the potential adverse environmental impacts of construction to an insignificant level.

1) Prior to any clearing and grubbing and/or earth moving activities on the parcel, a qualified archaeologist retained by the Proponent and approved by the County of Riverside shall review the approved development plan. The archaeologist shall participate in a pre-construction project meeting with the development staff to ensure an understanding of the mitigation measures required during construction.

2) Prior to issuance of a grading permit, a qualified archaeologist will develop a mitigation plan and a discovery clause/treatment plan, which will be implemented during earth moving on the parcel. The treatment plan will allow for the recovery and subsequent treatment of any archaeological remains and associated data uncovered by brushing, grubbing or earth moving.

3) Archaeological monitoring by a qualified archaeologist of any earthmoving of the upper limits of the soil will be conducted. Monitoring will be conducted on a full-time basis until the project archaeologist determines that additional resources are not likely to be encountered.

4) If archaeological remains are found by the archaeological monitor, earth moving will be diverted temporarily around the deposits until they have been evaluated, recorded, excavated and/or recovered as necessary. Earth moving will be allowed to proceed through the site when the archaeological supervisor determines the artifacts are recovered and/or site mitigated to the extent necessary.

5) If a previously unknown site is encountered and it requires additional mitigation, a plan or proposal will be submitted to the client outlining the plan of action that needs to be implemented in an attempt to mitigate the site.

6) Any recovered archaeological resources will be identified, sites recorded, mapped and artifacts catalogued as required by standard archaeological practices. Examination by an archaeological specialist will be included where necessary, dependent upon the artifacts, features or sites that are encountered. Specialists will identify, date and/or determine significance potential.

7) A final report of findings will be prepared by the archaeologist for submission to the client, Eastern Information Center and the County of Riverside. The report will describe parcel history, summarize field and laboratory methods used, if applicable, and include any testing or special analysis information conducted to support findings.

7.2 NATIVE AMERICAN COMMENTARY

It is assumed that once the suite of environmental reports is sent to the State environmental clearinghouse, and/or routed by the local agency, local tribal jurisdictions will comment upon these findings. For this reason, Native American comments relative to the study area were not obtained directly as of the date of this study. The Native American Heritage Commission (NAHC) was contacted in writing and their statement is located in Appendix D.

7.3 PALEONTOLOGICAL RESOURCE MANAGEMENT RECOMMENDATIONS

The project area has a low chance that significant paleontological resources will be impacted during construction, but the possibility remains. With appropriate mitigation, earth moving associated with development of the project could result in beneficial effects, including the recovery of scientifically highly important fossil remains that would not even have been exposed without earth moving. The following paleontological mitigation measures are recommended:

1) Prior to any earth moving in the parcel, a project paleontologist retained by the Proponent and approved by the County of Riverside Planning Department will develop a storage agreement with the LACMVP, SBCM, or another acceptable museum repository to allow for the permanent storage and maintenance of any fossil remains recovered in the parcel as a result of the mitigation program, and for the archiving of associated specimen data and corresponding geologic and geographic site data.

2) Prior to issuance of a grading permit, the project paleontologist will develop a mitigation plan and a discovery clause/treatment plan to be implemented during earth moving in the parcel. The treatment plan will allow for the recovery and subsequent treatment of any fossil remains and associated data uncovered by earth moving.

3) Prior to any clearing and grubbing and/or earth moving activities on the parcel, a qualified paleontologist retained by the project proponent and approved by the County of Riverside shall review the approved development plan. The paleontologist shall participate in a pre-construction project meeting with the development staff to ensure an understanding of the mitigation measures required during construction.

4) Paleontologic monitoring of earth moving will be conducted by a monitor in areas of the parcel underlain by previously undisturbed sedimentary rock that will be disturbed by earth moving. Earth moving in areas of the parcel where previously undisturbed rock will be buried but not otherwise disturbed will not be monitored.

5) Monitoring will be conducted on a full-time basis in areas of the parcel underlain by rock units in which there is a high potential for fossil remains being encountered by earth moving, on a half-time basis in areas in which there is a moderate or an undetermined potential, and on a quarter-time basis in areas in which there is a low potential.

6) If the monitor discovers fossil remains, earth moving will be diverted temporarily around the fossil site until the remains have been recovered. Earth-moving can then proceed through the area only after approval by the monitor. If fossil remains are found in an area underlain by a rock unit where there is a low or moderate/undetermined potential for fossil remains being encountered by earth moving, the level of monitoring will be increased to half or full time, respectively. On the other hand, if too few fossil remains are found after 50% of earth moving in those areas of the parcel underlain a particular rock unit has been completed, monitoring can be reduced or discontinued in those areas at the project paleontologists direction.

7) In the event that any fossil remains are encountered by earth moving when the monitor is not present, earth moving will be diverted around the fossil site and the monitor called immediately to recover the remains.

8) If fossil remains are found, up to 6,000 pounds of fossiliferous sedimentary rock will be recovered from the fossil site and processed to allow for the recovery of smaller fossil remains. The total weight of all processed samples from the fossil-bearing rock unit will not exceed 6,000 pounds.

9) Any recovered fossil remains will be prepared to the point of identification and identified to the lowest taxonomic level possible by knowledgeable paleontologists. The remains then will be curated (assigned and labeled with museum repository fossil specimen numbers and corresponding fossil site numbers, as appropriate; placed in specimen trays and, if necessary, vials with completed specimen data cards) and catalogued. Associated specimen data and corresponding geologic and geographic site data will archived (specimen and site numbers and corresponding data entered into appropriate museum repository catalogs and computerized data bases) at the museum repository by a laboratory technician. The remains then will be accessioned into the museum repository fossil collection, where they will be permanently stored and maintained. The associated specimen and site data will be made available for future study by qualified investigators.

10) A final report of findings will be prepared by the project paleontologist for submission to the County of Riverside Planning Department and the museum repository following accessioning of the specimens into the museum repository fossil collection. The report will describe parcel geology/stratigraphy, summarize field and laboratory methods used, include a faunal list and an inventory of curated/catalogued fossil specimens, evaluate the scientific importance of the specimens, and discuss the relationship of any newly recorded fossil site in the parcel to relevant fossil sites previously recorded from other areas.

These recommended mitigation measures comprise a paleontologic resource impact mitigation program that is in compliance with SVP (1995, 1996) standard guidelines. Implementing and adhering to these guidelines will reduce the potential adverse environmental impacts of construction on paleontologic resources to an insignificant level. The guidelines will also allow acceptance by a museum repository of a fossil collection the result of an impact mitigation program.

SECTION 8
REFERENCES

ArchNet (CRM Archives)

1999 Section 106 Users Guide: 36 CFR 800: Part 800-Protection of Historic and Cultural Properties. Website: 8000x.htm. Downloaded December 6, 1999.

Bean, L.J.

1972 *Mukat's People: The Cahuilla Indians Of Southern California.* University of California Press: Berkeley.

1978 *Cahuilla.* In R.F. Heizer, (ed.), Handbook of North American Indians, Vol. 8: California: 575-587. Washington, D.C.: Smithsonian Institution.

Bean, L.J. and F.C. Shipek

1978 *Luiseño.* In R.F. Heizer, (ed.), Handbook of North American Indians, Vol. 8: California: 550-563. Washington, D.C.: Smithsonian Institution.

Bean, L.J. and C.R. Smith

1978a *Gabrielino.* In R.F. Heizer, (ed.), Handbook of North American Indians, Vol. 8: California: 538-549. Washington, D.C.: Smithsonian Institution.

Bean, L.J. and S.B. Vane (CSR, Inc.)

1979 *Cultural Resources And The Devers-Mira Loma 500Kv Transmission Line Route (Valley To Mira Loma Section): A Study Of The Paleontology, History And Archaeology Of The Vicinity Of The Line.* Report on file, Eastern Information Center, University of California, Riverside.

CC (The California Citrograph

1916 *The California Citrograph* v16 no 6. Riverside, California

Chartkoff J.L. and K.K. Chartkoff

1984 *The Archaeology of California.* Stanford University Press, Menlo Park.

Chavez, D.

1978a *Cultural Resources Evaluation of the Four Corners Pipeline Interconnect Facilities, San Bernardino and Riverside Counties, California.* Report on file, Eastern Information Center, University of California, Riverside.

1978b *Cultural Resources Evaluation of the Rialto Tank Farm Location And Associated Pipeline and Pump Station Locations, San Bernardino County, California.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

1978c *Cultural Resources Evaluation of the Four Corners Pipeline Interconnect Facilities, San Bernardino and Riverside Counties, California.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

1978d *Final: Cultural Resources Evaluation for the Rialto Crude Oil Tank Farm Location To The Four Corners Pipeline, Kern County, California.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

CHRIS (Office of Historic Preservation, California State Parks)
1999 Instructions For Recording Historical Resources. Website: http://ohp.parks.ca.gov/chris/hrmanual.htm. Downloaded December 6, 1999.

Drover, C.E.
1979 A Cultural Resources Inventory, Proposed Redevelopment, Grand Terrace, California. On file, Archaeological Information Center, San Bernardino County Museum, Redlands.
1983 *Environmental Impact Evaluation: An Archaeological Assessment of Tentative Tract 12649 in Highgrove, California.* Report on file, Eastern Information Center, University of California, Riverside.

Fagan, B.M.
1995 *Ancient North America: The Archaeology Of A Continent.* Thames and Hudson, Inc. New York

Finger, K.F.
1998 *Paleontologic Resources Assessment of 100-acre Citrus Farm Highgrove, Riverside County, California.* On file, Michael Brandman Associates, Inc.

Foster, J.M. and R.S. Greenwood
1985 *Cultural Resources Overview: California Portion, Proposed Pacific Texas Pipeline Project.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Foster, J.M., J.J. Schmidt, C.A. Weber and G.R. Romani
1991 *Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District of Southern California.* Report on file, Eastern Information Center, University of California, Riverside.

Goldberg, S.K. and J.E. Arnold
1988 *Prehistoric Sites in the Prado Basin, California: Regional Context and Significance Evaluation.* (#1061837) On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Haenszel
1992 Mormons In San Bernardino. *San Bernardino Museum Association Quarterly* 39(3): 3-39.

Hallaran, K.B. and C. Foord
1991 *The Gage Canal.* Report on file, Eastern Information Center, University of California, Riverside.

Harley, R.B.
1988 Rev. Juan Caballeria: Historian or Storyteller?: Rethinking the 1810 Dumetz Expedition. *San Bernardino Museum Association Quarterly* 35(2): 1-42.

Hearn, J.E.

1977a *Archaeological-Historical Resources Assessment of Tentative Tract No. 9741, Grand Terrace Area.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

1977b *Archaeological-Historical Resources Assessment of Tentative Tract No. 9858.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Heizer, R.F. (ed.)

1978 *Handbook of North American Indians*, Vol. 8: California. Washington, D.C.: Smithsonian Institution.

Leonard III, N.N

1976 *Santa Ana River Project. Description and Evaluation of Cultural Resources and Appendices: Field Data* (#1060273) On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Love, B

1990 *Pigeon Pass Road Between Mt. Vernon Avenue and the Highgrove Landfill in the Highgrove Area of Riverside County.* Report on file, Eastern Information Center, University of California, Riverside.

Keller, J.A.

1995 *A Phase 1 Cultural Resources Assessment of Tentative Parcel Map 28040 and Contiguous Land to the North.* Report on file, Eastern Information Center, University of California, Riverside.

1998 *A Phase 1 Cultural Resources Assessment of MP-002-989 (Western Door).* Report on file, Eastern Information Center, University of California, Riverside.

2000a *A Phase 1 Cultural Resources Assessment of Palmyrita 4 (MP-002-923).* Report on file, Eastern Information Center, University of California, Riverside.

2000b *A Phase 1 Cultural Resources Assessment of Marlborough Tech Center.* Report on file, Eastern Information Center, University of California, Riverside.

Keller, J.K. and D.F. McCarthy

1989 Data Recovery at the Cole Canyon Site (CA-RIV-1139), Riverside, California. *Pacific Coast Archaeological Society Quarterly*, V25, No. 1.

Kroeber, A.L.

1925 Handbook Of The Indians Of California. *Bureau of Ethnology Bulletin* No. 78. Washington D.C.

Meighan, C.W.

1954 *A Late Complex in Southern California Prehistory.* Southwestern Journal of Anthropology, 10:215-227.

Moratto, M.J.

1984 *California Archaeology.* San Diego, Academic Press.

NHPA (National Historic Preservation Act)
1999 *Section 106, Step-by-Step*. No specific date. Downloaded from NHPA website.

NPS (National Park Service)
1983 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. Washington, D.C.
1985 Guidelines for Local Surveys: A Basis for Preservation Planning. *National Register Bulletin* 24. Washington D.C.

(NRHP) National Register of Historic Places
1999 How Do I List A Property? Website: http://www.cr.nps.gov/nr/listing.htm. Downloaded December 6, 1999.

OHP (Office of Historic Preservation, California)
1995 *Instructions for Recording Historical Resources*. Office of Historic Preservation, Sacramento.

ParkNet
2001 *National Register Bulletin* 15 (rev August 1995). Washington, D.C. Accessed on-line from the National Park Service Website.

Portillo, G.
1975 Archaeological Impact Evaluation: Archaeology of Proposed Additions to the Grand Terrace Sanitary Sewer System, Grand Terrace, California. On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Rosenthal, J.
1979 A Cultural Resource Survey of the Proposed Santa Ana River Hiking/Biking Trail in the Prado Flood Control Basin. On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

(RME) R.M. Environmental
2002 Report of Findings: Phase 1 Environmental Site Assessment, Highgrove Area of Riverside County, California. Report to Bill Shopoff, Springbrook Investments. On File, MBA.

Scott, M.B.
1976 *Development of Water Facilities in the Santa Ana River Basin, California, 1810-1968.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Simpson, R.D., L.A. Brown and J. Hearn
1977 *Archaeological-Historical Resources Assessment of Proposed Bloomington Wastewater Facilities Plan.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Tobey, R.C., T.D. Suss, L. Burgess
1977 *Historical Resource Survey, Prado Flood Control Basin, San Bernardino and Riverside Counties, California.* On file, Archaeological Information Center, San Bernardino County Museum, Redlands.

Wallace, W.J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214-230.

Warren, C.N.
1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, C. Irwin-Williams, ed. Eastern New Mexico University Contributions in Anthropology vol. 1, no. 3, pp. 1-4. Portales.

White, L.S., D. Van Horn and R.S. White
2002 Historical Investigations At The Vivienda And Eureka Ranches, Spring Mountain Ranch Project, Highgrove Area of Unincorporated Riverside County. On file, MBA.

Wlodarski, R.J.
1993 *An Archaeological Survey Report (ASR) Documenting the Effects of the RCTC I-215 Improvement Project In Moreno Valley, Riverside County, To Orange Show Road in the City of San Bernardino, San Bernardino County, California.* Report on file, Eastern Information Center, University of California, Riverside.

SECTION 9
CERTIFICATION

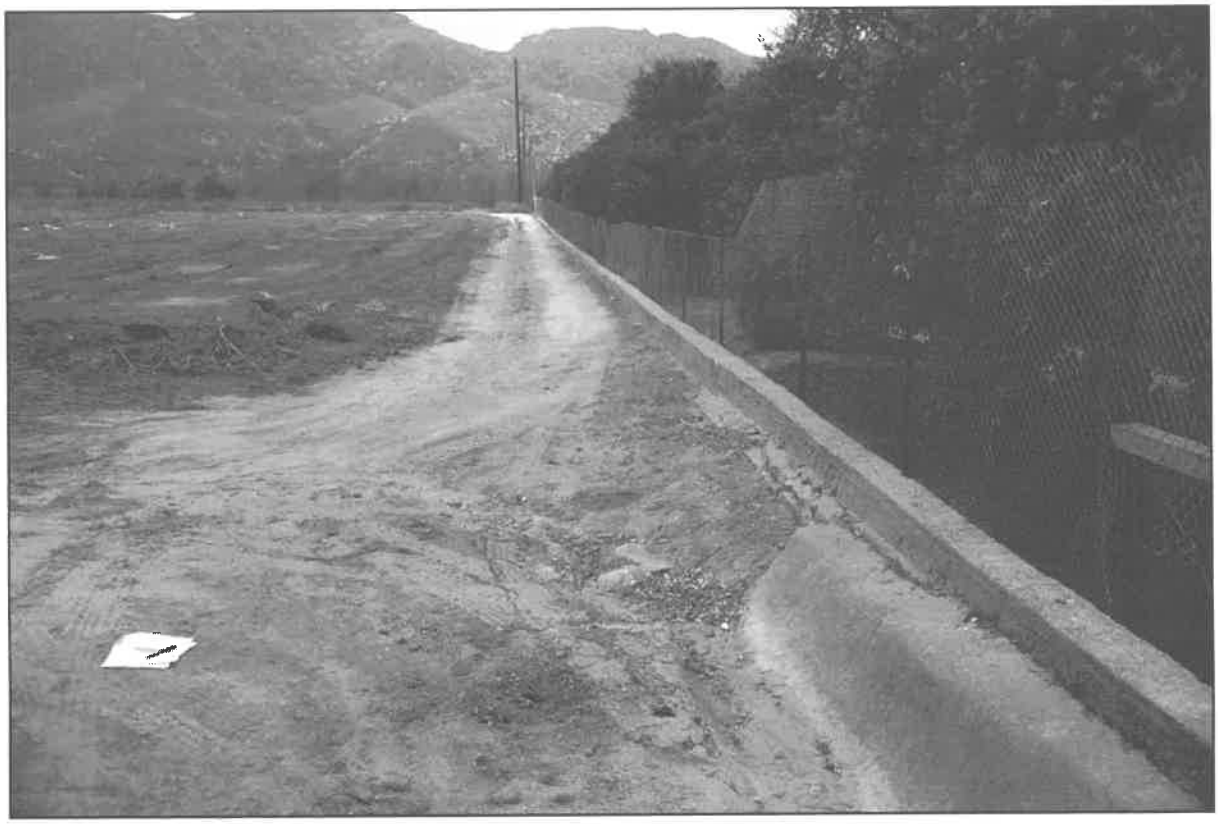
CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE:_____ SIGNED: _____

Michael Dice, M.A.
Michael Brandman Associates, Tustin, California

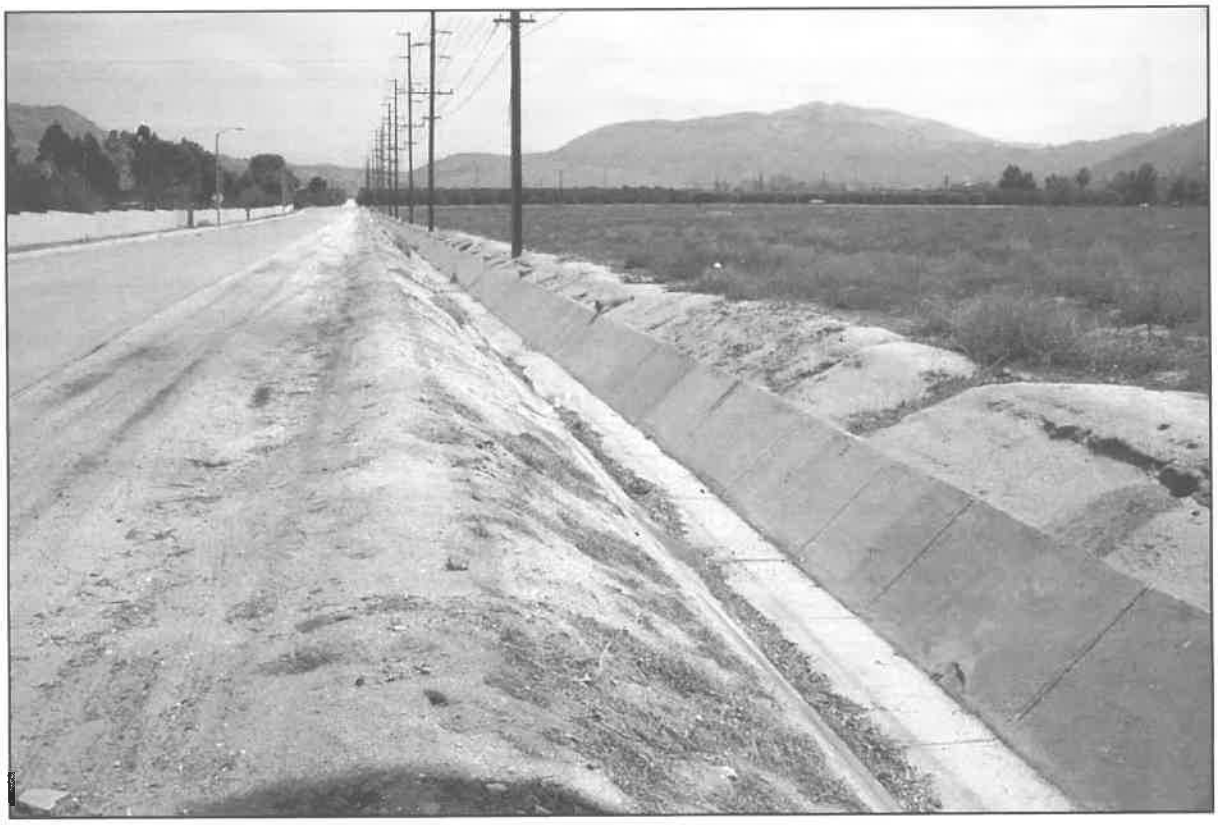
APPENDIX A
PHOTOPLATES OF THE STUDY AREA

View of dirt portion of Spring Street through existing orange groves.



View toward Spring Creek drainage and hillsides south of project area. Eastern parcels with existing orange groves are to the left.

View of southwest portion of project area showing existing groves and vacant land along Spring Street.



View of project area along Spring Street toward center body of proposed project. Modern concrete flume here replaced an older cobble flume.

APPENDIX B
PERSONNEL QUALIFICATIONS

MICHAEL H. DICE, M.A.

PROJECT SCIENTIST/SENIOR ARCHAEOLOGIST

EDUCATION

M.A.., Anthropology—Arizona State University, Tempe, Arizona
B.A., Anthropology—Washington State University, Pullman, Washington
Anthropology Track, University of Washington, Seattle, Washington

PROFESSIONAL AFFILIATIONS

Member, California Historical Society
Member, National Trust For Historic Preservation
Registered Professional Archaeologist (RPA 2000)

PROFESSIONAL HISTORY

Michael Brandman Associates, Tustin, California—Senior Archaeologist
L&L Environmental, Inc. Corona, California—Senior Archaeologist
National Park Service (Pipe Spring National Monument)—Archaeologist
National Park Service (Mesa Verde National Park)—Archaeologist
CRMC, Inc., Farmington, New Mexico—Archaeological Project Manager
LaPlata Archaeological Consultants, Dolores, Colorado—Archaeologist
CASA, Inc. Cortez, Colorado—Archaeologist, Human Skeletal Analyst

Mr. Dice is a Certified Archaeologist with more than 16 years of experience performing records searches, archaeological surveys, archaeological site testing (Phase 2) and data collection (Phase 3) projects on private and public lands in the Southwestern United States and Southern California. During his career, he has authored or co-authored more than 50 CEQA and/or NEPA level documents including several manuscripts for the National Park Service. Mr. Dice is a member of the California Historical Society, a Registered Professional Archaeologist (RPA), and is a member of the National Trust For Historic Preservation.

PROFESSIONAL EXPERIENCES

Project Scientist/Archaeologist for CEQA-level Phase 1, Phase 2 and Phase 3 archaeological mitigation for the Temecula Marketplace Project in the City of Temecula, California. Performed the field survey, recorded a large historic ranch complex remnant, developed testing procedures for the historic and prehistoric components of the site, then gathered a crew and performed the Phase 2 test in the field. Responsible for developing the Phase 3 data collection plan.

Project Scientist/Archaeologist for Section 106 level review of archaeological testing at Pipe Spring National Monument, Fredonia, Arizona. Produced complete report synthesizing a series of excavations (1996-1998) on an historic Mormon Fort within the Monument. Also wrote a draft plan for any future archaeological mitigation.

Project Archaeologist/Database Manager for the emergency Chapin-5 Fire Rehabilitation Project, Mesa Verde National Park, Colorado (1996-1999). Began as field crew chief (GS-7) and finished with the Park as a GS-9 Database manager. Created an ACCESS 6.0 database for the recordation or re-recordation of more than 500 archaeological sites within the rehabilitation area.

Project Scientist/Archaeologist for CEQA-level Phase 1 and Phase 4 archaeological mitigation for the "The Club at Big Bear Lake" Project in the City of Big Bear Lake, California. Performed the field survey, recorded a large historic tourist complex remnant, wrote mitigation-monitoring recommendations for the City, then supervised the monitoring, analyzed the historic artifacts and wrote the final report.

Performed more than 40 CEQA-level Phase 1 archaeological surveys in Southern California, which included evaluating more than 30 historic and prehistoric archaeological sites per California SHPO protocol. The reports fulfill ARMR reporting guidelines, while the County of Riverside reports fulfilled both ARMR and County of Riverside protocols.

Technical skills include scientific writing, project organization, field management of archaeological personnel, personal computing, database management, and analysis of human remains.

APPENDIX C
SIX DPR523 SITE RECORDATION FORM SETS

PRIMARY RECORD, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318
Other Listings:
Review Codes:_____ Reviewer:_____ Date:_____

Primary# 33-4197
HRI#: _____
Trinomial: CA-RIV-4197/H
NRHP Status Code: _____

 ***Resource Name or #** (Assigned by recorder): none

P1. **Other Identifier:** _____

P2.* **Location:** ____**Not for Publication** __X__**Unrestricted**

a. *County: Riverside

and (P2b and P2c or P2d; attach location map)

b. *USGS Quad: San Bernardino South **Dated:** 1980. **Photorev. :**none.

Township: 2 South **Range:** 4 West. **Section:** 9. **(SBBM)**

Elevation: 1110 to 1150 feet above mean sea level

c. Address: none **City:** _____ **Zip:** _____.

d.* UTM: (Give more than one for large and/or linear resources)

Zone: 11S: 471120mE / 3763340mN (west end)

Zone: 11S: 471750mE / 3763340mN (east end)

UTM Derivation: __X__ USGS Quad _____GPS

GPS UTM Corrected: ____Yes ____No **GPS brand/Model:** _____

e. Other Locational Data (e.g. parcel number, directions to resource, etc. as appropriate):
This site is located along the south margin of the easternmost portion of Spring Street.

P3a.* **Description** *(Describe resource and its major elements; include design, materials, condition, alterations, size, setting, and boundaries):* This site consists of a single feature meant to shunt runoff of waters associated with local orchard irrigation into larger ditch or sewer systems adjacent to roads found downslope. Greenwood and Associates originally recorded the site in 1990. The site description included a modern-era cement flume located along the south side of Spring Street west of Mount Vernon. This recorder does not consider this modern flume to be part of the site. The eastern end of the site may carry further east past the UTM noted above, but the flume has been buried by soil and debris.

The site consists of a split cobble and whole cobble lined ditch that was built along the northern margin of an existing orchard. Flood and irrigation runoff from orchards to the east, site SMO-2, the orchard to the south, along with some runoff from orchards to the north, was collected in this ditch. The ditch was constructed such that high-speed water from flash floods would not entirely inundate the dirt road. Eventually, this runoff would be shunted into the Highgrove sewer system located down slope. Eventually, the water would enter the Spring Brook watershed near the Gage Canal/SPRR grade. The simple stone lining consists of cobbles set into the ground with Portland cement. At the far west end, a 100' section of the ditch is composed of broken concrete rubble. The far east end (beyond the active orchard), a stretch roughly 500 feet long, is buried in debris the result of recent earthmoving.

The ditch east of Mount Vernon can be observed under magnification in the 9-22-1953 archival aerial photograph, but it is uncertain whether this feature was lined with granite rock at the time. The ditch feature appears to be about 650' long as of this date.

P3b.* **Resource Attributes** (List attributes and codes): HP20.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
HRI#: _____
Trinomial: CA-RIV-4197/H

 ***Resource Name or #** (Assigned by recorder):_____

P4.* **Resources Present:** ____Building __X__Structure ____Object ____Site ____District ____Element of District ____Isolate ____Other

P5a. **Photograph or Drawing** (Required for **HRI** buildings, structures, and objects): Digital photos are found on the Photograph record page.

P5b. **Description of Photo** (View, date, accession #): See photograph record page.

P6.* **Date Constructed/Age and Source:** _____Prehistoric __X__Historic _____Both

P7.* **Owner and Address:** various

P8. **Recorded by:** Michael Dice
Project #: Spring Mountain Outparcels MBA# 21970012

P9.* **Date recorded:** May 15, 2002

P10.* **Type of Survey** (Describe): Phase 1 intensive block

P11.* **Report Citation** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

Attachments:
- __X__ Location Map (7.5'USGS quadrangle)
- __X__ Archaeological Site Record
- __X__ Sketch Map
- _____ Linear Feature Record
- _____ Milling Station Record
- _____ Artifact Record
- _____ Illustration Sheet
- __X__ Photograph Record (digital photos attached)
- __X__ Building, Structure, and Object Record
- _____ District Record
- _____ Other (List): _____

ARCHAEOLOGICAL SITE RECORD, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
Trinomial#: CA-RIV-4197/H

 ***Resource Name or # (Assigned by recorder):**

A1.* **Dimensions: Length:** ~2300 ft **Width:** 4 ft

Method of measurement: ___Paced ___Taped ___Visual Estimate **X** Other (topo map measurement)

Method of determination (Check any that apply): ___Artifacts **X** Features ___Soil ___Vegetation ___Topography ___Cut bank ___Animal burrow ___Excavation ___Property boundary ___Other (Explain):

Reliability of determination: **X** High ___Medium ___Low Explain:

Limitations (Check any that apply): ___Restricted access ___Paved/built over ___Site limits incompletely defined ___Disturbances ___Vegetation ___Other(Explain)

A2. **Depth:** ___None **X** Unknown. **Method of Determination:** probably surface only with pipes beneath dirt roads.

A3.* **Human Remains:** ___Present **X** Absent ___Possible ___Unknown (explain):

A4.* **Features** (Number, describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): see site description page.

A5.* **Cultural Constituents** (Describe and quantify artifacts, human-introduced organic residues, etc. not associated with features): Runoff flume.

A6.* **Were Specimens Collected?** **X** No ___Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated).

A7.* **Site Condition:** ___Good **X** Fair Poor (Describe disturbances). There is some collapse of structural elements beneath dirt roads.

A8.* **Nearest Water** (Type, distance, and direction): Spring Brook, located roughly 500 meters to the southeast, probably exhibited a continuous flow prehistorically.

A9.* **Elevation:** (see P2b) 1110 to 1180 feet above mean sea level

A10. **Environmental Setting**

Vegetation (Site and vicinity): Ruderal to the east and citrus to the west

Soil (Site and surrounding): Heavily modified loam

Landform: Old alluvial fan

Geology: Valley filled with eroded granitic basement rock

Exposure/Slope: Exposed to the west on a 1-2 degree slope

Other Associations:

A11. **Historical Information:** none.

A12.* **Age:** ___Prehistoric ___1542-1769 ___1769-1848 ___1848-1880 ___1880-1914 ___1914-1945 ___Post 1945 **X** Undetermined.

Factual or estimated dates of occupation (Explain): A ditch at this location was in use in 1953, but it is uncertain whether the rock lining was in place at that time.

A13. Interpretations (Discuss scientific, interpretive, ethnic, and other values of site, if known):
This site is an integral element of typical gravity feed irrigation system based on the original flume irrigation methods of southern California. The site represents runoff and erosion control for the orchards.

A14. Remarks: _____

A15. Reference (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

A16. Photographs (List subject(s), direction of view, and accession numbers or attach a Photograph Record): see photograph record page.
Accession numbers: none.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
Trinomial#: CA-RIV-4197/H
***NHRP Status Code:**

***Resource Name or #** (Assigned by recorder):

B1. Historic Name: none.

B2. Common Name: none.

B3. Original Use: runoff control.

B4. Present Use: runoff control.

***B5. Architectural Style:** None. Runoff control feature may have been upgraded by lining it with granite from the original dirt ditch during the modern era.

***B6. Construction History** (Construction date, alterations, and date of alterations):: uncertain

***B7. Moved?** X No ___Yes ___Unknown. Date: _____ **Original Location:**

***B8. Related features:** see SMO-4.

***B10. Significance: Theme:** Agricultural development **Area:** Highgrove.

Period of Significance: 1910-1940

Property Type: Water control feature

Applicable Criteria: n/a (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Although still fully operative in some spots, the site likely does not fulfill NEPA/CEQA positive significance requirements. Criterion A, B, C and/or D are not met. It is possible that the site has lost original integrity by upgrading the original dirt ditch with stone and cement.

B11. Additional Resource Attributes: (List attributes and codes):

***B12. References:** A) Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. B) An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

B13. Remarks:

***B14. Evaluator:** Michael Dice

Date of Evaluation: May 15, 2002

This space reserved for official comments:

LOCATION MAP, update

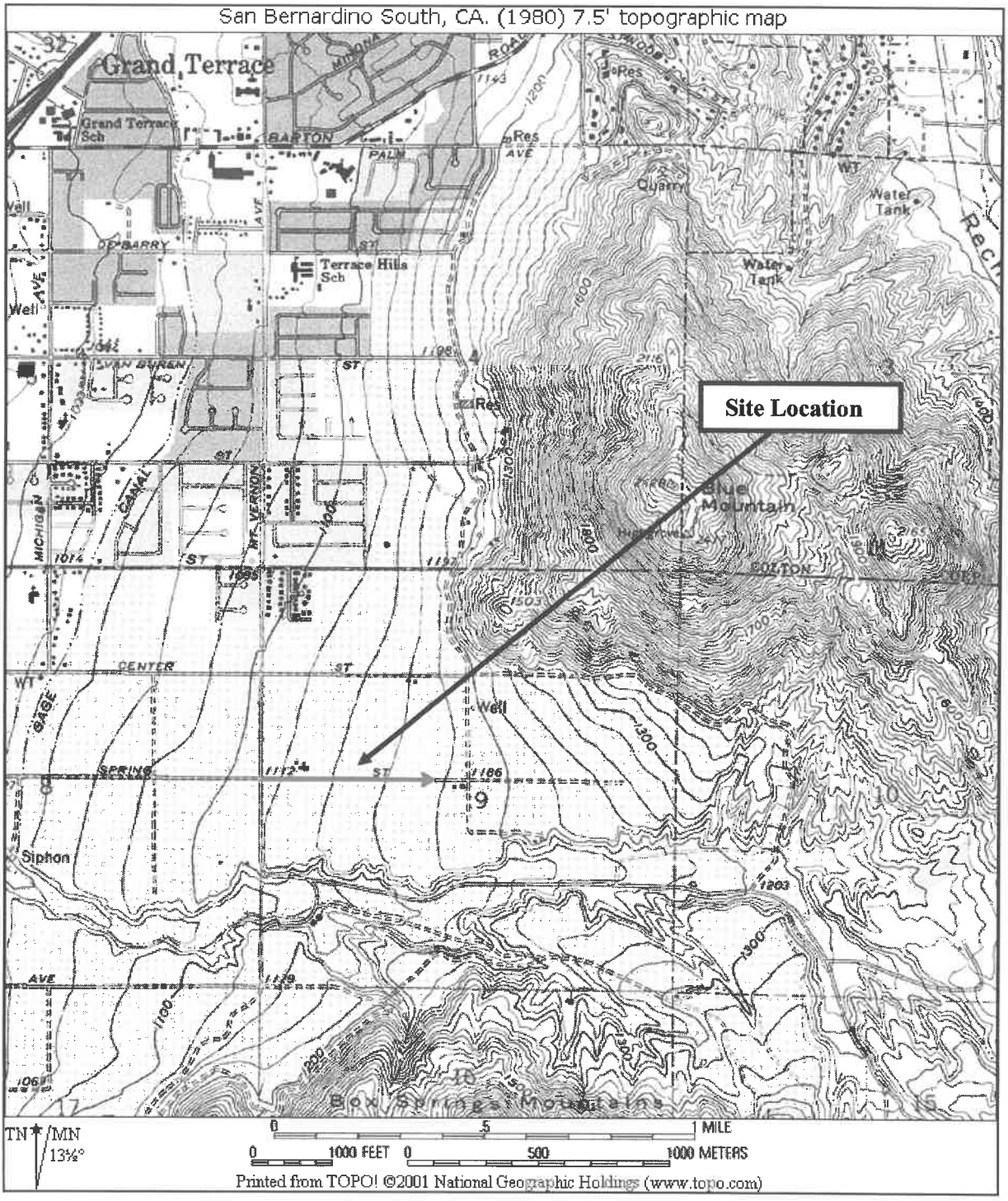
Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
Trinomial#: CA-RIV-4197/H

***Resource Name or #** (Assigned by recorder):_____

***Map Name:** San Bernardino South, CA. **Scale:** 1:24,000 **Date of Map:** 1980

San Bernardino South, CA. (1980) 7.5' topographic map

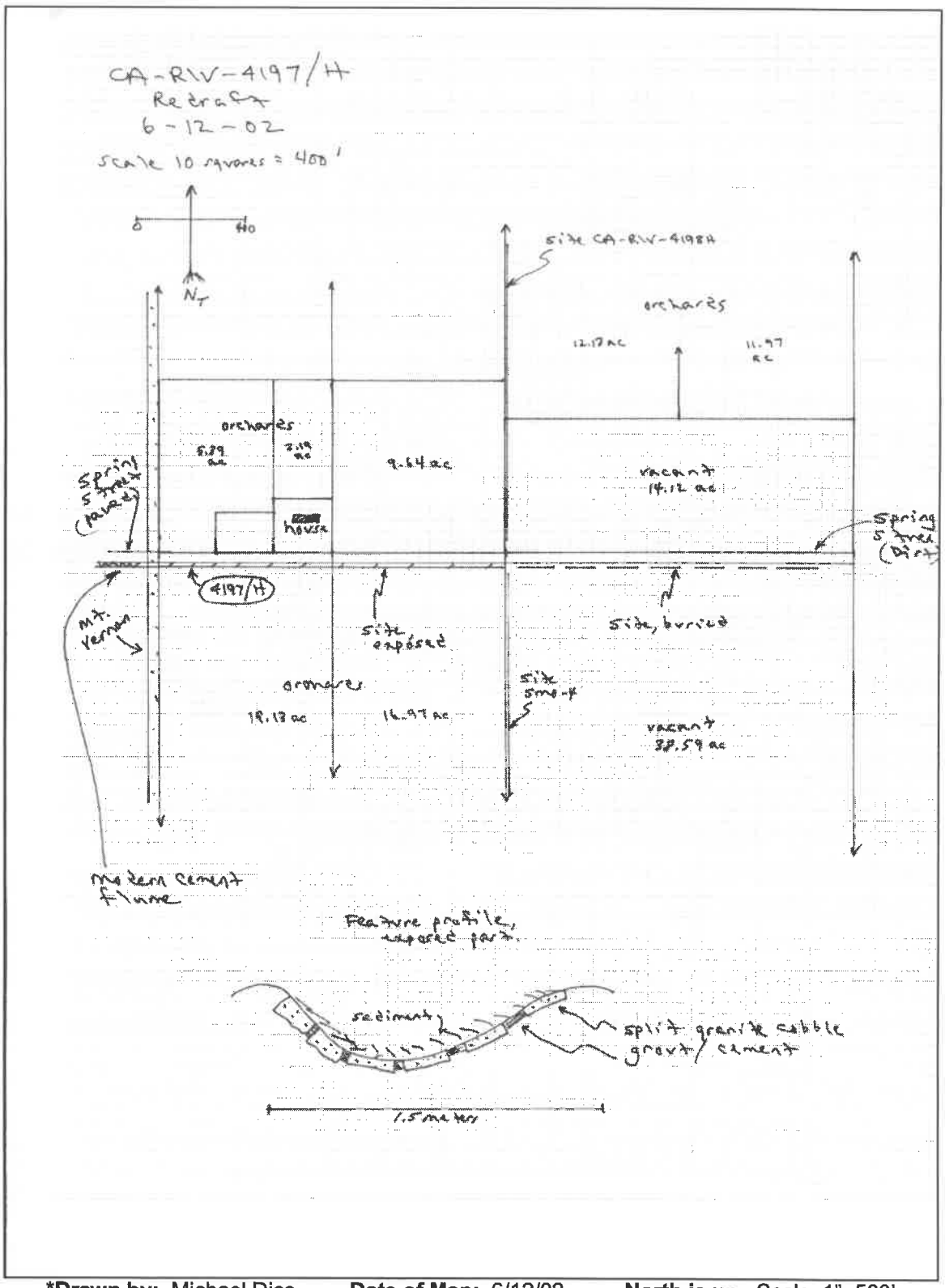


SKETCH MAP, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
Trinomial#: CA-RIV-4197/H

***Resource Name or #** (Assigned by recorder):_____



***Drawn by:** Michael Dice **Date of Map:** 6/12/02 **North is up.** Scale: 1"=580'

H:\Client (PN-JN)\2197\21970012\DPR523Forms\4197H.doc

PHOTOGRAPH RECORD, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
HRI#:
Trinomial: CA-RIV-4197/H

Page 8 of 12 **Resource Name:** **Year: 2002**

Camera format: Toshiba digital **Lens size:**
Film type and speed: **Negative on file at:**

Month	Day	Time	Exp/Frame	Subject/Description	View Toward	Accession#
5	1	10am	Image057	See below	Southwest	None
5	1	10am	Image058	See below	Southwest	None
5	1	10am	Image047	See below	Southwest	None
5	1	10am	Image049	See below	East	None
9	22	--	Archival	Shot in 1953		

Image057.jpg: View southwest of the site near eastern end.

Image058.jpg: View to southwest of the site a few feet west of Image057.

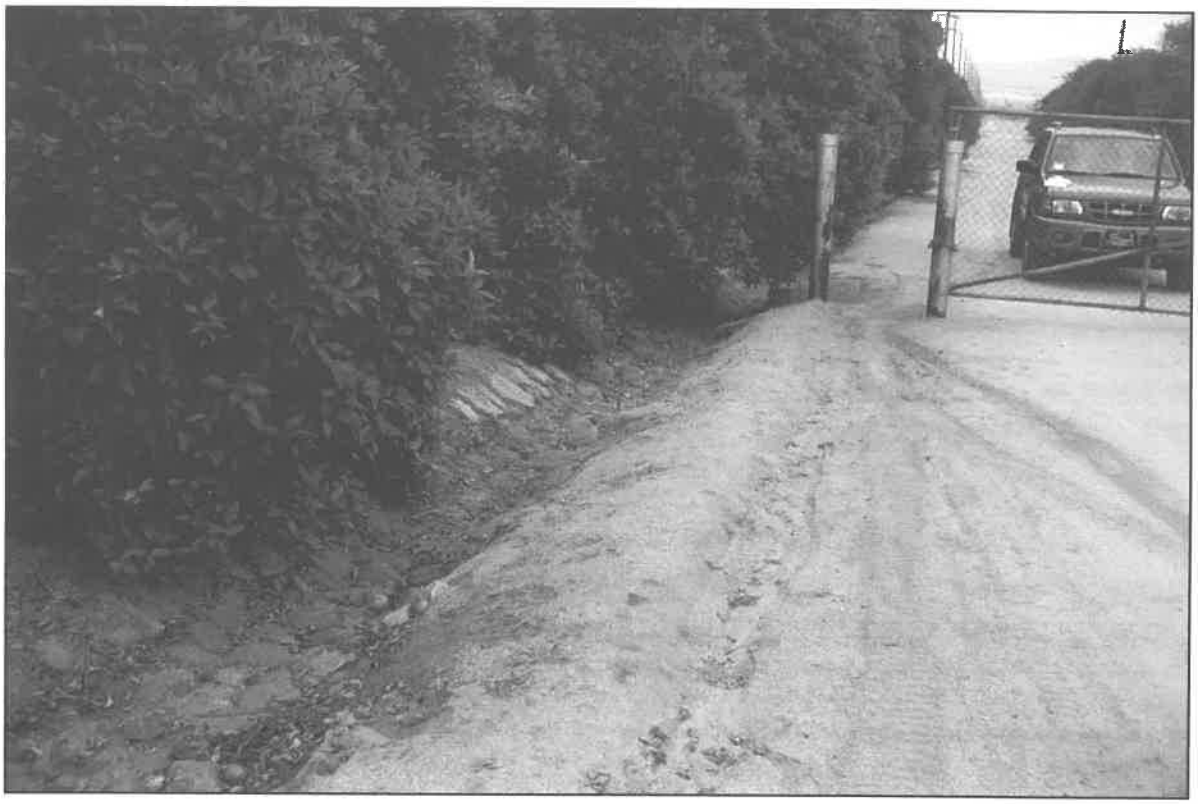


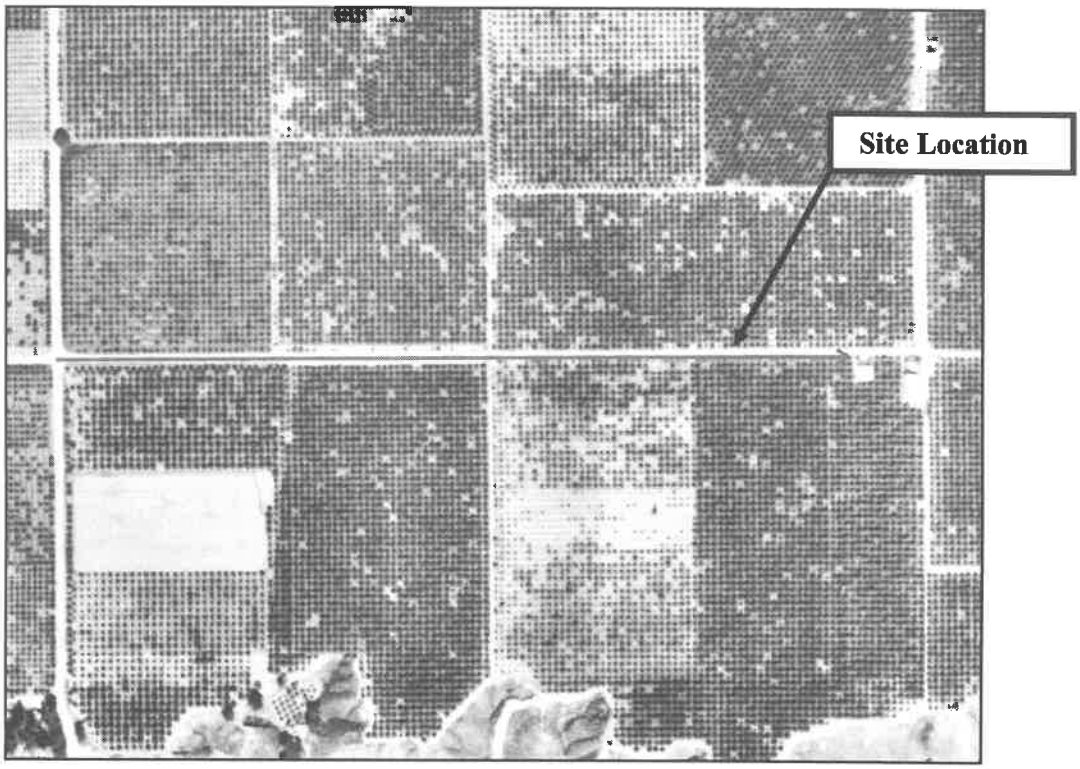
Image047.jpg: View of site near parcel junction. Fence represents gate between active orchards held by different owners. Note runoff scar on dirt road.

Image049.jpg: View of site at far western end near the intersection of Mount Vernon Avenue and Spring Street. View east.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4197
HRI#:
Trinomial: CA-RIV-4197/H

Page 12 of 12 **Resource Name:** **Year: 2002**



AXM-5k-74 (9/22/53): Rupp Aerial Co. aerial photograph shot by USDA in 1953. The site may actually end at the small structure (now gone) near the arrow tip.

PRIMARY RECORD, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318
Other Listings:
Review Codes:_____ Reviewer:_____ Date:_____

Primary# 33-4198
HRI#: _____
Trinomial: CA-RIV-4198/H
NRHP Status Code: _____

 ***Resource Name or # (Assigned by recorder): none**

P1. Other Identifier: _____

P2.* Location: ____Not for Publication __X__Unrestricted

a. *County: Riverside

and (P2b and P2c or P2d; attach location map)

b. *USGS Quad: San Bernardino South Dated: 1980. Photorev. :none.

Township: 2 South Range: 4 West. Section: 9. (SBBM)

Elevation: 1140 to 1150 feet above mean sea level

c. Address: none City: _____ **Zip:** _____.

d.* UTM: (Give more than one for large and/or linear resources)

Zone: 11S: 471540mE / 3763740mN (north end)

Zone: 11S: 471540mE / 3763380mN (south end)

UTM Derivation: __X__ USGS Quad _____GPS

GPS UTM Corrected: ____Yes ____No **GPS brand/Model:** _____

e. Other Locational Data (e.g. parcel number, directions to resource, etc. as appropriate):
The north end of the site begins along the south edge of Center Street.

P3a.* Description *(Describe resource and its major elements; include design, materials, condition, alterations, size, setting, and boundaries):* This site consists of a ditch feature meant to shunt runoff of waters associated with local orchard irrigation and storms into sewer systems adjacent to Center Street. A retaining wall is also associated with the ditch. Greenwood and Associates originally recorded the site in 1990. The site description did not include the retaining wall that extended south to a point 120 feet north of Spring Street. Although this extended retaining wall may be from the modern era, it has been included in this description.

The site consists of a V-shaped runoff ditch located along the western margin of an existing 12.5 acre orchard. Runoff from orchards located to the east, site SMO-1, and the former orchard to the south, was collected in this ditch and sent to a pipe buried in the southern edge of Center Street. The ditch was constructed such that high-speed water from flash floods would not entirely inundate the orchards down slope and help to maintain the artificial grade of the orchard complex.

The site consists of a 3-foot deep and 2.5 wide (top) ditch with the east edge at grade and the west edge exposed. The west edge faces a dying orchard. Currently in a state of collapse, maintenance of the ditch has not taken place for several years and the upslope walls are collapsing. Much of the ditch is composed of stacked stone blocks with mortar and covered with spread cement. Sectional collapse has taken place due to ground pressure and water erosion. Water once arrived in this ditch the result of overflows from sporadic irrigation of the orchard directly to the east, rainstorms, and water shunted from SHO-1 on the opposite side of the orchard.

The potential volume of water draining into Center Street would be quite large,

especially during storms, and necessitated building a ditch nearly a meter deep. The flow is from south to north, which is actually counter the natural incline of the area, but the original ground surface was heavily modified as a result of orchard construction. The depth of the ditch does not appear to increase from south to north.

P3b.* **Resource Attributes** (List attributes and codes): HP20.

P4.* **Resources Present:** ____Building __X__Structure ____Object ____Site ____District ____Element of District ____Isolate ____Other

P5a. **Photograph or Drawing** (Required for **HRI** buildings, structures, and objects): Digital photos are found on the Photograph record page.

P5b. **Description of Photo** (View, date, accession #): See photograph record page.

P6.* **Date Constructed/Age and Source:** _____Prehistoric __X__Historic _____Both

P7.* **Owner and Address:** various

P8. **Recorded by:** Michael Dice
Project #: Spring Mountain Outparcels MBA# 21970012

P9.* **Date recorded:** May 15, 2002

P10.* **Type of Survey** (Describe): Phase 1 intensive block

P11.* **Report Citation** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

Attachments:

__X__ Location Map (7.5'USGS quadrangle)
__X__ Archaeological Site Record
__X__ Sketch Map
_____ Linear Feature Record
_____ Milling Station Record
_____ Artifact Record
_____ Illustration Sheet
__X__ Photograph Record (digital photos attached)
__X__ Building, Structure, and Object Record
_____ District Record
_____ Other (List): _____

A1.* **Dimensions: Length:** 1300 ft **Width:** 4 ft

Method of measurement: ___Paced ___Taped ___Visual Estimate **X** Other (topo map measurement)

Method of determination (Check any that apply): ___Artifacts **X** Features ___Soil ___Vegetation ___Topography ___Cut bank ___Animal burrow ___Excavation ___Property boundary ___Other (Explain):

Reliability of determination: **X** High ___Medium ___Low Explain:

Limitations (Check any that apply): ___Restricted access ___Paved/built over ___Site limits incompletely defined ___Disturbances ___Vegetation ___Other(Explain)

A2. **Depth:** ___None **X** Unknown. **Method of Determination:** probably surface only with pipes beneath dirt roads.

A3.* **Human Remains:** ___Present **X** Absent ___Possible ___Unknown (explain):

A4.* **Features** (Number, describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): see site description continuation page.

A5.* **Cultural Constituents** (Describe and quantify artifacts, human-introduced organic residues, etc. not associated with features): Runoff flume.

A6.* **Were Specimens Collected?** **X** No ___Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated).

A7.* **Site Condition:** ___Good **X** Fair Poor (Describe disturbances). Some collapse of structural elements has occurred because maintenance of the site has not taken place for several years.

A8.* **Nearest Water** (Type, distance, and direction): Spring Brook, located roughly 500 meters to the southeast, probably exhibited a continuous flow prehistorically.

A9.* **Elevation:** (see P2b) 1110 to 1150 feet above mean sea level

A10. **Environmental Setting**

Vegetation (Site and vicinity): Ruderal to the east and citrus to the west

Soil (Site and surrounding): Heavily modified loam

Landform: Old alluvial fan

Geology: Valley filled with eroded granitic basement rock

Exposure/Slope: Exposed to the west on a 1-2 degree slope

Other Associations:

A11. **Historical Information:** none.

A12.* **Age:** ___Prehistoric ___1542-1769 ___1769-1848 ___1848-1880 ___1880-1914 ___1914-1945 ___Post 1945 **X** Undetermined.

Factual or estimated dates of occupation (Explain): A ditch at this location was in use in 1953, but it is uncertain whether the rock lining was in place at that time.

A13. Interpretations (Discuss scientific, interpretive, ethnic, and other values of site, if known):
This site is an integral element of typical gravity feed irrigation system based on the original flume irrigation methods of southern California. The site represents runoff and erosion control for the orchards.

A14. Remarks:

A15. Reference (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

A16. Photographs (List subject(s), direction of view, and accession numbers or attach a Photograph Record): see photograph record page.
Accession numbers: none.

B1. **Historic Name:** none.

B2. **Common Name:** none.

B3. **Original Use:** runoff control.

B4. **Present Use:** runoff control.

***B5.** **Architectural Style:** None. Runoff control feature may be upgraded from the original dirt ditch during the modern era.

***B6.** **Construction History** (Construction date, alterations, and date of alterations):: uncertain

***B7.** **Moved?** X No __Yes __Unknown. Date:_____ **Original Location:**_____

***B8.** **Related features:** SMO-1.

***B10.** **Significance: Theme:** Agricultural development **Area:** Highgrove.
Period of Significance: 1910-1940
Property Type: Water control feature
Applicable Criteria: **n/a** (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Although still operative, the site does not likely fulfill NEPA/CEQA positive significance requirements. Criterion A, B, C and/or D are not met.

B11. **Additional Resource Attributes:** (List attributes and codes): _____

***B12.** **References**: **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

B13. **Remarks:**_____

***B14.** **Evaluator:** Michael Dice
Date of Evaluation: May 15, 2002

This space reserved for official comments:

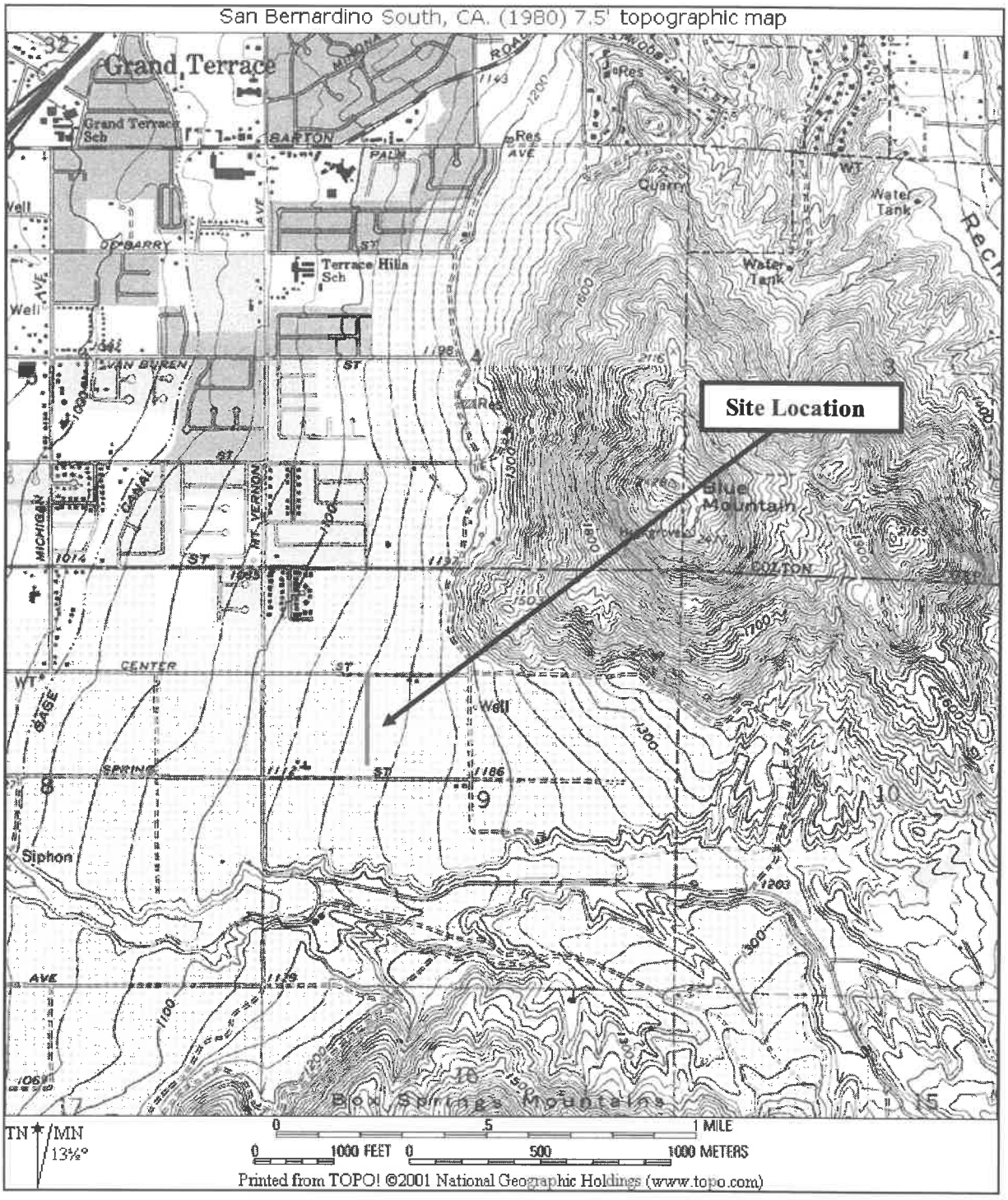
LOCATION MAP, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4198
Trinomial#: CA-RIV-4198/H

***Resource Name or #** (Assigned by recorder):_____

***Map Name:** San Bernardino South, CA. **Scale:** 1:24,000 **Date of Map:** 1980

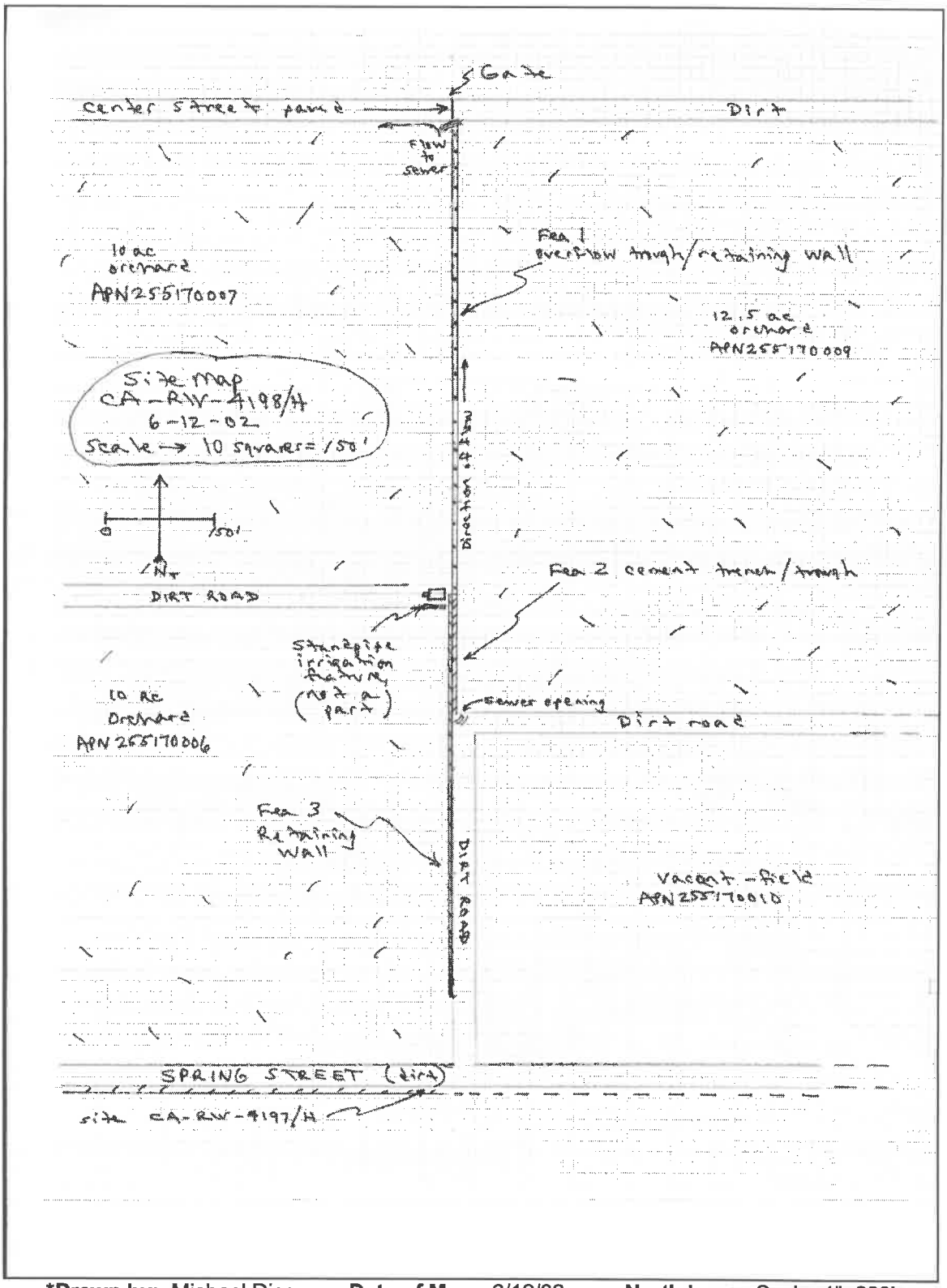


SKETCH MAP, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4198
Trinomial#: CA-RIV-4198/H

***Resource Name or #** (Assigned by recorder):_____



***Drawn by:** Michael Dice **Date of Map:** 6/12/02 **North is up.** Scale: 1"=220'

PHOTOGRAPH RECORD, update

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-4198
HRI#:
Trinomial: CA-RIV-4198/H

Page 8 of 13 **Resource Name:** **Year: 2002**

Camera format: Toshiba digital **Lens size:**
Film type and speed: **Negative on file at:**

Month	Day	Time	Exp/Frame	Subject/Description	View Toward	Accession#
5	1	10am	Image023	See below	North	None
5	1	10am	Image020	See below	South	None
5	1	10am	Image027	See below	North	None
5	1	10am	Image031	See below	North	None
5	1	10am	Image032	See below	North	None
9	22	--	Archival	Shot in 1953		

Image023.jpg: View of canal/retaining wall site near the center point to the north. Standpipe and brick reservoir to the left are not actually part of the site. These are associated with a gravity-fed irrigation delivery system and not the runoff collection system of CA-RIV-4198/H.

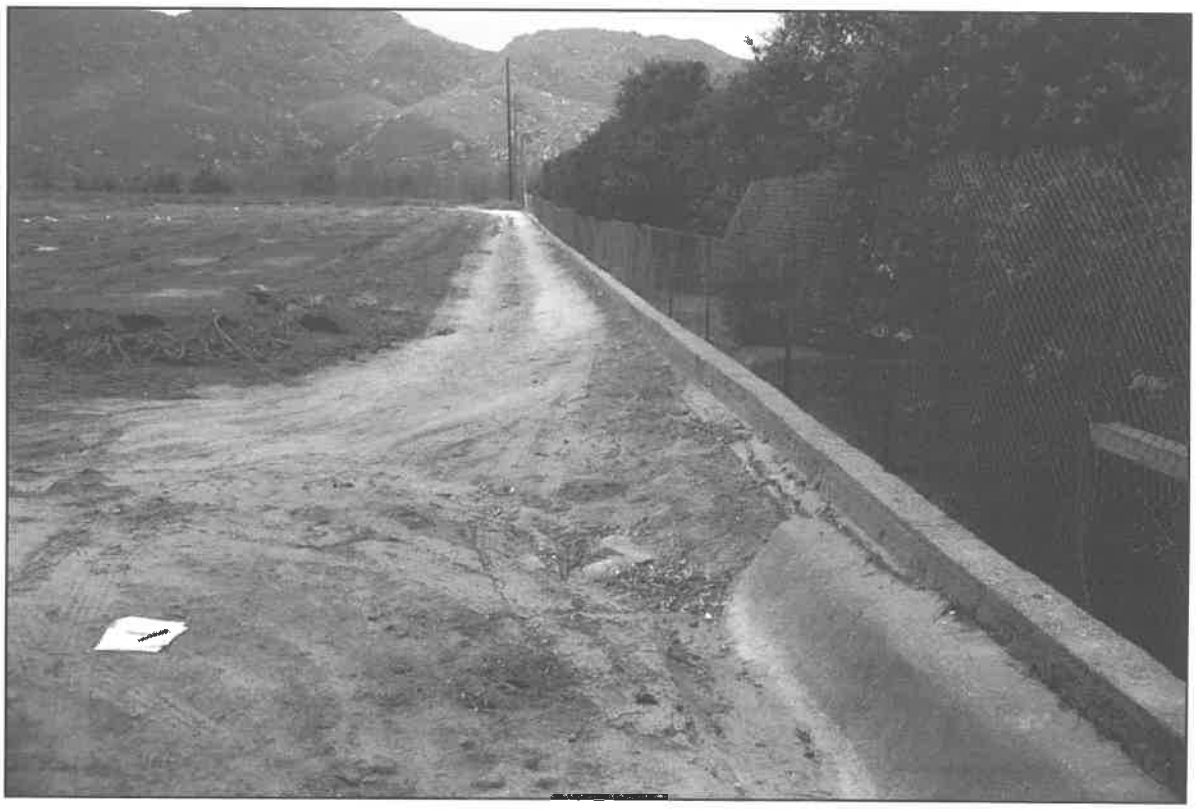
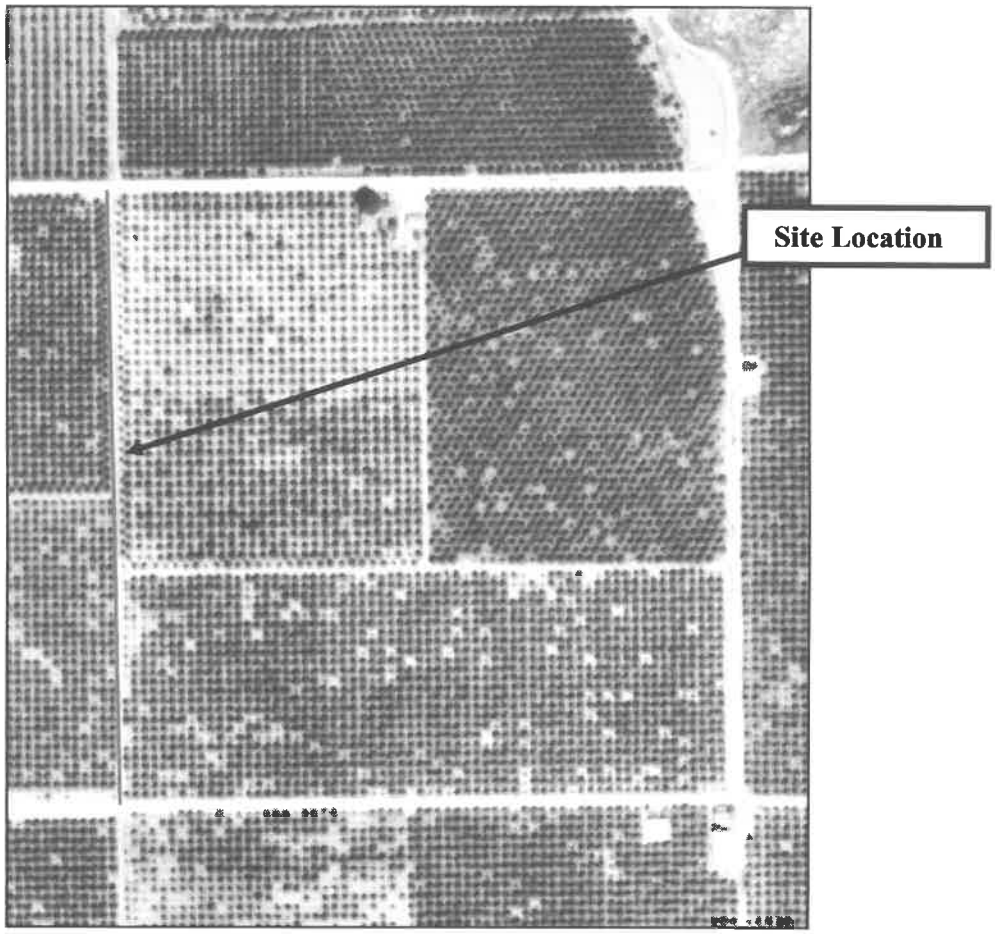


Image020.jpg: View of the site from the center point south along a possibly modern poured concrete retaining wall. Wall ends 100 feet north of Spring Street.

Image027.jpg: North view of site a few dozen feet of standpipe complex. Note collapsing sections that have been repaired with stone and mortar.

Image031.jpg: North view of site a few dozen feet south of Center Street. Most of the ditch is composed of rock and mortar with applied cement facing.

Image032.jpg: Site entrance to buried pipe in Center Street.



AXM-5k-74 (9/22/53): Rupp Aerial Co. aerial photograph shot by USDA in 1953.

PRIMARY RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318
Other Listings:
Review Codes:_____ Reviewer:_____ Date:_____

Primary# 33-11445
HRI#: _____
Trinomial: CA-RIV-6827/H
NRHP Status Code: _____

 ***Resource Name or #** (Assigned by recorder): **SMO-1**

P1. **Other Identifier:** _____

P2.* **Location:** ____**Not for Publication** __X__**Unrestricted**

a. *County: **Riverside**

and (P2b and P2c or P2d; attach location map)

b. *USGS Quad: **San Bernardino South** **Dated:** **1980.** **Photorev. :none.**

Township: **2 South** **Range: 4 West . Section: 9 .(SBBM)**

Elevation: **1188 feet above mean sea level**

c. **Address:** **none** **City:** _____ **Zip:** _____.

d.* **UTM:** (Give more than one for large and/or linear resources)

Zone: **11S: 471900mE / 3763640mN (north end)**

Zone: **11S: 471900mE / 3763440mN (south end)**

UTM Derivation: **X** USGS Quad _____GPS

GPS UTM Corrected: _____Yes _____No **GPS brand/Model:** _____

e. Other Locational Data (e.g. parcel number, directions to resource, etc. as appropriate):

_____

_____

P3a.* **Description** *(Describe resource and its major elements; include design, materials, condition, alterations, size, setting, and boundaries):*This site consists of historical gravity irrigation features associated with intake of water from the Riverside-Highland Water Company Conduit (RHWC) and associated reservoir. The northern end of the site exhibits several irrigation flow portals and an access port for the RHWC (Feature 1). Water from the RHWC conduit flows downhill and under the active grove to the west. Water is also shunted into standpipe feeders for the grove located just to the west (down slope) at this point. At one time, water was also shunted to a pumphouse complex (Feature 2) located slightly south and uphill from Feature 1. Lastly, runoff water from groves once located uphill (since removed) was collected in a linear concrete retaining wall/overflow flume complex (Feature 3) that runs south to the end of the site. Here, any overflow water runs under the dirt access road and into a pipe that eventually leads to Center Street thru site CA-RIV-4198H. Broad visual aspects of these features can be observed in an archival aerial photograph dated 9-22-53 (see page 12). [***text continued on Page 14***]

P3b.* **Resource Attributes** (List attributes and codes): HP20, HP22, AH5, AH6, AH11.

P4.* **Resources Present:** _____Building ____Structure ____Object __**X**__Site ____District _____Element of District _____Isolate ____Other

P5a. **Photograph or Drawing** (Required for **HRI** buildings, structures, and objects): Digital photos are found on the Photograph record page.

P5b. **Description of Photo** (View, date, accession #): See photograph record page.

P6.* **Date Constructed/Age and Source:** _____Prehistoric __**X**__Historic _____Both

P7.* **Owner and Address:** Denis and Bessie Pico 22874 Pico Street, Grand Terrace, CA. 92313

P8. **Recorded by:** Michael Dice
Project #: Spring Mountain Outparcels MBA# 21970012

P9.* **Date recorded:** May 15, 2002

P10.* **Type of Survey** (Describe): Phase 1 intensive block

P11.* **Report Citation** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

Attachments:

- X Location Map (7.5'USGS quadrangle)
- X Archaeological Site Record
- X Sketch Map
- X Linear Feature Record
- _____ Milling Station Record
- _____ Artifact Record
- _____ Illustration Sheet
- X Photograph Record (digital photos attached)
- X Building, Structure, and Object Record
- X Linear Feature Record
- _____ District Record
- _____ Other (List): _____

ARCHAEOLOGICAL SITE RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
Trinomial#: CA-RIV-6827/H

 ***Resource Name or #** (Assigned by recorder): **SMO-1**

A1.* Dimensions: Length: 660 ft **Width:** 4 to 40 ft

Method of measurement: X Paced ___Taped ___Visual Estimate X Other (topo map measurement)

Method of determination (Check any that apply): ___Artifacts X Features ___Soil ___Vegetation ___Topography ___Cut bank ___Animal burrow ___Excavation ___Property boundary ___Other (Explain):

Reliability of determination: X High ___Medium ___Low Explain:

Limitations (Check any that apply): ___Restricted access ___Paved/built over ___Site limits incompletely defined ___Disturbances ___Vegetation ___Other(Explain)

A2. Depth: ___None ___Unknown. **Method of Determination:** Depth is likely up to seven feet for the water conveyance features and 10 feet for the reservoir.

A3.* Human Remains: ___Present X Absent ___Possible ___Unknown (explain):

A4.* Features (Number, describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): see site description continuation page.

A5.* Cultural Constituents (Describe and quantify artifacts, human-introduced organic residues, etc. not associated with features): Canal conduit, standpipe ports, reservoir, pumphouse remnant, retaining wall and runoff flume.

A6.* Were Specimens Collected? X No ___Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated).

A7.* Site Condition: ___Good X Fair ___Poor (Describe disturbances). Pumphouse and reservoir complex are abandoned and the former wood frame is demo'ed to the side. Retaining wall is in good shape, as are the irrigation ports (active).

A8.* Nearest Water (Type, distance, and direction): Spring Brook, located roughly 700 meters to the southeast, probably exhibited a continuous flow prehistorically.

A9.* Elevation: (see P2b) 1188 feet above mean sea level

A10. Environmental Setting

Vegetation (Site and vicinity): Ruderal to the east and citrus to the west

Soil (Site and surrounding): Heavily modified loam

Landform: Old alluvial fan

Geology: Valley filled with eroded granitic basement rock

Exposure/Slope: Exposed to the west on a 1-2 degree slope

Other Associations:

A11. Historical Information: An interview with the current orchard owner (Denis Pico) was conducted in the field. Stated that a Mr. Ogden owned the orchard for many years and lived in a house located in the northwest corner of APN#255-170-009. Mr. Pico bought the orchard in the early 1970's and Ogden's house and garage (see archival photo) were leveled by Pico once they were vandalized. Pico stated that the house was wood frame without a substantial foundation, while the garage had a cement foundation. Pico also stated that a large "Umbrella tree" is located near the former house, but this tree cannot be the *Schefflera* but it may be an oversized *Magnolia*. All of the orchards

near the Center Street/Mount Vernon Avenue intersection were owned by smaller orchard holders and not by the Chase corporations (Eureka ranch). Water was derived from the RHWC or wells drilled high in the Spring Brook canyon alluvium.

An interview with Rich Haubert, engineer with the Riverside-Highland Water Company provided a history of the conduit as it flows through the area. The conduit was first built as a wooden flume in the 1890's, and was replaced a short time later with a concrete flume at grade. In about 1939, a concrete pipeline was placed inside the concrete flume and then mounded over with topsoil. The buried flume/pipe runs from above the County line to Marlborough Avenue in Riverside. Since the wooden flume was replaced with concrete and eventually buried, it is likely any of the original wood framing has been lost. Water from the conduit was once moved by gravity into Feature 2 for use by the LVW Brown Estate (Sunny Mountain Ranch), which had many acres of groves up-canyon from the conduit. This water was stored in the features' reservoir and then pumped (or sucked) uphill. The Sunny Mountain Ranch groves were torn out in about 1999, while the pump house was demo'ed in about 1997.

Currently, only one active orchard is served by the line, which runs whenever irrigation is needed. Just 500-gal per minute is required at the present time.

A12.* **Age:** ___Prehistoric ___1542-1769 ___1769-1848 ___1848-1880 ___1880-1914 **X** 1914-1945 ___Post 1945 ___Undetermined.

Factual or estimated dates of occupation (Explain): The age of the site is estimated on the basis of the archival aerial photo and interviews.

A13. **Interpretations** (Discuss scientific, interpretive, ethnic, and other values of site, if known): The site is representative of typical gravity feed irrigation infrastructure based on the original flume irrigation methods of southern California.

A14. **Remarks:**

A15. **Reference** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

A16. **Photographs** (List subject(s), direction of view, and accession numbers or attach a Photograph Record): see photograph record page.

Accession numbers: none.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
Trinomial#: CA-RIV-6827/H
***NHRP Status Code:** _____

 ***Resource Name or #** (Assigned by recorder): **SMO-1**

B1. Historic Name: none.

B2. Common Name: none.

B3. Original Use: runoff control and irrigation.

B4. Present Use: irrigation.

***B5. Architectural Style:** None. Runoff control feature appears planned and poured.

***B6. Construction History** (Construction date, alterations, and date of alterations):: uncertain

***B7. Moved?** X No ___Yes ___Unknown. Date: _____ **Original Location:** _____

***B8. Related features:** Riverside-Highland buried water conduit.

***B10. Significance: Theme:** Agricultural development **Area:** Highgrove.
Period of Significance: 1910-1940
Property Type: Water control feature
Applicable Criteria: n/a (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Although still partially operative, the site likely does not fulfill NEPA/CEQA positive significance requirements. Criterion A, B, C and/or D are not met.

B11. Additional Resource Attributes: (List attributes and codes): _____

***B12. References:** **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

B13. Remarks: _____

***B14. Evaluator:** Michael Dice
Date of Evaluation: May 15, 2002

This space reserved for official comments:

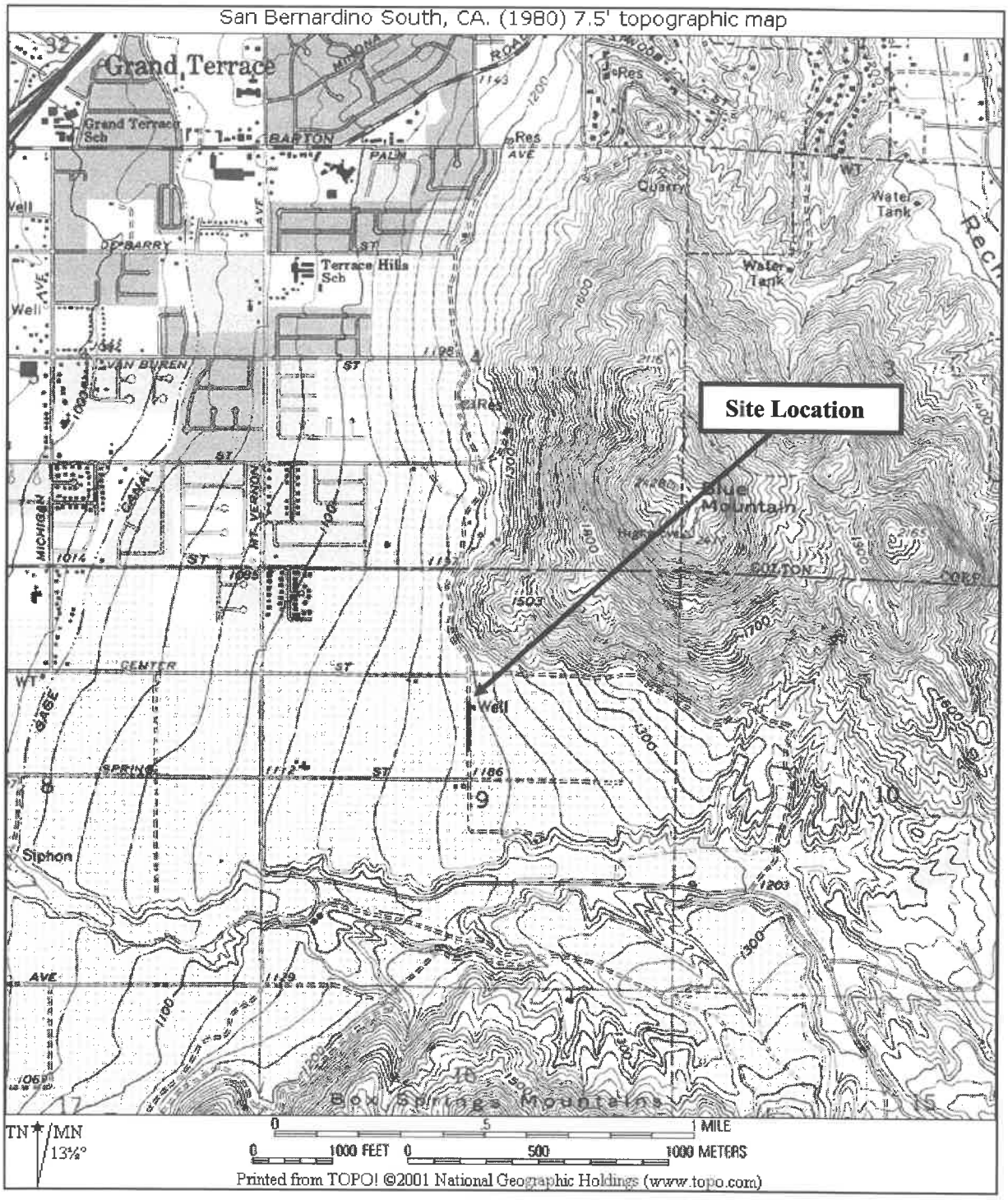
LOCATION MAP

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
Trinomial#: CA-RIV-6827/H

***Resource Name or #** (Assigned by recorder): **SMO-1**

***Map Name:** San Bernardino South, CA. **Scale:** 1:24,000 **Date of Map:** 1980

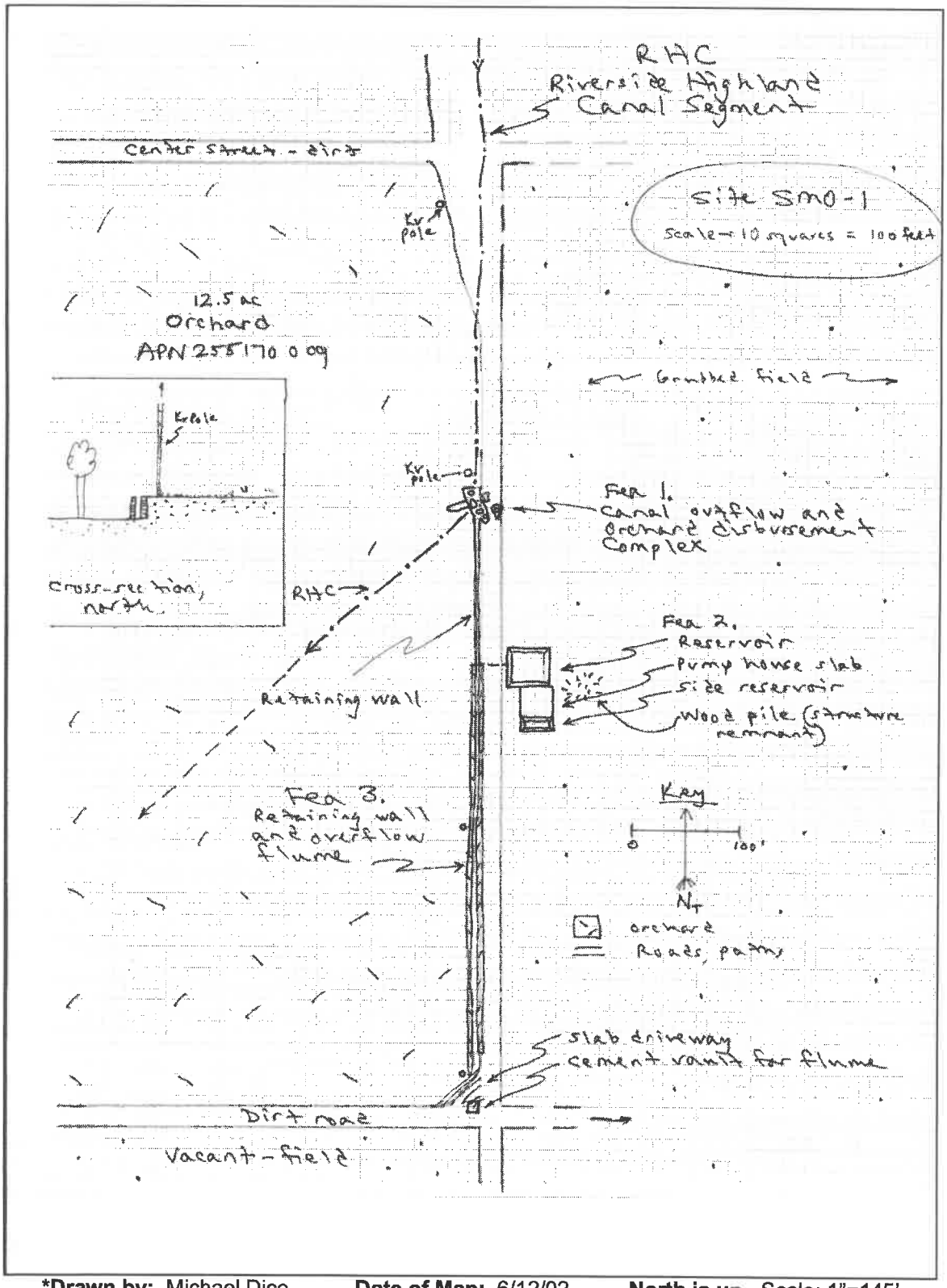


SKETCH MAP

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
Trinomial#: CA-RIV-6827/H

***Resource Name or #** (Assigned by recorder): **SMO-1**



***Drawn by:** Michael Dice **Date of Map:** 6/12/02 **North is up.** Scale: 1"=145'

PHOTOGRAPH RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
HRI#: _____
Trinomial: CA-RIV-6827/H

Page 8 of 14 **Resource Name: SMO-1** **Year: 2002**

Camera format: Toshiba digital **Lens size:** _____
Film type and speed: _____ **Negative on file at:** _____

Month	Day	Time	Exp/Frame	Subject/Description	View Toward	Accession#
5	1	11am	Image014	See below	South	None
5	1	11am	Image015	See below	South	None
5	1	11am	Image016	See below	Southeast	None
5	1	11am	Image017	See below	west	None
9	22	--	Archival	Shot in 1953		

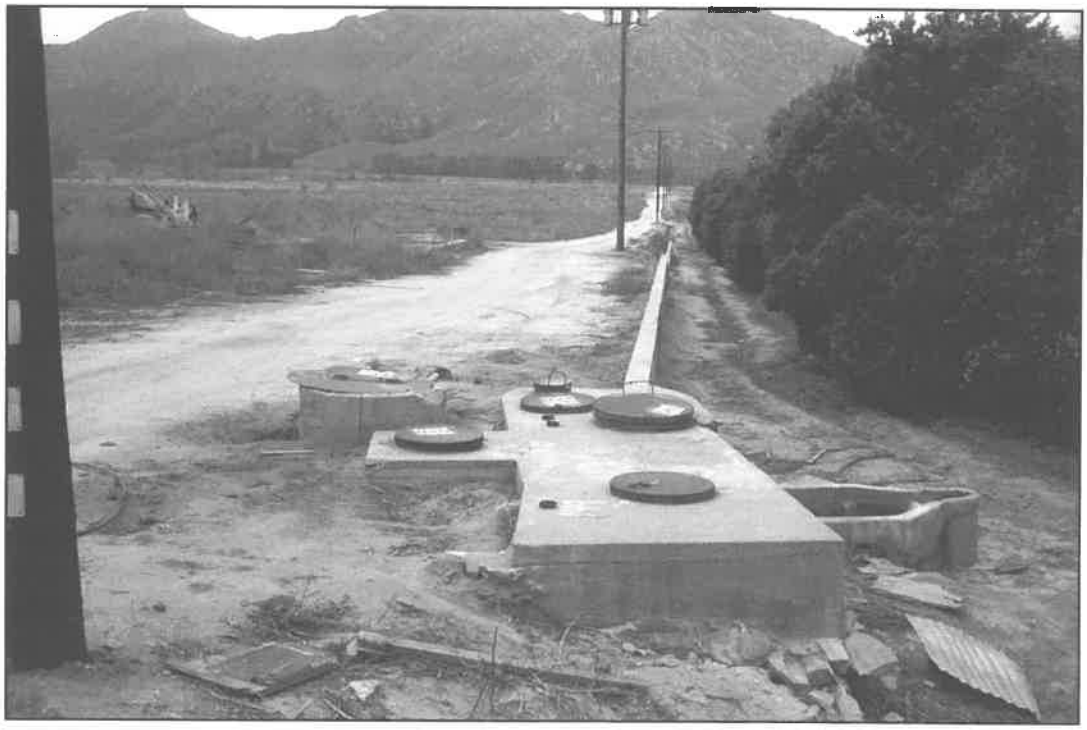


Image014.jpg: View of northern end of site to the south showing Feature 1: the RHWC conduit portal (larger manhole cover) and smaller orchard standpipe portals. The Feature 3 (retaining wall) extends to south. The buried RHWC conduit runs downhill beneath groves in the upper right.

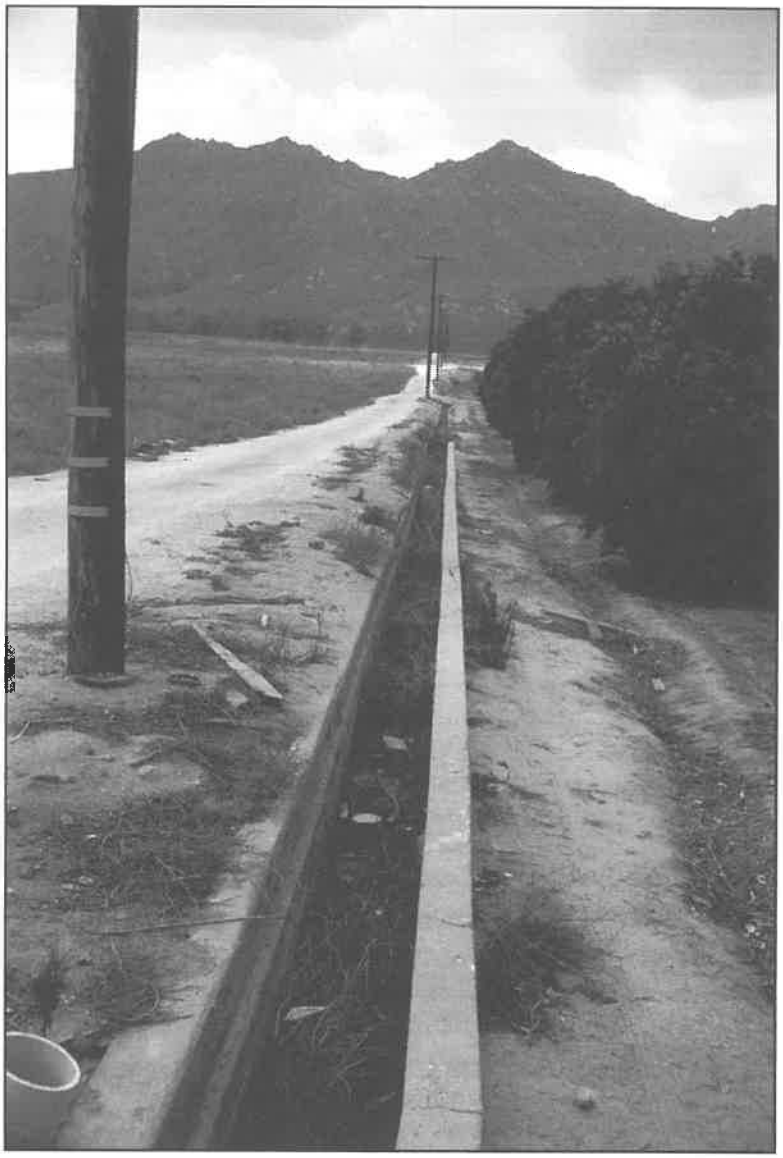


Image016.jpg: View of northern end of site to the south showing Feature 3, a retaining wall and concrete runoff-only flume located in the southern half of the site.

Image015.jpg: View of Feature 2 pump house reservoir and remaining wood framing. Reservoir is about 12 feet deep. Pumps were probably placed on the concrete slab to toe south (right). View to the southeast.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
HRI#:
Trinomial: CA-RIV-6827/H

Page 11 of 14 **Resource Name: SMO-1** **Year: 2002**

Image017.jpg: View of south end of site where runoff water from Feature 3 flume encounters buried pipe. Pipe runs due west to a surface runoff flume that eventually leads to CA-RIV-4198H. View to west.

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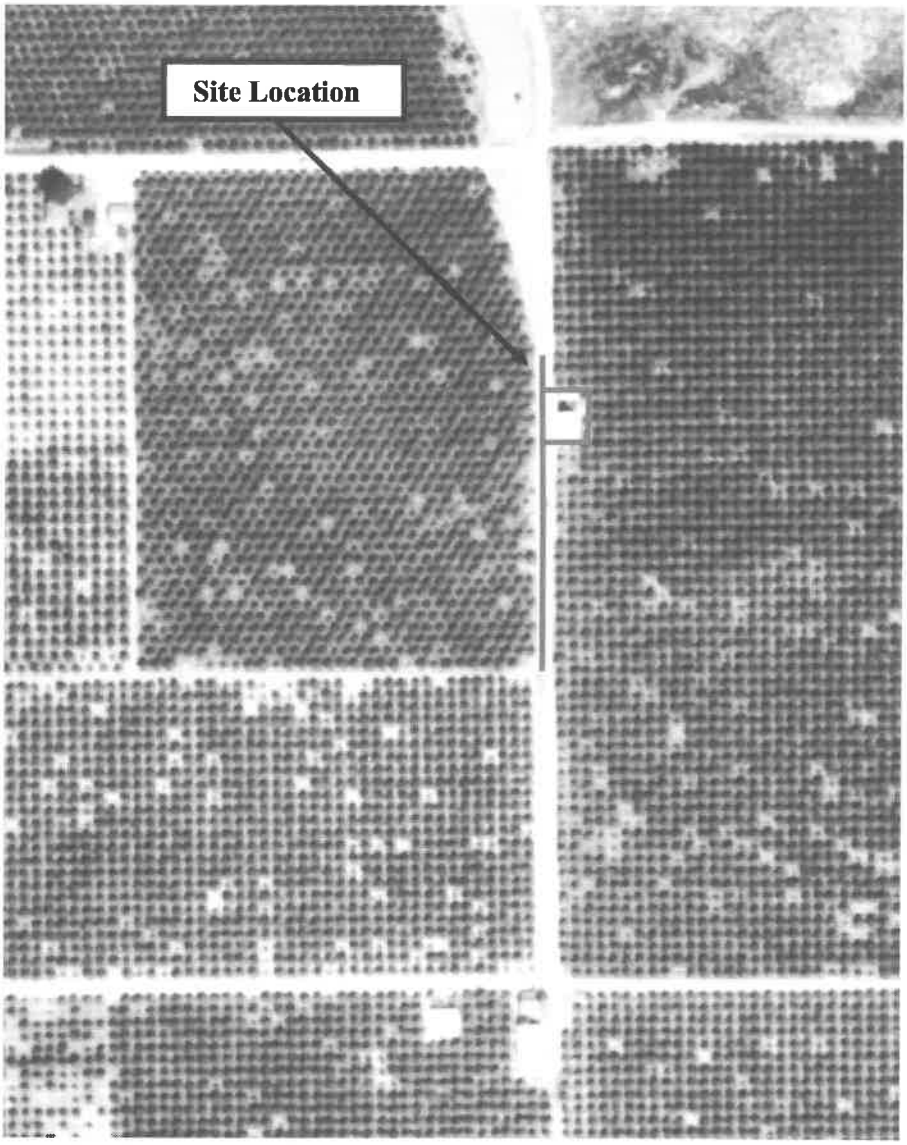


AXM-5k-74 (9/22/53): Rupp Aerial Co. aerial photograph shot by USDA in 1953.

LINEAR FEATURE RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11445
Trinomial#: CA-RIV-6827/H

 ***Resource Name or #** (Assigned by recorder): **SMO-1**

L1. Historic and/or Common Name: none.

L2a. Portion Described: [Entire Resource] Segment Point Observation **Designation:**

L2b. Location of point or segment: Feature 3.

L3. Description: Feature 3 consists of a retaining wall of possibly modern manufacture and a retaining wall/runoff flume. The feature runs from the south end of Feature 1 to a buried cement pipe near the southeast corner of the adjacent live orchard.

L4e. Sketch of Cross-Section: (see Sketch map page)

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

- **a. Top width:** 1.5 feet.
- **b. Bottom width:** probably 1.5 feet.
- **c. Height or Depth:** maximum 2.5 feet.
- **d. Length of Segment:** roughly 500 feet.

L5. Associated resources: Feature 1 vault complex; Feature 2 reservoir complex, site SMO-2.

L6. Setting: The feature is located paralleling a 155Kv transmission line, a small portion of the buried RHWC conduit. Facing west and running slowly downhill, the feature was not constructed to increase water runoff speeds too greatly, but also not too steeply as to destroy the cement structures.

L7. Integrity Considerations: The feature has been essentially abandoned because the cement runoff flume served the orchards of the Spring Mountain Ranch, which were removed several years ago. Lack of integrity with relationship to the historical setting likely does not allow a positive significance assessment

L8b. Description of Photo, Map, or Drawing: (View, scale, etc): see photograph table

L9. Remarks:

L10. Form Prepared By: Michael Dice c/o Michael Brandman Associates 15901 Red Hill Avenue, Suite 200 Tustin, California 92780

L11. Date: 5/15/02.

Continuation X Update _____

Continued from P3a:

Feature 1:

This feature consists of a partially buried cast cement vault, a set of side vaults and additional accessory sub-features. A cement ground-level retaining wall extends to the south. A handmade cement flume port is attached to the west side of the primary vault. This is for delivering water to feeder pipes that run into the standpipe-gravity system of the nearby grove.

The flow of the RHWC conduit enters the main vault where a portion of the flow is diverted to: a) pipes that once fed Feature 2, and b) pipes leading to a standpipe distribution network for the grove directly west. The RHWC, which was active at the time of recording, enters the vault from the north and exits the vault to the southwest. Water deliveries to the grove were recently cut as the grove will be starved prior to demolition. Water once flowed from a buried cement pipe from Feature 1 into Feature 2, but this was cut off approximately five years ago.

Feature 2:

This feature consists of the remnants of a reservoir, concrete foundation slabs, pipes and wooden framework. Irrigation water intended for the Sunny Mountain Ranch citrus groves once flowed through this central source. Water from the main vault in Feature 1 was diverted through a buried pipe about 150' long and angled some 45 meters to the south-southwest and into the main reservoir. This reservoir has decayed somewhat but consists of poured cement, plaster, cobbles and cement piping. It measures roughly 36x36' in size but is of uncertain height and construction as the remaining framework lies in a pile to the east. Uphill flow assist pumps may have been placed on the slab to the south (measuring about 26x26' in size) and a second smaller reservoir was placed south and adjacent to the slab. This measured about 13x18' and was roughly 6' deep. The primary pumps that brought water uphill and likely into a reservoir were probably located above the groves nearly 4000' to the east.

Feature 3:

A modern-looking retaining wall extends south from the Feature 1 vault approximate 160 feet until it reaches a joint where a historical retaining wall/runoff flume (CA-RIV-6828/H) begins. In addition, the joint was made to accept runoff water from the groves to the east. Here, streamlets created by rainfall or irrigation runoff would have crossed the dirt road and then diverted into the cement flume. Feature 3 parallels the 115kv transmission lines as seen in Image016. Keeping a cement runoff flume clear of debris after a rain would have been a back-breaking job as it would quickly fill with soil. The runoff flume exhibits small metal sliders along the west side. These would have allowed a small portion of the runoff water to escape into the grove directly down slope.

The retaining wall/flume extends to the south from the joint roughly 480 feet until a dirt road separating the grove from a vacant parcel to the south begins. Runoff that might flow into the flume originates from groves that were once located uphill, east of Feature 2. Runoff flowing out of the flume enters a pipe buried beneath the dirt road and runs due west for approximately 660 feet until the south end of CA-RIV-4198/H is reached.

PRIMARY RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318
Other Listings:
Review Codes:_____ Reviewer:_____ Date:_____

Primary# 33-11446
HRI#: _____
Trinomial:CA-RIV-6828/H
NRHP Status Code: _____

 ***Resource Name or #** (Assigned by recorder): **SMO-2**

P1. **Other Identifier:** Riverside Highland Water Company conduit (segment)

P2.* **Location:** ____**Not for Publication** __**X**__**Unrestricted**

a. *County: **Riverside**

and (P2b and P2c or P2d; attach location map)

b. *USGS Quad: **San Bernardino South** **Dated: 1980.** **Photorev. :none.**

Township: **2 South** **Range: 4 West. Section: 9 .(SBBM)**

Elevation: **1197 to 1120 feet above mean sea level**

c. Address: **none** **City:** _____ **Zip:** _____.

d.* UTM: (Give more than one for large and/or linear resources)

Zone: 11S: 471850mE / 3764140mN (north end at SBco border)

Zone: 11S: 471839mE / 3763820mN (turn to southwest)

Zone: 11S: 471567mE / 3763522mN (visible port in road)

Zone: 11S: 471233mE / 3763213mN (visible port before turn to west)

UTM Derivation: __**X**__ USGS Quad _____GPS

GPS UTM Corrected: ____Yes ____No **GPS brand/Model:** _____

e. Other Locational Data (e.g. parcel number, directions to resource, etc. as appropriate):
Access to the site within the segment is currently limited. Developmental plans call for the removal of the resource in this area as a result of grading.

P3a.* **Description** *(Describe resource and its major elements; include design, materials, condition, alterations, size, setting, and boundaries):*This site consists of a segment of the Riverside-Highland Water Company (RHWC) Highgrove conduit that serves an fast-disappearing agricultural region spanning the Grand Terrace area of San Bernardino County to north Riverside. The RHWC owns several former agricultural pressure water conduits, but this segment is one of but a few in the area that consists of a cement conduit pipe placed into the channel of the original cement flume. Beginning at the County line, the conduit is located at a dirt road at the base of Blue Mountain, thence runs to a portal visible at site CA-RIV-6827/H, thence southwest beneath a live grove to a portal at the southern end of the live grove, thence to a portal along the dirt portion of far eastern Spring Street, thence to a portal adjacent to CA-RIV-6829/H, thence to a portal in an orchard overlooking Spring Brook canyon, thence west to Mount Vernon Avenue, where it leaves the project area. According to an informant employed by the RHWC, the conduit eventually runs to Marlborough Avenue in Riverside. Data from CA-RIV-6827/H is attached to this site form on the Continuation page (see page 12)

P3b.* **Resource Attributes** (List attributes and codes): HP20.

P4.* **Resources Present:** ____Building __**X**__Structure ____Object ____Site ____District ____Element of District ____Isolate ____Other

P5a. **Photograph or Drawing** (Required for **HRI** buildings, structures, and objects): Digital photos are found on the Photograph record page.

P5b. **Description of Photo** (View, date, accession #): See photograph record page.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary #: 33-11446
HRI#: _____
Trinomial: CA-RIV-6828/H

***Resource Name or #** (Assigned by recorder): SMO-2

P6.* **Date Constructed/Age and Source:** _____Prehistoric __X__Historic _____Both

P7.* **Owner and Address:** Riverside Highland Water Company 1450 Washington Street, Colton, CA.

P8. **Recorded by:** Michael Dice
Project #: Spring Mountain Outparcels MBA# 21970012.

P9.* **Date recorded:** May 15, 2002

P10.* **Type of Survey** (Describe): Phase 1 intensive block

P11.* **Report Citation** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

Attachments:

- __X__ Location Map (7.5'USGS quadrangle)
- __X__ Archaeological Site Record
- __X__ Sketch Map
- __X__ Linear Feature Record
- _____ Milling Station Record
- _____ Artifact Record
- _____ Illustration Sheet
- __X__ Photograph Record (digital photos attached)
- __X__ Building, Structure, and Object Record
- __X__ Linear Feature Record
- _____ District Record
- _____ Other (List): _____

ARCHAEOLOGICAL SITE RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
Trinomial#: CA-RIV-6828/H

 ***Resource Name or #** (Assigned by recorder): **SMO-2**

A1.* Dimensions: Length: 5450 ft **Width:** ~10 ft

Method of measurement: ___Paced ___Taped ___Visual Estimate **X** Other (topo map measurement)

Method of determination (Check any that apply): ___Artifacts **X** Features ___Soil ___Vegetation ___Topography ___Cut bank ___Animal burrow ___Excavation ___Property boundary **X** Other (Explain): **estimate made on the basis of previous research.**

Reliability of determination: **X** High ___Medium ___Low Explain:

Limitations (Check any that apply): **X** Restricted access **X** Paved/built over ___Site limits incompletely defined ___Disturbances ___Vegetation ___Other(Explain)

A2. Depth: ___None ___Unknown. **Method of Determination:** The depth area of effect is likely to be up to 12 feet due to variances in conduit burial.

A3.* Human Remains: ___Present **X** Absent ___Possible ___Unknown (explain):

A4.* Features (Number, describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): see site description continuation page.

A5.* Cultural Constituents (Describe and quantify artifacts, human-introduced organic residues, etc. not associated with features): Canal conduit, access ports, local delivery ports for gravity irrigation system.

A6.* Were Specimens Collected? **X** No ___Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated).

A7.* Site Condition: **X** Good ___Fair ___Poor (Describe disturbances). The conduit is still active but water is not being delivered to groves in the study area.

A8.* Nearest Water (Type, distance, and direction): Spring Brook, located roughly 400 meters to the southeast, probably exhibited a continuous flow prehistorically.

A9.* Elevation: (see P2b) 1197 to 1120 feet above mean sea level

A10. Environmental Setting

Vegetation (Site and vicinity): Ruderal and citrus

Soil (Site and surrounding): Heavily modified loam

Landform: Old alluvial fan

Geology: Valley filled with eroded granitic basement rock

Exposure/Slope: Exposed to the west on a 1-2 degree slope

Other Associations: _____

A11. Historical Information: An interview with Rich Haubert, engineer with the Riverside-Highland Water Company provided a history of the conduit as it flows through the study area. The conduit was first built as a wooden flume in the 1890's, and was replaced a short time later with a concrete flume at grade. In about 1939, a concrete pipeline was placed inside the concrete flume and then mounded over with topsoil. The buried flume/pipe runs from above the County line to Marlborough Avenue in Riverside. Since the wooden flume was replaced with concrete and eventually buried, it is likely any of the original wood framing has been lost. Water from the conduit was once moved by gravity into Feature 2 for use by the LVW Brown Estate (Sunny Mountain Ranch), which had many acres of groves up-canyon from the conduit. This water was stored in the features' reservoir and then pumped (or sucked) uphill. The Sunny Mountain Ranch groves were torn out in about 1999, while the pump house was demo'ed in about 1997. Currently, only one active orchard is served by the line, which runs whenever irrigation is needed. 500 gallons per minute is required at the present time.

See attached page from Scott (1976:49). Prior to incorporation of the RHWC in 1899, water was delivered to the Grand Terrace area via a pressure conduit out of Raynor Springs north of Rialto. Water was also collected at a weir and flume system once found along the Santa Ana River just north of the I-10/I-215 interchange. A booster pump, operated between 1897 and 1916, was apparently located near a small reservoir north of the County line in Section 4. Water from both sources was forced uphill and merged into the gravity fed flume. A cement flume at grade is visible as page 10; this image is of the Vivienda Water Co. flume found just south of Palm Avenue in Grand Terrace. In this view, mounded earth on either side developed as a result of original construction and regular cleaning. The pipe mentioned by Rich Haubert above would have been placed into this flume, then earth located on the sides mounded over the top. An excellent example of such mounding can be observed in APN#255-170-010, a 14.12-acre parcel located within the Spring Mountain Ranch developmental project.

A12.* Age: ___Prehistoric ___1542-1769 ___1769-1848 ___1848-1880 **X** 1880-1914 **X** 1914-1945 ____Post 1945 ___Undetermined.

Factual or estimated dates of occupation (Explain): The age of the site is estimated on the basis of the previous research and interviews.

A13. Interpretations (Discuss scientific, interpretive, ethnic, and other values of site, if known): The site is an excellent representative of typical gravity feed irrigation infrastructure based on the original flume irrigation methods of southern California.

A14. Remarks:

A15. Reference (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

A16. Photographs (List subject(s), direction of view, and accession numbers or attach a Photograph Record): see photograph record page.

Accession numbers: none.

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
Trinomial#: CA-RIV-6828/H
***NHRP Status Code:** _____

 ***Resource Name or #** (Assigned by recorder): **SMO-2**

B1. Historic Name: Riverside-Highland Water Company conduit (segment).

B2. Common Name: none.

B3. Original Use: irrigation water delivery.

B4. Present Use: irrigation water delivery.

***B5. Architectural Style:** None.

***B6. Construction History** (Construction date, alterations, and date of alterations):: Concrete flume probably built between 1889-1899, concrete pipe probably built around 1939.

***B7. Moved?** X No ___Yes ___Unknown. Date: _____ **Original Location:** _____

***B8. Related features:** Privately owned access siphons for historic groves.

***B10. Significance: Theme:** Agricultural development **Area:** Highgrove.
Period of Significance: 1880-1940
Property Type: Water delivery feature
Applicable Criteria: **n/a** (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Although still partially operative, the site segment likely does not fulfill NEPA/CEQA positive significance requirements. Criterion A, B, C and/or D are not met. However, the site may have some local significance, as it is apparently very similar in construction to the Gage Canal. This waterline is less significant than the Gage because it is essentially an adjunct to local water development rather than a primary local historical water delivery feature. In addition, the features are not visible.

B11. Additional Resource Attributes: (List attributes and codes): _____

***B12. References:** **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

B13. Remarks: Remainder of site is probably similar in current construction to that noted herein. The south end of the segment probably runs under Mount Vernon.

***B14. Evaluator:** Michael Dice

Date of Evaluation: May 15, 2002

This space reserved for official comments:

LOCATION MAP

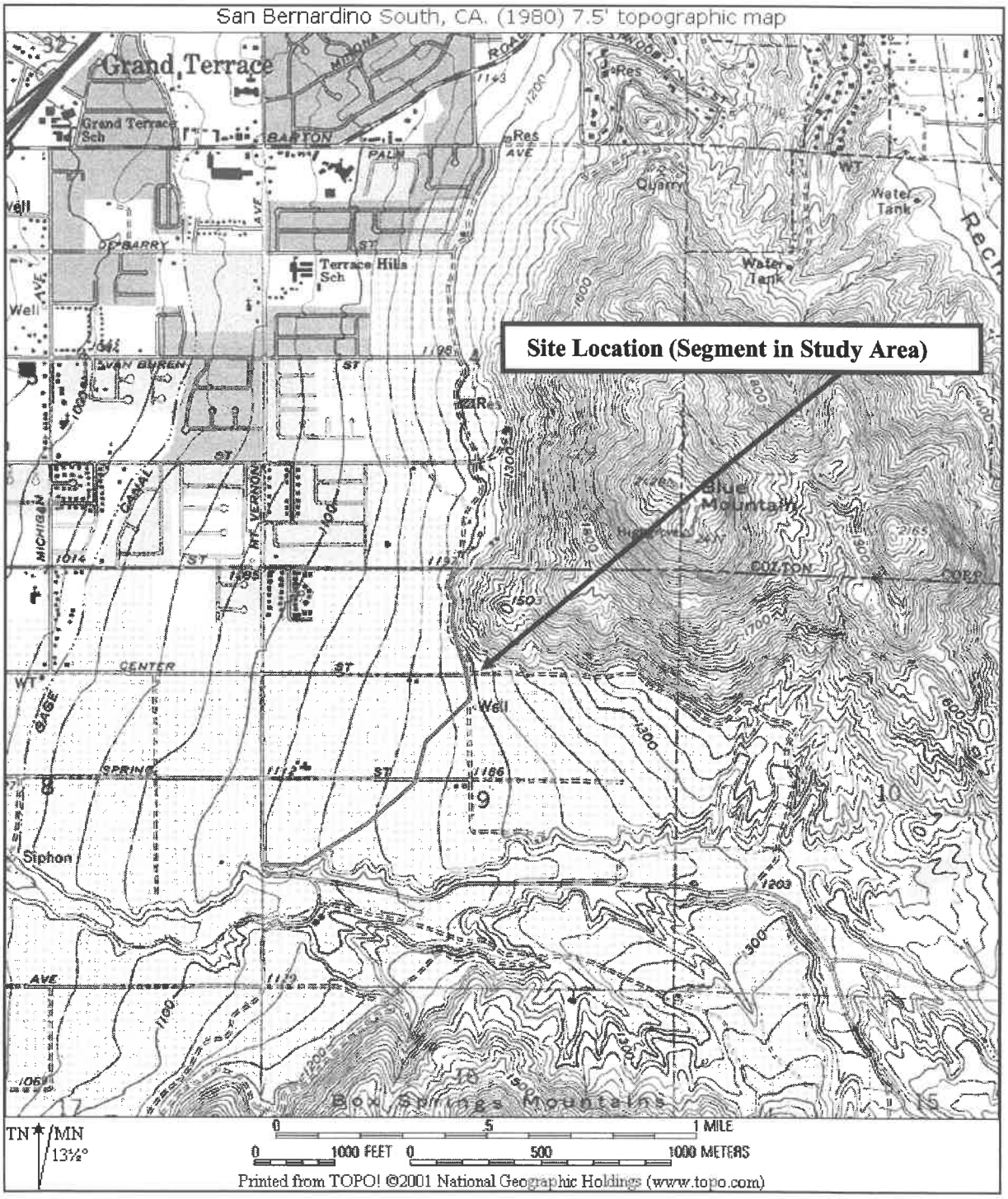
Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
Trinomial#: CA-RIV-6828/H

Page 6 of 12

***Resource Name or #** (Assigned by recorder): **SMO-2**

***Map Name:** San Bernardino South, CA. **Scale:** 1:24,000 **Date of Map:** 1980

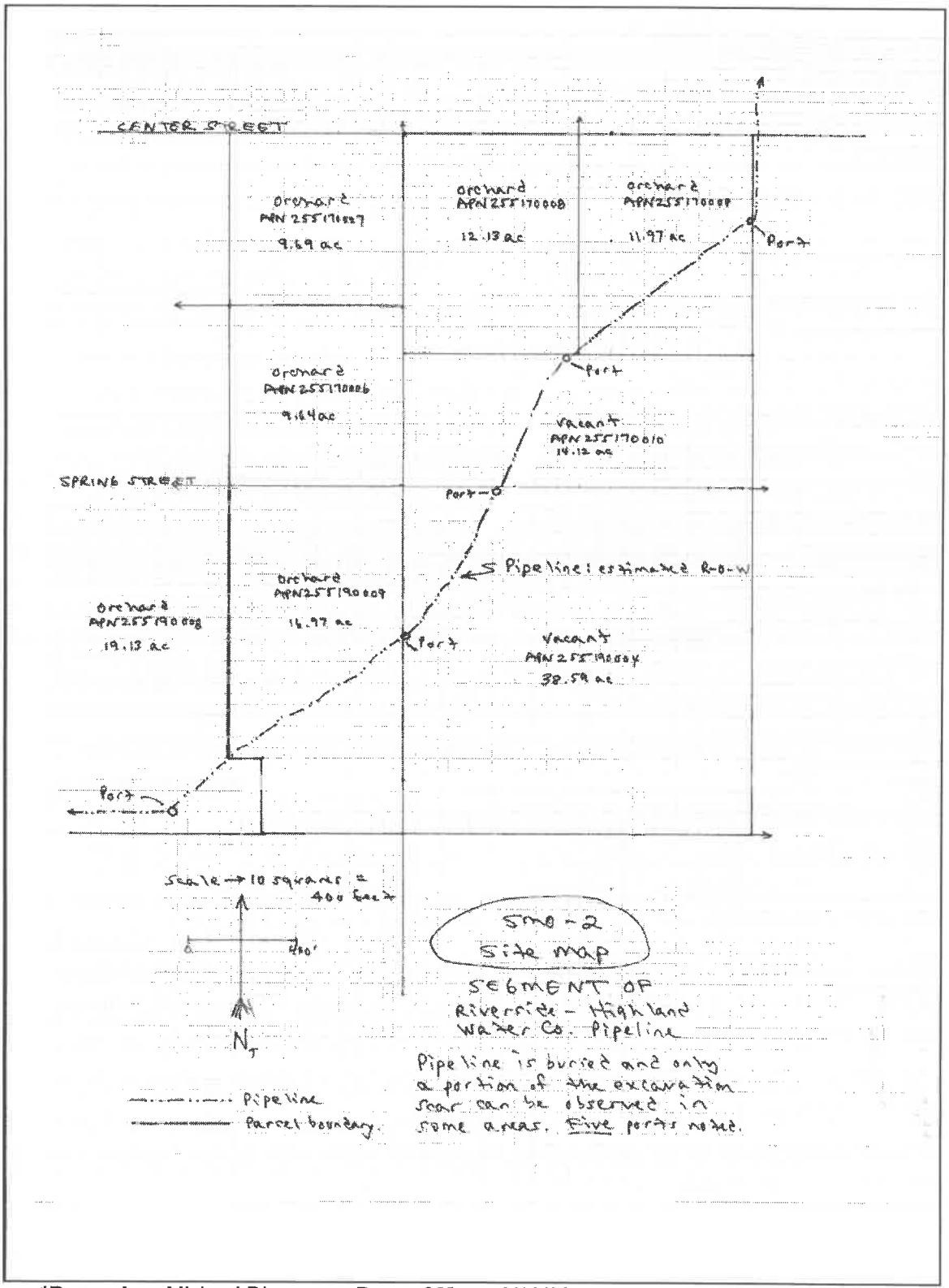


SKETCH MAP

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
Trinomial#: CA-RIV-6828/H

***Resource Name or #** (Assigned by recorder): **SMO-2**



***Drawn by:** Michael Dice **Date of Map:** 6/12/02 **North is up.** Scale: 1"=580'

PHOTOGRAPH RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
HRI#: _____
Trinomial: CA-RIV-6828/H

Page 8 **of** 12 **Resource Name:** SMO-2 **Year:** 2002

Camera format: Toshiba digital **Lens size:** _____
Film type and speed: _____ **Negative on file at:** _____

Month	Day	Time	Exp/Frame	Subject/Description	View Toward	Accession#
5	1	11am	Image014	See below	South	None
5	1	1pm	Image053	See below	Northeast	None
9	22		Archival	Shot in 1953	-	-

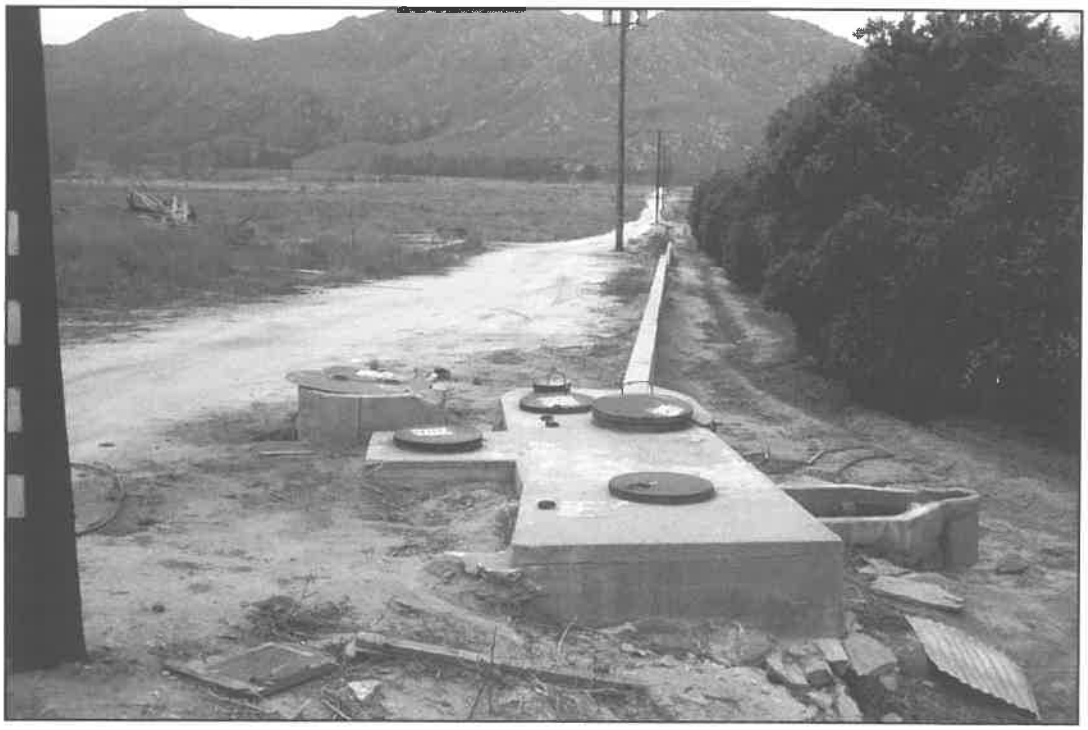


Image014.jpg: View of access port near SMO-1 site. Manhole for conduit is the large one located in upper right of vault. From this point the conduit runs beneath the orchard (to the southwest). Port noted as #1 in archival photo below.

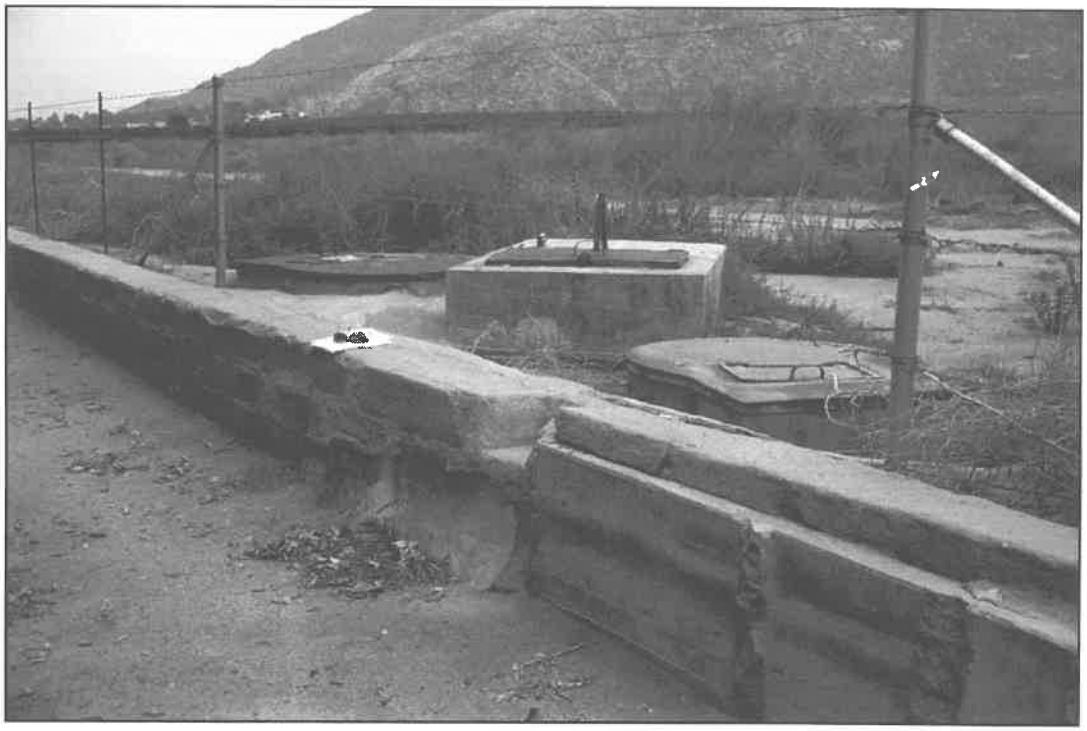


Image053.jpg: View of access port near SMO-4 site. Manhole for the conduit is located in the square vault. From this point the conduit runs beneath the orchard (off to the left). The orchard in Image014 is located in the far background. In the foreground, mounded earth can be seen beneath high brush. This represents the earth cover for the conduit. Port noted as #2 in archival photo below.

Michael Brandman Associates
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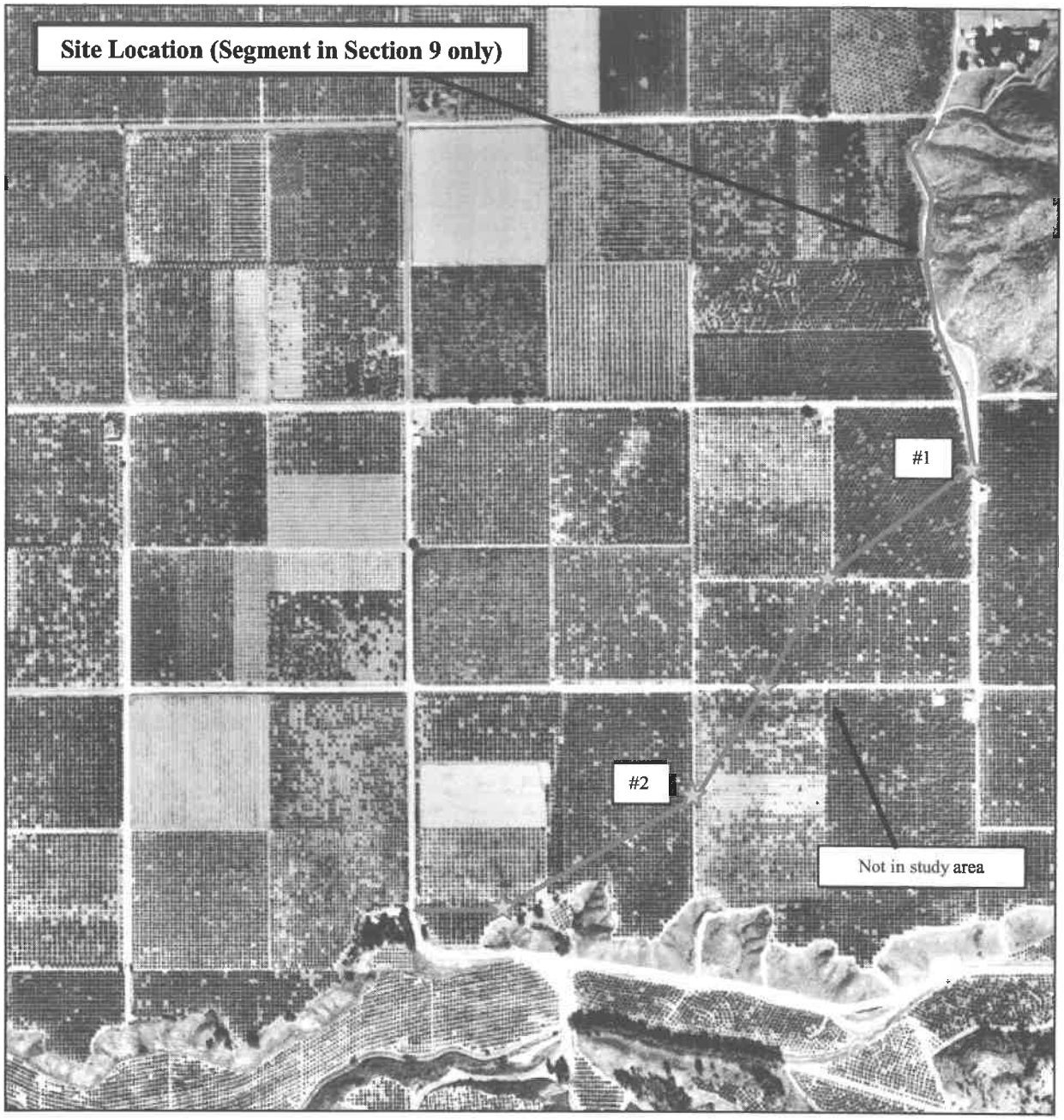
Tustin, CA 92780-7318

Primary# 33-11446
HRI#:
Trinomial: CA-RIV-6828/H



AXM-5k-74 (9/22/53): Rupp Aerial Co. aerial photograph shot by USDA in 1953. Observed ports noted as blue stars.

LINEAR FEATURE RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11446
Trinomial#: CA-RIV-6828/H

 ***Resource Name or #** (Assigned by recorder): **SMO-2**

L1. Historic and/or Common Name: Riverside-Highland Water Company conduit (segment).

L2a. Portion Described: Entire Resource **Segment** Point Observation **Designation:**

L2b. Location of point or segment: Section 9.

L3. Description: The segment consists of a buried conduit with five visible access ports between the north end of the segment. The access ports allow water to flow from the conduit to siphons and standpipe shunts associated with local orchards. The access ports are typically located at the junctions of parcels and the pipeline is buried beneath growing trees. Because the tree root systems run approximately 4-6 below grade, the pipeline must run at a depth below that to avoid collateral damage.

Within the study area, the segment runs between Center Street and Mount Vernon. That portion of the RHWC conduit north of Center follows a dirt road located at the base of Blue Mountain, across the County line, and to a small reservoir noted on the topographic map. Here, a valve allows the RHWC to shut off irrigation flows through the conduit. South and west of Mount Vernon, the conduit runs eventually to Marlborough Street in Riverside. It probably parallels the Gage Canal, but at a higher altitude.

L4e. Sketch of Cross-Section: (see Sketch map page)

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. **Top width:** 1.5 feet.
b. **Bottom width:** probably 1.5 feet.
c. **Height or Depth:** maximum 13 feet.
d. **Length of Segment:** roughly 5450 feet.

L5. Associated resources: site SMO-2 and SMO-3.

L6. Setting: The site flows along the 1200-foot line until reaching active orchards, where it is stepped down through a series of vaults to Mount Vernon, at the 1120-foot line.

L7. Integrity Considerations: The site is running at minimum capacity because most of the orchards have been removed. The site may be locally significant but this is a buried conduit very similar to the Gage Canal but with less historical meaning.

L8b. Description of Photo, Map, or Drawing: (View, scale, etc): see photograph table

L9. Remarks:

L10. Form Prepared By: Michael Dice c/o Michael Brandman Associates 15901 Red Hill Avenue, Suite 200 Tustin, California 92780

L11. Date: 5/15/02.

Continuation X Update _____

Description of CA-RIV-6827/H

Feature 1:

This feature consists of a partially buried cast cement vault, a set of side vaults and additional accessory sub-features. A cement ground-level retaining wall extends to the south. A handmade cement flume port is attached to the west side of the primary vault. This is for delivering water to feeder pipes that run into the standpipe-gravity system of the nearby grove.

The flow of the RHWC conduit enters the main vault where a portion of the flow is diverted to: a) pipes that once fed Feature 2, and b) pipes leading to a standpipe distribution network for the grove directly west. The RHWC, which was active at the time of recording, enters the vault from the north and exits the vault to the southwest. Water deliveries to the grove were recently cut as the grove will be starved prior to demolition. Water once flowed from a buried cement pipe from Feature 1 into Feature 2, but this was cut off approximately five years ago.

Feature 2:

This feature consists of the remnants of a reservoir, concrete foundation slabs, pipes and wooden framework. Irrigation water intended for the Sunny Mountain Ranch citrus groves once flowed through this central source. Water from the main vault in Feature 1 was diverted through a buried pipe about 150' long and angled some 45 meters to the south-southwest and into the main reservoir. This reservoir has decayed somewhat but consists of poured cement, plaster, cobbles and cement piping. It measures roughly 36x36' in size but is of uncertain height and construction as the remaining framework lies in a pile to the east. Uphill flow assist pumps may have been placed on the slab to the south (measuring about 26x26' in size) and a second smaller reservoir was placed south and adjacent to the slab. This measured about 13x18' and was roughly 6' deep. The primary pumps that brought water uphill and likely into a reservoir were probably located above the groves nearly 4000' to the east.

Feature 3:

A modern-looking retaining wall extends south from the Feature 1 vault approximate 160 feet until it reaches a joint where a historical retaining wall/runoff flume (CA-RIV-6828/H) begins. In addition, the joint was made to accept runoff water from the groves to the east. Here, streamlets created by rainfall or irrigation runoff would have crossed the dirt road and then diverted into the cement flume. Feature 3 parallels the 115kv transmission lines as seen in Image016. Keeping a cement runoff flume clear of debris after a rain would have been a back-breaking job as it would quickly fill with soil. The runoff flume exhibits small metal sliders along the west side. These would have allowed a small portion of the runoff water to escape into the grove directly down slope.

The retaining wall/flume extends to the south from the joint roughly 480 feet until a dirt road separating the grove from a vacant parcel to the south begins. Runoff that might flow into the flume originates from groves that were once located uphill, east of Feature 2. Runoff flowing out of the flume enters a pipe buried beneath the dirt road and runs due west for approximately 660 feet until the south end of CA-RIV-4198/H is reached.

PRIMARY RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318
Other Listings:
Review Codes:_____ Reviewer:_____ Date:_____

Primary# 33-11447
HRI#: _____
Trinomial: CA-RIV-6829/H
NRHP Status Code: _____

 ***Resource Name or #** (Assigned by recorder): **SMO-3**

P1. **Other Identifier:** Riverside Highland Water Company conduit (segment)

P2.* **Location:** ____**Not for Publication** __**X**__**Unrestricted**

a. *County: **Riverside**

and (P2b and P2c or P2d; attach location map)

b. *USGS Quad: **San Bernardino South** **Dated: 1980.** **Photorev. :none.**

Township: **2 South** **Range: 4 West . Section: 9 .(SBBM)**

Elevation: **1135 feet above mean sea level**

c. **Address:** **none** **City:** _____ **Zip:** _____.

d.* **UTM:** (Give more than one for large and/or linear resources)

Zone: **11S: 471300mE / 3763020mN**

UTM Derivation: __**X**__ USGS Quad _____GPS

GPS UTM Corrected: ____Yes ____No **GPS brand/Model:** _____

e. Other Locational Data (e.g. parcel number, directions to resource, etc. as appropriate): Access to the site is restricted due to orchard gates.

P3a.* **Description** *(Describe resource and its major elements; include design, materials, condition, alterations, size, setting, and boundaries):* This site consists of a large retaining wall meant to keep orchard lands from eroding into Spring Brook Canyon. The site consists of a poured concrete and buttressed wall segment joined to a stacked cement slab segment. Gaps exist in the wall, but it is mostly intact, except for that last 50 feet or so. The wall is still very effective in holding back erosion and runs from east to west. The wall is noted on a 1953 aerial photograph (see page 11).

At the northeast end begins a stacked cement block type wall that follows the twisting contour of the mesa edge. Steps cut into the soil northeast of the wall tip lead to a live avocado tree that is no longer producing. The exposed wall height of the stacked portion is about one foot, thence rising to approximately seven feet near the center. Bulging around a bend in the mesa edge, this segment of the site ends at a gap located a few feet northeast of a massive oak tree. The second segment is composed of a poured concrete wall with poured buttresses. This is located along the mesa edge but is directly adjacent to two oak trees. The last 50 feet of the poured section has been impacted via some means. This portion has apparently collapsed and is now covered in earth. The width of the wall is difficult to discern, but it is likely that the segments are no more than two feet thick.

P3b.* **Resource Attributes** (List attributes and codes): HP29, HP46.

P4.* **Resources Present:** ____Building __**X**__Structure ____Object ____Site ____District ____Element of District ____Isolate ____Other

P5a. **Photograph or Drawing** (Required for **HRI** buildings, structures, and objects): Digital photos are found on the Photograph record page.

P5b. **Description of Photo** (View, date, accession #): See photograph record page.

P6.* **Date Constructed/Age and Source:** _____Prehistoric __**X**__Historic _____Both

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***Resource Name or #** (Assigned by recorder): SMO-3

P7.* **Owner and Address:** Daniel and Esther Hays 2640 Anna Street, Riverside, CA. 92506

P8. **Recorded by:** Michael Dice
Project #: Spring Mountain Outparcels MBA# 21970012.

P9.* **Date recorded:** May 15, 2002

P10.* **Type of Survey** (Describe): Phase 1 intensive block

P11.* **Report Citation** (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** M.B. Scott (1976) *Development Of Water Facilities In The Santa Ana River Basin, California, 1810-1968.* Unpublished report available at the Archaeological Information Center, San Bernardino County Museum. #1060447. **C)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

Attachments:

- X Location Map (7.5'USGS quadrangle)
- X Archaeological Site Record
- X Sketch Map
- _____ Linear Feature Record
- _____ Milling Station Record
- _____ Artifact Record
- _____ Illustration Sheet
- X Photograph Record (digital photos attached)
- X Building, Structure, and Object Record
- X Linear Feature Record
- _____ District Record
- _____ Other (List): _____

ARCHAEOLOGICAL SITE RECORD

Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
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Primary# 33-11447
Trinomial: CA-RIV-6829/H

 ***Resource Name or # (Assigned by recorder): SMO-3**

A1.* Dimensions: Length: 235 ft **Width:** roughly 5 ft

Method of measurement: X Paced ___Taped ___Visual Estimate ___Other (topo map measurement)

Method of determination (Check any that apply): ___Artifacts X Features X Soil ___Vegetation ___Topography ___Cut bank ___Animal burrow ___Excavation ___Property boundary ___Other (Explain): **estimate made on the basis of previous research.**

Reliability of determination: X High ___Medium ___Low Explain:

Limitations (Check any that apply): X Restricted access ___Paved/built over ___Site limits incompletely defined ___Disturbances ___Vegetation ___Other(Explain)

A2. Depth: ___None ___Unknown. **Method of Determination:** The depth of the retaining wall is likely to be up to 10 feet due to variances in landscaping. The wall is exposed to the down slope view (view facing southeast).

A3.* Human Remains: ___Present X Absent ___Possible ___Unknown (explain):

A4.* Features (Number, describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map): see site description continuation page.

A5.* Cultural Constituents (Describe and quantify artifacts, human-introduced organic residues, etc. not associated with features): Retaining wall.

A6.* Were Specimens Collected? X No ___Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated).

A7.* Site Condition: X Good ___Fair ___Poor (Describe disturbances). Most of the wall is in good shape, but a 50-foot section at the southwestern end is collapsed and covered over with soil.

A8.* Nearest Water (Type, distance, and direction): Spring Brook, located roughly 200 meters to the southeast, probably exhibited a continuous flow prehistorically.

A9.* Elevation: (see P2b) 1135 feet above mean sea level.

A10. Environmental Setting:

Vegetation (Site and vicinity): Ruderal, coastal sage and citrus. The site is directly adjacent to two Live Oaks, which typically are left in place under developmental conditions.

Soil (Site and surrounding): Heavily modified loam.

Landform: Old alluvial fan.

Geology: Valley filled with eroded granitic basement rock.

Exposure/Slope: Exposed to the southeast facing a 20 degree slope.

Other Associations:

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 ***Resource Name or #** (Assigned by recorder): **SMO-3**

A11. Historical Information: None.

A12.* Age: ___Prehistoric ___1542-1769 ___1769-1848 ___1848-1880 __1880-1914 _X_1914-1945 ____Post 1945 ___Undetermined.

Factual or estimated dates of occupation (Explain): The age of the site is estimated on the basis of the age of the orchard.

A13. Interpretations (Discuss scientific, interpretive, ethnic, and other values of site, if known): The site is an excellent representative of the lengths growers went to preserve property from the effects of erosion.

A14. Remarks:

A15. Reference (Documents, consultants, maps, and other references): **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

A16. Photographs (List subject(s), direction of view, and accession numbers or attach a Photograph Record): see photograph record page.

Accession numbers: none.

NOTE: do not recommend preservation of this site, but it is located directly adjacent to two ancient oaks that will likely be preserved unless moved.

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***NHRP Status Code:**

***Resource Name or #** (Assigned by recorder): **SMO-3**

B1. Historic Name: none.

B2. Common Name: none.

B3. Original Use: retaining wall.

B4. Present Use: retaining wall.

***B5. Architectural Style:** None.

***B6. Construction History** (Construction date, alterations, and date of alterations):: Stacked cement block wall appears to have been built first, then poured concrete wall made later. Both must have been built before 1953.

***B7. Moved?** X No ___Yes ___Unknown. Date: _____ **Original Location:** _____

***B8. Related features:** Privately owned access siphons for historic groves and the RHWC Highgrove conduit (SMO-2).

***B10. Significance: Theme:** Agricultural development **Area:** Highgrove.

Period of Significance: 1920-1955

Property Type: Retaining wall

Applicable Criteria: **n/a** (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) The site likely does not fulfill NEPA/CEQA positive significance requirements. Criterion A, B, C and/or D are not met.

B11. Additional Resource Attributes: (List attributes and codes): _____

***B12. References:** **A)** Rupp Aerial AXM-5K-54 (9-22-53): U.S. Dept of Agriculture overflight. **B)** An Archaeological Resource Assessment and Paleontological Records Search of the Spring Mountain Outparcels Project, a 174.27-Acre Site Located in the Community of Highgrove, County of Riverside, California.

B13. Remarks:

***B14. Evaluator:** Michael Dice

Date of Evaluation: May 15, 2002

This space reserved for official comments:

LOCATION MAP

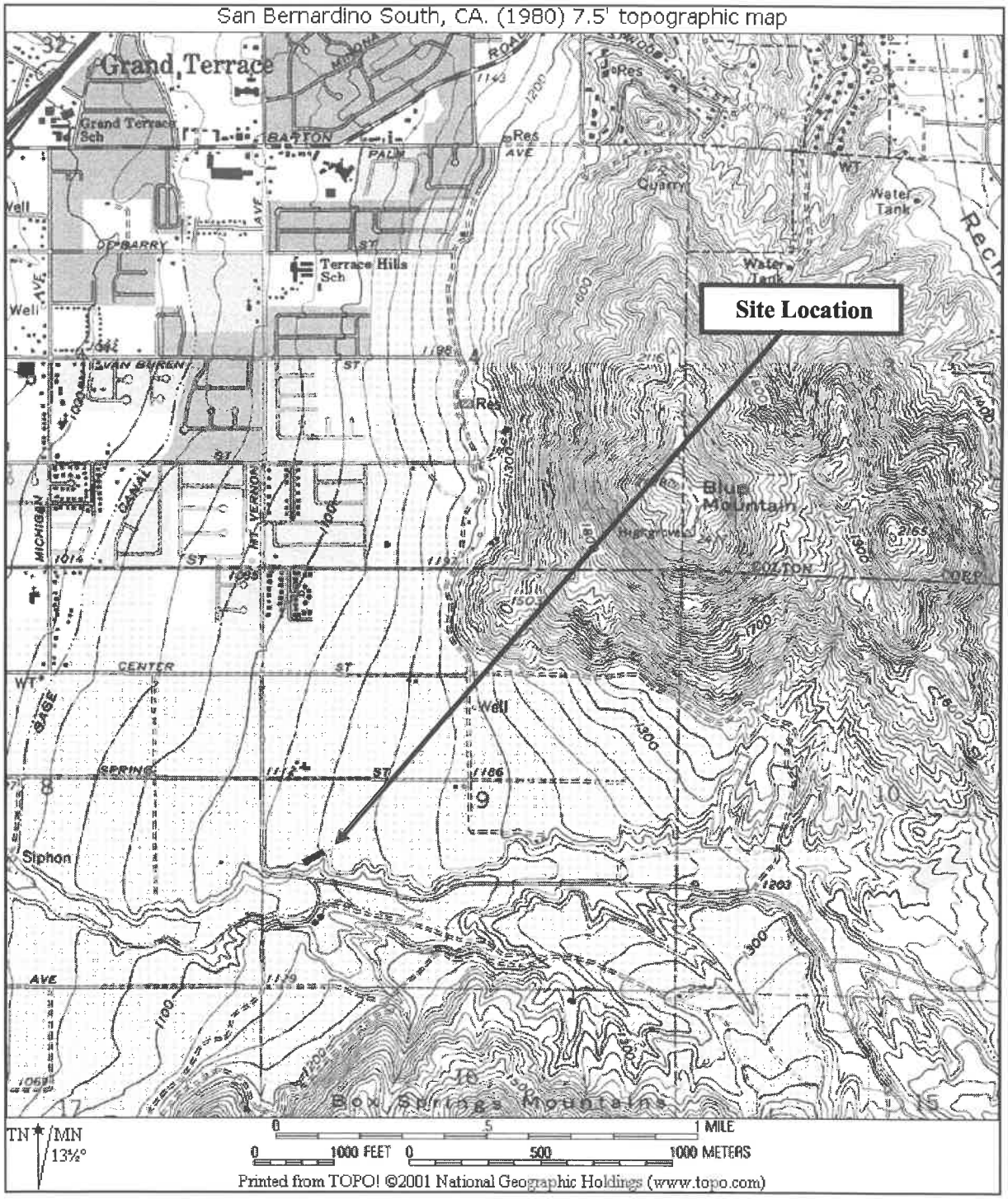
Michael Brandman Associates
15901 Red Hill Avenue, Suite 200
Tustin, CA 92780-7318

Primary# 33-11447
Trinomial: CA-RIV-6829/H

***Resource Name or #** (Assigned by recorder): **SMO-3**

***Map Name:** San Bernardino South, CA. **Scale:** 1:24,000 **Date of Map:** 1980

San Bernardino South, CA. (1980) 7.5' topographic map



SKETCH MAP

Michael Brandman Associates
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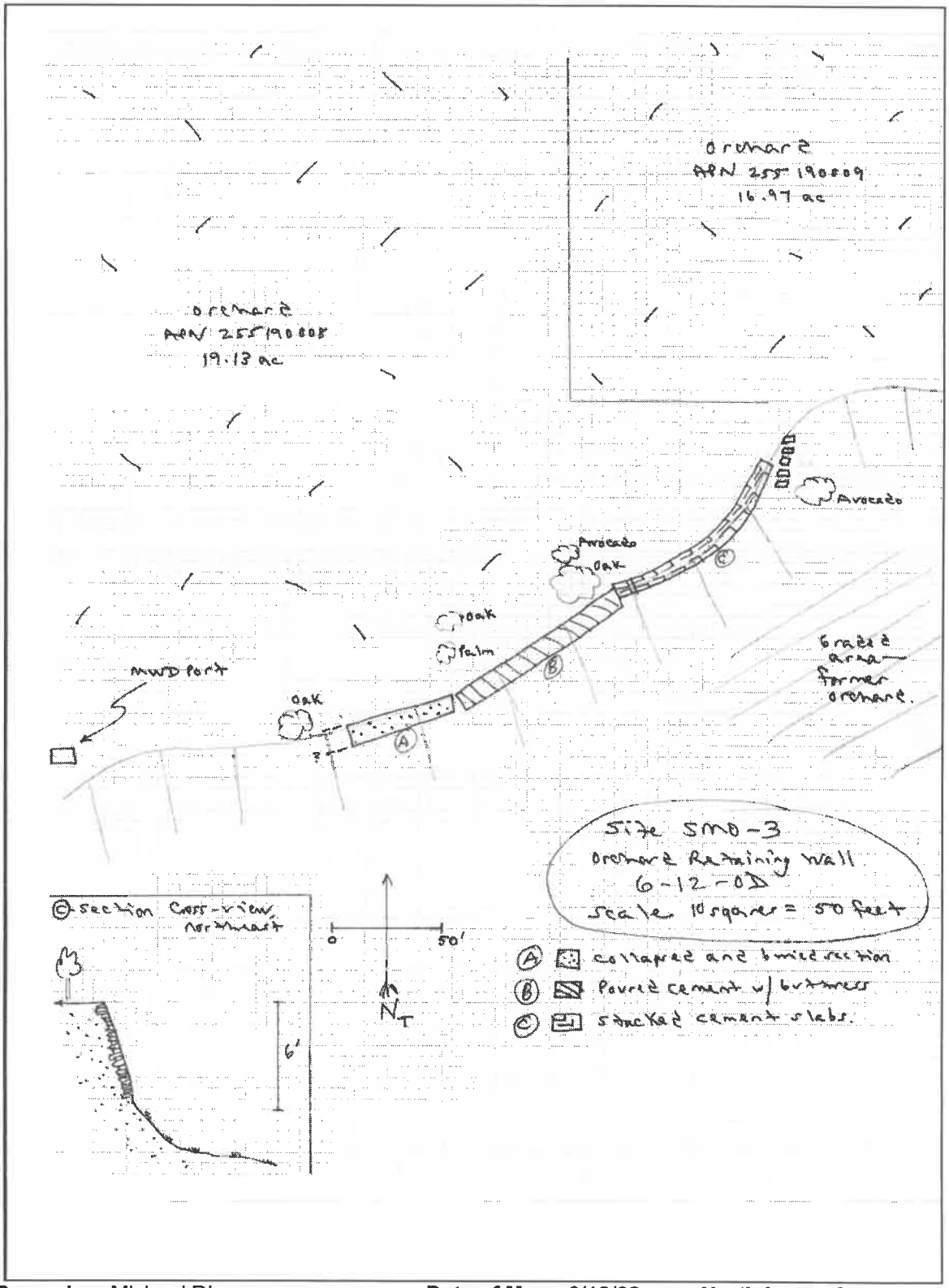
Tustin, CA 92780-7318

Primary# 33-11447
Trinomial: CA-RIV-6829/H

***Resource Name or #** (Assigned by recorder): **SMO-3**



***Drawn by:** Michael Dice

Date of Map: 6/12/02

North is up. Scale: 1"=72'

PHOTOGRAPH RECORD

Michael Brandman Associates
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Primary# 33-11447
HRI#:
Trinomial: CA-RIV-6829/H

Page 8 of 11 **Resource Name: SMO-2** **Year:**

Camera format: Toshiba digital **Lens size:**
Film type and speed: **Negative on file at:**

Month	Day	Time	Exp/Frame	Subject/Description	View Toward	Accession#
5	1	11am	Image014	See below	South	None
5	1	1pm	Image053	See below	Northeast	None
9	22		Archival	Shot in 1953	-	-

Image066.jpg: View of poured concrete portion of wall near south end (views are limited by vegetation). Collapsed area discussed in text indicated by the blue arrow. The intact area of concrete is found beneath an oak and the red arrows indicate the location. The green arrow indicates southernmost portion of the stacked cement block section of the wall.

Image067.jpg: View of stacked cement black section of the retaining wall, with green arrows indicating location. That portion to the left (green arrow) can be seen in the following photograph. A small orchard seen in the archival photo below (possibly watered by outflows from SMO-4) was located on the flat land found at the base of this site.

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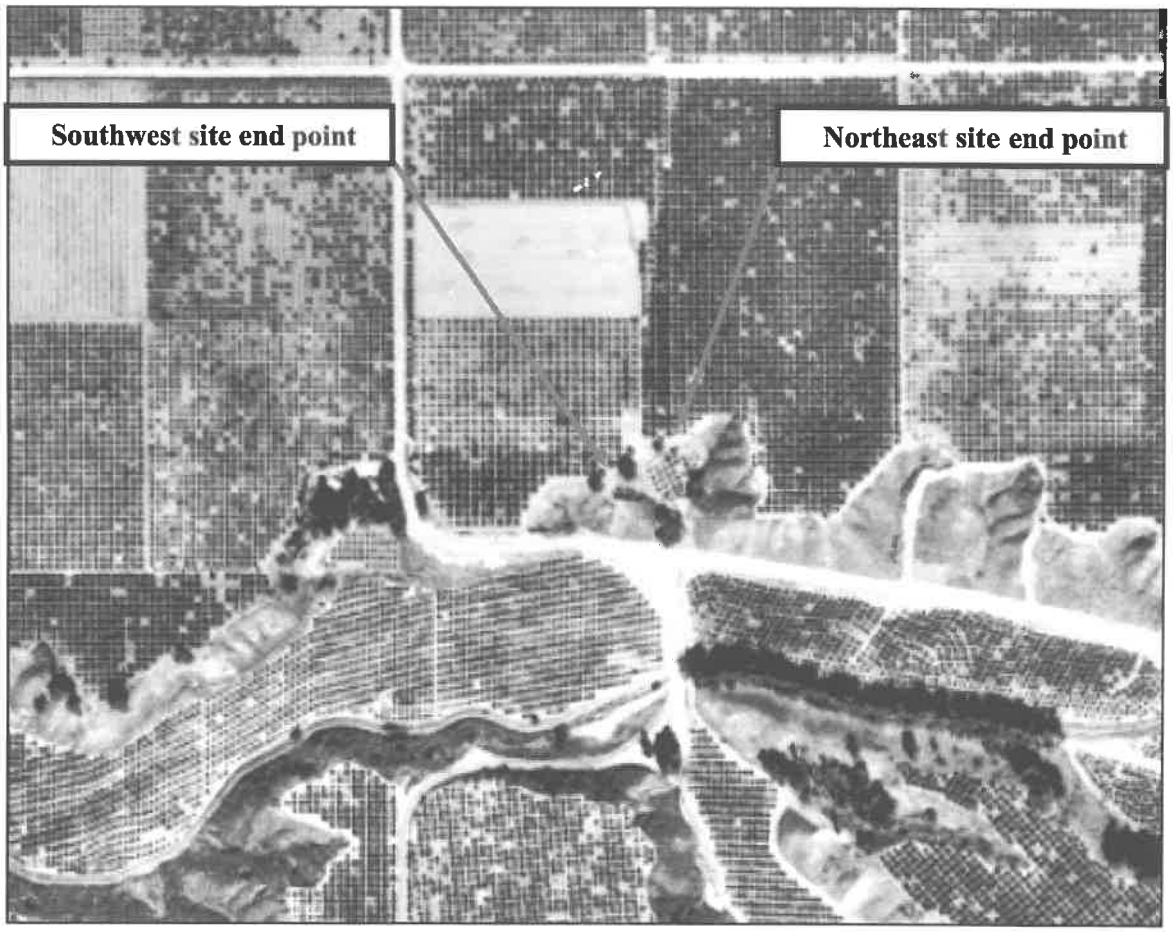
Page 10 of 11 **Resource Name: SMO-2** **Year:**

Image068.jpg: View of stacked cement block portion of site. The poured concrete section begins just left of the eroding gap indicated by the red arrow.



AXM-5k-74 (9/22/53): Rupp Aerial Co. aerial photograph shot by USDA in 1953. Arrows indicate the ends of the site, as of 2002.

APPENDIX D
COUNTY OF RIVERSIDE AND NAHC DOCUMENTS

(Attachment F-6)

LEVEL OF SIGNIFICANCE CHECKLIST

For Archaeological Resources

(Submit two copies to the County)

Case Number: _____ **Lot/Parcel No.** _____ **EA Number**_____

A) Potentially Significant Impact
B) Less than Significant with Mitigation Incorporated
C) Less than Significant Impact
D) No Impact

Historic Resources Would the project:	
1) Alter or destroy an historic site?	**C**
2) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5?	**D**
Is the resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res.CodeSS5024.1)?	**?**
Findings of Fact: **Proposed Mitigation**: Six sites found during this study (CA-RIV-4197H, -4198/H, -6827/H, -6828/H, 6829/H and 6830/H) are not considered significant (NRHP) and are not considered a unique resource (CEQA). As currently planned, construction may damage these sites. Monitoring should occur such that if any buried resources not accounted for by this study are detected, the data associated with such resources should be collected and added to the existing DPR523 site forms. **Monitoring:** There is potential for finding buried and scientifically important historical sites during the grading phase within the study area boundary. Monitoring will occur during clearing, grubbing and all earthmoving activities.	
Archaeological Resources Would the project:	
3) Alter or destroy an archaeological site?	**D**
4) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, Section 15064.5?	**D**

5) Disturb any human remains, including those interred outside of formal cemeteries?	**D**
6) Restrict existing religious or sacred uses within the potential impact area?	**D**

Findings of fact.

Proposed Mitigation: none.

Monitoring: see above