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Pacific Advanced Civil Engineering, Inc., "Memorandum Regarding Buried Soil Cement Evaluation After 2004/05 Winter Storms" (May 8, 2007).

2.1 INTRODUCTION

The purpose of this section is to describe the applicant's proposed Project in a manner that will be meaningful to the public, reviewing agencies, and decision makers. The section will describe the proposed Project's purpose, need, and objectives, location, background, and components. It also will be the basis for assessing the significant direct and indirect environmental impacts of the proposed Project. The assessment of environmental impacts in **Section 4.0** is based on the proposed Project components described herein.

This section is comprised of the following subsections:

- **Subsection 2.1** provides an introduction and summary information, and a statement of the purpose, need, and objectives of the proposed Project;
- **Subsection 2.2** describes the location of the proposed Project;
- **Subsection 2.3** describes the applicant's requested Project approvals and the applicable federal and state permitting process;
- **Subsection 2.4** discusses the other permits and approvals required to implement the proposed Project;
- **Subsection 2.5** discusses the background and setting of the proposed Project;
- **Subsection 2.6** describes the elements of the RMDP component of the proposed Project; and
- **Subsection 2.7** describes the elements of the SCP component of the proposed Project, including the associated CCA.

2.1.1 Summary of the Resource Management and Development Plan

The proposed Project consists of two components, the first of which is the Newhall Ranch RMDP. The RMDP component is a conservation, mitigation, and permitting plan for the long-term management of sensitive biological resources within the 11,999-acre Specific Plan area (see RMDP, which is found in **Appendix 1.0** of this EIS/EIR). The RMDP is intended to direct both resource management and development in the Specific Plan area.

As to resource management, the RMDP would implement resource conservation, mitigation, and long-term management of sensitive biological resources within the RMDP area, which would be implemented in conjunction with the development of the Specific Plan. The RMDP is intended to build on the Specific Plan's previously adopted Resource Management Plan, which provided the initial framework for resource management within the Specific Plan area. The previously adopted Resource Management Plan set forth mitigation and monitoring standards for sensitive biological resources located within the Specific Plan area and established standards governing public access, recreational use, management, and ownership of the River Corridor SMA/SEA 23, the High Country SMA/SEA 20, and the Open Area portions of the

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Specific Plan area. The Salt Creek area, adjacent to the westerly boundary of the Specific Plan site, is also to be managed in conjunction with and in the same manner as the High Country SMA/SEA 20. The approved Resource Management Plan provides guidance for managing the transition areas between the development and open space areas, and establishes a mitigation overlay and preserve program for the spineflower. However, the Resource Management Plan was prepared at a conceptual level of detail only; it also expressly acknowledged that future conservation, mitigation, and permitting activities within the Specific Plan area would be subject to federal and state permits, consultations, and agreements which would be implemented through more detailed planning. The RMDP is one of the detailed implementation plans contemplated by the Resource Management Plan.

The RMDP encompasses the same area as the boundary of the Specific Plan site, except that it includes the Salt Creek area in Ventura County, adjacent to the Specific Plan. The sensitive biological areas within the RMDP study area include the Specific Plan's River Corridor SMA/SEA 23, High Country SMA/SEA 20, Salt Creek, Open Areas, and oak resources.

The RMDP also would consist of development-related infrastructure improvements in the Santa Clara River and tributary drainages located in the RMDP study area, which are needed to implement the approved Specific Plan. The applicant's proposed RMDP infrastructure improvements are described in further detail in **Subsection 2.6**, below. The proposed RMDP improvements also are briefly summarized, as follows:

- **Bridges and Road Crossing Culverts.** Three bridges and 15 new road crossing culverts would be installed to serve the Specific Plan, and to accommodate future traffic associated with development of the Specific Plan and the region. There are two proposed bridges, Potrero Canyon Bridge and Long Canyon Road Bridge, and one previously approved bridge, Commerce Center Drive Bridge.¹ The three bridges would be located over the main stem of the Santa Clara River. Fifteen new road crossing culverts would cross six drainages tributary to the Santa Clara River (Chiquito, San Martinez Grande, Lion, Long, Potrero, and Ayers Canyons). The road crossings would be constructed of earthen fill and pre-fabricated arched culverts.
- **Bank Stabilization.** Bank stabilization/protection would be installed along portions of the Santa Clara River Corridor and its tributary drainages within the RMDP site. Bank protection would include buried soil cement, grouted and ungrouted rock riprap, turf reinforcement mats, and limited gunite slope lining in and around bridge abutments. In addition, all applicable development areas would be raised above the FEMA flood hazard elevation to protect land uses from potential flooding.
- **Drainage Facilities.** Drainage facilities would be installed and include open and closed drainage systems, inlets, outlets, bank stabilization, and NPDES water quality basins. The proposed drainage structures focus on minimizing the amount of debris that would enter the drainage system, and maintaining the quality of water within the system.

¹ The Commerce Center Drive Bridge was previously analyzed in the Final EIS/EIR prepared and approved by the Corps and CDFG in connection with the previously adopted NRMP (SCH No. 1997061090, August 1998).

- **Water Quality Control Facilities.** Pursuant to NPDES requirements, BMPs would be implemented, including the following water quality control facilities: (1) water quality basins; (2) debris basins, located just upstream of the interface between developed and undeveloped areas, primarily to trap debris coming from the upper watersheds; (3) detention basins, which are typically sized to capture the predicted runoff volume and retain the water volume for a period of time (usually 24 to 48 hours); (4) catch basin inserts or screens/filters installed in existing or new storm drains to capture pollutants in the storm water runoff; (5) bioretention, such as vegetated grassy swales, that provide water quality benefits and convey storm water runoff; and (6) solids separator units or in-line structures that reduce or manipulate runoff velocities such that particulate matter falls out of suspension and settles in a collection chamber.

- **Tributary Drainages²**
 - **Modified Tributary Drainages -- Existing Channels Stabilized.** Due to existing degraded conditions, and in order to accommodate the Specific Plan development, portions of the existing major tributary drainages within the RMDP site (portions of Chiquito Canyon, San Martinez Grande Canyon, and Lion Canyon) would require stabilizing treatments to protect the channel and surrounding development from excessive vertical scour and lateral channel migration. The existing drainages would remain intact, but would sustain permanent and temporary impacts from construction of stabilization elements, including buried bank stabilization and grade stabilization structures.

 - **Modified Tributary Drainages -- Regraded Channels.** Due to the existing degraded conditions within portions of some drainages in the RMDP site (Potrero Canyon, Long Canyon, and portions of Chiquito, San Martinez Grande, and Lion canyons), stabilization of the existing drainages is not feasible; and, therefore, in order to meet the County's flood protection objectives, these drainages would be graded, and a new drainage would be constructed in the same or similar location. The new drainages would be designed to incorporate buried bank stabilization and grade stabilization, and would have sufficient hydrologic capacity to pass the Los Angeles County Capital Flood without the need for clearing vegetation from the channels. The new channel banks would be planted with riparian vegetation following construction.

 - **Unmodified (Preserved) Drainages.** Among the minor tributary drainages within the RMDP site, some are not in a degraded condition; others are located in areas where no impacts are proposed; and others are distant enough from surrounding development that bank stabilization is not required. These drainages would remain in their existing condition; the RMDP does not propose to impact or enhance these drainages. In most situations, unmodified drainages would be located within future open space areas and maintain their current hydrologic functions, as well as providing linkages for wildlife movement to and from the Santa Clara River.

 - **Drainages Converted to Buried Storm Drain.** Some of the drainages within the RMDP site, including many of the smaller drainages, would be graded as part of the grading operations

² A detailed description of drainages can be found in **Section 4.1**, Hydrology, **Subsection 4.1.4.2.2**.

required to facilitate build-out of the Specific Plan. The wet-weather flows in these drainages meet the Los Angeles County flood criteria (less than 2,000 cfs) to be conveyed by storm drain., The RMDP does not propose to create new drainage channels to replace these impacted drainages. Rather, the wet-weather flows that currently occupy the drainages would be routed into the development's storm drain system, and would be discharged to the Santa Clara River via the proposed storm drain outlets.

- **Grade Stabilization Structures.** Grade stabilization structures would be installed on five existing tributaries (Chiquito Canyon, Long Canyon, Potrero Canyon, San Martinez Grande Canyon, and Lion Canyon) to the main stem of the Santa Clara River. The grade stabilization structures are designed to contain the hydraulic "jump" that occurs when there is a significant drop in streambed elevation, so that higher velocities are dissipated within the area; the structures would help control erosion and changes to the configuration of the bed of the stream channel. Such structures would be constructed of soil cement, sheet piles, or reinforced concrete.
- **Utility Corridor and Crossings.** The Corridor alignment generally extends parallel to the south side of SR-126 north of the Santa Clara River. Various electrical, sewer, water, gas, and communications lines would be installed across Chiquito Canyon, San Martinez Canyon and Castaic Creek within an approximately 100-foot wide utility corridor to serve the Specific Plan (see, **Figure 2.0-31**, Utility Corridor, below). Utility lines would be installed in rights-of-way adjacent to bridges where access for installation and maintenance can be easily accommodated. Utilities also would be extended across the Santa Clara River and its tributaries to serve the Specific Plan.
- **Temporary Haul Routes for Grading Equipment.** Temporary haul routes across the Santa Clara River would be used during construction to move equipment and excavated soil to locations in the RMDP in accordance with the Specific Plan Conceptual Grading Plan site
- **WRP Outfall Construction Activities.** An effluent outfall pipeline would be constructed from the Newhall Ranch WRP through the bank stabilization to the bed of the Santa Clara River. An earthen channel and adjacent walkway also would be constructed to reach the actual flow path of the river.
- **Roadway Improvements to SR-126.** Various roadway improvements, including SR-126 widening and a grade-separated crossing at Long Canyon Road/SR-126, would be needed within the vicinity of the RMDP site.
- **Maintenance Activities.** DPW or other entity would conduct regular and ongoing maintenance of flood, drainage, and water quality protection facilities on the RMDP site. Such activities would include periodic inspection of structures and monitoring of vegetation growth and sediment buildup to ensure that the integrity of the structures is maintained and that planned conveyance capacity is present, routine repairs and maintenance of bridges and bank protection, and emergency maintenance activities.
- **Recreation Facilities.** In addition to the comprehensive system of bicycle, pedestrian, and equestrian trails that would be implemented by the adopted Specific Plan Master Trails Plan, the applicant's

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RMDP proposes to construct five nature viewing platforms located in or adjacent to jurisdictional areas in the Santa Clara River.³

- **Geotechnical Investigation Activities.** To accommodate the Specific Plan development, geotechnical investigations and associated activities would be undertaken to ensure that the development would be safely constructed in accordance with all applicable geotechnical reports, studies, and standards.
- **Habitat Enhancement and Restoration Activities.** The RMDP incorporates a variety of design features that minimize impacts to riparian and upland resources along and within the Santa Clara River and its tributary drainages, by avoidance, minimization or mitigation including restoration and enhancement activities). In addition, the RMDP includes enhancement design features, such as removal of grazing to enhance riparian habitat, and rehabilitating native habitat areas that have been disturbed by past activities or invaded by non-native plant species.

Consistent with the resource management objectives, the applicant used a multi-disciplinary approach to design the RMDP. The applicant's approach includes factors such as biology, land use, geology, topography, hydrology, soils, and infrastructure. By incorporating design considerations and resource preservation methods, the applicant submits that implementation of the RMDP would result in a conservation strategy to allow for development of the Specific Plan in a way that avoids or minimizes the Specific Plan's significant impacts on waters, jurisdictional streams and drainages, and sensitive biological resources. According to the applicant, RMDP implementation also would continue the preserve assembly process that originated with the Specific Plan's Resource Management Plan. This preserve assembly process involves the dedication of the High Country SMA/SEA 20, River Corridor SMA/SEA 23, Salt Creek, and Open Areas.

The RMDP also proposes mitigation and management activities to address the significant impacts on jurisdictional waters/drainages and sensitive biological resources resulting from the Specific Plan. The impacts and mitigation and management measures identified in the RMDP are discussed in both Section 7.0 of the RMDP and **Section 4.5**, Biological Resources, of this EIS/EIR.

The RMDP includes plans for monitoring and management. In addition, the RMDP provides an adaptive management program and remedial measures for the River Corridor SMA/SEA 23, High Country SMA/SEA 20, Salt Creek, and Open Areas. The RMDP includes reporting requirements associated with the River Corridor SMA/SEA 23, High Country SMA/SEA 20, Salt Creek, Open Area, and oak resources, and it describes the funding mechanisms that would be utilized to implement the plan.

2.1.2 Spineflower Conservation Plan

The SCP component of the proposed Project is comprised of the applicant's conservation and management plan to permanently protect and manage a system of preserves designed to maximize the long-term persistence of core occurrences of spineflower, a federal candidate and a state-listed

³ Alternatives 3-7 do not propose construction of any nature viewing platforms along the Santa Clara River.

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endangered plant species. The SCP would apply to portions of the RMDP study area and the VCC and Entrada planning areas. The purpose of the SCP is to conduct conservation planning and preserve design on all of the applicant's land holdings in Los Angeles County that contain known spineflower populations.

The information provided in the SCP is to be used by the applicant in requesting authorization to take spineflower in areas located outside designated spineflower preserves. Specifically, the applicant is requesting a Candidate Conservation Agreement (CCA) from USFWS under ESA, and a section 2081(b) Incidental Take Permit from CDFG under CESA.

The spineflower was thought to be extinct until it was rediscovered in 1999 on property located in Ventura County, California, in the vicinity of Laskey Mesa in the southeast edge of Simi Hills. Laskey Mesa is located within the former Ahmanson Ranch property in Ventura County.

After rediscovery of the spineflower, the Service designated it as a candidate species in the October 25, 1999 Candidate Notice of Review (CNOR). (64 Fed.Reg. 57534, 57541.) The Service has conducted regular reviews of the status of the spineflower since issuance of the 1999 CNOR.

In 2003, the former Ahmanson Ranch property was acquired by the State of California through the Wildlife Conservation Board and transferred to the Santa Monica Mountains Conservancy for purposes of wildlife habitat preservation, corridor protection, restoration and management, wildlife-oriented education and research, and for compatible public uses, consistent with wildlife habitat preservation and protection of sensitive biological resources. The former Ahmanson Ranch property is now called the Upper Las Virgenes Canyon Open Space Preserve.

Based on this acquisition, in 2007, the Service, while still recognizing the susceptibility of spineflower to extinction or extirpation, has acknowledged that threats to the spineflower "from habitat destruction or modification are less than they were four years ago [2003], because one of the two populations (Ahmanson Ranch) is in permanent, public ownership and is being managed by an agency that is working to conserve the plant." (72 Fed.Reg. 69034, 69082.) The other population, located on the applicant's land holdings in Los Angeles County, is under threat of development; however, a CCA is being developed between USFWS and the applicant. Until the CCA is finalized, the threat of development still exists, but the USFWS decided to retain the spineflower's listing priority to reflect threats that are high but non-imminent in the 2007 CNOR, which was published on December 6, 2007. (72 Fed.Reg. 69034, 69082.)

Currently, spineflower is known to exist in the Upper Las Virgenes Canyon Open Space in Ventura County and the applicant's land holdings in Los Angeles County. The two spineflower populations are approximately 17 miles apart.

At the federal level, the spineflower is designated as a candidate species under the ESA. At the state level, the spineflower is listed as endangered under CESA, effective as of September 8, 2002.

In response to the above history and legal status of the spineflower, the applicant has prepared the SCP, which is a component of the proposed Project. The SCP sets forth biological goals and objectives as cornerstones of the adaptive management program for the spineflower within the preserves established within portions of the applicant's land holdings in Los Angeles County where there are known

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spineflower populations. Three main goals for the spineflower preserves are presented in the SCP. For each goal, the SCP describes a set of objectives for attaining the goals, along with a brief explanation or rationale for each objective (see EIS/EIR, **Appendix 1.0** for the SCP).

The distribution of spineflower within the SCP study area has been documented across the entire Project area for six growing seasons (2002-2007). The populations have been aggregated geographically into six general occurrences. The Specific Plan area includes the Airport Mesa, Grapevine Mesa, Potrero Canyon, and San Martinez Grande Canyon occurrences. The other two occurrences are found on portions of the Entrada and the VCC planning areas. Spineflower sites occur predominantly within openings in sparsely vegetated California sagebrush, California buckwheat, and grassland communities. Soils at spineflower sites vary among combinations of sandy and gravelly silt and clay loams.

The environmental setting of the SCP study area is topographically diverse with hillsides, canyons, ridges, and gentle sloping floodplains. It includes native and naturalized habitats that are representative of those found in the region, including upland and riparian habitats. Existing land uses within the SCP study area include ongoing oil and natural gas production, grazing, ranching, and agricultural operations; approved land uses in the Specific Plan area; and planned and approved land uses in the Entrada and VCC planning areas.

In order to identify and design spineflower preserve areas within the study area, a habitat suitability index was used to evaluate the entire study area. The habitat suitability index was developed using the following datasets: vegetation, soils, geology, elevation, slope, and aspect. Each of the six data layers was intersected with the spineflower occurrence data from 2003 to determine the number of spineflower individuals within each individual attribute of each dataset. Unfortunately, the results did not produce the anticipated predictive standards. The results of this effort suggested that either the existing habitat data may be too coarse to resolve the actual habitat features that spineflower selects or that habitat features are not predictive of spineflower occurrence. Nonetheless, given the results of the study, it did not seem prudent to use the datasets to produce a habitat suitability index to assist in the evaluation of the proposed spineflower preserve areas, nor to develop management and monitoring recommendations and techniques within the preserve areas based on the index.

Thus, a representative model was utilized to evaluate the proposed spineflower preserve areas, and compared the distribution of the individual attributes within each dataset for the entire study area and for the proposed preserve areas. The applicant's proposed spineflower preserves would conserve approximately 68.6 percent of the cumulative spineflower occupied area. (SCP, Table 7.)

The proposed spineflower preserve areas contain additional habitat not currently known to be occupied by spineflower. Unoccupied acreage includes buffer and expansion areas. It is not possible at this time to identify suitable habitat for the spineflower, based on the unsatisfactory results of the habitat suitability index. However, where the surrounding habitat is suitable, spineflower expansion can potentially occur. Further analysis is needed to better characterize the spineflower's physical and biological habitat requirements at a finer scale; this analysis would be undertaken pursuant to future data collected as a part of the adaptive management and monitoring requirements set forth in the SCP.

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The applicant's proposed spineflower preserve areas include the Airport Mesa, Grapevine Mesa, Potrero, San Martinez Grande within the Specific Plan site, and the Entrada preserve area. These SCP areas would conserve spineflower at five out of six known occurrences within the SCP study area. The preserve areas total approximately 167.6 acres, and include approximately 68.6 percent of the total cumulative area occupied by spineflower. Under the proposed Project, spineflower occurrences in the VCC planning area, which account for approximately 4.2 percent of the total cumulative area occupied by spineflower within the SCP study area, would not be conserved.

2.1.3 Project Purpose and Need/Project Objectives

2.1.3.1 Overall Purpose/Need and Objectives

The northern Los Angeles County region has experienced and continues to experience significant growth resulting in a high demand for housing and jobs, and the overall regional need for large-scale residential, nonresidential, and commercial development to accommodate approved and planned growth in the region. To facilitate the orderly accommodation of the high demand for housing and jobs, the Specific Plan was approved by the Los Angeles County Board of Supervisors on May 27, 2003.

The County has determined that build-out of the Specific Plan will foster regional economic development and job creation by providing 20,885 homes, including affordable housing, and approximately 20,000 jobs. In addition, the County has required the applicant to set aside significant open space areas for the benefit of its residents and the region. These areas are located in and adjacent to the Specific Plan area, and include the River Corridor SMA/SEA 23, High Country SMA/SEA 20, Salt Creek area, designated Open Areas, spineflower preserve areas, and oak resources. The County has further determined that the Specific Plan will provide a tax base to support public services and will provide approximately 20,000 jobs to the Santa Clarita Valley. By providing residential, commercial, mixed-use and nonresidential uses, and by setting aside significant open space acreage, the County has determined that implementation of the Specific Plan will facilitate a balanced development where residents may both live and work and where sensitive biological resources are conserved, managed, and protected in perpetuity.

The applicant's overall purpose and need for the proposed Project under NEPA, and the objectives of the proposed Project under CEQA, are as follows:

- To practicably and feasibly achieve the basic objectives of the Specific Plan, thereby helping to meet the regional demand for housing and jobs. Specifically, the RMDP component of the proposed Project would address the long-term management of sensitive biological resources in conjunction with the construction and maintenance of RMDP infrastructure needed to implement the approved Specific Plan in a manner that complies with federal and state environmental protection requirements; and
- To develop and implement a practicable and feasible SCP that would permanently protect and manage a system of preserves designed to maximize the long-term persistence of the spineflower within the applicant's land holdings containing known spineflower populations, and to authorize the take of spineflower in areas located outside of designated preserves.

2.1.3.2 RMDP Purpose/Objectives

The applicant's proposed RMDP provides additional objectives aimed at the ongoing conservation of sensitive biological resources during and following construction of the RMDP infrastructure, which would facilitate development of the approved Specific Plan.

Therefore, the applicant's overall goal of the RMDP is to provide a coordinated resource management and development plan, which, when implemented, would avoid or mitigate impacts to sensitive biological resources within the approved Specific Plan area, while permitting necessary infrastructure improvements. To implement this goal, the applicant's additional RMDP objectives are to:

- Assemble and manage a multi-component permanent preserve, in conjunction with the existing regional preserve system. This ensures that allowable Specific Plan land uses remain compatible with the long-term conservation and management of sensitive biological, scenic, and other natural resources, that biological diversity is maintained, and that the survival and recovery of sensitive habitats and species are ensured.
- Design and monitor transition areas between approved RMDP development and preserve areas, such that edge effects are minimized during and following construction.
- Design and monitor drainage and transportation facilities, such that direct and indirect impacts to biological and water quality resources (*e.g.*, hydrology and wildlife movement) are minimized.
- Replace impacted resources (*e.g.*, wetlands and oak trees) through the restoration and enhancement of like resources.
- Maintain or increase riparian functions and values within the Santa Clara River and its major tributaries.
- Maintain or enhance important wildlife corridors and habitat corridors.
- Conserve endangered species habitats.
- Provide necessary documentation of RMDP implementation to resource agencies and the County of Los Angeles.
- Provide monitoring and maintenance, adaptive management techniques, and funding for the RMDP infrastructure improvements.

According to the applicant's achievement of these additional RMDP objectives would result in greater resource conservation than currently exists under the approved Specific Plan.

2.1.3.3 SCP Purpose/Objectives

The primary goal of the applicant's SCP is to develop a management and monitoring framework to ensure the long-term persistence of spineflower within the SCP study area through establishment of a system of preserves, and to authorize the take of spineflower in areas located outside of the designated preserves. Achievement of the additional SCP objectives indicated below would result in greater resource conservation than currently exists under the two pre-existing CDFG spineflower conservation easement areas, which total approximately 64 acres of spineflower preserve and buffer areas within the approved Specific Plan boundary. To promote comprehensive spineflower conservation planning, all of the applicant's land holdings containing known spineflower populations have been analyzed in the SCP. The applicant's objectives that contribute to achieving the SCP's primary goal include the following:

- Permanently protect and manage a system of preserves designed to maximize long-term persistence of spineflower. Preserves would include habitat for potential pollinators and dispersal agents, and preserve management would allow restoration of degraded and/or damaged habitats and establishment of site-specific buffers to minimize and control adverse edge effects from adjacent changes in land uses.
- Maintain biological connectivity between preserves and permanently protected and managed open space areas (*e.g.*, River Corridor, Open Areas, utility easements, *etc.*). Management in the open space areas would allow restoration of degraded and/or damaged habitats.
- Preserves would include spineflower occurrences that maximize genetic diversity and overall population size, while capturing the range of environmental conditions where the taxon is found.
- Design and implement restoration of damaged and degraded habitats within the preserves in a manner that provides opportunities to enhance spineflower populations, where appropriate.
- Provide suitable habitat within designated preserves to accommodate natural evolutionary and ecological processes for the spineflower, such as spatial fluctuations and colonization events.

2.1.3.4 Other Project Purposes/Objectives

The applicant's other Project purposes and objectives would be accomplished with implementation of the proposed Project. Those purposes and objectives are described below.

- An important Project objective and purpose is to manage on-site resources under a single owner or small group of owners; and the size and single ownership of the Project area provide a unique opportunity to develop an overall plan for the conservation and management of sensitive resources in conjunction with previously approved or planned development.
- Issuance of a long-term individual section 404 permit and a Master Streambed Alteration Agreement within the RMDP area would streamline the permitting processes for qualified RMDP infrastructure projects, minimize duplication of effort, ensure consistency with overlapping jurisdiction and responsibilities between the Corps and CDFG, and facilitate long-term region-based planning and

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mitigation, management, monitoring, and maintenance efforts to address impacts to the affected riparian habitats.

- The RMDP and SCP components of the proposed Project would build on the Specific Plan's program for assembling and managing permanent preserves in conjunction with allowable planned and approved development within the Project area. The managed preserve would include the approximately 975-acre River Corridor SMA/SEA 23, the 4,205-acre High Country SMA/SEA 20, the 1,517-acre portion of the Salt Creek watershed and wildlife corridor in Ventura County, adjacent to the Specific Plan, and the grant of a conservation easement to CDFG over approximately 167.6 acres of the applicant's land holdings in Los Angeles County (including portions of the Entrada planning area) with known spineflower populations, along with a management and monitoring framework to ensure the long-term persistence of core spineflower occurrences within the SCP study area. Combined with the other open areas of approximately 3,362.5 acres, the managed preserve area would comprise approximately 10,227.1 acres (10,200 acres within the RMDP boundary and a 27.06 acre proposed spineflower preserve on the Entrada planning area). The assembly and management of an on-site permanent open space preserve represents an important objective of the proposed Project.
- The proposed Project would implement the habitat restoration and enhancement program included in the Specific Plan, and assist in the rehabilitation of areas of native habitat that have been disturbed by past activities. Such disturbances include grazing, roads, oil and natural gas operations, and invasion by non-native species such as giant reed (*Arundo donax*) and tamarisk (*Tamarix spp.*).

2.2 PROJECT LOCATION

The proposed Project is located in a portion of the Santa Clara River Valley in north unincorporated Los Angeles County, between the City of Santa Clarita and the Los Angeles County/Ventura County jurisdictional boundary line. **Figure 2.0-1** is a vicinity map depicting the proposed Project. **Figure 2.0-2** illustrates the regional location of the proposed Project.

Figure 2.0-3 depicts the RMDP study area. The RMDP boundary encompasses sensitive biological resources within the Specific Plan's River Corridor SMA/SEA 23, the High Country SMA/SEA 20, the designated Open Areas, and the Salt Creek area located in Ventura County, adjacent to the Specific Plan's western boundary.

The SCP component of the proposed Project encompasses the RMDP area and the VCC and Entrada planning areas. **Figure 2.0-4** depicts the SCP study area. As stated above, the SCP component would establish permanent open space preserve systems for the spineflower located within the RMDP area and the Entrada planning area.

As shown on **Figure 2.0-4**, the SCP study area includes the RMDP and Specific Plan boundary, located roughly one-half mile west of Interstate 5 (I-5) and largely southwest of the junction of I-5 and State Route 126 (SR-126), with portions of the Specific Plan area located in San Martinez Grande and Chiquito canyons north of SR-126. The VCC planning area lies roughly in the northwest corner of the junction of

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I-5 and SR-126, generally northwest of both the RMDP/Specific Plan area and the Entrada planning area. The Entrada planning area lies west of I-5, south of SR-126, and east of the RMDP/Specific Plan boundary.

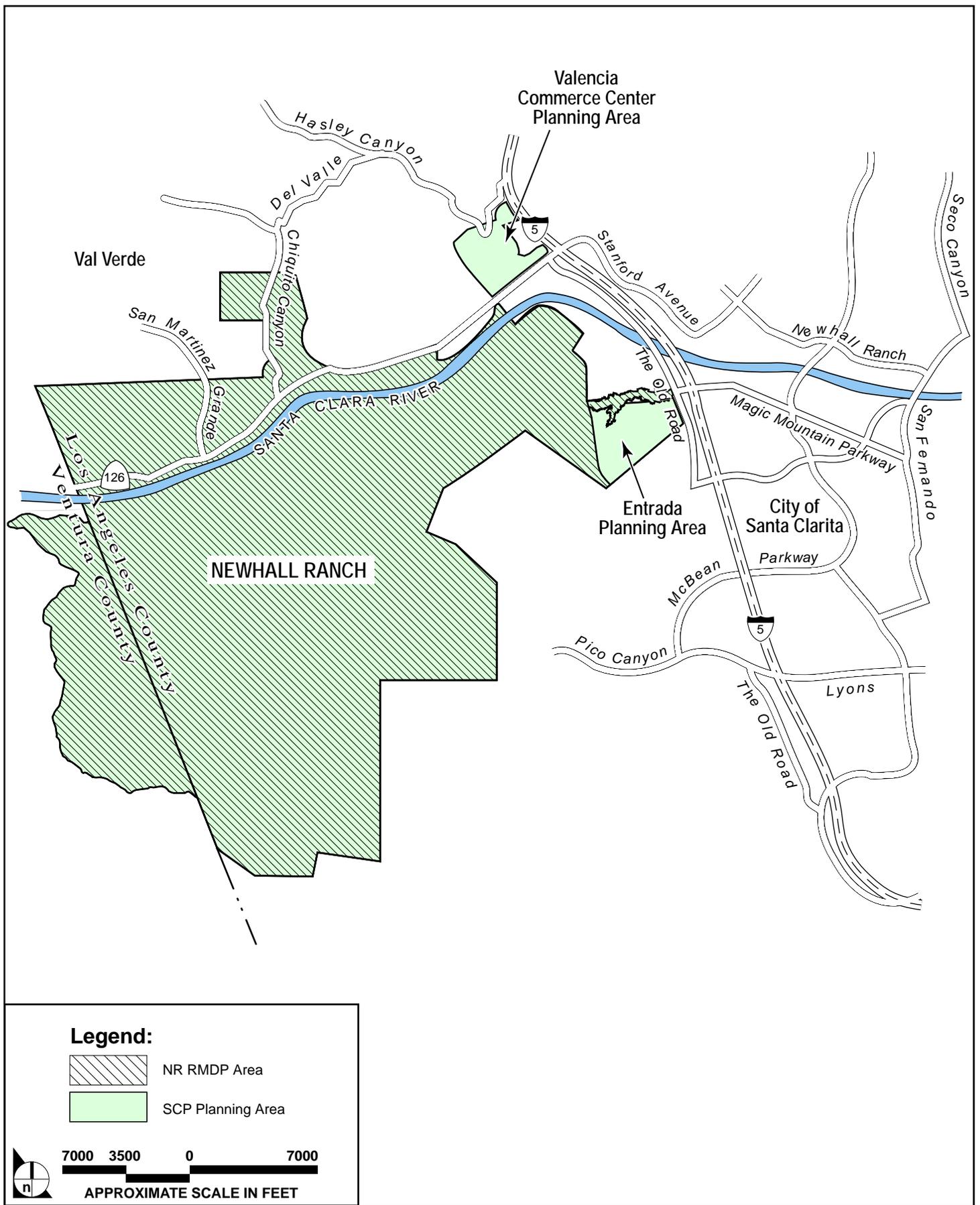
Combined, the RMDP and SCP study areas constitute the Project area for purposes of this EIS/EIR. **Figure 2.0-5** depicts the entire Project area. On a regional level, the City of Santa Clarita is located to the east of the Project area, and the Los Angeles County/Ventura County jurisdictional boundary line is to the west. The Los Padres National Forest is located to the north of the Project area, the Angeles National Forest lies to the north and east, and the Santa Susana Mountains are to the south.

2.3 REQUESTED PROJECT APPROVALS

The applicant is requesting that the Corps issue a section 404 permit under the federal Clean Water Act (33 U.S.C. §§ 1251-1387) and that CDFG issue a Master Streambed Alteration Agreement pursuant to Fish and Game Code section 1600 *et seq.*, and two Incidental Take Permits under CESA issued by CDFG pursuant to Fish and Game Code section 2081, subdivisions (b) and (c). The requested Project approvals would facilitate the future development of the Specific Plan and portions of the Entrada and VCC planning areas. The requested Project approvals also would:

- streamline the permitting process if there is a need for ongoing authorizations for individual projects or components through the issuance of a single section 404 permit and a Master Streambed Alteration Agreement, rather than case-by-case permitting;
- include in the permitting process mitigation requirements for listed and unlisted species, and incidental take authorizations for species currently listed under CESA;
- standardize the mitigation applicable for Corps and CDFG regulated activities;
- authorize all regulated activities to be carried out by parties other than the applicant, subject to the terms and conditions of the federal and state permits; and
- authorize DPW, and other entities responsible for long-term maintenance, to carry out flood control maintenance activities, subject to the terms and conditions of the federal and state permits.

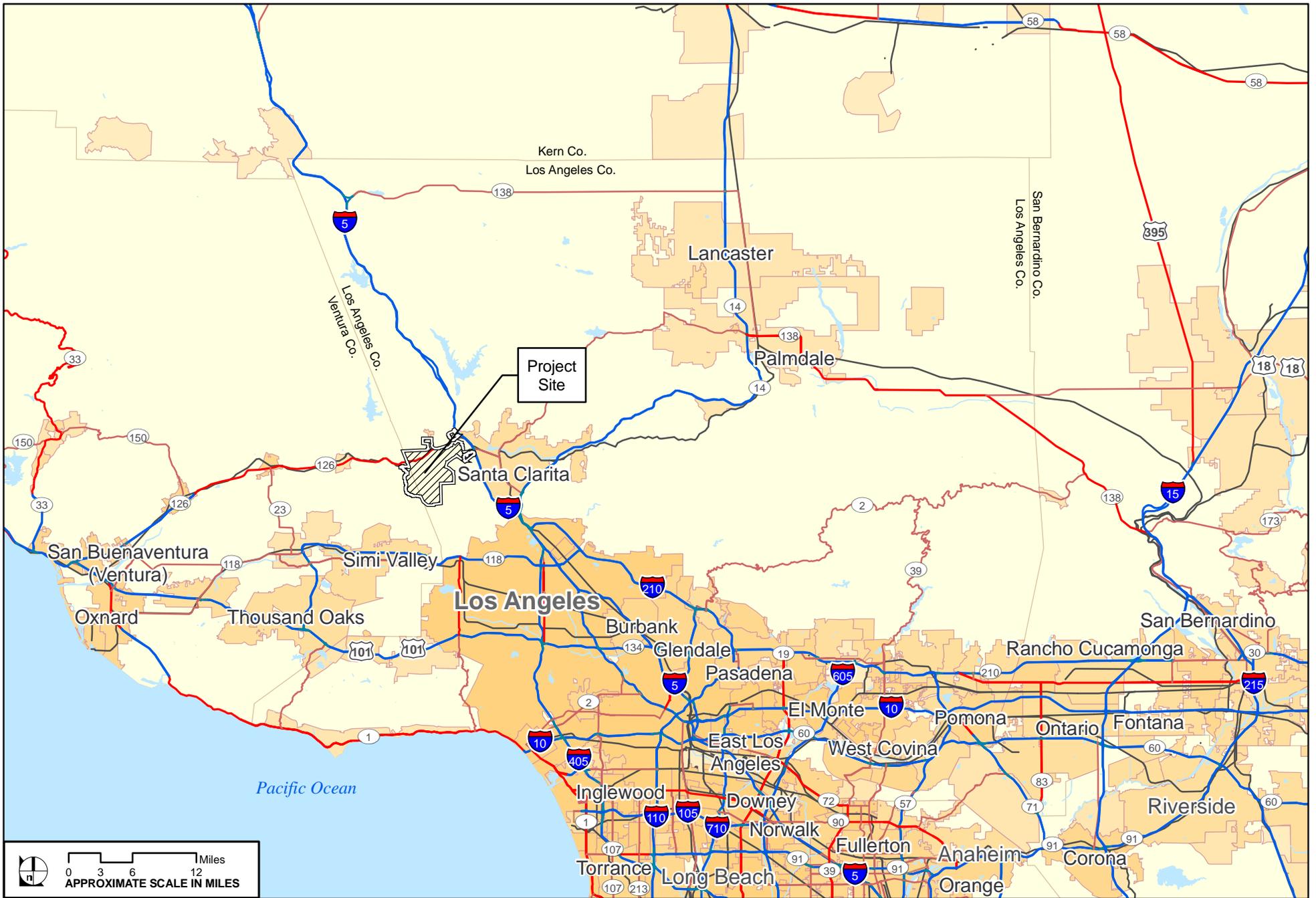
Although the Corps acknowledges the applicant's requested Project approvals as described above, it can only issue a section 404 permit that: (1) authorizes activities that meet the requirements under the section 404(b)(1) guidelines and are not contrary to the public interest; (2) provides assurances that the authorized discharges into waters of the United States would be completed in accordance with the permit conditions and applicable laws and regulations; and (3) provides the Corps with the necessary flexibility and administrative remedies to address changed environmental conditions, modifications in laws and regulations, and compliance problems.



SOURCE: URS Corporation – November 2005, Impact Sciences, Inc. – October 2007

FIGURE 2.0-1

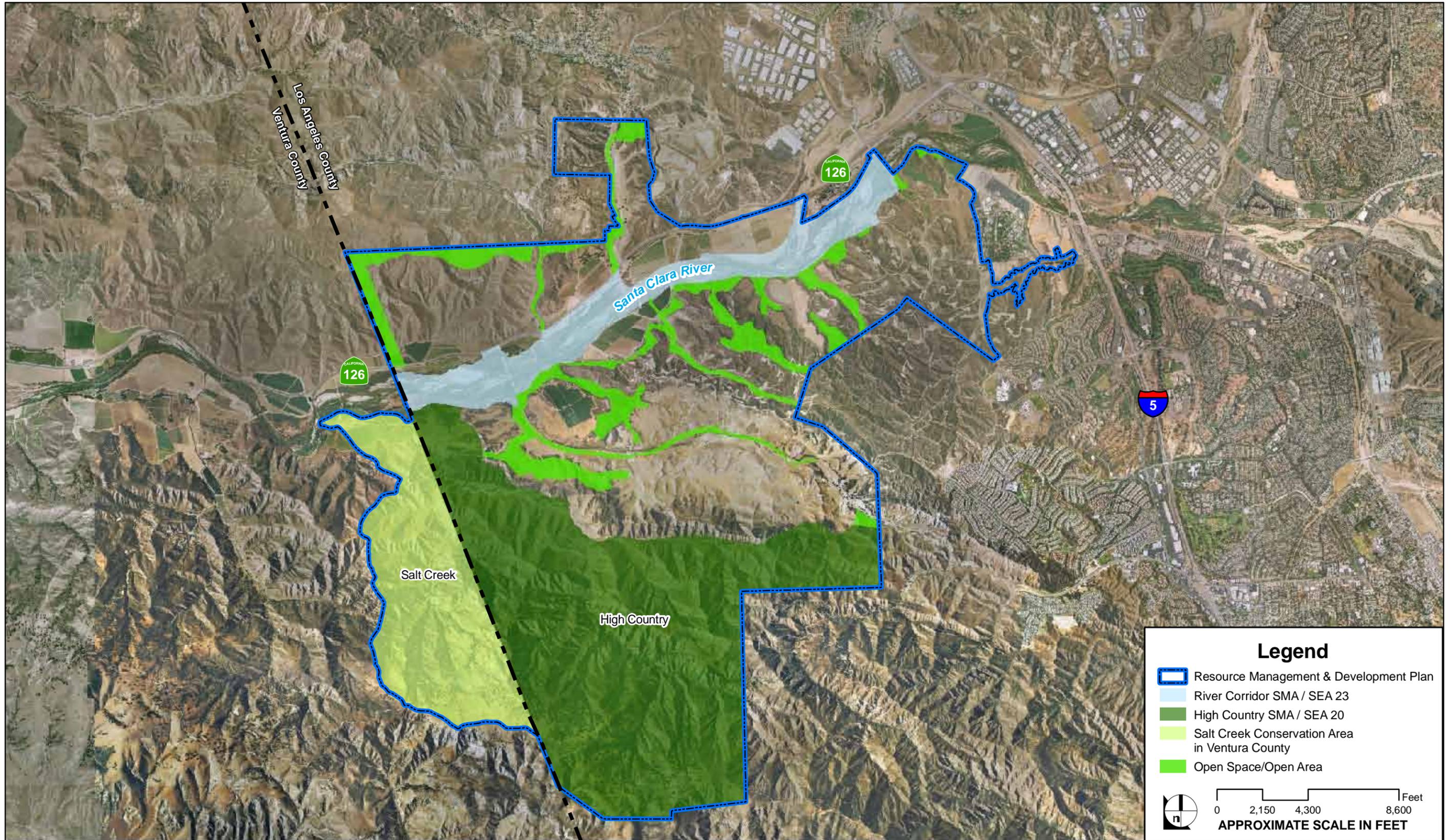
VICINITY MAP



SOURCE: PACE 2008

FIGURE 2.0-2

REGIONAL LOCATION



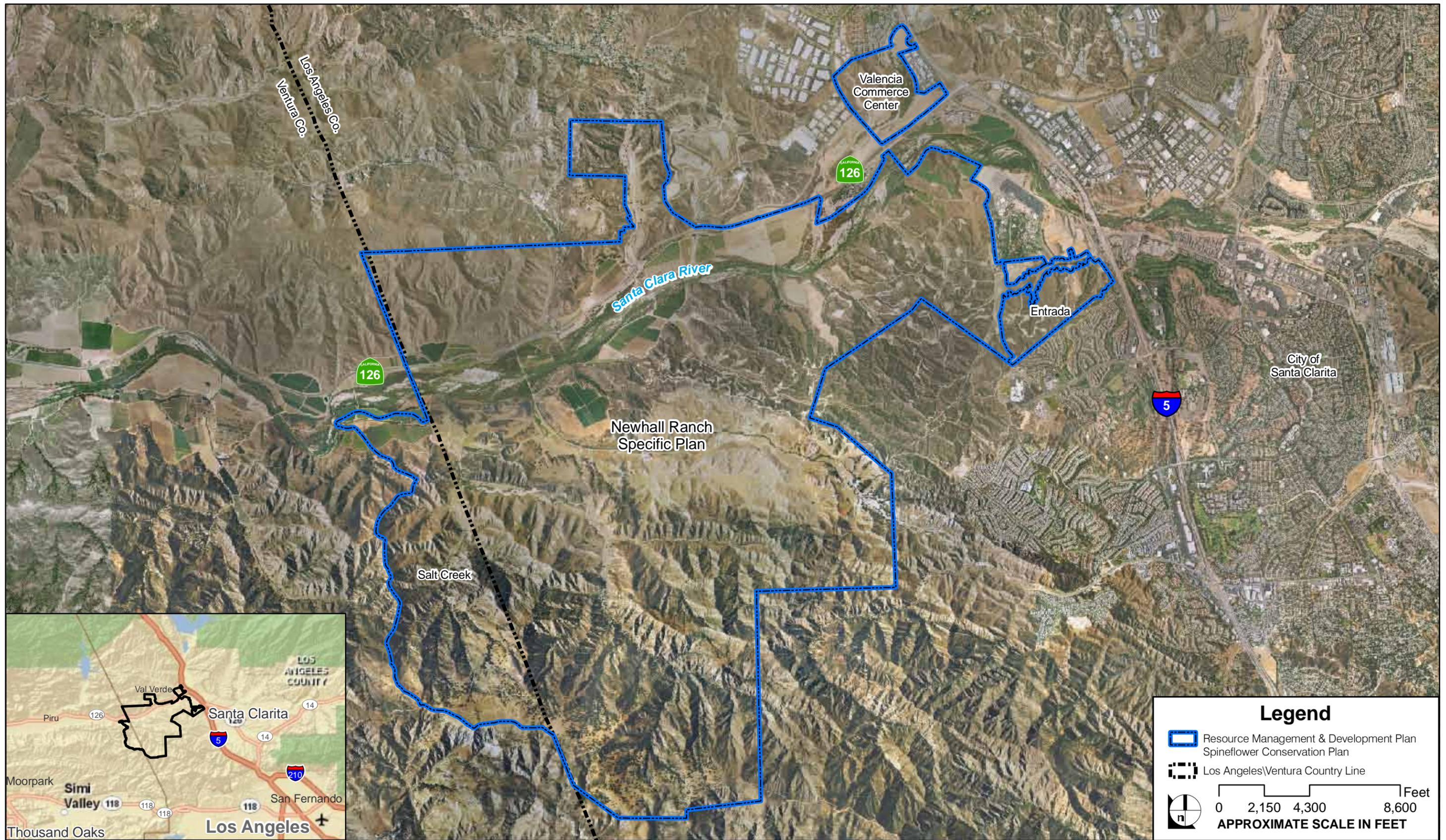
SOURCE: DUDEK, PACE 2008

FIGURE 2.0-3
 RESOURCE MANAGEMENT & DEVELOPMENT PLAN (RMDP)
 STUDY AREA



SOURCE: DUDEK, PACE 2008

FIGURE 2.0-4
 SPINEFLOWER CONSERVATION PLAN (SCP)
 STUDY AREA



SOURCE: PACE 2008

FIGURE 2.0-5

PROJECT AREA

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The Corps is also evaluating the RMDP component of the proposed Project for compliance with section 404(b)(1) guidelines. The Corps will use the results of the environmental impact analysis in this EIS/EIR and input from the public and commenting agencies in reaching a decision on whether to issue the section 404 permit and, if so, what types of conditions are necessary. Thus, no decision has been made to issue a section 404 permit for the RMDP component of the proposed Project at this time.

CDFG also acknowledges the applicant's requested Project approvals and its desire to obtain a Master Streambed Alteration Agreement, and the two Incidental Take Permits under CESA. CDFG would execute the requested master agreement and issue the requested permits provided they meet CDFG's requirements to protect and conserve fish and wildlife resources of the state under Fish and Game Code section 1600 *et seq.*; to protect and conserve threatened, endangered, and candidate species under CESA; to avoid take of fully protected species under Fish and Game Code sections 3511, 4700, 5050, and 5155; and to otherwise comply with CDFG's trustee obligations for fish and wildlife resources as provided in various provisions of the Fish and Game Code, including sections 1802, 3503, 3503.5, and 3513. Under CEQA, CDFG must avoid, or substantially reduce, to the extent feasible, all significant direct and indirect environmental impacts resulting from approval and implementation of the proposed Project.

2.3.1 Overview of the Applicant's Proposed Permitting Process

Under the applicant's proposed permitting process, all proposed Project activities described in this section would be addressed under a single section 404 permit issued by the Corps, a Candidate Conservation Agreement approved by USFWS, a Master Streambed Alteration Agreement with CDFG, and two Incidental Take Permits issued by CDFG. To the extent possible, where Corps and CDFG jurisdictions overlap, these authorizations would have the same and/or compatible provisions to protect environmental resources within the jurisdiction of the Corps and CDFG. The section 404 permit and Master Streambed Alteration Agreement would provide authorization for all Project activities identified in the RMDP, provided that the Project activities described herein are carried out in accordance with the conditions set forth in the federal and state permits, agreements and authorizations.

Under the proposed permitting process, when individual Project activities are implemented, those activities would be verified as consistent with the RMDP, SCP, and the permits and agreements approved by the applicable agencies, which would ensure on a case-by-case basis that: (1) individual proposed Project activities and their resulting environmental impacts are consistent with those described in this EIS/EIR; (2) permit conditions are appropriately applied to each individual Project activity; and (3) the cumulative impacts of the individual Project authorizations are consistent with the findings in this EIS/EIR.

2.3.2 Corps Section 404 Regulatory Setting

2.3.2.1 Section 404 Permit

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Corps, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including

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territorial seas." "Waters of the United States" are broadly defined in 33 C.F.R. section 328.3(a)⁴ to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. Specifically, section 328.3(a) defines "waters of the United States," as follows:

- all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- all interstate waters, including interstate wetlands;
- all other waters such as 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 including any such waters:
 - which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - which are or could be used for industrial purpose by industries in interstate commerce;
- all impoundments of waters otherwise defined as waters of the United States under the definition;
- tributaries of waters identified in paragraphs (1)-(4) of this section;
- the territorial seas; and
- wetlands adjacent to waters identified in the above paragraphs (other than waters that are themselves wetlands).

The lateral limits of the Corps' section 404 jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM), unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris (33 C.F.R. § 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur

⁴ This regulation, 33 C.F.R. section 328.3, and the definitions contained therein, have been the subject of recent litigation. In addition, the U.S. Supreme Court has recently limited the scope and extent of the Corps' jurisdiction over "navigable waters" and "waters of the United States" under the CWA. *See, e.g., Solid Waste Agency of Northern Cook Cty. v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) ("SWANCC"); *Rapanos v. United States*, 126 S.Ct. 2208 (2006). Despite the impact of these recent decisions, the definitions continue to provide guidance to the extent that they establish an outer limit for the extent of the Corps' jurisdiction over "waters of the United States," and, therefore, are referenced here for that purpose.

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within, or adjacent to, waters of the United States, the lateral limits of the Corps' jurisdiction will extend beyond the OHWM to the outer edge of the wetlands. The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 C.F.R. § 328.4; *see also*, 51 Fed.Reg. 41217).

The CWA section 404(b)(1) guidelines govern the issuance of permits authorizing the placement of fill material into waters of the U.S., and state that:

"[N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (40 C.F.R. § 230.10(a)).

Under the section 404(b)(1) guidelines, the applicant must demonstrate avoidance or minimization of impacts to waters of the United States to the maximum extent practicable. Under the above requirements, the Corps can only issue a section 404 permit for the "least environmentally damaging practicable alternative" (LEDPA). In addition, the Corps is prohibited from issuing a permit that is contrary to the public interest (33 C.F.R. § 320.4).

Section 401 of the CWA requires an applicant requesting a federal permit (including a section 404 permit) for an activity that may result in any discharge into navigable waters to provide state certification that the proposed activity will not violate state and federal water quality standards.

In addition to the above regulations on discharges of dredged or fill material into waters of the United States, section 404 of the CWA extends additional protection to certain rare and/or sensitive aquatic habitats. These are termed "special aquatic sites," and include six categories: sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle/pool complexes (40 C.F.R. §§ 230.40-45).

For proposed discharges into these special aquatic sites, the section 404(b)(1) guidelines requires consideration of whether the activity associated with the proposed discharge is dependent on access or proximity to or siting within a special aquatic site to fulfill its basic project purpose. If an activity is determined not to be water dependent, the section 404(b)(1) guidelines establish the following two presumptions (40 C.F.R. § 230.10(a)(3)) that the applicant is required to rebut in addition to satisfying the alternatives analysis requirements:

- practicable alternatives not involving discharges of fill material into special aquatic sites are presumed to be available; and,
- all practicable alternatives to the proposed discharge not involving a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem.

For non-water dependent projects, the applicant must rebut these presumptions in order to demonstrate compliance with the section 404(b)(1) guidelines.

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Of the six categories of special aquatic sites, only wetlands are at issue with respect to the proposed Project. The CWA defines wetlands as:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 C.F.R. § 328.3).

The Corps has developed a field technique to identify wetlands, often referred to as the "three-parameter technique." This method involves a procedure to identify the three requisite characteristics of a section 404 jurisdictional wetland:

- Hydrophytic vegetation – more than 50 percent of dominant plants are adapted to anaerobic soil conditions;
- Hydric soils – soils classified as hydric or that exhibit characteristics of a reducing soil environment; and
- Wetland hydrology – inundation or soil saturation during at least five percent of the growing season (in Southern California, this is equal to 18 days).

The Corps' 1987 wetlands delineation manual describes an approach to identify field indicators of the above characteristics. In general, all three characteristics must be evident by field indicators, and their presence must be determined independent of the other characteristics. Positive identification of wetlands based on the presence of fewer than three characteristics can only occur when one or more parameters is absent due to normal seasonal variation in environmental conditions, or due to recent human activities.

2.3.3.2 Corps' Section 404 Permit Process

The section 404 permit process for the proposed Project began with the issuance of the Corps' Public Notice (announcing the receipt of a section 404 permit application) and scoping meetings for the EIS/EIR. Based upon the information in this EIS/EIR, public comments, and input from various agencies, the Corps will conduct a permit evaluation considering the probable project and cumulative impacts of the proposed Project on the public interest. The decision will reflect the national concern for both protection and utilization of important aquatic resources and the applicable legal requirements. The benefit that reasonably may be expected to accrue from the proposed actions will be balanced against their reasonably foreseeable detriments.

In summary, the Corps will:

- determine if the proposed actions are consistent with section 404(b)(1) guidelines;
- consult with the USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries Service to determine if the proposed actions would adversely affect threatened and endangered

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species or their critical habitat under the provisions of section 7 of the Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*);

- coordinate with the State Historic Preservation Officer to ensure compliance with section 106 of the National Historic Preservation Act; and
- consider all agency and public comments on the Public Notice and EIS/EIR in the permit decision.

A section 404 permit would not be valid until the applicant receives a section 401 water quality certification or waiver from the RWQCB. The water quality certification, denial, or waiver generally occurs concurrently with the Corps' permit decision. The Corps anticipates that any permit issued for the proposed actions would likely be a provisional permit until completion of the state process because the RWQCB cannot take action on a request for certification or waiver for the proposed section 404 permit without compliance with CEQA (*i.e.*, certification of a Final EIR and adoption of CEQA findings by CDFG).

The permit process proposed by the Corps consists of two major steps: (1) an evaluation of the proposed Project followed by a decision; and (2) individual project notifications and concurrence during the life of the permit. The key steps are as follows:

- upon completion of the NEPA review, section 7 consultation, permit evaluation, and agency coordination, the Corps would issue a provisional permit, which would become an individual section 404 permit after all regulatory authorizations are obtained, for the life of the project.
- upon CDFG's certification of the Final EIS/EIR and adoption of CEQA findings, the RWQCB would issue a waiver or section 401 water quality certification. The latter would become a condition of the Corps' section 404 permit.
- the applicant would need to submit a notification for authorization to the Corps for each proposed project element described in the Final EIS/EIR. Project elements can only be implemented when the Corps has issued a written concurrence to the applicant or its designee.

Project Modification. If the applicant modifies a project element significantly from that described in the Final EIS/EIR, a request to modify the section 404 permit would be submitted to the Corps with an explanation for the modification and descriptions of the following items: (1) new impacts associated with the modification and their significance; (2) changes in the overall environmental impacts due to the modification of an individual project element; and (3) conformance with the environmental protection elements of the Final EIS/EIR and section 404 permit conditions. Significant deviation from the Final EIS/EIR also may trigger the need for a Supplemental EIS/EIR if new significant or substantially more severe environmental impacts could occur.

Third-Party Use of Permit. Parties other than the applicant could seek authorization for section 404 activities that are included in the section 404 permit by submitting a notification for authorization to the Corps. The request must include a statement that the party will abide by the conditions of the section 404 permit and any subsequent modifications to that permit.

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Annual Reports. The applicant would be required to submit an Annual Permit Status Letter Report to the Corps by April 1 of each year. For the proposed Project, the applicant also has proposed to submit an Annual Mitigation Status Report and Mitigation Accounting Form to the Corps and CDFG by April 1 of each year. Under the provisions of the section 404 permit program (33 C.F.R. § 325.7), the Corps has the authority to reevaluate the circumstances and conditions of the section 404 permit, and may initiate action to modify, suspend, or revoke the permit as may be made necessary by considerations of the public interest.

Maintenance. Prior to any maintenance activities, DPW, or other entity, would submit a Maintenance Notification to the Corps, CDFG, and the RWQCB. The Maintenance Notification would be submitted to the Corps, and the Corps would respond, notifying DPW or other entity that: (1) the maintenance activities can proceed as planned because they are consistent with the Final EIS/EIR and the conditions of the section 404 permit; or (2) the activities cannot proceed as planned for the reasons stated.

For maintenance activities that are not included in the section 404 permit, DPW would be required to submit a new permit modification application to the Corps. The Corps would have the discretion to modify the section 404 permit and its conditions to include the new proposed projects, or to issue a separate nationwide or individual permit, as appropriate.

If DPW or other entity modifies a maintenance activity from the Final EIS/EIR, a request to modify the section 404 permit would be submitted to the Corps with an explanation of the modification and descriptions of the following items: (1) new impacts associated with the modification; (2) changes in the overall environmental impacts due to the modification of an individual project; and (3) conformance with the environmental protection elements of the Final EIS/EIR and section 404 permit conditions. The Corps would review the requested modifications, and have the discretion to modify the section 404 permit and its conditions to include the new maintenance activity after review by the appropriate resource and regulatory agencies, or to issue a separate nationwide or individual permit, as appropriate.

2.3.2.3 NEPA Action

The Corps is the lead agency under NEPA responsible for review of the environmental impacts of the proposed Project. In that capacity, the Corps must assess, and is analyzing in this EIS/EIR, the potential for significant direct and indirect impacts on the environment that may result from approval and implementation of the proposed RMDP and SCP components of the proposed Project, and issuance of the requested section 404 permit. The Corps' responsibilities include the evaluation of a range of reasonable alternatives to the proposed Project, and the identification of feasible mitigation measures to minimize identified adverse effects of the proposed Project.

2.3.3 USFWS Regulatory Setting

2.3.3.1 Federal Endangered Species Act

The federal ESA (16 U.S.C. §§ 1531 *et seq.*) and the implementing regulations (50 C.F.R. §§ 17.1 *et seq.*) include provisions for the protection and management of federally-listed threatened or endangered plants and animals and their designated critical habitats. Generally, the USFWS regulates upland and freshwater

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species and the NOAA Fisheries Service oversees provisions for protection of anadromous, marine, and estuarine species. Section 4 of the ESA requires USFWS and/or NOAA Fisheries Service to make determinations on whether any species should be listed as an endangered or threatened species and to designate critical habitat for endangered and threatened species (16 U.S.C. § 1533). Section 7 of the ESA requires federal agencies to consult with USFWS and/or NOAA Fisheries Service and obtain a Biological Opinion prior to carrying out any federal program or agency activity that may adversely affect threatened or endangered species. The section 7 consultation and Biological Opinion process includes an evaluation of whether a project is likely to jeopardize the continued existence of any endangered or threatened species or result in the "destruction or adverse modification" of critical habitat, and requires the inclusion of reasonable and prudent measures in the implementation of a project or agency activity in order to minimize any impact (16 U.S.C. § 1536.)

With regard to the proposed Project, the Corps would comply with these requirements through consultation with USFWS and NOAA Fisheries Service. In December 2007, the Corps initiated the required consultation, and requested USFWS' biological opinion on impacts to five federally-listed species (least Bell's vireo, unarmored threespine stickleback, arroyo toad, southwestern willow flycatcher, and California condor). In addition, the Corps will confer with and request a biological opinion from USFWS regarding the proposed Project's impacts to two additional federally-listed threatened species not found in the Project area during focused surveys (California red-legged frog and coastal California gnatcatcher). This is because suitable habitat for these two species exists on the Project area, and because the two species are known to inhabit areas in the vicinity of the Project area. As a result, the potential exists for these two additional species to establish populations on site in the future and for the proposed Project to adversely affect these two species.

2.3.3.2 USFWS Processes

For federally-listed species, the USFWS would review the Biological Assessment submitted by the Corps. Within 135 days, the USFWS would determine whether the project activities would jeopardize a federally-listed species and issue either a Biological Opinion or Jeopardy Decision.

Should a new species become federally-listed that is known to occur, or at least has moderate potential to occur, within the Project area, the applicant would coordinate with the Corps and USFWS to determine whether surveys for that species are necessary. If the USFWS and the Corps determine that the Project activities would affect the newly-listed species, it is anticipated that the USFWS would amend the Biological Opinion.

In addition, the USFWS would review the applicant's proposed CCA and associated SCP. Once the CCA is deemed complete by USFWS and upon completion of the Final EIS/EIR by the Corps, the SCP would be made a part of the CCA signed by both the applicant and USFWS.

2.3.3.3 NEPA Action

USFWS would utilize this EIS/EIR in evaluating whether to approve the requested CCA, which will be made a part of the SCP component of the proposed Project. In that capacity, USFWS must assess the potential for significant direct and indirect impacts on the environment that may result from approval and

implementation of the proposed CCA. USFWS would also consider the range of reasonable alternatives and feasible mitigation measures associated with the proposed Project.

2.3.4 CDFG Regulatory Setting

2.3.4.1 Fish and Game Code Section 1600-1616

Fish and Game Code section 1602, subdivision (a) (Chapter 6, Fish and Wildlife Protection and Conservation), states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, . . ." without first notifying CDFG of that activity. Thereafter, if CDFG determines and informs the person that the activity will not substantially adversely affect any existing fish or wildlife resources, the person may commence the activity without a Lake or Streambed Alteration Agreement. (Fish & Game Code, § 1602, subd. (a)(4)(A).) If, however, CDFG determines that the activity may substantially adversely affect an existing fish or wildlife resource, the person will need to obtain a Lake or Streambed Alteration Agreement from CDFG before it may commence the activity. In that case, CDFG will include in the Lake or Streambed Alteration Agreement measures necessary to protect the affected resources. (Fish & Game Code, § 1602, subd. (a)(4)(B)). The term of the agreement is normally 5 years or less (*id.*, § 1605 subd. (a) (1)), however, CDFG may issue an agreement with a term of longer than 5 years. (*Id.*, subd. (g).) Such an agreement is referred to as a long-term agreement. One type of long-term agreement is a Master Lake or Streambed Alteration Agreement (MSAA). MSAA's are typically issued for very large projects, affecting multiple streams or larger jurisdictional areas, which will be developed over many years. The MSAA facilitates regional watershed planning. A MSAA will usually specify the types of or actual projects the MSAA covers (usually referred to as a "Covered Project" or "Covered Activity" in the MSAA). A MSAA will also usually require the applicant to notify CDFG before beginning one or more of the projects the MSAA covers and such notification is sometimes referred to as a "sub-notification." CDFG usually requires the sub-notification to contain all the information required in a notification for a regular Lake or Streambed Alteration Agreement. However, even when a sub-notification process is required, the overall time it takes to obtain authorization for the project from CDFG after it receives the sub-notification is considerably less because all or most of the conditions that will apply to the project already have been identified in the MSAA.

Streambed Alteration Agreements are typically required for activities such as excavation or placement of fill within a stream channel, vegetation clearing, installation (and sometimes operation) of structures that divert the flow of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. "Stream" is not defined in the Fish and Game Code and CDFG has not promulgated any regulation that defines "stream." However, the Fish and Game Commission has defined "stream" in section 1.72 in Title 14 of the California Code of Regulations as follows:

"[A] body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

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Although this definition does not apply to "stream" as that term is used in Fish and Game Code section 1600 *et seq.* because it was not promulgated by CDFG and the Fish and Game Commission did not promulgate it for that purpose, it at least provides some guidance.

CDFG has interpreted the term "streambed" to encompass all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation. In the case of watercourses with vegetated floodplains, such as the Santa Clara River, this CDFG interpretation often results in an asserted geographic jurisdictional area that is much wider than the active channel of the stream. The upstream limit of CDFG's asserted jurisdiction is the point upstream of which there is no evidence of a defined bed and bank, and riparian vegetation is not present.

It should be noted that the Corps' CWA section 404 jurisdiction is a subset of CDFG's Fish and Game Code section 1600 jurisdiction. Although the two may be coterminous, as is the case in many smaller, ephemeral streams lacking riparian plant communities, the CDFG jurisdictional area will never be smaller than that defined using the Corps' "ordinary high-water mark" criterion.

Fish and Game Code section 1600 *et seq.* does not specifically contain provisions regulating activities that would impact wetlands, isolated areas containing riparian vegetation, or wetland hydrology. The Fish and Game Code has no analogue to the "special aquatic site" concept found in the CWA.

The California Fish and Game Commission policy regarding wetlands resources, updated in August, 2005, states that "it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California" and to "strongly discourage development in or conversion of wetlands." As a result, although the Commission has no independent statutory permitting authority related to wetlands, the policy underscores that the Commission does not support wetland development proposals unless "project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage" and "prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

In conjunction with the development of this Commission policy, and recognizing again that the Commission and CDFG do not possess wetlands-specific regulatory permitting authority, CDFG recommended in its trustee capacity for fish and wildlife resources, and the Commission adopted, a policy on the retention of wetland acreage and habitat values. To mitigate for lost wetland acreage, the Commission adopted a policy that no less than one acre of wetland should be created from non-wetland habitat for each acre of wetlands lost to development. To mitigate for lost wetland habitat values, the policy recommends one of four mitigation approaches, in order of preference: (1) in-kind, on-site, (2) in-kind, off-site, (3) out-of-kind, on-site, and (4) out-of-kind, off-site. In-kind compensation would properly consider existing habitat values at the project site and utilize a habitat evaluation procedure to assure that representative species or species groups would not be negatively affected, *i.e.*, that no reduction in habitat value for those species would occur. If out-of-kind compensation is determined to be superior from a regional perspective, the policy indicates there is no need to show equivalency between lost habitat values at the project site compared to those that would be created at the mitigation site. Against this backdrop, on-site, in-kind mitigation has been CDFG's long-standing preference to offset impacts to riparian resources, including wetlands.

CDFG normally requires the establishment of replacement mitigation ratios that address, among other things, temporal loss of riparian functions and values, resulting in a post project net increase of jurisdictional bed, bank and channel and riparian vegetation (see Mitigation Measures BIO-2).

2.3.4.2 Master Streambed Alteration Process

The development and issuance of a CDFG Master Streambed Alteration Agreement would follow the same general procedures described above for the section 404 permit, including all noticing and agency coordination requirements, and all project-specific and annual reports. However, there are several differences between the procedures, including timeframes for responding, terminology for correspondence, and forms to be used by the applicant and CDFG. A summary of CDFG's process is provided below.

The applicant's proposed Master Streambed Alteration Agreement would include avoidance, minimization and mitigation measures, all or some of which the applicant must implement for a specific covered activity, and maintenance procedures that the applicant must follow to complete a specific covered activity. The measures and procedures applied to a covered activity would be those that CDFG and the applicant agree are necessary to protect fish and wildlife resources from the activity that could substantially adversely affect the resources.

The Master Streambed Alteration Agreement would be a long-term agreement (*i.e.*, greater than five years) authorized and governed by Fish and Game Code section 1605, subdivision (g).⁵

Prior to initiating a specific activity covered by the Master Streambed Alteration Agreement, the applicant would seek authorization from CDFG to begin the activity. The authorization request would be in writing, describe the activity, include construction plans when appropriate, and identify the avoidance, minimization, and mitigation measures and maintenance procedures identified in the Master Streambed Alteration Agreement that the applicant intends to apply to the activity.

Upon receipt of an authorization request, CDFG would first determine whether the activity is covered by the Master Streambed Alteration Agreement. If the activity is not covered, the applicant could request that CDFG amend the Master Streambed Alteration Agreement to include the activity after CDFG completes any necessary additional environmental review under CEQA. If the activity is covered, CDFG would determine whether the avoidance, minimization, and mitigation measures and maintenance procedures identified in the authorization request are necessary and adequate to protect the fish and wildlife resources that the activity could substantially adversely affect.

If the measures and procedures are necessary and adequate, CDFG would authorize the activity without additional environmental review under CEQA. If CDFG identifies a measure or procedure identified in the authorization request that is not necessary, CDFG would exclude that measure or procedure in its authorization. If CDFG determines that the measures and procedures identified in the authorization are

⁵ The applicant has submitted its application to CDFG for the Master Streambed Alteration Agreement, and the proposed agreement. Please refer to **Appendix 1.0** for a copy of the proposed Master Streambed Alteration Agreement.

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not adequate, CDFG would include additional measures that the applicant must apply to the activity described in the authorization request and complete any necessary additional environmental review under CEQA before authorizing the activity. Any additional measures and/or procedures CDFG requires might or might not be identified in the Master Streambed Alteration Agreement. If the applicant disagrees with any of those additional measures, CDFG and the applicant would follow the process set forth in Fish and Game Code section 1605, subdivision (g)(3), to resolve the disagreement.

If CDFG determines that individual projects and mitigation are not consistent, then CDFG would deny the authorization request.

Minor Amendment. The applicant may submit a request for a minor amendment to the Master Streambed Alteration Agreement for any project that has been denied under an authorization request, or for a project identified in the Final EIS/EIR that has been modified beyond the approved project limits. The request for an authorization for a minor amendment must be submitted with appropriate construction plans and mitigation information. If CDFG determines that the project would have no additional substantial adverse effects on fish and wildlife resources, CDFG would deem the mitigation information to be satisfactory under the Master Streambed Alteration Agreement, and approve the request for authorization of a minor amendment after completion of any required additional CEQA compliance. If CDFG determines that the project would have additional substantial adverse effects on fish and wildlife resources, CDFG would not deem the mitigation information satisfactory under the Master Streambed Alteration Agreement, and would deny the request for authorization of a minor amendment.

Major Amendment. If a request for a minor amendment is denied or if the applicant desires to go forward with a project that has not been identified in the Final EIS/EIR, the applicant may request a major amendment (Request for Amendment) to the Master Streambed Alteration Agreement, which would include appropriate construction plans and mitigation information. If the project identified in the request for major amendment is consistent with the Final EIS/EIR and any substantial adverse effects to fish and wildlife can be mitigated to CDFG's satisfaction according to the Final EIS/EIR mitigation measures, CDFG could approve the request for a major amendment after completion of any additional required CEQA compliance. If the new project or project for which a request for authorization for variance was denied would impact areas not covered in the Final EIS/EIR, the CDFG may require additional compensatory mitigation and any other necessary measures.

2.3.4.3 CESA "Take" Authorizations

The proposed Project activities may affect some species listed as threatened or endangered under CESA. Under CESA, CDFG may authorize the incidental take of these species through issuance of an Incidental Take Permit pursuant to Fish and Game Code section 2081, subdivisions (b) and (c). These provisions of the Fish and Game Code, coupled with CDFG's "CESA Implementing Regulations" (14 Cal. Code Regs., tit. 14, § 783.0 *et seq.*), authorize CDFG to issue an Incidental Take Permit for a project as proposed if: (1) if the take is incidental to an otherwise lawful activity; (2) the impacts of the taking are minimized and fully mitigated by measures that are roughly proportional to the project-related impact to the species and, where various measures are available, the measures maintain the applicant's objectives to the maximum extent possible; (3) the measures are capable of successful implementation; (4) the applicant ensures adequate funding to implement the measures, and for monitoring compliance with and effectiveness of

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those measures; and (5) the issuance of the permit would not jeopardize the continued existence of the species.

With respect to the proposed Project, the applicant has submitted applications to the CDFG for issuance of two section 2081 Incidental Take Permits. The first application covers CESA-listed wildlife species observed in the Project area (western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher, and least Bell's vireo), special-status wildlife species observed in the Project area (arroyo toad, tricolored blackbird (*Agelaius tricolor*), and western burrowing owl (*Athene cunicularia hypugaea*)), and undescribed plant and wildlife species observed in the Project area (sunflower (*Helianthus* sp. *nova*), everlasting (*Gnaphalium* sp. *nova*), and spring snail (*Pyrgulopsis* sp. *nova*)). If CDFG issues an Incidental Take Permit in response to this application, incidental take authorization would be granted for species that are listed at the time of permit issuance. All other species would be considered "unlisted covered species" in the permit. If, during the effective period of the permit, any unlisted covered species were subsequently listed under CESA, CDFG would give due consideration to the applicant's avoidance, minimization, and mitigation measures contained in the permit when evaluating a request to amend the permit to add the species to the take authorization provided by the permit. The second application covers the CESA-listed San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) only. The applicant submitted formal applications to CDFG for the requested Incidental Take Permits in May and June 2008 (see **Appendix 1.0**). (See generally Cal. Code Regs., tit. 14, §§ 783.2, 783.3, 783.5.) These applications comprise part of the Project-related documents being released by CDFG as part of the public review process required by both CEQA and CESA. (See, e.g., *Id.*, § 783.5, subd. (d)(2).)

2.3.4.4 CEQA Actions

CDFG is the lead agency under CEQA responsible for review of the environmental impacts of the proposed Project. In that capacity, CDFG must assess, and is analyzing in this EIS/EIR, the potential for significant direct and indirect impacts on the environment that may result from approval of the RMDP and SCP components of the proposed Project, and issuance of the Master Streambed Alteration Agreement and Incidental Take Permits. That analysis includes significant environmental impacts within CDFG's permitting authority, and impacts to other natural resources within CDFG's jurisdiction as the state's trustee for fish and wildlife resources, as well as other environmental impacts resulting from approval and implementation of the proposed Project. Where any such impacts are significant, CEQA's substantive mandate requires CDFG to avoid or substantially lessen those impacts to the extent feasible. In this respect, the EIS/EIR, RMDP, and SCP include feasible mitigation measures that would avoid or substantially lessen significant Project-related environmental impacts, including impacts on natural resources held in trust for the people of California.

2.3.4.5 **CDFG Independent Review and Preparation of the Draft EIS/EIR**

CEQA directs lead agencies to prepare or contract for the preparation of an EIR. (See generally Pub. Resources Code, § 21082.1; Cal. Code Regs., tit. 14, § 15084.) This obligation, however, does not prohibit or otherwise limit any person from submitting information or other comments to the lead agency in any format, including the form of a draft EIR. (Pub. Resources Code, § 21082.1, subd. (b); Cal. Code Regs., tit. 14, § 15084, subd. (c).) To this end, lead agencies may prepare a draft EIR based on a number

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of possible arrangements or combination of arrangements detailed in the "CEQA Guidelines." The arrangements available to a lead agency to prepare a draft EIR include:

- Preparing the draft EIR directly with its own staff;
- Contracting with another entity, public or private, to prepare the draft EIR;
- Accepting a draft prepared by the applicant, a consultant retained by the applicant, or any other person;
- Executing a third party contract or memorandum of understanding with the applicant to govern the preparation of a draft EIR by an independent contractor; and
- Using a previously prepared EIR.

(*Id.*, § 15084, subd. (d)(1)-(5).)

Importantly, before using a draft prepared by another person, CEQA requires the lead agency to subject the draft to its own review and analysis. A lead agency, in this respect, is responsible for the adequacy and objectivity of the draft EIR. In addition, any draft EIR released by the lead agency for required public review must, by law, reflect the independent judgment of the lead agency. (*Id.*, § 15084, subd. (e); see also Pub. Resources Code, § 21082.1, subd. (c).)

CDFG, as the lead agency for the proposed Project under CEQA, had prepared this draft EIS/EIR based on a combination of the possible arrangements detailed above. In general, the applicant prepared administrative draft analyses in consultation with CDFG and the assistance of various consultants under contract directly with applicant, including Dudek & Associates, Inc., Entrix Environmental Consultants, Geosyntec Consultants, Impact Sciences, Inc., Rodriguez Consulting, Inc., and URS Corporation. The applicant's administrative drafts were then forwarded to and independently reviewed by CDFG with the assistance of various consultants under contract with CDFG, including the Aspen Environmental Group. CDFG developed the Draft EIS/EIR in close coordination with the Corps through this iterative process over a number of years, a process that involved numerous visits to the Project site and the surrounding area, and multiple meetings attended by CDFG personnel and its consultants. (See Pub. Resources Code, § 21080.1, subd. (b); Cal. Code Regs., tit. 14, §§ 783.2, subd. (b), 783.3, subd. (b), 783.5, subd. (b), (d)(1).)

This Draft EIS/EIR reflects CDFG's own review and analysis of the proposed Project and the alternatives. In this respect, the analysis and conclusions in the Draft EIS/EIR reflect the independent judgment of CDFG. For the same reason, CDFG takes responsibility for the adequacy and objectivity of the Draft EIS/EIR as a lead agency under CEQA. (*Id.*, § 15084, subd. (e); see also *id.*, § 783.5, subd. (d)(1).)

2.4 OTHER PERMITS AND APPROVALS

In addition to the Corps, USFWS, and CDFG permitting requirements, other permits or approvals may be required to implement the proposed Project. Specifically, regulatory agencies, known as responsible

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agencies under CEQA, may identify the need for additional permits and approvals for the proposed Project. The other permits and approvals, which are known to be needed, or may be needed, are as follows:

- General Plan amendments, Specific Plan amendments, conditional use permits, tentative tract map approvals, zone changes, oak tree removal permits, parking permits, and site plan approvals from Los Angeles County.
- Grading and building permits from Los Angeles County.
- Encroachment permits from Caltrans and Federal Highway Administration (FHWA) for bridge and roadwork involving Caltrans and FHWA facilities.
- Encroachment permits from Southern California Edison for transmission line right-of-way access, and from DPW for channel and road work access.
- Individual NPDES permits for dewatering activities.
- Stormwater mitigation plan approvals from Los Angeles RWQCB.

The above description of other required permits and approvals is not intended to provide a complete and final listing of future agency actions, permits, and approvals required to implement the proposed Project. Other additional permits/approvals may be required in the future.

2.5 PROJECT BACKGROUND AND SETTING

This section summarizes Los Angeles County's underlying approval of the Specific Plan to provide context for the RMDP infrastructure improvements that require permitting by the Corps and CDFG and that are analyzed in this EIS/EIR. This context is important, because the proposed RMDP infrastructure improvements are needed to implement the land use development set forth in the approved Specific Plan. The section also describes the existing environmental setting and the approved and planned land uses for the RMDP, VCC, and Entrada study areas in order to provide context for the establishment of a comprehensive preserve design for all of the applicant's land holdings where spineflower is known to occur, and development of a spineflower management framework to ensure the long-term persistence of spineflower within the SCP planning area.

2.5.1 Newhall Ranch Specific Plan

The approved Specific Plan guides future development of the Newhall Ranch community, located in northern Los Angeles County. The Santa Clara River and SR-126 traverse the northern portion of the Specific Plan area. The river extends approximately 5.5 miles east to west across the Specific Plan site. On May 27, 2003, the Los Angeles County Board of Supervisors approved the Specific Plan, which establishes the general plan, zoning designations, and development standards necessary to develop the Specific Plan site. The approved Specific Plan sets forth a comprehensive set of plans, development regulations, design guidelines, and implementation programs to develop the Specific Plan site, consistent

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with the goals, objectives, and policies of the Los Angeles County General Plan and Santa Clarita Valley Area Plan, as amended by General Plan Amendment No. 94-087-(5) (approved May 27, 2003). The Specific Plan has been developed so that all subsequent development plans and subdivision maps associated with Newhall Ranch would be consistent with both the Los Angeles County General Plan and Santa Clarita Valley Area Plan. The Specific Plan also includes the Newhall Ranch WRP at the western edge of the Specific Plan area. Individual projects, such as residential, mixed-use, commercial, and non-residential developments, roadways, public facilities, and amenities would be developed over time in accordance with the approved Specific Plan. Many of these individual development projects would require work in and adjacent to the Santa Clara River and its tributaries.

Environmental review for both the Specific Plan and the WRP was conducted by Los Angeles County, pursuant to CEQA. In the environmental documentation, the Specific Plan was evaluated at a "program" level, and the Newhall Ranch WRP was analyzed at a "project" level. The County's Board of Supervisors certified the adequacy of the Newhall Ranch Specific Plan Program EIR on May 27, 2003. After certification, the Board of Supervisors adopted the required resolution, findings, and conditions approving the Specific Plan, WRP, and other associated local project approvals. Please refer to of this EIS/EIR for a description of the Newhall Ranch environmental documentation, all of which has been summarized herein.

As approved by the Los Angeles County Board of Supervisors on May 27, 2003, the revised Specific Plan (May 2003) authorizes a broad range of residential (and associated school sites, parks, and other facilities), mixed-use development (*e.g.*, commercial, residential, office), and non-residential development (*e.g.*, commercial, business park, visitor-serving, community facilities, including fire stations, library, WRP), and arterial roads, bridges, and other infrastructure, facilities, and amenities. As revised, the Specific Plan's total number of permitted residential dwelling units (20,885) would be constructed on approximately 2,391 acres. The Specific Plan also permits about 67 acres of commercial uses; approximately 249 acres of business park uses; 36.7 acres of High Country SMA Visitor-Serving Uses; approximately 1,010 acres of Open Area; approximately 5,180 acres of Special Management Areas/Open Space; 10 neighborhood parks; recreational lake; public trail system; golf course; fire stations; public library; electrical substation; reservation of elementary school sites, junior high school site, and a high school site; a 6.8 mgd WRP; and other associated community facilities and amenities. Build-out of the Specific Plan is projected to occur over approximately 20 years, depending upon economic and market conditions.

2.5.1.1 Specific Plan's Existing Setting

The Specific Plan area is topographically diverse with slope gradients ranging from moderate to steep in the hillsides, to very gentle in the Santa Clara River floodplain and in major tributary canyons. Also, there are mesas adjacent to the Santa Clara River (*e.g.*, Grapevine Mesa and Airport Mesa). Site elevations range from 825 feet above mean sea level (AMSL) in the Santa Clara River bottom at the Ventura County/Los Angeles County line, to approximately 3,200 feet AMSL on the ridgeline of the Santa Susana Mountains along the southern boundary. The primary ridges are east-, west-, and northwest-trending, with secondary ridges trending north and south. There are many distinctive ridges in the Specific Plan

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area, including Sawtooth Ridge along the northeastern side of Long Canyon, and Ayers Rock at the northern edge of Potrero Canyon.

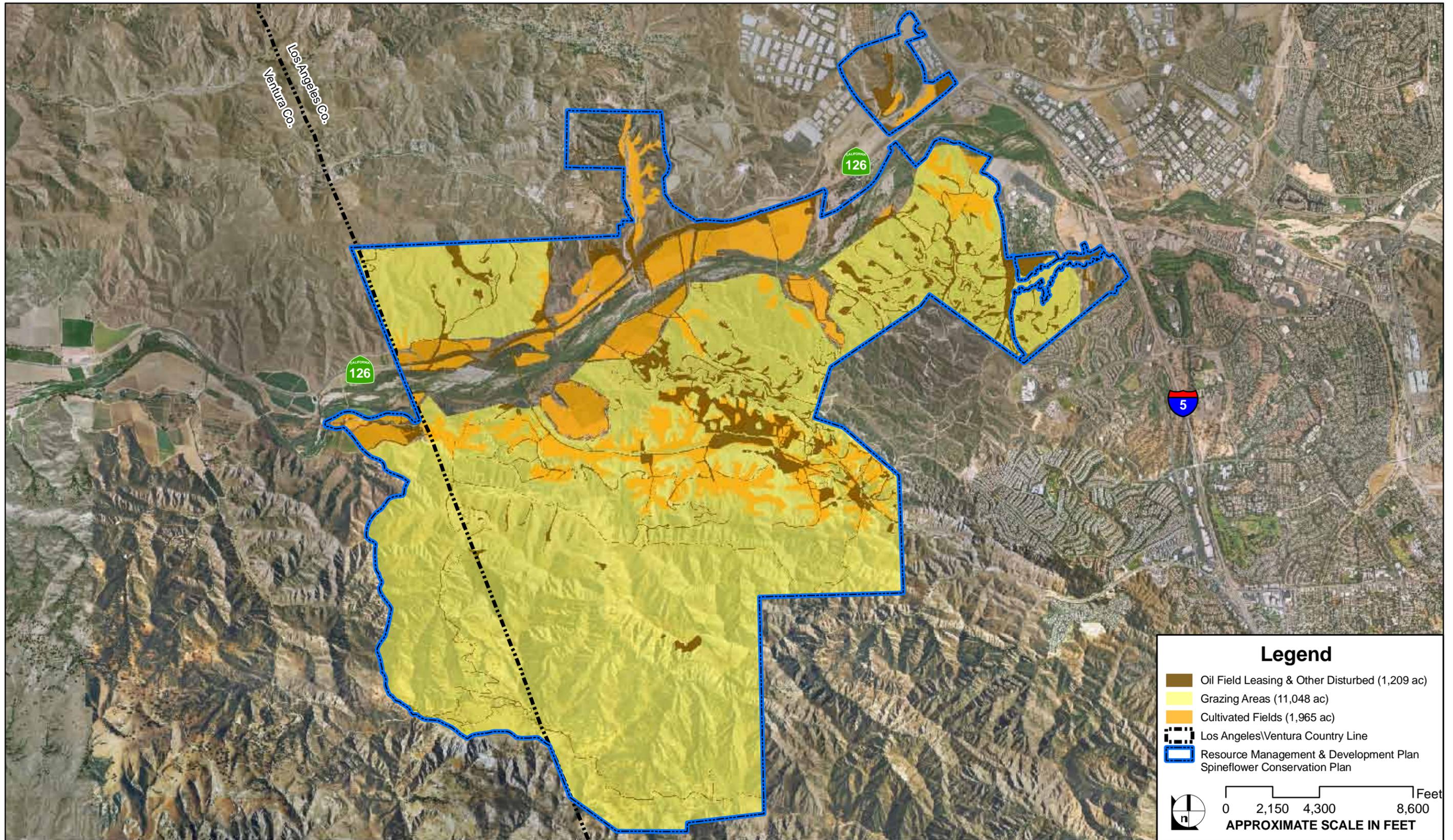
Native and naturalized habitats within the Specific Plan area are representative of those found in this region and provide high-quality examples of those plant communities found in the Santa Susana Mountains and the Santa Clara River ecosystems. Upland habitats dominate the landscape within the Specific Plan area, both north and south of the Santa Clara River. The major upland plant communities include California sagebrush scrub, undifferentiated chaparral, coast live oak and valley oak woodlands, and California annual grassland. However, the Specific Plan site also contains valley oak/grass, mixed oak woodland, chamise chaparral, California walnut woodland, and big sagebrush scrub. The Santa Clara River supports a variety of riparian plant communities, including southern cottonwood-willow riparian forest, southern willow scrub, southern coast live oak riparian forest, mulefat scrub, elderberry scrub, arrow weed scrub, giant reed, tamarisk scrub, herbaceous wetland, bulrush/cattail wetland, cismontane alkali marsh, and coastal and valley freshwater marsh and seeps. Intermittent and ephemeral drainages on site also provide habitat for alluvial scrubs.

The riparian habitat along the Santa Clara River has been designated as critical habitat by the USFWS for the state- and federally-listed endangered least Bell's vireo (*Vireo bellii pusillus*). The River also provides habitat for the state- and federally-listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*). The River itself supports the state- and federally-listed endangered and state fully-protected unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni*).

There are two SEAs within the boundary of the approved Specific Plan: (1) the High Country SMA/SEA 20, which is comprised of diverse oak woodland habitats that function as a wildlife corridor/linkage between the San Gabriel and Santa Monica Mountains; and (2) the River Corridor SMA/SEA 23, which is comprised of aquatic habitat within the Santa Clara River corridor that supports the endangered unarmored three-spine stickleback and other listed and sensitive species.

The applicant leases portions of the Specific Plan area for oil and natural gas production, as well as for cattle grazing, ranching, and agricultural operations (e.g., food crop production, dry land farming, honey farming). All such operations are currently ongoing. In addition, the applicant leases the Specific Plan site to the movie industry for set locations. A minor land use includes employee houses, an oil company office, and miscellaneous structures. There are several easements on the Specific Plan site, including oil, natural gas, electrical, telephone, and water easements. In particular, Southern California Edison and Southern California Gas Company maintain distribution lines within on-site easements.

Grazing activities and oil and natural gas production have had an effect on much of the natural habitat on site. Scrub habitats have been displaced by annual grasslands as a result of grazing and land clearing for agriculture and other historic land uses. In addition, the Specific Plan site has been fragmented by dirt and asphalt roads, graded oil well pads and pipelines, and pumping, storage, and transmission facilities. **Figure 2.0-6** depicts the existing and ongoing agricultural, grazing, and oil leasing activities within the Project area. Existing cultivated agricultural fields comprise approximately 1,965 acres; oil field leasing and other related disturbed areas comprise about 1,209 acres; and grazing areas comprise approximately 11,048 acres.



SOURCE: DUDEK, PACE 2008

FIGURE 2.0-6
EXISTING AGRICULTURAL, GRAZING, AND OIL LEASING ACTIVITIES
IN PROJECT AREA

Surrounding land uses to the north of the Specific Plan site include residential uses in the Val Verde and San Martinez Grande areas, a landfill in Chiquito Canyon, business park, and commercial uses within VCC, residential and commercial uses in the Castaic corridor, oil and natural gas production, and undeveloped land. To the west, land uses include agricultural operations, undeveloped land, and oil and natural gas production. To the east, land uses include commercial/recreational uses associated with Six Flags Magic Mountain Amusement Park (and associated hotels, restaurants and gas stations), residential and commercial uses at Stevenson Ranch, the Valencia WRP, a California Highway Patrol station, and undeveloped commercially-designated land. To the south, the land is undeveloped.

2.5.1.2 Specific Plan's Approved Land Use Plan

The approved Newhall Ranch Specific Plan Land Use Plan is shown on **Figure 2.0-7**, and it provides the framework for the approved development within the Specific Plan site. The approved Land Use Plan describes the land use designations that include Residential (five types), Mixed-Use, Commercial, Business Park, Visitor-Serving, Open Area, the two River Corridor and High Country SMAs, and a Spineflower Conservation Overlay Easement area, all linked by a comprehensive system of roadways, trails and paseos. Land use overlays are included on the approved Land Use Plan to show approximate locations of public facilities such as parks, schools, library, golf course, fire stations, and the WRP. This information is summarized below. Additional information regarding the Specific Plan's approved Land Use Plan is found in both Section 2.3 of the approved Specific Plan (May 2003) and **Section 4.14**, Land Use, of this EIS/EIR.

2.5.1.3 Specific Plan Backbone Infrastructure

The design concepts for major infrastructure systems proposed to serve development on the Specific Plan site are provided in the approved Specific Plan. Infrastructure systems include on-site roadways and circulation, trails, drainage, potable water, reclaimed water, and sanitary sewer facilities. The Specific Plan's backbone infrastructure is summarized below.

2.5.1.3.1 *Drainage Facility Improvements*

The Specific Plan area is part of the Santa Clara River Hydrologic Basin and associated watershed. The existing drainages within the Specific Plan site boundaries consist of a small portion of Castaic Creek and the drainage courses of Chiquito Canyon, San Martinez Grande Canyon, Mid-Martinez Canyon, Off-Haul Canyon, Homestead Canyon, and Unnamed Canyon A to the north of the Santa Clara River; and Unnamed Canyon 1, Unnamed Canyon 2, Magic Mountain Canyon, Unnamed Canyon D, Middle Canyon, Dead-End Canyon, Exxon Canyon, Lion Canyon, Humble Canyon, Unnamed Canyon C, Unnamed Canyon B, Long Canyon, Ayers Canyon, Potrero Canyon, and Salt Creek Canyon to the south.

The Specific Plan Conceptual Backbone Drainage Plan for the Specific Plan site is found on Exhibit 2.5-1 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-8**.⁶ This plan depicted the

⁶ The Specific Plan conceptual drainage and flood control plan is described and assessed in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 1.0, Project Description, and Section 4.2, Flood. This plan was further assessed from the standpoint of floodplain modifications within the Specific

drainage improvements and flood control protection for the Specific Plan site. Storm flows through the Specific Plan site would largely follow existing drainage patterns, and would be conveyed through the site in open, soft bottom drainage channels and closed drainage systems. Other drainage improvements to be implemented as a result of the Specific Plan include catch basins, inlet and outlet structures, and water quality basins.

While the Santa Clara River would generally remain in a natural condition, the Specific Plan called for installation of bank protection along portions of the River Corridor for bridge abutments and for various development projects, including residential, commercial, and business park uses. The location of bank protection along the Santa Clara River was identified at the Specific Plan level, and would generally be located in non-jurisdictional upland areas adjacent to the River in order to avoid or minimize impacts to the River, create new riverbed areas, and increase, restore, and enhance riparian habitat. The Specific Plan incorporated three types of bank protection for the River and its tributaries: buried soil cement, ungrouted rip-rap, and limited gunite lining.⁷

2.5.1.3.2 *Circulation Plan*

The Specific Plan Master Circulation Plan is shown on Exhibit 2.4-2 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-9**. This plan was further described and assessed in the Newhall Ranch Revised Draft EIR (March 8, 1999), Sections 1.0, Project Description, and Section 4.8, Traffic/Access.

Primary access to the Specific Plan site is currently provided via SR-126, which is presently a four-lane highway between the Los Angeles County/Ventura County line and its connection to I-5, located approximately one mile east of the Specific Plan site.

In addition, Chiquito Canyon Road/Del Valle Road is an existing two-lane road designated as a Limited Secondary Highway in the Santa Clarita Valley Area Plan. San Martinez Grande Road is an existing local road, which provides access to portions of the Specific Plan site north of SR-126. The Specific Plan calls for improvements to several existing roadways in the Specific Plan area, including SR-126, Magic Mountain Parkway, Potrero Valley Road, Commerce Center Drive, Chiquito Canyon Road/Del Valle Road, San Martinez Grande Road, Valencia Boulevard, and Pico Canyon Road.

Plan site in the Newhall Ranch Revised Additional Analysis (May 2003), Section 2.3, Floodplain Modifications, Volume VIII.

⁷ Biological impacts associated with physical alterations to drainages in the Santa Clara River in connection with the construction of drainage and flood control facilities were evaluated in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 4.6, Biota. Biological impacts were further assessed in the Newhall Ranch Revised Additional Analysis (May 2003), Section 2.3, Floodplain Modifications, Volume VIII.

Legend:

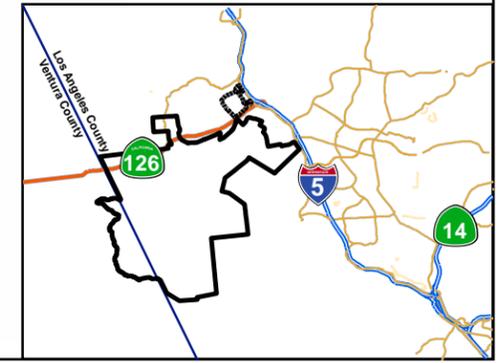
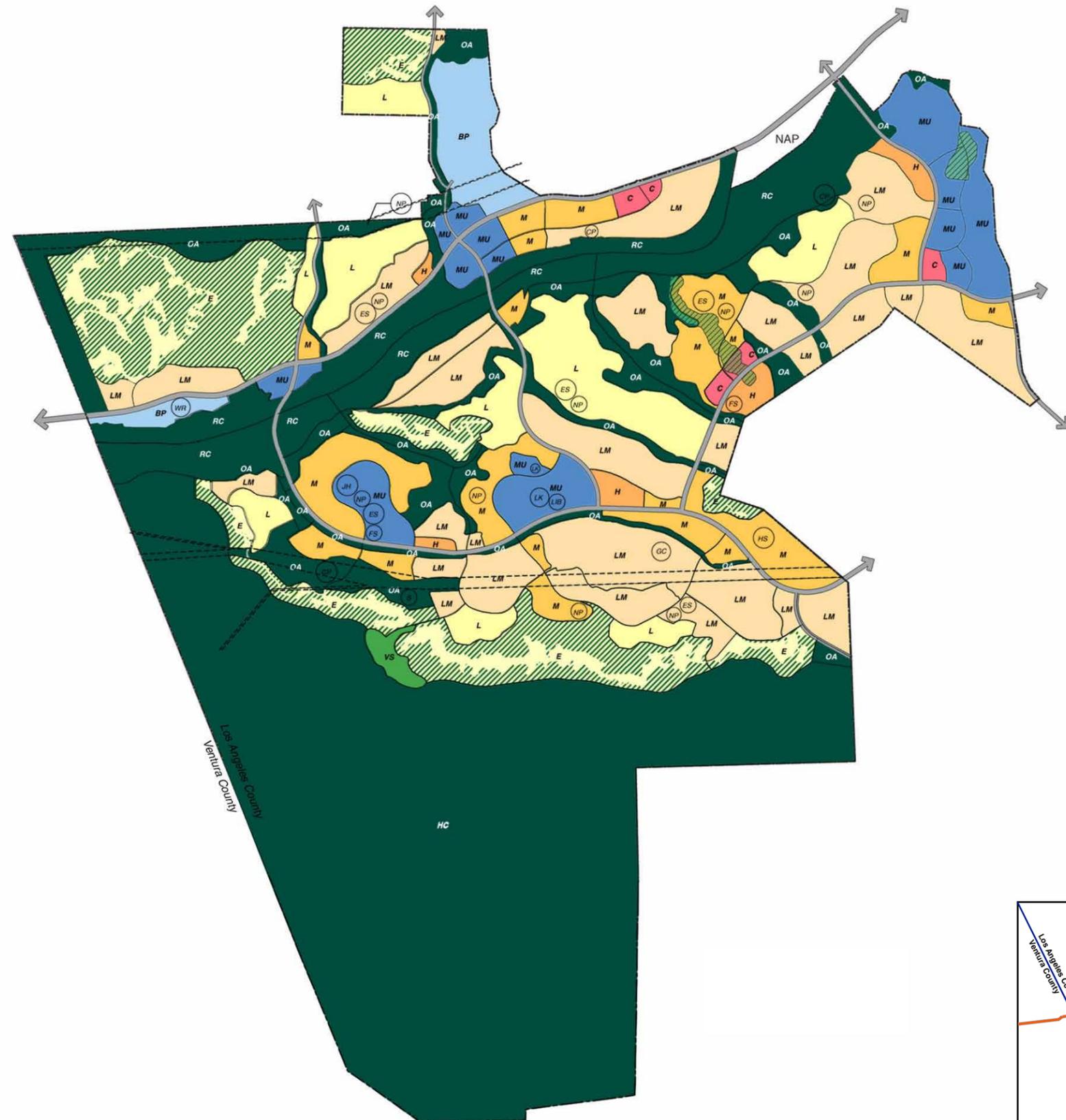
- E ESTATES
- L LOW DENSITY
- LM LOW-MEDIUM DENSITY
- M MEDIUM DENSITY
- H HIGH DENSITY
- MU MIXED USE
- C COMMERCIAL
- BP BUSINESS PARK
- VS VISITOR SERVING
- OA OPEN AREA
- RC RIVER CORRIDOR
- HC HIGH COUNTRY
- CDFG SPINEFLOWER CONSERVATION EASEMENTS
- ROADS*
- SCE/UTILITY EASEMENT

LAND USE OVERLAYS (POTENTIAL LOCATIONS)

- CP COMMUNITY PARK
- NP NEIGHBORHOOD PARK
- ES ELEMENTARY SCHOOL
- JH JUNIOR HIGH SCHOOL
- HS HIGH SCHOOL
- LIB LIBRARY
- GC GOLF COURSE
- LK COMMUNITY LAKE
- FS FIRE STATION
- S ELECTRICAL SUBSTATION
- WR WATER RECLAMATION PLANT

Roads/road rights of way within CDFG spineflower conservation easements and all other spineflower preserves are subject to realignment prior to subdivision approval pursuant to Board motion (March 25, 2003).

4000 2000 0 4000
APPROXIMATE SCALE IN FEET



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-7

SPECIFIC PLAN LAND USE PLAN



Legend:

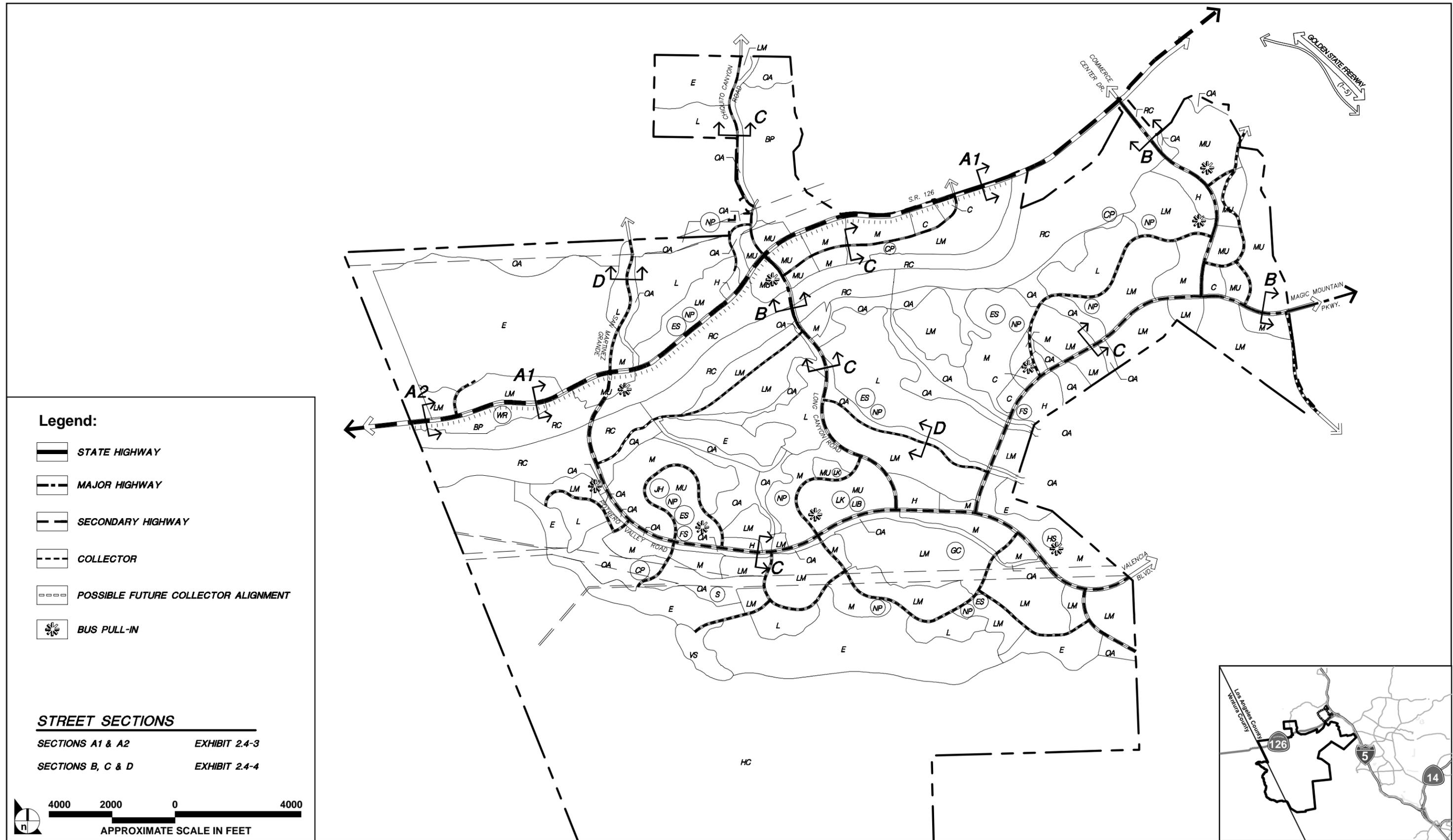
-  OPEN DRAINAGE
-  CLOSED SYSTEM
-  INLET
-  OUTLET
-  N.P.D.E.S. WATER QUALITY BASIN
-  BANK STABILIZATION



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-8

SPECIFIC PLAN CONCEPTUAL BACKBONE DRAINAGE PLAN



Legend:

- STATE HIGHWAY
- MAJOR HIGHWAY
- SECONDARY HIGHWAY
- COLLECTOR
- POSSIBLE FUTURE COLLECTOR ALIGNMENT
- BUS PULL-IN

STREET SECTIONS

- SECTIONS A1 & A2 EXHIBIT 2.4-3
- SECTIONS B, C & D EXHIBIT 2.4-4



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-9

SPECIFIC PLAN MASTER CIRCULATION PLAN

2.5.1.3.3 Trails Plan

The Specific Plan Master Trails Plan is shown on Exhibit 2.4-5 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-10**. The plan provides a comprehensive bicycle, pedestrian, and equestrian trails system throughout the Specific Plan area, and includes potential connections to regional trail systems within the Santa Clarita Valley. Portions of the proposed trail system would cross drainage channels or be located in areas under the jurisdiction of the Corps and CDFG. Construction details for the approved trails system are depicted on Exhibits 2.4-6, 2.4-7, and 2.4-8 of the approved Specific Plan.

The trails system extends the existing planned regional trails into the Specific Plan site and provides additional recreational opportunities for both local and regional residents. The trails also are designed to provide access to Open Areas and the River Corridor and High Country SMAs, and connections between living areas, shopping, employment, entertainment, schools, and civic and recreational facilities. The trails system provides a hierarchy of trails, including the Regional River Trail, community trails, local trails, pathways, and unimproved trails. This system is described and assessed in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 1.0, Project Description, and Section 4.20, Parks, Recreation, and Trails.

2.5.1.3.4 Potable and Reclaimed Water

The Specific Plan Conceptual Backbone Water Plan is found on Exhibit 2.5-2 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-11**.⁸ The plan identifies conceptual on-site water storage and distribution systems to provide adequate fire and domestic water service to the Specific Plan site. The Specific Plan site is within the service area of the Castaic Lake Water Agency (CLWA), a wholesale water agency in the Santa Clarita Valley. Valencia Water Company, which currently serves Valencia and parts of the Newhall and Castaic communities, would provide retail water service to the Specific Plan. The domestic water demands for the Specific Plan are based on the projections for the specific land uses and their intensities, balanced with historical use factors.

Section 2.5 of the Newhall Ranch Revised Additional Analysis (May 2003), Volume VIII, analyzed the existing conditions, potential impacts, and mitigation measures associated with supplying water to the entire Specific Plan site. This prior analysis found that there was an adequate supply of water to meet the demands of both the Specific Plan and cumulative development in Santa Clarita Valley without creating significant impacts to water resources. Based on that prior analysis, and the adopted mitigation measures, all water-related impacts were found to be less than significant.

Based on the prior Newhall Ranch environmental analysis, the applicant would meet the potable demands of the Specific Plan by first using the applicant's historical groundwater pumped from the local Alluvial aquifer in Los Angeles County, which is presently committed to agriculture uses. The water that is available for agricultural production would continue to be available until it is phased out by development on the Specific Plan site. By conditions imposed by Los Angeles County, the amount of groundwater

⁸ The Specific Plan conceptual water plan is described in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 1.0, Project Description. This plan was further assessed in the Newhall Ranch Revised Additional Analysis (May 2003), Section 2.5, Water Resources, Volume VIII.

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converted to urban uses cannot exceed the amount currently used for agricultural purposes. This agricultural water supply has historical long-term availability, reliability, and is an established supply. It will provide approximately 81 percent of the Specific Plan's potable water needs.

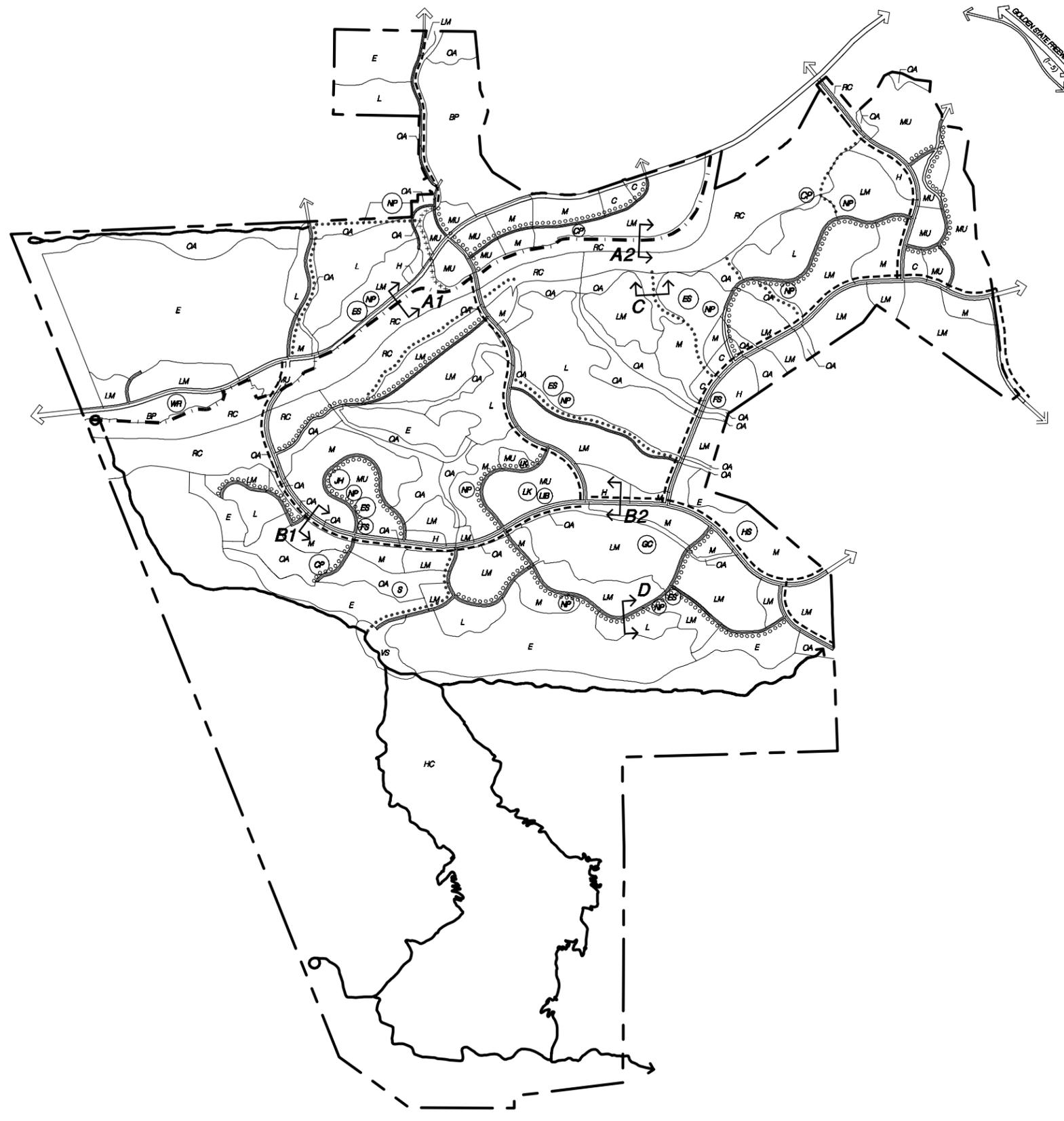
The second source for meeting Specific Plan demand for water supplies is the applicant's securing of additional potable water supplies under contract with Nickel Family, LLC in Kern County. The Nickel Water, consisting of 1,607 afy of water purchased from Nickel Family, LLC, is fully reliable on a year-to-year basis, and not subject to the annual fluctuations that can occur in dry year conditions for other water supplies. The Nickel Water would only be needed on the Specific Plan site in years when all of the applicant's agricultural water has been used, which is estimated to occur after the 20th year of project construction. Up to that point in time, the unused Nickel Water is available for storage in a groundwater banking program, which could then be used as a dry-year supplemental supply.

The two sources of non-potable supplies needed to meet the Specific Plan's non-potable demand are recycled water from the Specific Plan's WRP and from existing upstream WRPs. The Specific Plan WRP's treatment capacity is planned to be 6.8 mgd of wastewater generated by the Specific Plan, all of which would be treated at the WRP, and upon tertiary treatment, reclaimed for landscape irrigation purposes (except for wet winters when irrigation demands would be lower, requiring the discharge of unused reclaimed water to the Santa Clara River during periods of high river flow). Recycled water from the WRP would be used to partially meet the non-potable water demands (*e.g.*, irrigation) of the Specific Plan. The WRP, to be located along the Santa Clara River in the western edge of the Specific Plan site, is planned to be constructed in stages as the Specific Plan is developed over time.⁹ Construction of the WRP will require outfall facilities in and near the Santa Clara River.

CLWA also would serve the Specific Plan site with recycled water from existing upstream WRPs, consistent with CLWA's draft "Reclaimed Water System Master Plan." CLWA's master plan is being implemented in stages. CLWA's recycled water source would meet the remaining non-potable water demand of the Specific Plan.

Since approval of the Specific Plan by Los Angeles County, the Los Angeles County Local Area Formation Commission (LAFCO) completed formation of the Newhall Ranch County Sanitation District. The new County sanitation district was formed effective July 27, 2006.

⁹ The Newhall Ranch Revised Draft EIR (March 8, 1999) contains a project-level analysis of the potential significant environmental impacts associated with construction and operation of the approved Newhall Ranch WRP.

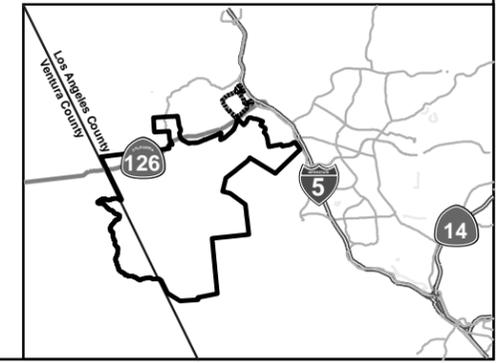


Legend:

-  REGIONAL RIVER TRAIL
-  COMMUNITY TRAIL
-  EQUESTRIAN TRAIL COMPONENT OF COMMUNITY TRAIL
-  LOCAL TRAIL
-  PATHWAY
-  UNIMPROVED TRAIL

TRAIL SECTIONS

- SECTIONS A1 & A2 EXHIBIT 2.4-6
- SECTIONS B1 & B2 EXHIBIT 2.4-7
- SECTIONS C & D EXHIBIT 2.4-8



SOURCE: Newhall Ranch Specific Plan – May 2003

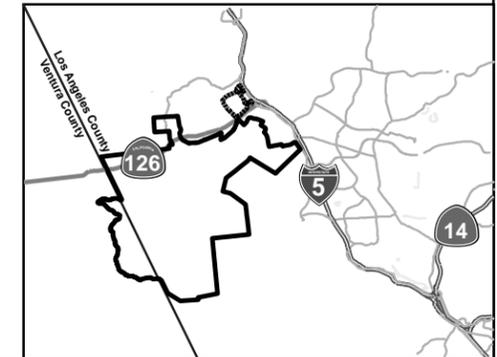
FIGURE 2.0-10

SPECIFIC PLAN MASTER TRAIL PLAN



Legend:

-  **WATER TANK SITE (POTABLE AND/OR RECLAIMED)**
-  **PUMP STATION**
-  **PRESSURE REDUCTION STATION**
-  **POTENTIAL AQUIFER STORAGE AND RECOVERY WELLS (ASR)**
-  **WATER AND/OR RECLAIMED WATER LINES**
-  **WATER RECLAMATION PLANT**



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-11

SPECIFIC PLAN CONCEPTUAL BACKBONE WATER PLAN

2.5.1.3.5 Sanitary Sewer

The Specific Plan Conceptual Backbone Sewer Plan is found on Exhibit 2.5-3 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-12**.¹⁰ The plan sets forth a conceptual system for sewage collection that includes the Newhall Ranch WRP, a collection system with pump stations, and both gravity and force mains/siphons. All facilities of the sanitary sewer system are to be designed and constructed for maintenance by the County of Los Angeles and/or the Sanitation Districts in accordance with their criteria, procedures, and requirements.

2.5.1.4 Recreation and Open Areas

Section 2.8 of the approved Specific Plan (May 2003) includes recreation and open area components. The Specific Plan Recreation/Open Area Plan is depicted on Exhibit 2.8-1 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-13**. The Specific Plan's recreation and open area components consist of parks, golf course, community lake, trails, and three major open areas. The components were assessed in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 4.20, Parks, Recreation, and Trails. Each component is summarized below.

2.5.1.4.1 Neighborhood and Community Parks

The Specific Plan Land Use Plan (**Figure 2.0-7**) features 10 neighborhood parks dispersed throughout the Specific Plan and sited to meet the anticipated needs of Newhall Ranch residents. In addition, there are three approved community parks. The community parks include the Oak Valley community park, the Landmark Village community park, and the Mission Village community park.

2.5.1.4.2 Community Lake/Golf Course

A man-made community lake and golf course are approved as part of the Potrero Valley Village. The 15-acre lake and 180-acre golf course are to be situated in the central portion of the Potrero Valley Village to provide recreational amenities for the entire community. Scenic views of the lake would be provided from both commercial and residential areas. A pedestrian pathway along the lake would provide residents and Potrero Valley Village visitors with active and passive recreation opportunities.

2.5.1.4.3 Trail Network

A network of trails is approved throughout the Specific Plan site. The community-wide system of pedestrian, bicycle, equestrian, and unimproved trails would provide important linkages between land uses.¹¹ When completed, the Specific Plan trails system would implement the County trail network in the area and provide access to the regional trail system within and adjoining the Specific Plan site.

¹⁰ The Newhall Ranch Revised Draft EIR (March 8, 1999) assessed the Specific Plan's wastewater generation, disposal, and treatment issues in Section 4.12, Wastewater Disposal, and Section 5.0, which addressed the Specific Plan's WRP impacts, mitigation measures, and significant unavoidable impacts.

¹¹ Please refer to **Figure 2.0-10**, above, which depicts the approved Specific Plan Master Trails Plan.

2.5.1.4.4 *Open Area*

The Specific Plan Major Open Areas land use designation provides opportunities for active and passive recreation within the Specific Plan site. The Open Area designation encompasses approximately 1,010 acres of land through the central portion of the Specific Plan's development areas. The Specific Plan Major Open Areas are depicted on Exhibit 2.6-1 of the approved Specific Plan, which is reproduced and shown on **Figure 2.0-14**. The Open Area includes community parks, significant landforms and ridges, creeks and drainages, oak woodland and savannahs, utility and trail system easements, and often functions as a transition between Specific Plan development areas to the River Corridor and High Country SMAs.

2.5.1.5 Conservation and Special Management Areas

The Specific Plan Land Use Plan (**Figure 2.0-7**) designates a total of approximately 5,180 acres for the River Corridor and High Country SMAs. The location of the SMAs is depicted on Exhibit 2.3-1 (Land Use Plan) and Exhibit 2.6-1 (Major Open Areas) of the approved Specific Plan. In this EIS/EIR, please refer to **Figure 2.0-7** (Land Use Plan) and **Figure 2.0-14** (Major Open Areas).

The River Corridor SMA is generally 1,500 to 2,000 feet wide and is located along the north and south sides of the Santa Clara River. The High Country SMA is located in the southern portion of the Specific Plan site. The SMAs are designed primarily to protect the existing natural resources within Los Angeles County's Significant Ecological Areas, SEA 20 and SEA 23. Limited public access through the SMAs would be provided by the trail system to be developed, consistent with the Specific Plan Master Trails Plan (**Figure 2.0-10**). Additional information regarding the two SMA/SEA areas is included in the Newhall Ranch Revised Draft EIR (March 8, 1999), Section 4.6, Biota, and the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003), Section 2.4, SEA General Plan Consistency. The two SMAs/SEAs, and other important preserve/conservation areas on and adjacent to the Specific Plan site, is summarized below.

2.5.1.5.1 *River Corridor SMA*

The approximately 975-acre River Corridor SMA/SEA 23 includes preservation areas along the Santa Clara River within the Specific Plan site.¹² The value of the River Corridor SMA/SEA 23 is derived from the inherent value of its wetland and riparian habitats and associated species, and from its function as a regional wildlife corridor. Four federally-listed endangered species and numerous other sensitive species have been observed or detected in riparian habitats of the Santa Clara River. These wildlife species include the state and federally-listed endangered unarmored three-spine stickleback (*Gasterosteus*

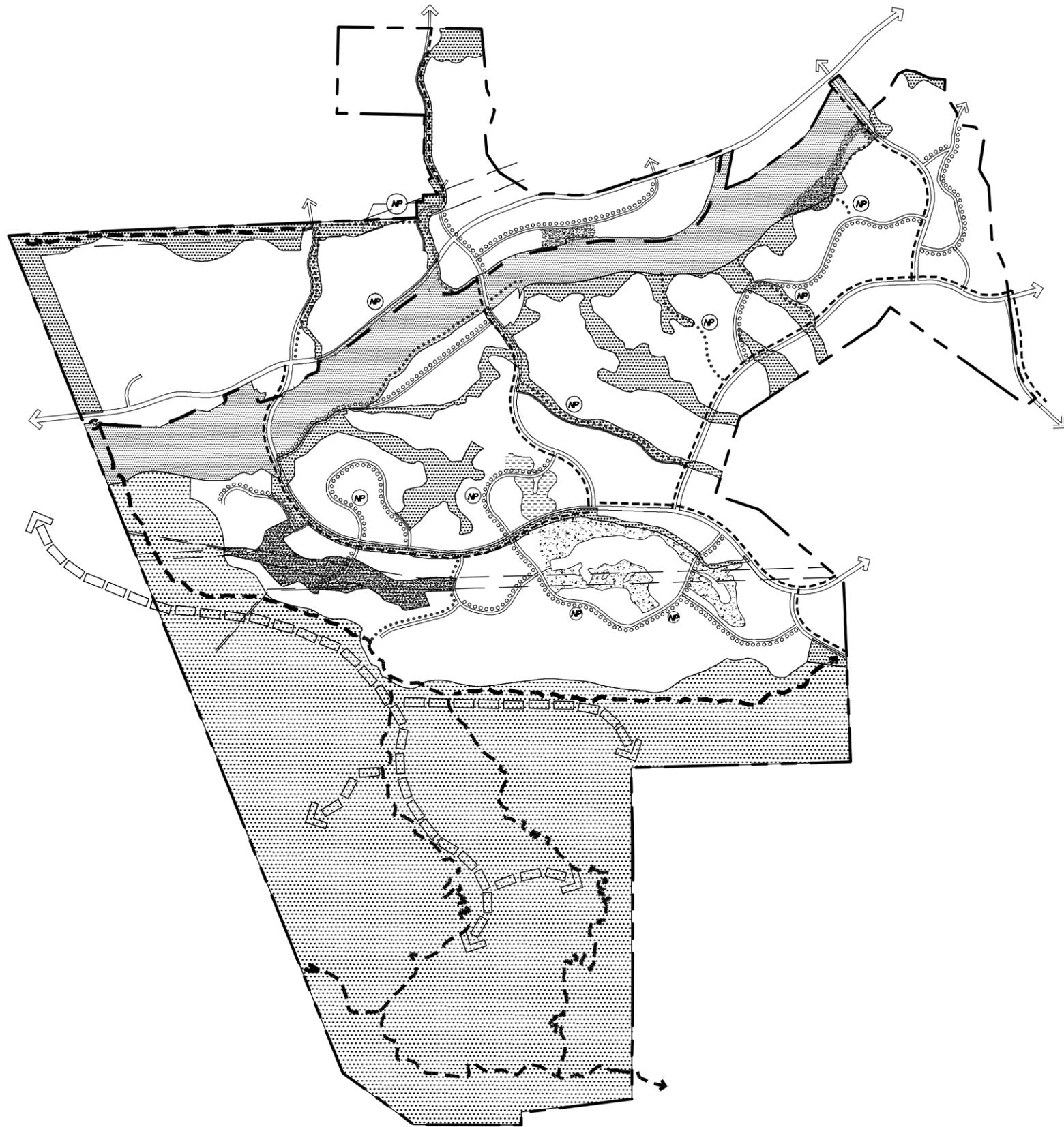
¹² The approved Specific Plan identified the acreage within the River Corridor SMA/SEA 23 as a total of 975 acres. Based on more recent project-specific data, the River Corridor total gross acreage amount is approximately 977 acres. Of this amount, approximately 71 acres are devoted to three bridges, bank stabilization, trails, haul routes, utility crossings, water quality control and conveyance facilities, and viewing platforms. Thus, the River Corridor's total *net* conservation acreage is approximately 900 acres.



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-12

SPECIFIC PLAN CONCEPTUAL BACKBONE SEWER PLAN



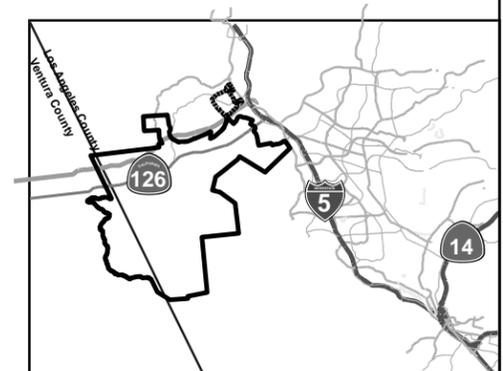
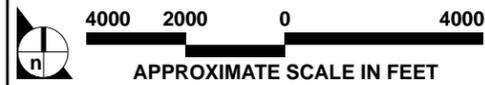
Legend:

RECREATION AREAS

-  NEIGHBORHOOD PARK (Conceptual locations with Residential Neighborhoods)
-  COMMUNITY PARKS
-  GOLF COURSE (Conceptual location)
-  COMMUNITY LAKE (Conceptual location)
-  REGIONAL RIVER TRAIL
-  COMMUNITY TRAIL
-  EQUESTRIAN TRAIL COMPONENT OF COMMUNITY TRAIL
-  LOCAL TRAIL
-  PATHWAYS
-  UNIMPROVED TRAILS

MAJOR OPEN AREAS

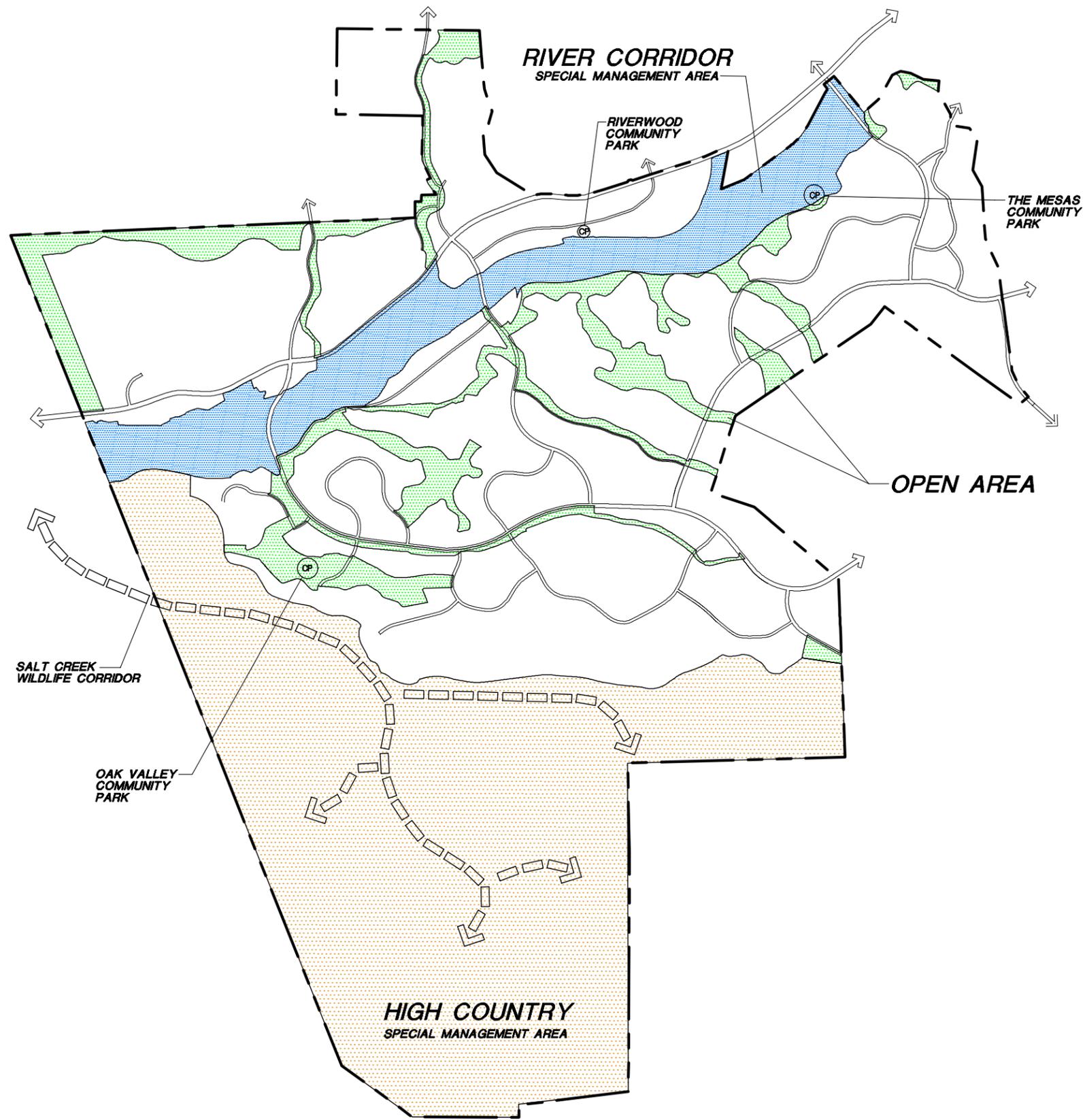
-  OPEN AREA
-  SPECIAL MANAGEMENT AREA - RIVER CORRIDOR
-  SPECIAL MANAGEMENT AREA - HIGH COUNTRY
-  WILDLIFE CORRIDOR



SOURCE: Newhall Ranch Specific Plan – May 2003

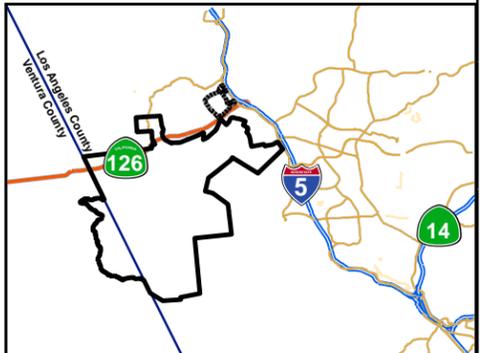
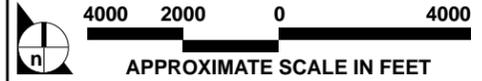
FIGURE 2.0-13

SPECIFIC PLAN RECREATION/OPEN AREA PLAN



Legend:

-  **OPEN AREA**
 - SIGNIFICANT LANDFORMS
 - MAJOR CREEKS AND DRAINAGES
 - OAK WOODLAND AND SAVANNAHS
 - COMMUNITY PARKS (CP)
 - CULTURAL SITES
-  **RIVER CORRIDOR**
 - SPECIAL MANAGEMENT AREA (SEA #23)
-  **HIGH COUNTRY**
 - SPECIAL MANAGEMENT AREA (SEA #20)
 -  SALT CREEK WILDLIFE CORRIDOR
-  **SPECIFIC PLAN BOUNDARY**



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-14

Specific Plan Major Open Areas

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aculeatus williamsoni); Southwestern willow flycatcher (*Empidonax traillii extimus*); and least Bell's vireo (*Vireo bellii pusillus*); and the federally-listed endangered arroyo toad (*Bufo californicus*). The Santa Clara River is also an important migration and genetic dispersion corridor for many wildlife species, including aquatic taxa, riparian-obligate species (resident and migratory), and larger more mobile terrestrial animals. The Specific Plan's River Corridor SMA also comprises a portion of Los Angeles County's SEA 23.

The Specific Plan's previously adopted Resource Management Plan requires a permanent, non-revocable conservation and public access easement to be offered to the County of Los Angeles over the portion of the River Corridor SMA/SEA 23 within each Newhall Ranch subdivision. The easement is to be offered upon completion of development of all land uses, utilities, roads, flood control improvements, bridges, trails, and other improvements necessary for implementation of the Specific Plan within that subdivision allowing construction within or adjacent to the River Corridor SMA/SEA 23. The Resource Management Plan also contains a mitigation and habitat management program for the River Corridor SMA/SEA 23.¹³ Mitigation for the Specific Plan's impacts on riparian resources includes habitat restoration and enhancement activities. Habitat restoration refers to the revegetation of native plant communities on sites that have had the habitat removed due to past activities. Enhancement refers to the rehabilitation of areas of native habitat that have been moderately disturbed by past activities. A new Regional River Trail providing limited public access would be established on the north side of the River.

Prior to recording the River Corridor SMA/SEA 23 conservation and public access easement to Los Angeles County, the applicant is to provide a plan for the permanent ownership and management of the River Corridor SMA/SEA 23, including any necessary funding. This plan is to include the transfer of ownership of the River Corridor SMA/SEA 23 to the Center for Natural Lands Management. Long-term management strategies for the River Corridor SMA/SEA 23 include limitations on grazing, prohibition of agriculture, and limiting recreational activities to the use of the established trail system. The conservation and public access easement must be consistent with any other conservation easements to state or federal resource agencies, which may have been granted as part of the mitigation actions required by state and federal permits.

2.5.1.5.2 *High Country SMA*

The largest land use designation of the Newhall Ranch Specific Plan Land Use Plan (**Figure 2.0-7**) is the approximate 4,205-acre High Country SMA/SEA 20. The High Country SMA/SEA 20 is located in the southern portion of the Specific Plan site and includes oak savannahs, high ridgelines, and various canyon drainages, including the Salt Creek watershed in Los Angeles County. Salt Creek is a regionally significant wildlife corridor that provides an important habitat link to the Santa Clara River. The Santa Clara River is an important east-west riparian corridor within the Specific Plan site. This corridor also serves as an important connection between the upland habitats to the north and south of the River. Specifically, large expanses of undeveloped land (*i.e.*, Salt Creek in Los Angeles County) allow for the

¹³ This program is found in the Specific Plan's Resource Management Plan, Section 2.6, pp. 2-92 through 2-107.

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movement of wildlife to the River and back. Salt Creek also provides wildlife movement connectivity between the River Corridor SMA/SEA 23 and the High Country SMA/SEA 20.

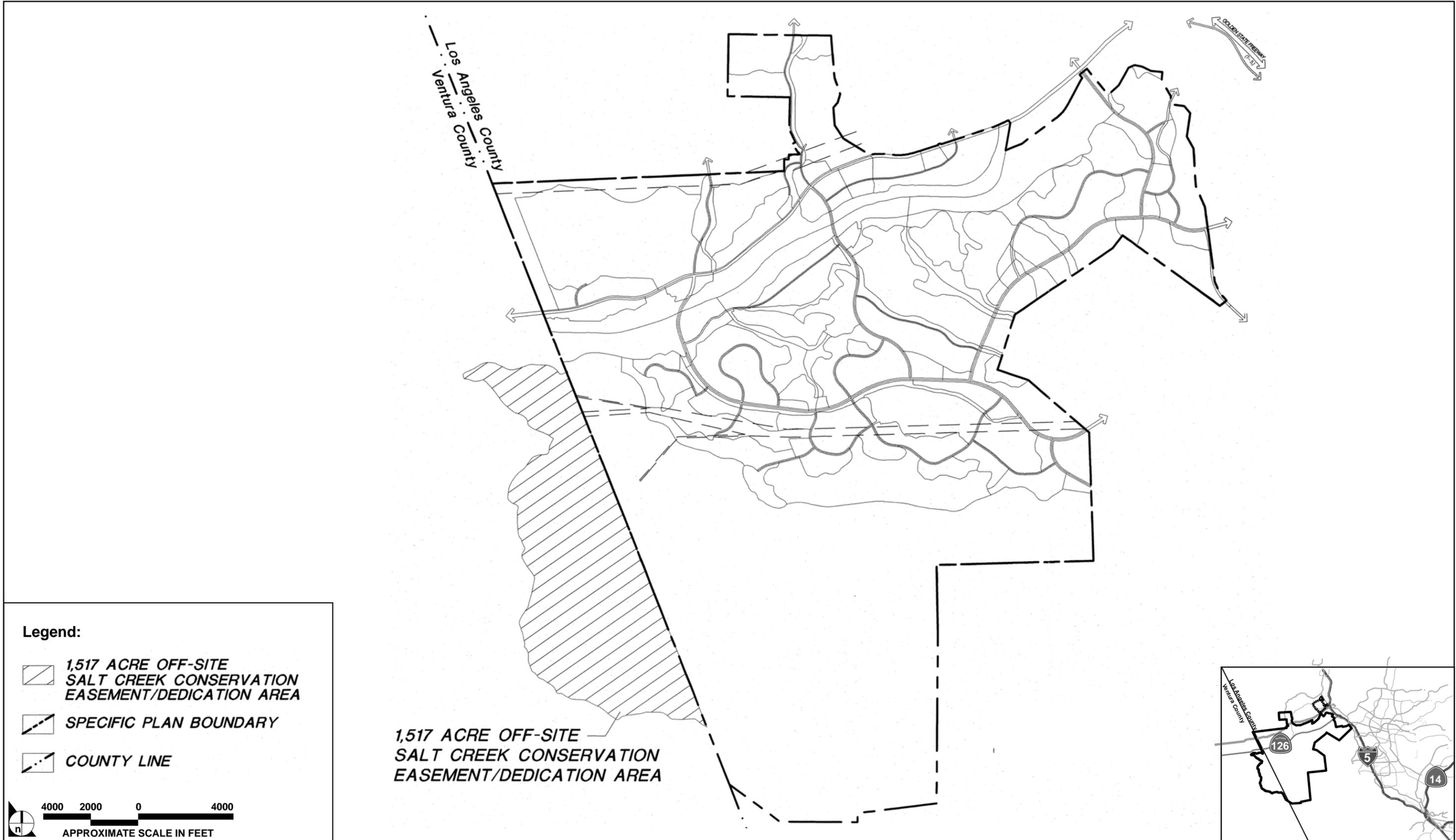
The Specific Plan's previously adopted Resource Management Plan requires the High Country SMA/SEA 20 to be dedicated in fee to a JPA consisting of representatives from the Los Angeles County (four members), the City of Santa Clarita (two members), and the Santa Monica Mountains Conservancy (two members). The JPA would have overall responsibility for recreation within and conservation of the High Country SMA/SEA 20. The Center for Natural Lands Management would be responsible for resource conservation and management in the High Country SMA/SEA 20. An assessment district would be formed under the authority of the Los Angeles County Board of Supervisors to generate revenue to be distributed to the JPA for recreation, maintenance, construction, conservation, and related activities within the High Country SMA/SEA 20.

Prior to dedication in fee of the High Country SMA/SEA 20, the Specific Plan requires that a conservation and public access easement be offered to the County of Los Angeles and that a conservation and management easement be offered to the Center for Natural Lands Management. The Specific Plan also requires that the County's conservation and public access easement be consistent with any other conservation easements to state or federal resource agencies, which may have been granted as part of the mitigation actions required by state and federal permits. In addition, the conservation and public access easement is to prohibit grazing within the High Country SMA/SEA 20, except for those grazing activities associated with long-term resource management plans; and restrict recreation to the established trail system.

Pursuant to the Specific Plan, the High Country SMA/SEA 20's dedication in fee is to occur in three approximately equal phases of about 1,400 acres each, proceeding from north to south within the Specific Plan site, as follows: (a) the first offer of dedication would take place with issuance of the 2,000th residential building permit of the Specific Plan; (b) the second offer of dedication would take place with issuance of the 6,000th residential building permit; and (c) the remaining offer of dedication would be completed by the 11,000th residential building permit.

2.5.1.5.3 *Salt Creek Dedication and Management Area*

As part of its approval of the Specific Plan in 2003, the Los Angeles County Board of Supervisors imposed an off-site condition requiring the applicant to dedicate to the public the approximate 1,517-acre portion of the Salt Creek watershed in Ventura County, adjacent to the western boundary of the Specific Plan site. **Figure 2.0-15** depicts the off-site Salt Creek area in relation to the Newhall Ranch Specific Plan. The applicant is required to satisfy this condition by dedicating the Salt Creek area in fee and/or by conservation easement to the JPA, which is responsible for overall recreation and conservation of the High Country SMA/SEA 20. The Salt Creek area is to be managed in conjunction with and in the same manner as the High Country SMA/SEA 20. Protection of the Salt Creek area in both Los Angeles County and Ventura County enhances the Specific Plan's compatibility with animal movement in the region.



SOURCE: Impact Sciences, Inc. – May 2003

FIGURE 2.0-15

OFF-SITE SALT CREEK AREA IN RELATION TO SPECIFIC PLAN AREA

The Specific Plan's previously approved Resource Management Plan identified the High Country SMA/SEA 20 as a primary location for mitigating impacts that would occur within the development areas of the Specific Plan. The Salt Creek area provides similar mitigation opportunities. Both the High Country SMA/SEA 20 and the Salt Creek area provide mitigation opportunities for oak resources, slender mariposa lily, coastal sage scrub, and wetland creation, restoration, and enhancement, and other sensitive biological resources.¹⁴

Although the Salt Creek area was identified as an off-site area during the Specific Plan approval process by Los Angeles County, the area is within the RMDP boundary, and is considered on-site for purposes of the proposed Project.

2.5.1.5.4 *Spineflower CDFG Conservation Easements*

Two conservation easements already have been granted to CDFG for the purpose of conserving populations of spineflower found on the Specific Plan site. The easements are located on the south side of the River, and include a 20-acre preserve at Airport Mesa (east of Middle Canyon) and a 44-acre preserve at Grapevine Mesa (east of Humble Canyon). The conservation easements granted to CDFG are found in the approved Specific Plan (Appendix Volume II, Section 7.8). **Figure 2.0-16** and **Figure 2.0-17** depict the existing Airport Mesa and Grapevine Mesa spineflower conservation easement location areas, respectively.

2.5.1.5.5 *Spineflower Special Study Mitigation Overlay and Preserve Program*

The Specific Plan's previously approved Resource Management Plan includes the Specific Plan's Spineflower Special Study Mitigation Overlay, which is depicted on **Figure 2.0-18**. Impacts to known spineflower populations within the overlay zone are to be avoided or minimized. The purpose of the overlay zone is to identify those locations within the Specific Plan site where spineflower preserves are to be established to protect spineflower populations, in consultation with Los Angeles County and CDFG. Spineflower preserves are to be configured such that open space connections can be made to the designated Open Areas, the River Corridor SMA/SEA 23, or the High Country SMA/SEA 20 to the extent practicable. Buffers with variable widths of 80 to 200 feet are to be established between development and spineflower populations not connected to designated Open Areas, the River Corridor SMA/SEA 23 or the High Country SMA/SEA 20. The overlay is to be implemented in conjunction with the spineflower mitigation program set forth in the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003), Section 2.6.7.

The proposed SCP, an element of the proposed Project, implements requirements of the Specific Plan's mitigation overlay zone and spineflower mitigation program. These requirements are applicable to three designated areas on the Specific Plan site: Airport Mesa, Grapevine Mesa, San Martinez Grande (see

¹⁴ For further information regarding mitigation opportunities for slender mariposa lily, coastal sage scrub, oak tree/woodland, and wetlands creation/restoration/enhancement within the High Country SMA/SEA 20, please refer to the Biological Resources Technical Report for the Newhall Ranch High Country Special Management Area and Salt Creek Area (Dudek, October 2006B), a copy of which is located in **Appendix 4.5** of this EIS/EIR.

Figure 2.0-18). The proposed SCP also addresses two additional spineflower preserve areas that were not designated at the time the Specific Plan was approved in May 2003, namely the Potrero Canyon preserve and the Entrada preserve, both of which are within the SCP study area (see **Figure 2.0-4**).

2.5.1.6 Specific Plan Conceptual Grading Plan

The Specific Plan Conceptual Grading Plan, Exhibit 2.7-1, identifies the graded and ungraded areas within the Specific Plan site, and is reproduced and shown on **Figure 2.0-19**. The grading would balance cut and fill areas and entail mass grading for development areas, final grading for development pads, remedial grading based on site-specific soils and geologic investigations, and custom grading. The mass grading component consists of rough grading operations that provide for major roads and infrastructure, and for developable sites to accommodate the various approved land uses within the Specific Plan. For each individual development project, a detailed final grading plan in accordance with Los Angeles County regulations would be submitted to the County for review and approval concurrent with the submittal of construction-level subdivision maps, and other construction-level infrastructure and improvement plans.

2.5.1.7 Newhall Ranch Specific Plan Implementation Process

Implementation of the Specific Plan would be carried out through the application and processing of subdivision maps, conditional use permits, and other entitlements through Los Angeles County. All subdivision maps must be submitted, reviewed, and approved by the County in accordance with the Specific Plan, the County's Subdivision Ordinance, and the Subdivision Map Act. Where the provisions or procedures of the County's Subdivision Ordinance conflict with the provisions of the Specific Plan, the Specific Plan would apply. The Specific Plan implementation process is described in Section 5.2 of the approved Specific Plan (May 2003).

2.5.1.7.1 *Specific Plan/Project Phasing*

The Specific Plan includes a phasing program. The primary intent of the Specific Plan's Phasing Program is to correlate appropriate infrastructure requirements to site development. To allow for flexible phasing, the Specific Plan has been planned so that development can occur independently on different parts of the site, and these areas may be built out in any order. Concurrent development also may occur to allow for maximum efficiency of infrastructure implementation and to meet market demand. The sequence of development for the Specific Plan is influenced by the economy, the rate of growth of other regional projects, and changes in regional infrastructure/public facilities conditions and needs. As these factors change during the course of the build-out process, necessary adjustments in corresponding infrastructure requirements would be instituted. Complete build-out of the Specific Plan development is anticipated to occur over an approximate 20-year period. The phasing approach is described in Section 5.3 of the approved Specific Plan (May 2003). Based on the Specific Plan's phasing, the applicant has provided an updated phasing plan for the RMDP and SCP components of the proposed Project, and the Specific Plan development phasing facilitated by approval of the proposed Project. **Table 2.0-1** describes this updated phasing plan.



SOURCE: DUDEK, PACE 2008

FIGURE 2.0-16

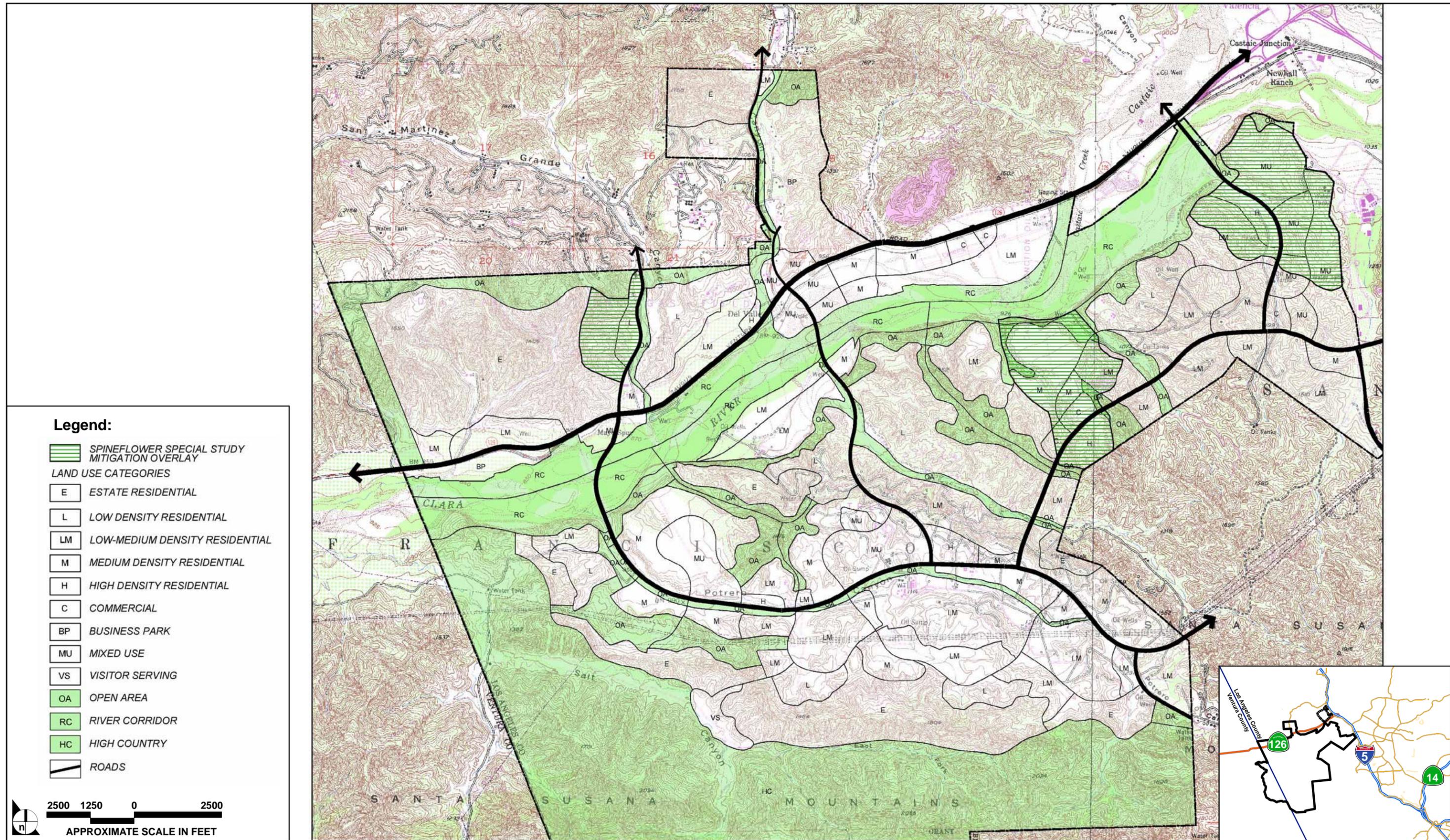
AIRPORT MESA SPINEFLOWER
 CONSERVATION EASEMENT LOCATION MAP



SOURCE: DUDEK, PACE 2008

FIGURE 2.0-17

GRAPEVINE MESA SPINEFLOWER
CONSERVATION EASEMENT LOCATION MAP

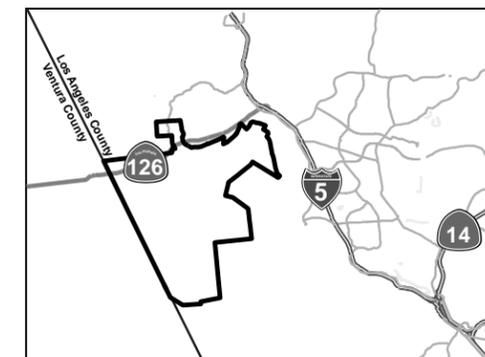
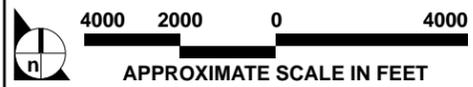


SOURCE: Newhall Ranch Specific Plan – May 2003



Legend:

-  GRADED AREA
-  UNGRADED AREA



SOURCE: Newhall Ranch Specific Plan – May 2003

FIGURE 2.0-19

SPECIFIC PLAN CONCEPTUAL GRADING PLAN

**Table 2.0-1
Project Phasing**

Name	Beginning	Ending
RMDP/SCP	2009	2030
Water Reclamation Plant	2009	2009
Landmark Village	2009	2014
Mission Village	2009/2010	2026
Homestead Village	2011	2030
Potrero Village	2012	2030
Valencia Commerce Center	Partially Developed	2014
Entrada	2011	2020

Source: The Newhall Land and Farming Company, 2008.

2.5.1.7.2 Phasing Mechanisms

The basic phasing mechanism for Specific Plan development facilitated by the proposed Project is the tentative subdivision map. As each map is processed, infrastructure requirements for that subdivision will be established. The infrastructure requirements for each tentative subdivision map will be consistent with the Conceptual Backbone Infrastructure systems set forth in the approved Specific Plan. The Specific Plan provides the flexibility to adapt development phasing to changes precipitated by a fluctuating economy and regional infrastructure/public facility conditions. For example, the locations of public facilities, such as parks and schools, which have been designated in the Specific Plan Land Use Plan are preliminary and will be defined at the time the subdivision map is submitted to Los Angeles County. The use of this program allows for land use allocation and phased planning, while maintaining the necessary flexibility to adapt to changing market conditions. The mechanism for phased development is described in Section 5.3 of the approved Specific Plan (May 2003).

2.5.1.7.3 Implementation Status of Specific Plan Development Projects

The applicant is currently processing four Specific Plan development projects, which implement portions of the approved Specific Plan. The status of each project is summarized below.

Landmark Village. The project applicant proposes to develop the 292.6-acre Landmark Village tract map site, located within the boundary of the approved Specific Plan. The Landmark Village site is located immediately west of the confluence of Castaic Creek and the Santa Clara River. The Santa Clara River forms the southern boundary of the project site, while the northern boundary is defined by SR-126, in the vicinity of the SR-126/Wolcott Way/Franklin Avenue intersection and the SR-126/Chiquito Canyon/Long Canyon Road intersection. The eastern boundary abuts Castaic Creek.

The land uses proposed as part of the Landmark Village tract map are consistent with the approved Specific Plan. The Specific Plan's approved Land Use Plan designates the tract map site for single- and

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multi-family residential, mixed-use, and commercial land uses.¹⁵ The Landmark Village tract map proposes construction of 1,444 residential dwelling units (308 single-family units, 1,136 multi-family units), 1,033,000 square feet of mixed-use/commercial uses, elementary school, fire station, community park, public and private recreational facilities, trails, and road improvements.

To facilitate development of the Landmark Village tract map site, several components would be developed on portions of the Project area outside of the Landmark Village tract map site. These components include the following:

- A cut and fill grading operation, which includes fill imported to the tract map site from a 215-acre borrow site located south of the Santa Clara River (the Adobe Canyon borrow site), and grading to accommodate improvements to SR-126 and debris basins for stormwater flows collected by the tract map's storm drainage system on approximately 120 acres of land, located directly north of SR-126 within Chiquito Canyon (Chiquito Canyon grading site);
- A utility corridor along the south side of SR-126 extending from the existing Valencia WRP on the east to the approved Newhall Ranch WRP on the west, which would serve to extend municipal services to and from the tract map site;
- New water tanks for potable and recycled water to serve the tract map site;
- Construction of the Long Canyon Road Bridge, bank stabilization, and water quality/storm drain improvements.

The entire Landmark Village project site comprises approximately 1,044 gross acres. The applicant is requesting approval of the following discretionary entitlements to allow for construction of the proposed Landmark Village project site: (a) General Plan, Area Plan and Specific Plan Amendments; (b) Vesting Tentative Tract Map No. 53108; (c) SEA Conditional Use Permit (CUP) for project-level development within the Specific Plan's River Corridor SMA/SEA 23 boundaries; (d) Oak Tree Permit; (e) Off-Site Soil Transport Approval; (f) CUP for off-site grading; and (g) modification to adopted County floodway limits. Additional ministerial actions, such as grading permits, building plan review and building permits, would be required by the County prior to actual grading and construction of the proposed Landmark Village project site.

The NOP of the EIR for the Landmark Village project was issued by the County of Los Angeles in January 2004. The Landmark Village Draft EIR was released for public review in November 2006. In November 2007, the Landmark Village Final EIR was released. The Landmark Village EIR will be recirculated in 2009. The Landmark Village project and associated EIR is expected to proceed to the Los Angeles County Board of Supervisors in late 2009.

Mission Village. The Mission Village project is proposed on the approximately 1,252-acre tract map site located within the northeastern portion of the approved Specific Plan. Proposed development on the tract

¹⁵ See, Specific Plan (May 2003), Exhibit 2.3-1, Land Use Plan, Table 2.3-1, Specific Plan Overall Land Use Plan Statistical Table, and Exhibit 2.3-2, Village Plan.

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map site includes 5,331 residences (291 single-family homes, and 5,040 multi-family units, including attached and detached condominiums, and apartment units), approximately 1.3 million square feet of commercial/mixed-uses, elementary school, fire station, public library, parks, public and private recreational facilities, trails, and road improvements. Other land uses within the tract map site include a spineflower preserve in the northeastern portion of the Mission Village site. Other facilities and infrastructure proposed on the tract map site include roads (including the Commerce Center Drive Bridge and southerly abutment), trails, drainage improvements, flood protection (including buried bank stabilization within and adjacent to the Santa Clara River), potable and reclaimed water systems, a sanitary sewer system, and dry utility systems. To facilitate development and operation of the Mission Village tract map, several components would be implemented on portions of the Project area outside of the Mission Village tract map site. These components include:

- A utility corridor along the south side of SR-126 extending from the existing Valencia WRP on the east to the approved Newhall Ranch WRP on the west, which would serve to extend municipal services to and from the tract map site.
- To provide access to Magic Mountain Parkway and Westridge Parkway, the two roadways would be extended to the east and south, respectively, of the tract map site.
- Two water tanks (reclaimed and potable) that would be constructed on a single site, a portion of which lies to the south of the tract map boundary.
- A fire station would be constructed just east of the Mission Village tract map site and north of the Magic Mountain Parkway extension (Entrada SCP planning area).
- A water quality basin would be constructed northeast of the proposed project on 12.5 acres of land (9.5 acres off-site and 3 acres within the tract map site). A small portion of the water quality basin and a portion of the access road to the site are located within the tract map site.

The project applicant is requesting approval of the following discretionary entitlements to allow for construction of the proposed Mission Village project site: (a) Vesting Tentative Tract Map No. 061105; (b) SEA CUP No. RCUP200500080 for project-level development, including utilities within the Specific Plan's River Corridor SMA/SEA 23 boundaries; (c) CUP No. RCUP200500081 for grading associated with off-site improvements, including extension of Westridge Parkway, extension of Magic Mountain Parkway, utility corridor, fire station, water quality basin, electrical substation, and to authorize 73 secondary units and off-site water tanks with grading associated with the tank locations; (d) Oak Tree Permit No. ROAK200500032 (project site); (e) Oak Tree Permit No. T200500043 (off-site extension of Magic Mountain Parkway); and (f) Substantial conformance determinations pertaining to Grading Hillside Management Guidelines, setback standards, off-site, reciprocal and shared parking, and proposed trails sections. Additional ministerial actions, such as grading permits, building plan review and building permits, would be required by Los Angeles County prior to actual grading and construction of the proposed Mission Village project site.

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The NOP of the EIR for the Mission Village project was issued by Los Angeles County in June 2005. The Mission Village Draft EIR is expected to be released for public review in 2009.

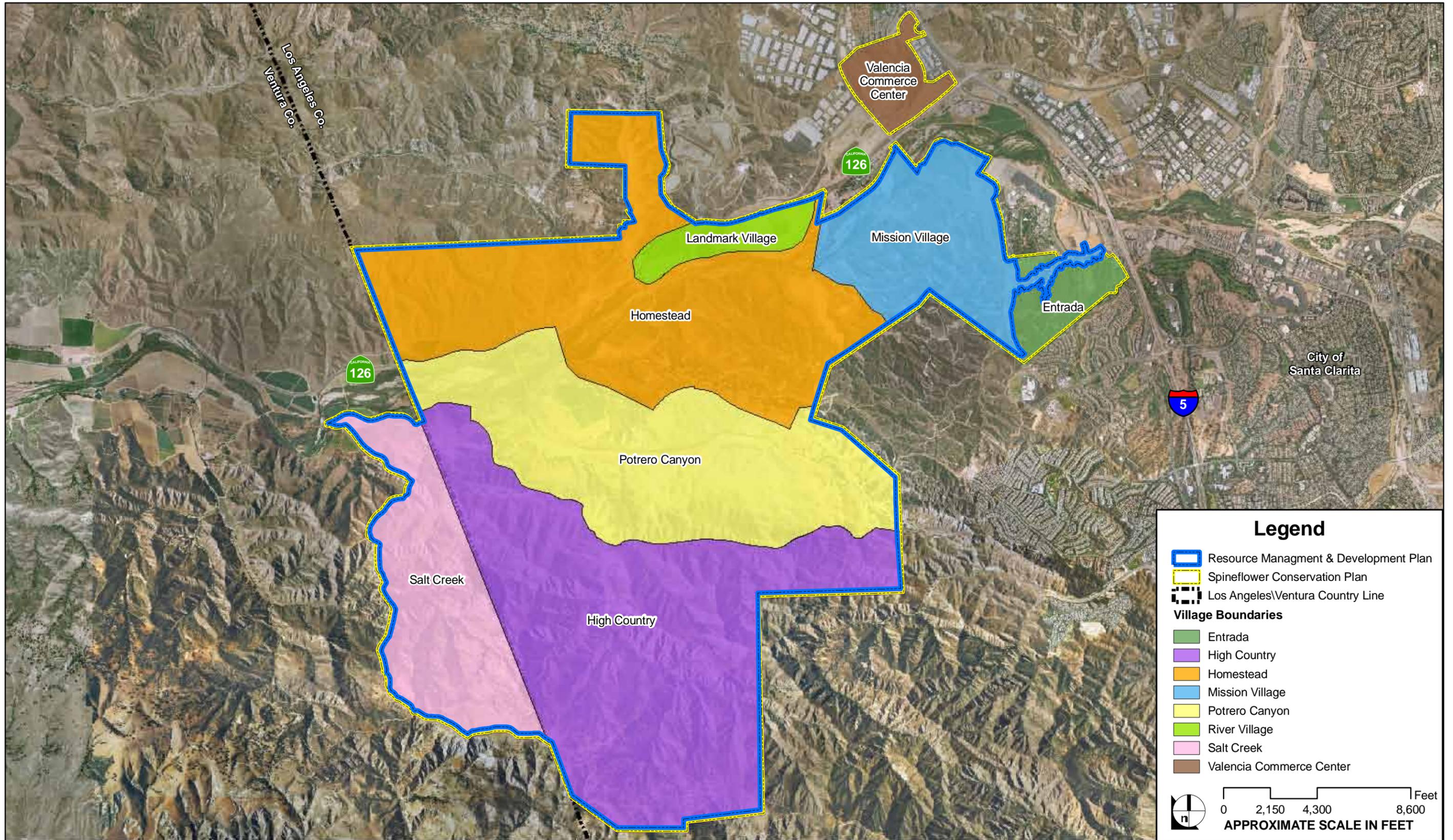
Figure 2.0-20 depicts the location of the updated Specific Plan villages, including River Village, Mission Village, Potrero Canyon, and Homestead. This figure also depicts the High Country, the Salt Creek area, and the VCC and Entrada planning areas.

Newhall Ranch WRP. The applicant is currently processing plans for construction of the Newhall Ranch WRP, which would provide wastewater treatment, disposal, and reclamation of treated water for reuse within the Specific Plan. The approved WRP would be constructed in one of the Specific Plan business parks, near the western edge of the Specific Plan area, along the south side of SR-126. The WRP is to be constructed in stages, as the Specific Plan is developed, and would ultimately be sized to treat up to 6.8 mgd of wastewater when the Specific Plan is fully developed. The WRP is to be designed and operated to provide tertiary treatment would a near zero-discharge system, which means that the system would reclaim all treated wastewater for re-use within the Specific Plan for irrigation purposes, except for potentially wet winters when irrigation demands would be lower, requiring the discharge of unused reclaimed water to the Santa Clara River during periods of high river flow. As stated above, since approval of the Specific Plan by Los Angeles County, the LAFCO completed formation of the Newhall Ranch County Sanitation District. The new County sanitation district was formed effective July 27, 2006.

In addition, on September 6, 2007, the Regional Water Quality Control Board, Los Angeles Region, approved Order No. R4-2007-0046, NPDES Permit No. CA0064556, effective October 27, 2007. This Order serves as the NPDES Permit for point source discharges from the Newhall Ranch WRP, pursuant to section 402 of the federal Clean Water Act and chapter 5.5, division 7 of the California Water Code. The Order also serves as the Waste Discharge Requirements for the new County Sanitation District with respect to discharges to the Santa Clara River, pursuant to article 4, chapter 4, of the California Water Code. Specifically, the Order specifies limitations and discharge requirements for the Newhall Ranch WRP, including discharge prohibitions, technology-based and water quality-based effluent limitations, receiving water limitations, and other provisions such as monitoring and reporting requirements.

Construction of the WRP will require outfall construction and other facilities in and near the Santa Clara River. As a result, the applicant has requested the section 404 permit and the Master Streambed Alteration Agreement to allow for all such facilities. The WRP also will require access to and from SR-126.

Homestead. The applicant proposes to develop the Homestead tract map site, located within the boundary of the approved Specific Plan, north of SR-126 between San Martinez Grande Canyon Road and the Los Angeles County/Ventura County line (see **Figure 2.0-20**). The proposed Homestead tract map consists of a total of 5,777 single-family and multi-family residences, 1.25 million square feet of commercial uses, elementary schools, neighborhood parks, junior high school, and high school, trails, and other amenities. A tract map submittal has been made to Los Angeles County; however, there has been no NOP of the EIR for the Homestead project, and no date has been provided for release of the Draft EIR.



SOURCE: PACE 2008

FIGURE 2.0-20
 SPECIFIC PLAN VILLAGES
 & SCP PLANNING AREAS

Potrero Canyon/Village. The applicant proposes to develop the Potrero Village site, located within the boundary of the Specific Plan, south of SR-126 and east of the Los Angeles County/Ventura County line (see **Figure 2.0-20**). Potrero Village would include up to 8,333 single-family and multi-family residences and up to one million square feet of commercial uses. An elementary school, parks, trails, golf course, fire station, and other amenities would be included within Potrero Village. At this time, the applicant has not filed a tract map(s) or environmental documentation with Los Angeles County for Potrero Village within the Specific Plan site. The filing of a tract map with the County of Los Angeles is expected in 2009.

2.5.2 Valencia Commerce Center Planning Area

The VCC planning area is included in the Project area to address all the spineflower occurrence areas within the applicant's land holdings in Los Angeles County. The VCC planning area is located roughly in the northwest corner of the junction of I-5 and SR-126, generally northeast of both the Specific Plan site and the Entrada planning area (see **Figure 2.0-5**). As explained below, the VCC planning area is the remaining undeveloped portion of the VCC commercial/industrial complex currently under development by the applicant. Because of the need to complete the VCC commercial/industrial complex, and because the spineflower population within the VCC planning area represents a very small percentage (approximately four percent or less) of the total spineflower within the Project area, the applicant's proposed SCP does not include a spineflower preserve at that location.

2.5.2.1 VCC's Existing Setting

The VCC site is dominated by north/south trending ridges that lie north of Castaic Creek, near the confluence with Hasley Canyon. Site elevations range from just under 1,000 feet AMSL in the Castaic Creek bottom to just over 1,500 feet AMSL at the top of the western ridge. The ridges are generally rounded at the top with slopes that vary from steep to gentle. Aside from the ridges, the two major wash areas on the VCC planning area, Castaic Creek and Hasley Canyon, contain flood control protection and benches and braided channels with associated riparian/wash scrub habitats.

Native and naturalized habitats within the VCC planning area include representative examples of those plant communities found in the Santa Susana, Topatopa, and Liebre mountains and the Santa Clara River and Castaic Creek ecosystems. Upland habitats dominate the landscape within the study area (*e.g.*, California sagebrush scrub, California annual grasslands); however, Castaic Creek and Hasley Canyon support a variety of riparian plant communities (*e.g.*, herbaceous wetland, southern cottonwood-willow riparian forest, and mulefat scrub). No observations were made of any coastal and valley freshwater marsh or seep areas in the study area.

Historically, the applicant has leased portions of the VCC area for sand and gravel production, cattle grazing, and agricultural operations; only agricultural operations are currently ongoing. All of these activities have had an effect on much of the natural habitat on-site (*i.e.*, scrub habitats have been displaced by California annual grasslands). Southern California Edison and Southern California Gas Company also have distribution lines and access roads within on-site easements. There is existing commercial/industrial development located adjacent to the VCC planning area, as the planning area is a portion of the larger, mostly developed VCC commercial/industrial complex.

2.5.2.2 VCC's Approved Land Use Plan

The total VCC planning area is approximately 1,265 gross acres. The site, approved for development by Los Angeles County in 1991, will include over 12 million square feet of industrial/commercial space at build-out. The VCC planning area is comprised of approximately 321 acres of an undeveloped portion of the partially-completed VCC industrial park/commercial center. **Table 2.0-2** describes the acreage devoted to approved land uses within the VCC planning area. The approved land uses include approximately 164 acres of additional commercial/industrial development, approximately 144 acres of open space, and about 13.7 acres of public facilities. **Figure 2.0-21** depicts the approved VCC land use map. Specifically, the figure shows the open space and existing, approved industrial/commercial development within the SCP portion of the VCC planning area.

Approved Land Use	Acres
Commercial	53.0
Industrial	110.9
Public Facilities	13.7
Open Space	143.6
Total	321.3¹

Notes:
¹ The total is rounded up.

Source: RMDP 2008.

The Los Angeles County Board of Supervisors certified the VCC EIR in September 1991 (SCH No. 87-123005), and adopted various project approvals to implement construction. The Corps also has previously issued a section 404 permit for the VCC planning area, and CDFG has issued a Master Streambed Alteration Agreement for various projects within the area.

The SCP component of the proposed Project, if approved, would facilitate development in the VCC planning area. The VCC is reliant on the SCP and associated take authorizations, and would not be developed without the take authorizations due to grading constraints. The VCC planning area is the remaining undeveloped portion of the VCC commercial/industrial complex currently under development by the applicant. The VCC was the subject of an EIR certified by Los Angeles County in April 1990 (SCH No. 87-123005). The applicant recently has submitted to Los Angeles County the last tentative parcel map (TPM No. 18108) needed to complete build-out of the remaining undeveloped portion of the VCC planning area. The County will require preparation of an EIR in conjunction with the parcel map and related project approvals; however, the County has not yet issued a Notice of Preparation (NOP) of the EIR or released the EIR.



SOURCE: HUNSAKER, PACE 2008

FIGURE 2.0-21

VALENCIA COMMERCE CENTER
 LAND USE MAP

2.5.3 Entrada Planning Area

The Entrada planning area is included in the Project area to address all the spineflower occurrence areas within the applicant's land holdings in Los Angeles County. The Entrada planning area is located just west of I-5, south of SR-126, and just east of the Specific Plan site (see **Figure 2.0-5**). As explained below, the applicant is proposing development and a spineflower preserve area within portions of the Entrada planning area.

2.5.3.1 Entrada's Existing Setting

The southern portion of the Entrada site is dominated by several north/south trending ridges. A narrow panhandle (roughly 100 meters wide) extends along the western portion of the site (east of Airport Mesa) to an agricultural field adjacent to the Santa Clara River. The northeastern portion of the site contains a large agricultural field with fragments of remnant oak woodlands, California sagebrush scrub and California buckwheat scrub. Site elevations range from approximately 1,000 feet AMSL along the Santa Clara River to approximately 1,550 feet AMSL on the ridges in the southwestern portion of the site.

Slope gradients range from moderate to very steep in the hillside areas, to very gentle within the ephemeral drainages and associated mesas. Distinctive geographic features include the north/south trending ridges on the southern portion of the site, and a wash that drains north through the site to a concrete-lined drainage channel that passes through the Six Flags Magic Mountain Amusement Park.

Native and naturalized habitats within the Entrada site are representative of those found in this region and provide examples of those plant communities found in the Santa Susana Mountains and the Santa Clara River ecosystems. California sagebrush scrub, undifferentiated chaparral, big sagebrush scrub, and California annual grasslands are the major upland plant communities on the site. Ephemeral and intermittent drainages on site provide habitat for alluvial scrubs. While upland habitats dominate the landscape within the site, immediately adjacent to the site are areas that support a variety of riparian plant communities. These include southern cottonwood-willow riparian forest, southern willow scrub, mulefat scrub, arrow weed scrub, and coastal and valley freshwater marsh and seeps.

The applicant leases portions of the Entrada site for cattle grazing and agricultural operations. Grazing activities have had an effect on much of the natural habitat on site. Scrub habitats have been displaced by California annual grasslands, apparently as a result of grazing. Southern California Edison and Southern California Gas Company have transmission lines within easements along the southern portion of the Entrada site, all of which are actively maintained. The Six Flags Magic Mountain Amusement Park is to the north of the Entrada site, and an existing residential development is located to the south.

2.5.3.2 Entrada's Proposed Land Use Plan

The SCP's Entrada planning area consists of approximately 316 acres. The SCP, if approved, would facilitate the proposed land uses shown on **Table 2.0-3**. **Figure 2.0-22** illustrates the applicant's proposed Entrada land use map for the SCP portion of the Entrada planning area.

Table 2.0-3
Proposed Land Uses Within the SCP's Entrada Planning Area

Projected Land Use	Net Acres
Single-Family Residential	68.8
Multi-Family Residential	45.1
Commercial	32.2
Public Facilities	40.5
Open Space	129.5
Total	316.1

Source: RMDP 2008.

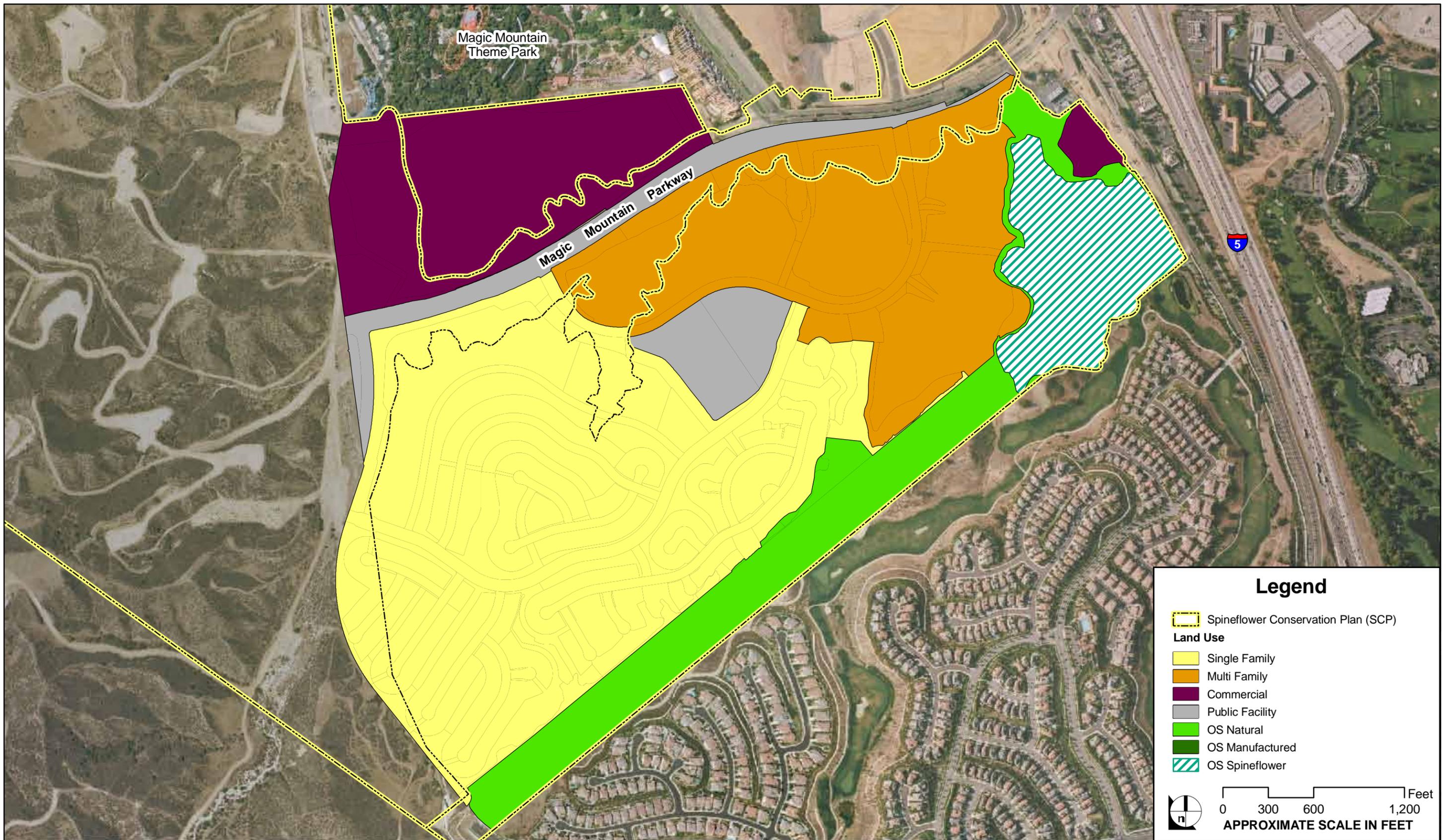
The applicant is seeking approval from Los Angeles County for planned residential and nonresidential development within the Entrada planning area. The SCP component of the proposed Project would designate an area within Entrada as a spineflower preserve. If approved, the SCP component would include take authorization of spineflower populations in Entrada that are located outside of the designated spineflower preserve area. Thus, the planned residential and nonresidential development within portions of the Entrada planning area is reliant on the SCP and associated take authorizations, and those portions would not be developed without the take authorizations. The applicant has submitted to Los Angeles County Entrada development applications, which cover the portion of the Entrada planning area facilitated by the SCP component of the proposed Project. However, as of this writing, the County has not yet issued a NOP of an EIR or released an EIR for Entrada. As a result, there is no underlying local environmental documentation for the Entrada planning area at this time.

Thus, in contrast to both the Specific Plan site and the VCC planning area, Entrada's land plan and general plan and zoning designations have not been approved at the local level by Los Angeles County, and local environmental documentation has not yet been prepared for Entrada.

2.6 ELEMENTS OF THE NEWHALL RANCH RESOURCE MANAGEMENT AND DEVELOPMENT PLAN

This section describes the Newhall Ranch RMDP development components related to implementation of the Specific Plan. Various RMDP infrastructure improvements and facilities require Corps, CDFG, USFWS, and RWQCB permitting, agreements, and consultation because they would affect the areas within the jurisdictional limits of the Corps and CDFG, or potentially affect threatened or endangered species.

The RMDP-regulated infrastructure and improvements would be constructed in a coordinated fashion, and timed to coincide with the projected build-out of the Specific Plan. Avoidance of high-quality riparian resources is a key objective of the plan, and the proposed RMDP would have no permanent impacts to 720.9 acres (95 percent) of the CDFG jurisdictional Santa Clara River Corridor. As stated in **Subsection 2.5.1.7.1**, above, the Specific Plan phasing plan is intended to correlate appropriate infrastructure requirements to the development of the Specific Plan site. Based on the Specific Plan, the phasing



SOURCE: PACE 2008

FIGURE 2.0-22

ENTRADA LAND USE MAP

program for each village is intended to ensure that infrastructure, including roads, water, sewer, bridges, drainage facilities, is in place concurrent with site-specific development. The sequence of development may occur in any order, and is influenced by several factors, including local and regional market conditions and the rate of growth in the region.

2.6.1 Overview of Proposed RMDP-Regulated Activities

As summarized in **Subsection 2.1.1**, above, the applicant's proposed RMDP-regulated infrastructure and improvements are listed below and described in further detail in this section:

- Bridges and road crossing culverts;
- Bank stabilization along the Santa Clara River and identified tributaries;
- Drainage facilities;
- Water quality control facilities;
- Modified, unmodified (preserved), and converted tributary drainages;
- Grade stabilization structures;
- Utility crossings;
- Temporary haul routes for grading and hauling equipment;
- WRP outfall construction;
- Roadway improvements to SR-126;
- Future maintenance by DPW or other management entity;
- Recreational facilities (including trails and nature viewing platforms);
- Geotechnical investigations activities;
- Habitat enhancement and restoration activities.

2.6.2 Overview of Flood Protection Requirements and Design Criteria

Portions of property adjacent to the Santa Clara River and Chiquito Canyon, San Martinez Canyon, Potrero Canyon, and Long Canyon tributaries are located in mapped FEMA 100-year floodplain and in the DPW Capital Floodplain. According to the County Floodplain Ordinance, land development in the Capital Floodplain can occur if appropriate flood-protective measures are implemented according to DPW

requirements. For a detailed discussion of these requirements, please refer to **Section 4.1**, Surface Water Hydrology and Flood Control, of this EIS/EIR.

In the Santa Clarita Valley, flood control is typically achieved by installation of bank protection along the banks of watercourses. DPW requires that: (1) the elevation of the bank protection must contain the Capital Flood discharge;¹⁶ (2) the bank protection must be readily accessible for inspection and emergency repair; and (3) it must be constructed of a material resistant to erosive flows. DPW also has determined that the Santa Clara River basin is a major source of sediment for coastal beaches and that groundwater recharge provides a significant amount of groundwater for the Santa Clarita Valley and should be maintained. Based on these needs, DPW developed a drainage policy for the Santa Clara River, which states that the design of flood protection facilities for the Santa Clara River shall provide soft bottom waterways with bank protection.

Future development associated with the Specific Plan near the Project area watercourses would require construction of bank protection to protect facilities and development from erosion and floodwater inundation. Consistent with agency requirements, bank protection can be located either within the nearby watercourse, along the bank, or outside the watercourse in an upland location. From an engineering perspective, protecting a land development project from flooding does not require that the bank protection be installed within the watercourse, only that the appropriate elevation be achieved to contain the design flood, and that sufficient protection be provided to effectively deflect or contain erosive flood flows. However, under the RMDP, bank protection along the river generally would be located in non-jurisdictional upland areas adjacent to the river in order to avoid or reduce impacts to the river, create new riverbed areas, and increase riparian habitat.

The design methodology to be used for the drainage tributaries within the RMDP study area is intended to create stable tributary drainages, consistent with the following objectives: (a) accommodate runoff flows from existing conditions and future development; (b) stabilize the tributary channel bed and banks so they do not degrade; (c) preserve the waterway and canyon characteristics; (d) protect proposed development and infrastructure from erosion and excessive shifts in the drainages; (e) minimize riparian and bank disturbance during construction; and (f) allow for construction access and maintenance activities.

2.6.3 Description of Existing Setting Within RMDP Study Area

Provided below is a summary description of the existing Santa Clara River watershed and associated tributary drainage areas within the RMDP boundary of the proposed Project.

2.6.3.1 Santa Clara River

The RMDP study area is located within the Santa Clara River Hydrologic Basin and associated watershed, which is 1,624 square miles in area. The portion of the Santa Clara River watershed that is

¹⁶ The Capital Flood is runoff from a 50-year frequency design storm falling on a saturated (soil moisture at field capacity) watershed. A 50-year frequency design storm has a probability of 1/50 of being equaled or exceeded in any year.

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located generally upstream or east of the Ventura County/Los Angeles County jurisdictional line (upper watershed) is approximately 640 square miles in size, and drains portions of the Los Padres National Forest from the north, the Angeles National Forest from the north and northeast, and the Santa Susana Mountains from the south and southeast. The RMDP study area comprises approximately 21 square miles, or about three percent, of the upper watershed. **Figure 2.0-23** depicts the entire Santa Clara River watershed area (approximately 1,624 square miles), including the Project area subwatershed (about 640 square mile upper watershed), and the RMDP subwatershed (about 21 square miles). **Figure 2.0-24** shows the Santa Clara River upper watershed in Los Angeles County and the RMDP study area.

The Santa Clara River, which is the largest river system in southern California that remains in a relatively natural state, is the largest watercourse within the RMDP study area. The river originates in the San Gabriel Mountains in Los Angeles County and it flows in a westerly direction through Ventura County before discharging to the Pacific Ocean. The river extends approximately 5.5 miles east to west across the RMDP study area (see **Figure 2.0-3**). Major tributaries in the Santa Clara River watershed include Castaic and San Francisquito Creeks in Los Angeles County and Sespe, Piru and Santa Paula Creeks in Ventura County. Approximately 40 percent of the Santa Clara River watershed is located in Los Angeles County and 60 percent is in Ventura County. Much of the watershed is in mountainous terrain within either the Angeles or Los Padres National Forests.

The river exhibits some perennial flow in its eastern-most stretches within the Angeles National Forest then flows intermittently westward within Los Angeles County. The principal tributaries of the upper river watershed in Los Angeles County are Castaic Creek, Bouquet Canyon Creek, San Francisquito Creek, and the South Fork of the Santa Clara River. Placerita Creek is a large tributary draining the western-most end of the San Gabriel Mountains; it joins the South Fork, which flows directly into the Santa Clara River. Castaic Creek is a south-trending creek that confluences with the Santa Clara River downstream of the City of Santa Clarita. Castaic Lake is a DWR-owned reservoir located on Castaic Creek. San Francisquito Canyon Creek is an intermittent stream in the watershed adjacent to Bouquet Canyon to the southeast.

The braided Santa Clara River main stem consists of sandy and gravelly soils and is highly permeable over much of its length, which results in surface water infiltration into the groundwater basin.

The principal sources of water contributing to the base flow of the Santa Clara River are: (a) groundwater from the Alluvial aquifer basin in Los Angeles County, which seeps into the riverbed near, and downstream of, Round Mountain (located just below the mouth of San Francisquito Creek); (b) tertiary-treated water discharged to the Santa Clara River from two existing Los Angeles County Sanitation District WRPs -- the Saugus WRP, located near Bouquet Canyon Road bridge, which creates surface flows from the WRP outfall near I-5; and the Valencia WRP, located immediately downstream of I-5, which creates surface flows extending through the RMDP study area; and (c) in some years, DWR-released flood flows from Castaic Lake into Castaic Creek during winter and spring months.

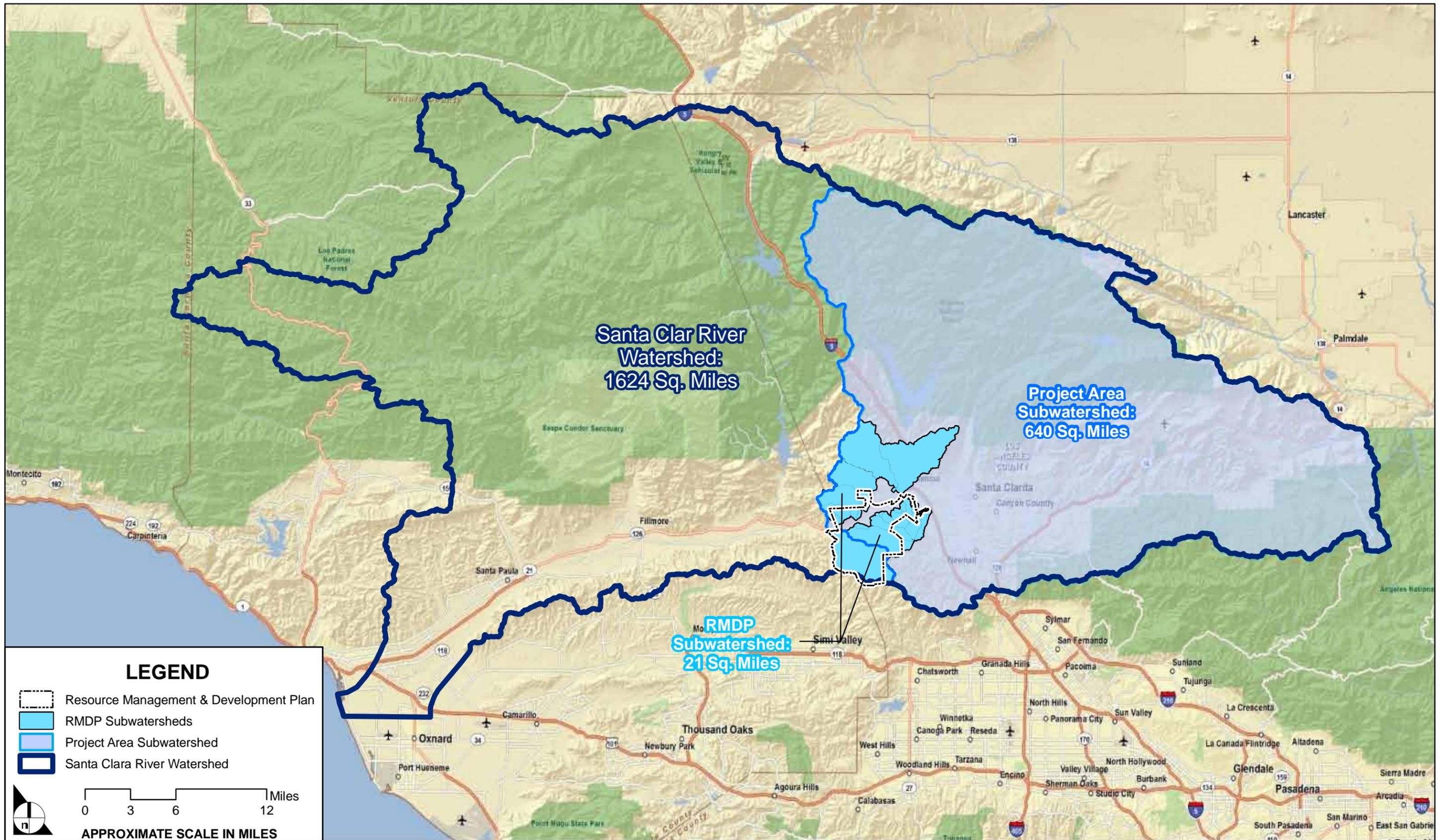
Because of the effluent discharges to the Santa Clara River and other water sources, the braided river main stem continues to flow perennially until upstream of the confluence with Piru Creek where it generally becomes dry due to highly-permeable soils. Perennial flows generally return downstream of the

confluence with Hopper Canyon Creek in Ventura County and continue through Piru, Sespe, and Santa Paula Creeks, and into the Oxnard Plain in Ventura County. Five additional wastewater treatment facilities in the lower reaches of the river in Ventura County also discharge secondary- and tertiary-treated water to the river.

The braided, active river main stem is largely barren of vegetation due to scouring by seasonable storm flows. However, vegetation types on the adjacent terraces, which vary based on elevation relative to the active channel bottom and flood frequency, consist of emergent herbaceous, woody shrubs, and trees. Within the RMDP study area, the Santa Clara River corridor supports three general categories of habitat: (a) aquatic habitats, consisting of flowing or ponded water; (b) wetland habitats, consisting of emergent herbs rooted in ponded water or saturated soils along the margins of the active channel; and (c) riparian habitat, consisting of woody vegetation along the margins of the active channel and on the floodplain. Both year-round and seasonal aquatic habitats are provided and are subject to periodic disturbances from winter storm flows. These flows inundate areas that are dry most of the year. They also carry and deposit sediment, seeds, and organic debris; form new sandbars and destroy old ones; and erode stands of vegetation. New stands of vegetation are created where vegetation becomes established by seeds or buried stems. Thus, the aquatic habitats of the river are in a constant state of creation, development, disturbance, and destruction.

2.6.3.2 Existing Tributary Drainage Areas

The RMDP study area includes 22 tributary drainages to the Santa Clara River. The tributary drainages are located within an area that is generally delineated by SR-126 and the lower portions of Chiquito Canyon, San Martinez Grande Canyon, and Homestead Canyon to the north, the Six Flags Magic Mountain Amusement Park to the east, the crest of the Santa Susana Mountains to the south, and the Los Angeles County/Ventura County jurisdictional line to the west. **Table 2.0-4** describes each of the tributary drainages based on their existing watershed characteristics within the boundary of the RMDP study area.



SOURCE: PACE 2008

FIGURE 2.0-23

SANTA CLARA RIVER WATERSHED AREAS

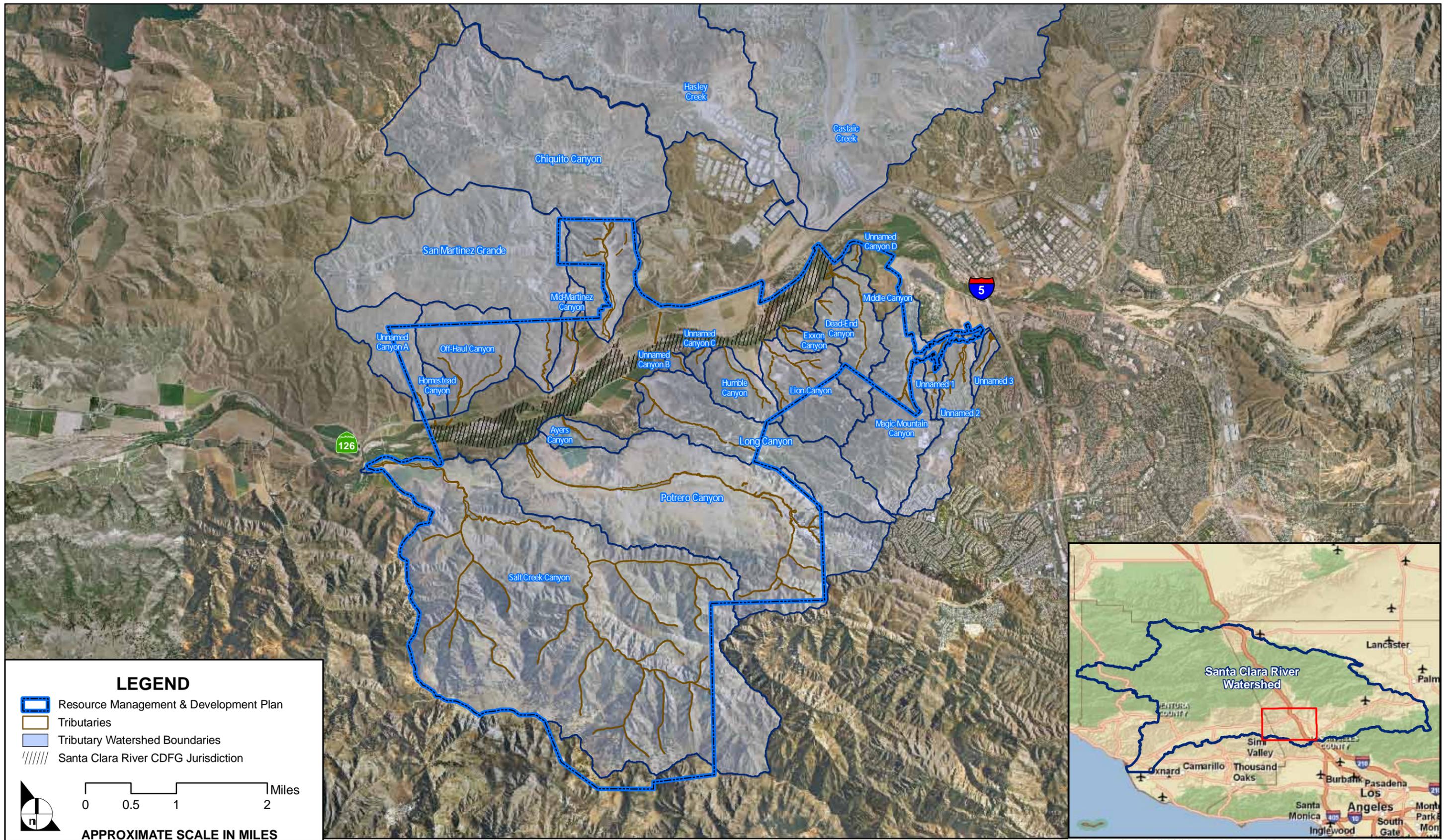


FIGURE 2.0-24

UPPER WATERSHED IN LOS ANGELES COUNTY AND RMDP STUDY AREA

2.0 PROJECT DESCRIPTION

**Table 2.0-4
Existing Tributary Drainage Characteristics**

Drainage Areas	Existing Characteristics				
	Total Watershed Area ¹ (Acres)	Total Length ² of Drainage Jurisdiction (Feet)	Soils Group ^{3, 4, 5}	Slope (%)	Hydrologic Seasonality (E/I/P) ⁶
Modified Drainages					
Chiquito Canyon	3,106	7,605	C	2.39	E, I, P
Lion Canyon	539	4,761	B	4.6	E
Long Canyon	1,271	9,829	C	3.0	E
Potrero Canyon	3,025	25,381	C	3.1	E, I, P
San Martinez Grande Canyon	2,322	5,170	C	1.9	E, I
Unimproved/Converted Drainages					
Agricultural Ditch	-	1,810	C	-	E
Ayers Canyon	147	2,464	B, C	4.4	P
Dead-End Canyon	124	1,076	C	6.1	E
Exxon Canyon	16	2,193	B	9.2	E
Homestead Canyon	75	3,606	C	5.4	E
Humble Canyon	261	4,863	C	7	E, I
Middle Canyon	340	7,967	C	3.7	E, I
Mid-Martinez Canyon	105	3,729	B	6.5	E
Off-Haul Canyon	587	4,223	C	7.1	E
Salt Creek Canyon	5,859	25,830	C, D	3.4	E, I, P
Magic Mountain Canyon	847	4,813	C	3.4	E
Unnamed 1	103	2,020	C	2.7	E
Unnamed 2	401	3,126	B	3.1	E, I
Unnamed Canyon A	445	1,293	C	3.4	E
Unnamed Canyon B	29	1,574	C	15.2	E
Unnamed Canyon C	43	1,272	C	7.3	E
Unnamed Canyon D	28	1,740	B	11.6	E
Total:	9,410	73,599		N/A	

Notes:

¹ The topography of the tributary drainage areas is characterized by both rugged and steeply developed foothills with numerous smaller canyons, connecting to a narrow alluvial valley associated with the main stem of the drainage.

² This reflects the total length of drainage jurisdiction.

³ "C" is the classification for the hydrologic soil group C, which means "higher runoff potential."

⁴ "B" is the classification for the hydrologic soil group B, which means "lower runoff potential."

⁵ "D" is the classification for the hydrologic soil group D, which means "highest runoff potential."

⁶ "E" represents ephemeral (flows present in response to runoff events and for brief duration); "I" represents intermittent (flows present during the wet season only); "P" represents perennial season hydrology (flows present year-round).

Source: PACE, 2007, ENTRIX, 2007.

All of the tributary drainages within the RMDP boundary are unmodified, with the exception of five drainage crossings under SR-126 as a result of the SR-126 roadway widening project completed by Caltrans.

Several of the on-site drainages have been mapped as blue-line streams by the U.S. Geological Survey (USGS). While it is the intent of USGS to indicate that blue-line streams are flowing perennial streams, in arid states such as California, and particularly in southern California, this is not always the case. For example, the designated USGS blue-line stream in upper Potrero Canyon contains water only during the rainy periods; during non-rainy periods (which is the majority of the time in southern California), flows in this drainage are ephemeral (*i.e.*, flows only in response to storm events). Aside from the lower portions of Salt and Potrero Canyons, each of the tributary drainages within the RMDP boundary is classified as intermittent¹⁷ or ephemeral.

The majority of the tributary drainages are characterized by both rugged and steeply developed foothills that have numerous smaller tributary canyons that dissect the watershed, connecting to the narrow Alluvial valley associated with the main stem drainage. Generally, the soils in the watersheds are characterized as silty clay loams from both the Castaic and Saugus formations. Also, the soils within the watersheds can be predominately classified as being in hydrologic soil group C (higher runoff potential) with the exception of areas adjacent to the main stem drainages that are group A (lowest runoff potential) and group B (lower runoff potential) in the lower reaches.¹⁸

2.6.4 RMDP-Regulated Activities

As summarized below, implementation of the applicant's proposed RMDP would involve the construction and operation of numerous Specific Plan drainage improvements along and within the Santa Clara River and its tributary drainages. A detailed description is provided below of the RMDP improvements and facilities that would be located along and within the Santa Clara River and its tributary drainages and that are regulated by the Corps, CDFG, and RWQCB. If approved, the RMDP would facilitate development of the Newhall Ranch Specific Plan.

2.6.4.1 Santa Clara River

While the Santa Clara River generally would remain in its natural condition, the RMDP proposes bank stabilization, three bridges (one previously authorized), the Newhall Ranch WRP outfall, bank protection along the utility corridor, temporary haul routes, water quality control facilities (including outlet structures/energy dissipaters), and viewing platform locations. Of these RMDP improvements, the major features in or along the Santa Clara River consist of the bank stabilization, the three bridges, and bank protection along the utility corridor. **Figure 2.0-25** depicts the location of the proposed RMDP Santa Clara River major features.

¹⁷ Intermittent drainages carry flows due to seasonal high groundwater in addition to storm flows.

¹⁸ Soils are classified by the U.S. Department of Agriculture, Natural Resource Conservation Service, into four Hydrologic Soil Groups based on the soil's runoff potential. The four Hydrologic Soils Groups are A, B, C and D. Soil Group A is generally the lowest runoff potential and Soil Group D the highest runoff potential.

2.6.4.1.1 Bank Stabilization -- Santa Clara River

The approved Newhall Ranch Specific Plan contemplated installation of buried bank stabilization along portions of the Santa Clara River to protect development from flood hazards while preserving the river as a natural resource.¹⁹ Consistent with the Specific Plan, the RMDP proposes buried bank stabilization where necessary to protect against flooding and erosion pursuant to Federal Emergency Management Administration (FEMA) and Los Angeles County Department of Public Works' requirements. The bank stabilization is designed and would be constructed to retain the Santa Clara River's significant riparian habitat, to allow the river to continue to function as a regional east-west wildlife corridor, and to provide flood protection pursuant to Los Angeles County standards.

As shown, the proposed RMDP buried bank stabilization extends along the north and south banks of the Santa Clara River (**Figure 2.0-25**). On the north bank, approximately 20,016 lf of buried bank stabilization would be installed (where necessary), in an area roughly from the confluence of Castaic Creek (Landmark Village) and ending at the Los Angeles County/Ventura County jurisdictional line (Newhall Ranch WRP). This bank stabilization would protect Specific Plan residential, mixed-use, and business park uses located to the north, including the approved Newhall Ranch WRP (**Figure 2.0-25**).

In addition, as shown, approximately 9,763 lf of bank stabilization would be installed along the south bank of the Santa Clara River (**Figure 2.0-25**). Beginning generally at the Commerce Center Drive Bridge, bridge abutments and buried bank stabilization would be installed. Additional buried bank stabilization would be installed east of the Commerce Center Drive Bridge to protect a planned water quality treatment facility, located on the south bank of the river, which is part of the Mission Village project area. Buried bank stabilization along the south bank would also be installed, in conjunction with Landmark Village, from the Long Canyon Road Bridge extending both east and west to protect the bridge and Specific Plan residential development. Bridge abutments and buried bank stabilization also would be installed along the south bank in the approximate location of the Potrero Canyon Road Bridge, in conjunction with the Potrero Village project area (**Figure 2.0-25**).

In total, the RMDP proposes installation of approximately 29,779 lf of bank stabilization along the north and south banks of the Santa Clara River to facilitate build-out of the Specific Plan site. Of this amount, approximately 6,200 lf would be located in areas under the jurisdiction of CDFG (no Corps jurisdiction). The bank stabilization improvements would be installed over an approximate 20-year period to coincide with development of individual tracts within the Specific Plan, and in accordance with the Specific Plan's phasing program described in **Subsection 2.5.1.7.1**, above.

Approximately 22,958 lf of buried bank stabilization (or 79 percent) would be installed in non-jurisdictional areas adjacent to the river. Such installation would result in newly created river channel and jurisdictional areas, as well as upland habitat, depicted in green on **Figure 2.0-25**.

¹⁹ The approved Specific Plan contains criteria for such drainage and flood control improvements to be followed by projects implementing the Specific Plan. (Specific Plan, May 2003, Chapter 2, pp. 2-71 - 2-75.)

The newly created river channel consists of approximately 80 acres, and is depicted on **Figure 2.0-25**. For example, buried bank stabilization is proposed on the north side of the river near its confluence with Castaic Creek, and it would be installed on agricultural lands north of the existing river channel. The land located between the existing river channel and the newly created stabilized bank would be excavated, widening the existing river channel in that location. This condition is repeated along the northern bank of the Santa Clara River in several locations, also depicted on **Figure 2.0-25**.

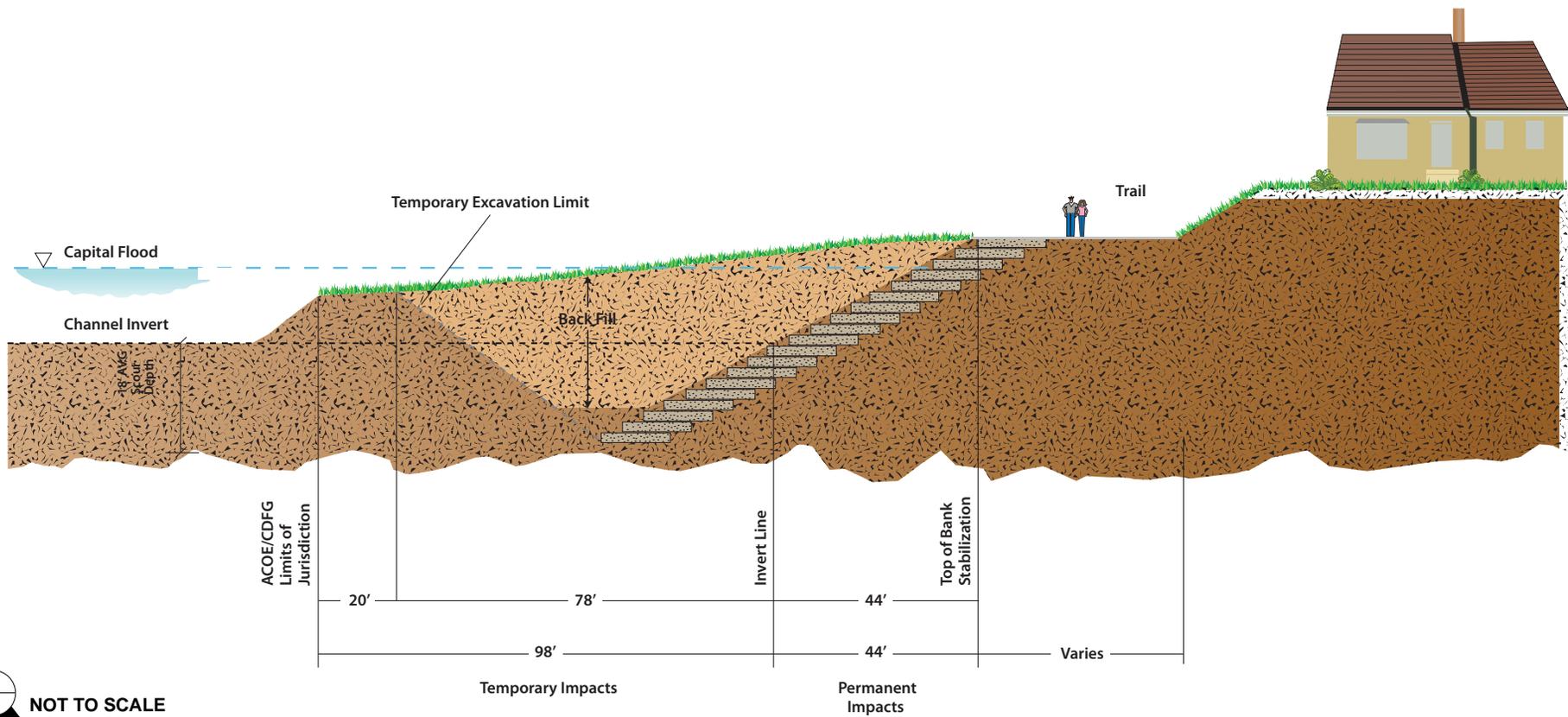
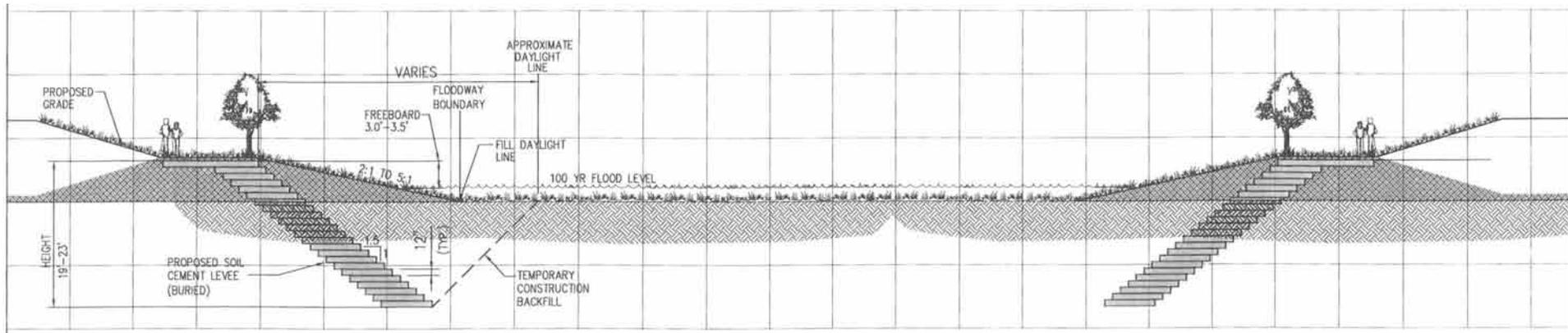
Types of Bank Stabilization Protection. The proposed RMDP incorporates the following types of bank protection:²⁰ (a) buried soil cement; (b) ungrouted rock riprap; (c) gunite slope lining; and (d) turf reinforcement mats (TRMs). These types of bank protection can be divided into two different categories, flexible and rigid revetments. UngROUTED rock riprap and TRMs are flexible revetment systems that would be used as exposed bank protection in areas that do not have earthen cover and where stream velocities are low enough to ensure that the stabilization can resist erosive hydraulic forces in a Los Angeles County capital storm. Generally, this would be a maximum stream velocity of 12-14 feet per second (fps). Rigid revetments are able to resist much higher velocities or erosive forces; however, they do not adjust or move like flexible systems. Rigid revetments can resist velocities in excess of 20 fps.

Buried Soil Cement. The proposed buried soil cement would consist of a mixture of soil, 7-12 percent Portland cement, and water that is compacted to form a hardened material. As the cement dehydrates, the compacted soil cement mixture becomes hard, relatively impermeable, and resistant to wetting and drying. On-site soils would be used to supply the bulk of the mixture material. The advantages of buried soil cement over other types of bank stabilization include the following:

- Allows for the revegetation of areas above the buried soil cement;
- Uses on-site native soils, which would reduce hauling requirements and associated impacts;
- Buried soil cement requires a smaller structural footprint, which reduces the potential for disturbance of adjacent areas;
- The thickness of the soil cement revetment requires less maintenance and inspection.

The proposed soil cement bank protection would consist of soil cement layers (one foot thick and eight feet wide) that are stacked on top of each other. The buried bank protection would protect against erosion while maintaining natural vegetation and soft banks. This stabilization method would use buried soil cement placed in a flat-bottom V-ditch to an engineered scour depth during a Capital Flood event. The bottom of the ditch would be equipment-width and the sides would slope outward at a ratio of approximately 1.5:1. **Figure 2.0-26** provides a conceptual design of the buried soil cement/bank stabilization.

²⁰ The bank protection shown in the RMDP is for the Santa Clara River, west bank of Castaic Creek, and certain identified drainage tributaries within the RMDP study area. The description of the types of bank protection for certain of the drainage tributaries within the RMDP study area are discussed in **Subsection 2.6.4.2.1**, below.



 NOT TO SCALE

SOURCE: PACE – May 2005, October 2007

FIGURE 2.0-26

CONCEPTUAL DESIGN/SOIL CEMENT/BANK STABILIZATION

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Typically, the bank lining must be buried to a depth equal to the height of the lining to resist scouring. Burying the toe of the lining requires temporary excavation and backfilling. A temporary construction zone width of approximately 85 feet is required during construction of the bank protection. The total amount of excavated material required for bank protection would be 7.4 cy per linear foot of stabilization, although much of this material would be replaced to cover the soil cement after installation. **Figure 2.0-27** depicts the soil excavation and backfill process associated with installation of buried soil cement. The original channel elevation would be restored after construction, and riverbed habitat areas would be revegetated with native plant species to restore the natural habitat presently found along the river. The buried soil cement would not be visible, and the land above it would be used for an upland habitat buffer. A service road for inspecting or repairing the buried bank protection would not be required. **Figure 2.0-28** depicts the area after completion of soil cement installation and the restored revegetation area.

Pacific Advanced Civil Engineering, Inc. (PACE) prepared a technical memorandum evaluating buried bank stabilization installed in the Valencia area after the 2004/2005 winter storms (see, **Appendix 2.0**, PACE memorandum, dated May 8, 2007). In that memorandum, PACE evaluated buried bank stabilization on the Santa Clara River and main tributaries, which had been installed by the project applicant since 1999. In terms of erosion, PACE concluded that:

"[t]he majority of the river bank protection construction . . . includes a horizontal location of the bank protection that is located outside of or adjacent to the existing riparian edge. The placement of the bank protection outside of the existing river corridor substantially decreases the likelihood that the river scour will remove the buried soil [and] vegetation placed over the soil cement bank protection. As noted above, the majority of the bank protection is located outside of the existing riparian corridor where areas will typically experience velocities much less than the main channel creek velocities (typically velocities of 2-8 fps along the banks while velocities >15 fps in the main channel occur adjacent to these locations during the 100-year discharge). Lower, non-erosive, velocities in the areas along the buried bank stabilization indicate that it is unlikely that all or part of the buried bank stabilization will become exposed."

In addition, as stated, PACE evaluated the performance of buried bank stabilization after the 2004/2005 winter storms. The winter season "proved to be one of the wettest years on record and produced an approximate 50-year flood in the Santa Clara River at the [Los Angeles County]/Ventura County line. River flows at this location have been estimated by [Los Angeles] County at 49,800 cfs, the second highest on record." In evaluating the Bridgeport project, PACE noted that the buried bank stabilization was constructed in 1999 and had substantial revegetation growth, which was not damaged during the 2004/2005 winter storms. PACE also evaluated buried bank stabilization areas constructed along San Francisquito Creek for three projects. Although not yet revegetated, aerial photographs provided by PACE show the buried bank stabilization area on San Francisquito Creek and, despite the 2004/2005 winter high flows, none of the buried bank stabilization was exposed.²¹ This illustrates the point that placement of buried bank stabilization outside of the existing River corridor substantially decreases the

²¹ See, **Appendix 2.0**, PACE memorandum, dated May 8, 2007, pp. 1 and 3 [Figures 3 and 4].

2.0 PROJECT DESCRIPTION

likelihood that the river scour will remove the buried soil and vegetation placed over the bank stabilization.

Since the winter storms of 2004/2005, areas where flows scoured Santa Clara River streambed and terraces have been recolonized with a variety of successional riparian communities, including river wash, herbaceous wetlands, mulefat scrub, arrow weed scrub, alluvial scrub, big sagebrush scrub, and southern cottonwood-willow riparian forest. This dynamic response is typical of rivers that experience episodic flood events that remove or disturb natural vegetation; however, as stated, such vegetation re-establishes along the disturbed areas. The Santa Clara River routinely experiences this dynamic process.²²

Excavation depths required for soil cement installation would be below the river bottom and potentially encounter groundwater that would need to be drawn down during the construction period. The dewatering activity would place shallow wells close to the excavation, drawing down the groundwater in the construction zone. Typically, soil composition within the dry streambed is such that the discharged dewatering flows would percolate quickly back to the ground surface. However, in some instances, the amount of discharged water may create sufficient flow during dewatering operations to form a continuous wetted channel from the work site.

To protect water quality in flows back to the watercourses, construction dewatering would be in accordance with discharge requirements issued by the Los Angeles RWQCB. As necessary, the dewatering discharge would be conveyed through an engineered system designed to remove particulates, and any other contaminants present in the local water table requiring treatment in order to meet RWQCB waste discharge requirements. Treatment may include particulate filtering, such as a weir tank, which allows sediment to settle out of suspension before the water is discharged and other advanced treatment processes. To minimize impacts to receiving waters from the dewatering discharge, dewatering wells would be directed to one or more discharge points via pump and pipe connections. Each discharge point would consist of any necessary treatment systems (*e.g.*, a weir tank) and an energy dissipater. Discharged water would be released from the dissipater at a very low velocity, limiting erosion at the discharge point and preventing sedimentation of downstream waters, or the discharge may be directed to beneficial uses, such as: construction grading water, dust control water, or otherwise used within project grading areas; routed through a sprinkler field and sprayed over a large upland area adjacent to the river/streambed to allow percolation; flood irrigation of pasturelands; sprinkler irrigation of pasturelands, or as suitable, throughout the applicant's ranching, farming, and orchard operations. Compliance with effluent limitations pursuant to NPDES requirements would include use of BMPs to minimize erosion.

Maintenance of buried soil cement bank protection is minimal compared with non-buried bank protection methods. The use of buried soil cement, and other buried bank protection, eliminates the need to clear a zone at the base of the riverbank or creek-bank where buried bank protection is located. In general, no maintenance is required unless there is evidence of bank failure. However, there was no evidence of such bank failures in or adjacent to the Santa Clara River after the 2004/2005 winter storms, which proved to be one of the wettest years on record and produced an approximate 50-year flood in the Santa Clara River at the Los Angeles County/Ventura County line.

²² Pers. comm., Doug Gettinger, Dudek, April 25, 2008.



Buried Soil Cement Excavation – Step 1

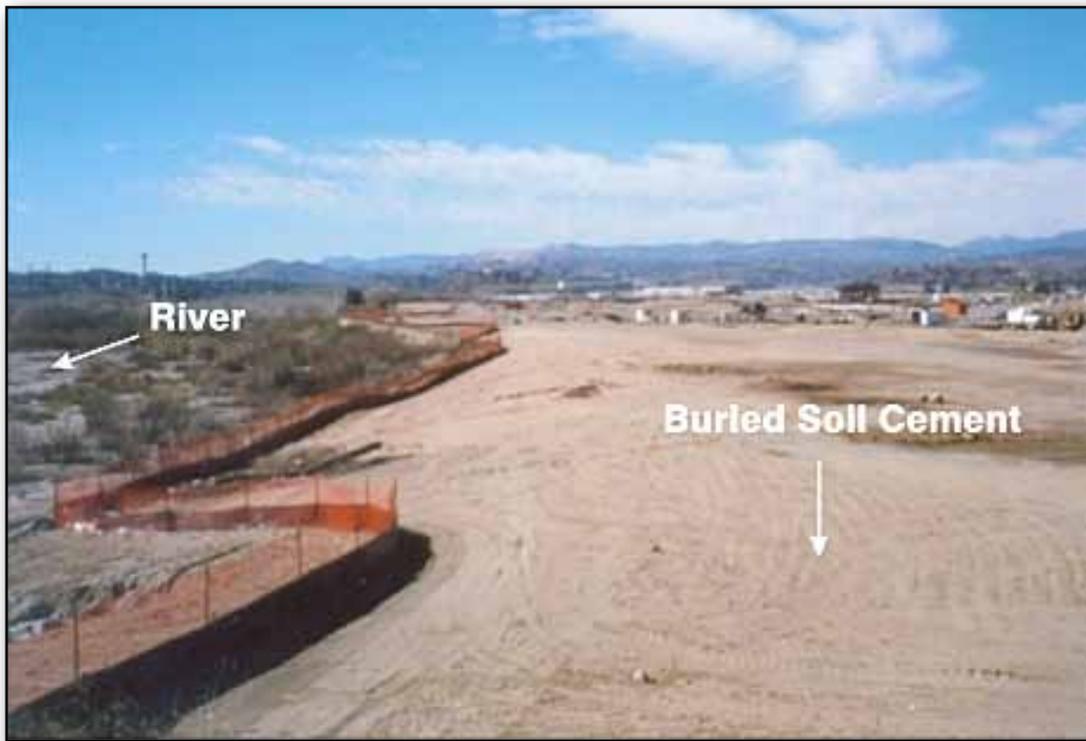


Buried Soil Cement Backfill – Step 2

SOURCE:PACE – February 2007

FIGURE 2.0-27

PHOTOS DEPICTING SOIL CEMENT EXCAVATION & BACKFILL



Completed Soil Cement Installation – Step 3



Revegetated Area – Step 4

SOURCE: PACE – February 2007

FIGURE 2.0-28

PHOTO DEPICTING SOIL CEMENT INSTALLATION & REVEGETATION

UngROUTED Rock Riprap. UngROUTED rock riprap revetment consists of large rocks with a thickness ranging from 24 to 48 inches placed on a graded earthen bank slope. The maximum side slope ratio for ungrouted rock is 2:1. The rock size would vary depending on the magnitude of the water velocity, with rocks generally ranging from 0.25 ton to one ton. The size, shape or angularity, and the type of rocks would be determined through engineering to allow proper nesting of adjacent rocks with each other, and would utilize a specific gradation of rock weights and type to ensure stable and durable protection. In addition, a gravel filter or geotextile filter would be installed to prevent undermining of the riprap by the migration of smaller soil particles from the graded slope.

Along certain reaches of the Santa Clara River, ungrouted rock riprap would be installed on the existing bank rather than buried bank protection if there is insufficient space to install buried soil cement. In total, approximately 2,950 lf of ungrouted riprap would be provided in 53 bridge abutment, tributary confluence, and storm drain outlet locations within the RMDP study area. UngROUTED rock riprap would be located in areas under the jurisdiction of the Corps and CDFG. **Figure 2.0-29** provides a schematic and a photograph depicting typical ungrouted rock riprap as bank protection. At the top of the riprap, a 16-foot-wide paved service road would be installed to allow access for inspection of the lining and emergency repairs by DPW. Adjacent to the service road, there would be an upland habitat buffer zone that would range up to 100 feet in width.

Maintenance includes removal of trash and debris, replacement of riprap, and removal of trees and other vegetation possibly impeding access or threatening the structural integrity of the bank protection. If access to the bottom of the river is required, in general, the work area would be an approximately 30-foot wide zone extending outward from the bank protection at the invert and 15 feet upstream and downstream on either side of the tree or impediment to be removed. The RMDP Maintenance Manual provides additional details on maintenance, and is found in Appendix A of the RMDP. (The RMDP is included in **Appendix 1.0** of this EIS/EIR.)

Gunite Lining. Gunite (concrete) lining would be limited to locations at the embankments of new bridges and their abutments along the Santa Clara River. In total, approximately 900 lf of gunite lining would be installed along the Santa Clara River in 6 bridge locations. Gunite lining would be located in areas under the jurisdiction of the Corps and CDFG. The lining would be designed to include Class I (physically separated from automobile traffic) bike path under crossings at the three bridge locations. **Figure 2.0-30** depicts a typical gunite lining design and installation.

These bank areas will require clear access for inspection and potential maintenance for structural repairs, graffiti removal, *etc.* A mow-strip area approximately 15 feet wide, parallel to the gunite lining, will be routinely cleared of wood vegetation to allow visual inspections. Repairs may require a large work area. See Appendix A of the RMDP for additional details on maintenance.

Turf Reinforcement Mats. TRMs are designed to reinforce vegetation at the root and stem allowing vegetation to be used as erosion control in areas where flow conditions exceed the ability of natural vegetation to remain rooted. This includes applications with high slopes or stream banks where grouted rock riprap or concrete channels are not aesthetically desirable.

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Under the proposed RMDP, TRMs would be installed north of the Santa Clara River along the utility corridor in an area between Landmark Village and Potrero Village, which borders the southern alignment of SR-126. **Figure 2.0-31** depicts the location of the utility corridor where the TRMs would be installed (see also **Figure 2.0-25**, above). In total, approximately 1,460 lf of TRMs would be installed along the utility corridor in portions of CDFG jurisdiction (no Corps jurisdiction), along active agricultural fields adjacent to SR-126.

TRMs generally do not require maintenance; however, in the event that structure repairs are necessary, a work zone would be established for access and repair, generally 30-feet upstream and downstream of the damaged area. See Appendix A of the RMDP for additional details on maintenance.

2.6.4.1.2 *Bridges/Road Crossings -- Santa Clara River*

The RMDP proposes construction of three bridges across the Santa Clara River, one at Commerce Center Drive (previously authorized under Corps Permit No. 94-00504-BAH and Streambed Alteration Agreement No. 5-502-97 and identified here for information purposes only); one at Long Canyon Road; and one at Potrero Canyon Road. The locations of the three bridges are shown above on **Figure 2.0-25**. In total, the bridge locations result in 7.9 acres of permanent impact to CDFG jurisdiction (Corps' impacts considered temporary except for columns/pier wall and permanent fill). **Table 2.0-5** provides the physical characteristics associated with the two proposed bridges and one previously approved bridge across the Santa Clara River. **Figure 2.0-32** depicts a typical main stem bridge crossing.

Table 2.0-5
Proposed and Previously Approved Bridges Over the Santa Clara River¹

Bridge Location	Bridge Length (ft.)	Bridge Width (ft.)	Number of Piers	Vertical Clearance
Potrero Canyon Road Bridge	1,550	84	21 @ 100'	20-24
Long Canyon Road Bridge	980	100	9 @ 100'	31-40
Commerce Center Drive Bridge ²	1,200	100	9 @ 100'	22

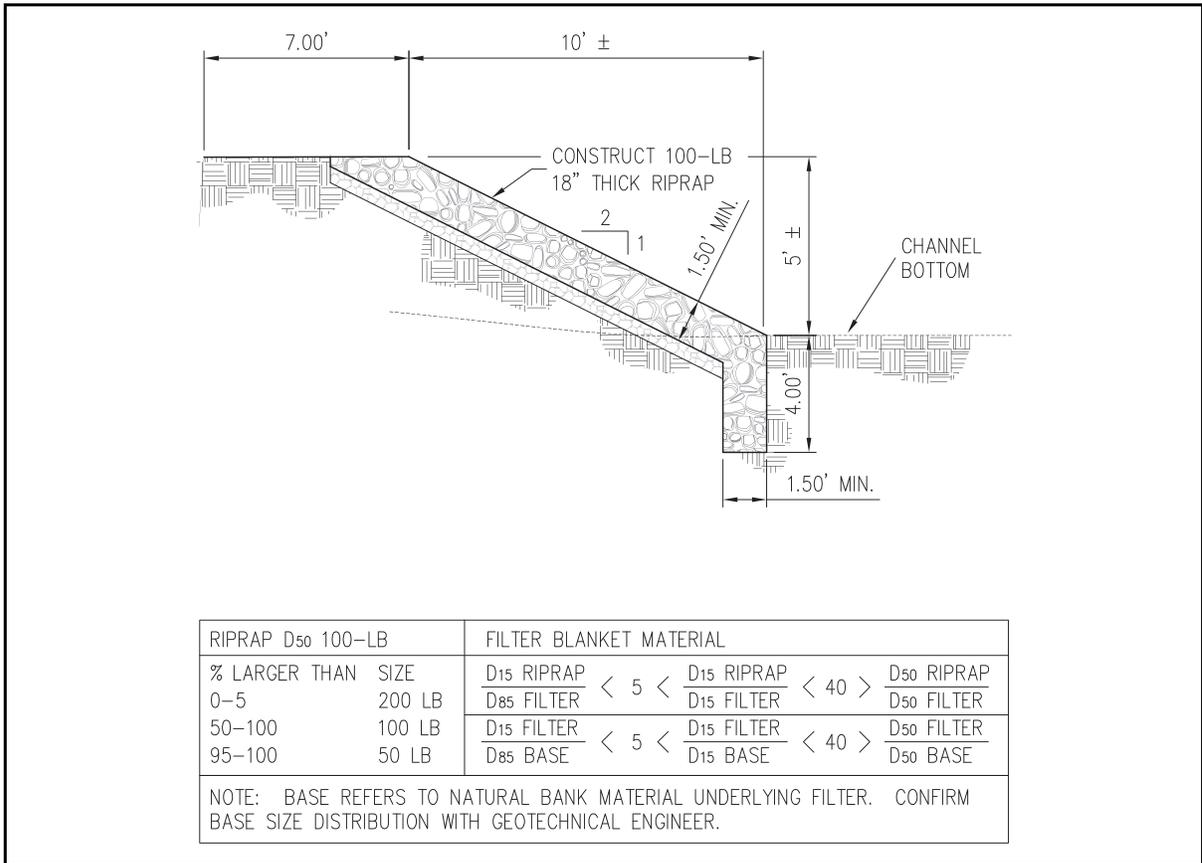
Notes:

¹ The physical characteristics of all bridges are approximations, subject to final design and construction plans.

² The Commerce Center Drive Bridge was previously analyzed in the Final EIS/EIR prepared and approved by the Corps and CDFG in connection with the previously adopted NRMP (SCH No. 1997061090, August 1998).

Source: PACE Engineering (May 5, 2004). The dimensions are based on the General Location Plan prepared by Sikand Engineering (1999).

The Potrero Canyon Road Bridge would serve the most westerly segment of the Project area, while the Long Canyon Road Bridge would serve the middle portion of the Project area. The Commerce Center Drive Bridge, which was previously approved by the Corps and CDFG as a component of the previously adopted NRMP, would serve the eastern portion of the Project area (see **Figure 2.0-25**, above).



UngROUTed Riprap Schematic

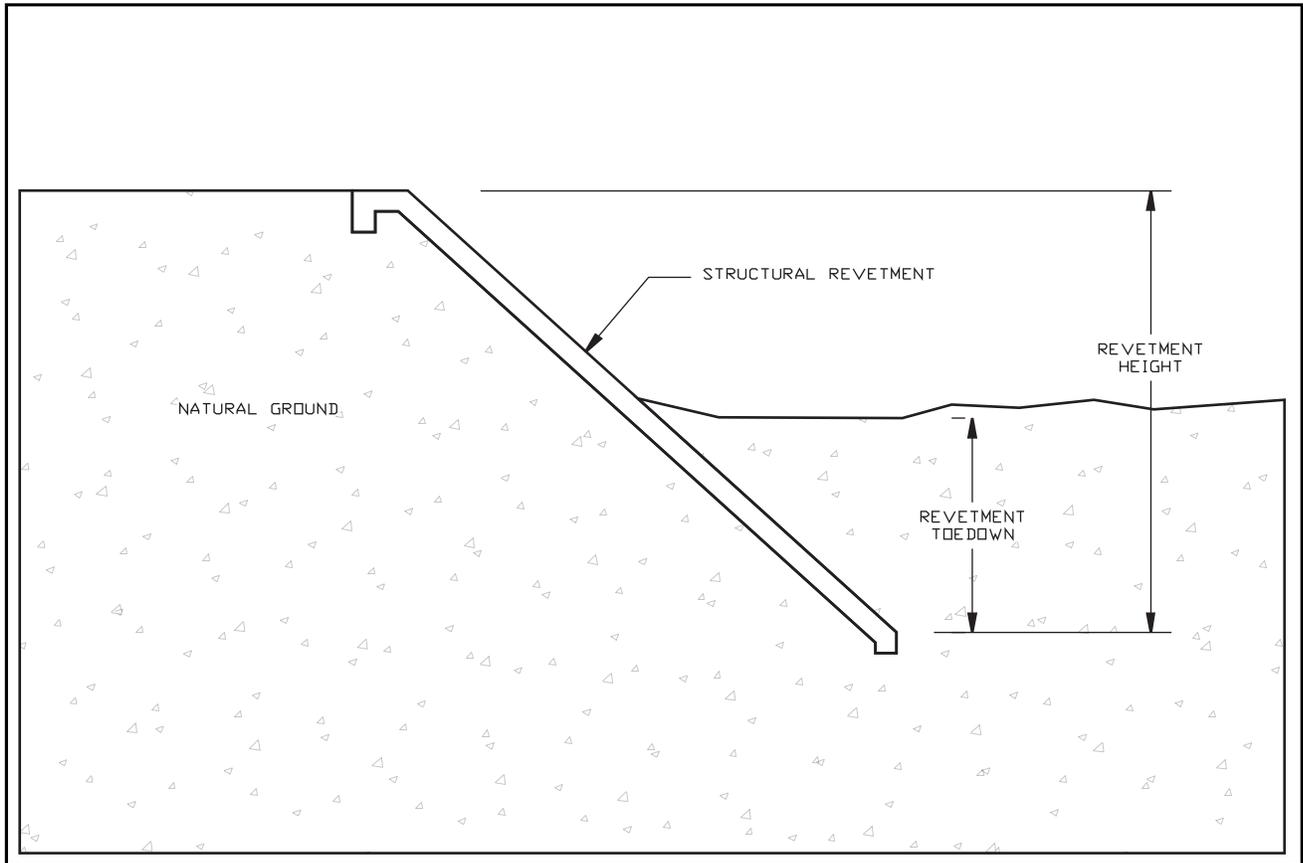


UngROUTed Riprap

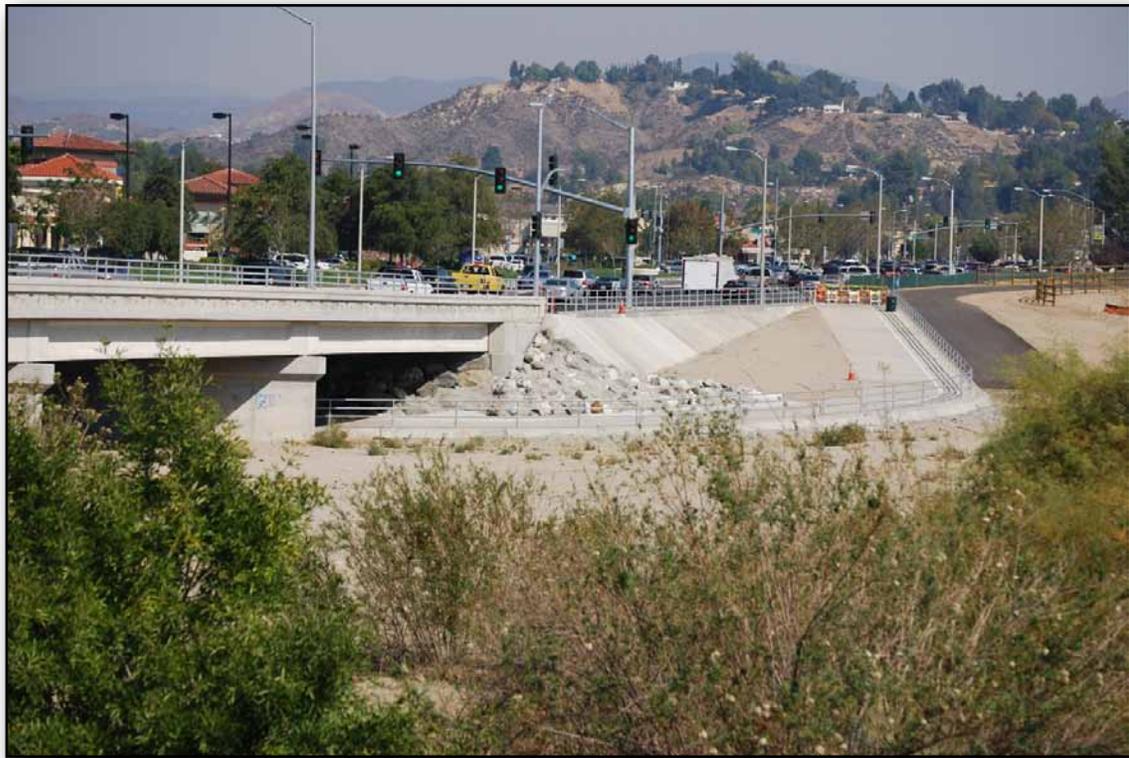
SOURCE: PACE – February 2007

FIGURE 2.0-29

TYPICAL UNGROUTED ROCK/RIPRAP PROTECTION



Cross Section for Gunite Lining Design



Completed Installation of Gunite Lining

SOURCE: URS – February 2007, Impact Sciences, Inc. - December 2007

FIGURE 2.0-30

TYPICAL GUNITE LINING DESIGN & INSTALL



SOURCE: PSOMAS, PACE 2008

FIGURE 2.0-31

UTILITY CORRIDOR



SOURCE: PACE – October 2007

FIGURE 2.0-32

TYPICAL MAIN STEM BRIDGE CROSSING

Although mainly maintenance free, structural repairs may be necessary to bridge supports or bridge decks that can only be completed from within the riverbed. In addition, subsequent to major storm events, accumulated debris and vegetation may create hazardous conditions to bridge supports. This includes growth of large woody vegetation along the length of the bridge, which may reduce the flood flow capacity during major storm events and provide locations for debris to accumulate. Depending on scope of repairs or debris and vegetation to be removed, it may be necessary for heavy equipment to be operated within the channel. Whenever practical, repairs or maintenance to bridges shall be made from the bridge deck, although if this is not practical, encroachment upstream and/or downstream of the bridge may be necessary. The maintenance work area for structural repairs shall be limited to the air necessary to complete the work and for access, generally 30 feet on either side of the bridge and under the bridge itself. Access ramps, as necessary, would be located as close to the repair site as feasible, with preference given to locations with minimal mature vegetation, lacking flowing water, and requiring minimal bank disturbance to create access ramps. See Appendix A of the RMDP for additional details on maintenance.

2.6.4.1.3 Temporary Haul Routes -- Santa Clara River

During construction, the applicant has proposed temporary haul routes to cross the Santa Clara River and be used to move excavated soil and provide general construction access to locations within the Project area where fill is needed. The approximate locations of the proposed temporary haul routes are depicted on **Figure 2.0-33**. The proposed crossings would be two-way with 60 feet of travel surface width. In locations where the riverbank is steep and ramping is required, fill would be placed in the river to create a safe slope ratio for passage of heavy equipment. Extra width for the side slopes of such crossings would be required. Passage of river flows would be maintained for all periods that the temporary haul routes are in use, and may include culverts or a simple span bridge crossing. Crossings may be removed as necessary to allow larger winter flows to pass. Upon on-site determination that the routes are no longer needed to serve as temporary haul routes, the routes would either: (a) revert back to agricultural routes to continue to serve the needs of agricultural activities; (b) in the event that the routes are to be preserved for future haul route activities, the crossings would be gated during times of non-activity to prevent unauthorized access; or (c) if no longer needed for agricultural activities, the river crossings would be removed and restored to appropriate native habitats. Because the temporary haul routes are not permanent features, they would not require maintenance.

2.6.4.1.4 Viewing Platforms -- Santa Clara River

The RMDP proposes to construct five nature viewing platforms located in and adjacent to jurisdictional areas of the Santa Clara River corridor. The proposed viewing platform locations are depicted on **Figure 2.0-34**. Approximately 8,500 linear feet of elevated trail decking is proposed to be located in or adjacent to the Santa Clara River corridor. Viewing platforms are proposed to be from three to six feet wide to meet ADA requirements for public trails. Decking and railing structures will be constructed using treated, plastic, or recycled plastic, or other composite lumber to maximize the service life of the platforms. Platforms would be supported from 6 inches to 6 feet above the ground surface using treated, plastic, recycled plastic, or other composite lumber 4" x 4" posts or are to be supported on steel or concrete columns. Columns would be no wider than the platform decking. Photo examples of typical viewing platforms are included on **Figure 2.0-34**. To the extent feasible, viewing platforms would be located to minimize impacts to established woody vegetation (*i.e.*, trails would meander around larger diameter

2.0 PROJECT DESCRIPTION

trees), and be primarily located in existing disturbed areas. In total, up to approximately 0.3 acres of CDFG jurisdictional acres would be permanently impacted by construction of the proposed viewing platforms.

Maintenance of the proposed viewing platforms include repair of structures, trimming of native growth encroaching on the pathways, repainting/coating of structural components (if necessary), and removal of trapped flood debris to ensure localized scour does not occur at viewing platform supports. These maintenance activities would be completed without further effect to adjacent riverbed areas. Please see Appendix A of the RMDP for additional details on maintenance.

2.6.4.1.5 *WRP Outfall -- Santa Clara River*

An effluent outfall pipeline, approximately 30 inches in diameter, would be constructed from the Newhall Ranch WRP through the bank stabilization to an energy dissipater and pilot channel out to the bed of the Santa Clara River. **Figure 2.0-35** depicts the approximate WRP outfall location. The approved Newhall Ranch WRP is to be located on the south side of SR-126, adjacent to the Santa Clara River, and near the Los Angeles County/Ventura County jurisdictional line. It would be constructed on agricultural and other previously disturbed land. The outfall pipe would terminate on the side of the bank stabilization, similar to a typical storm drain outfall, where an energy dissipater would be located. A pilot channel and adjacent walkway would be used to obtain water samples, which would be required under the NPDES permit for the Newhall Ranch WRP. The channel would be excavated and lined with either concrete, gunite, TRM, rock, or if velocities are low enough, simply compacted soil. The channel and walkway would be maintained periodically to restore functions lost due to storm damage, vegetative growth, or soil erosion from plant discharge. Maintenance would be limited to hand cutting vegetation along the path, maintaining the outlet and energy dissipater, and restoration of the functions of the pilot channel. See Appendix A of the RMDP for additional details on maintenance.

The WRP would have a treatment capacity of about 6.8 mgd and a maximum peak flow of 13.8 mgd. The WRP has been sized to serve the needs of the Specific Plan.

The WRP would consist of primary, secondary, and tertiary treatment facilities, as well as solids handling and disinfection facilities. The Los Angeles County Local Area Formation Commission (LAFCO) has approved formation of the Newhall Ranch County Sanitation District, effective July 27, 2006.²³ The boundary of the approved district coincides with that of the Specific Plan site. The WRP would be constructed, operated, and maintained by Los Angeles County Sanitation Districts in accordance with its specifications and requirements, as well as requirements of other public agencies, including the RWQCB.

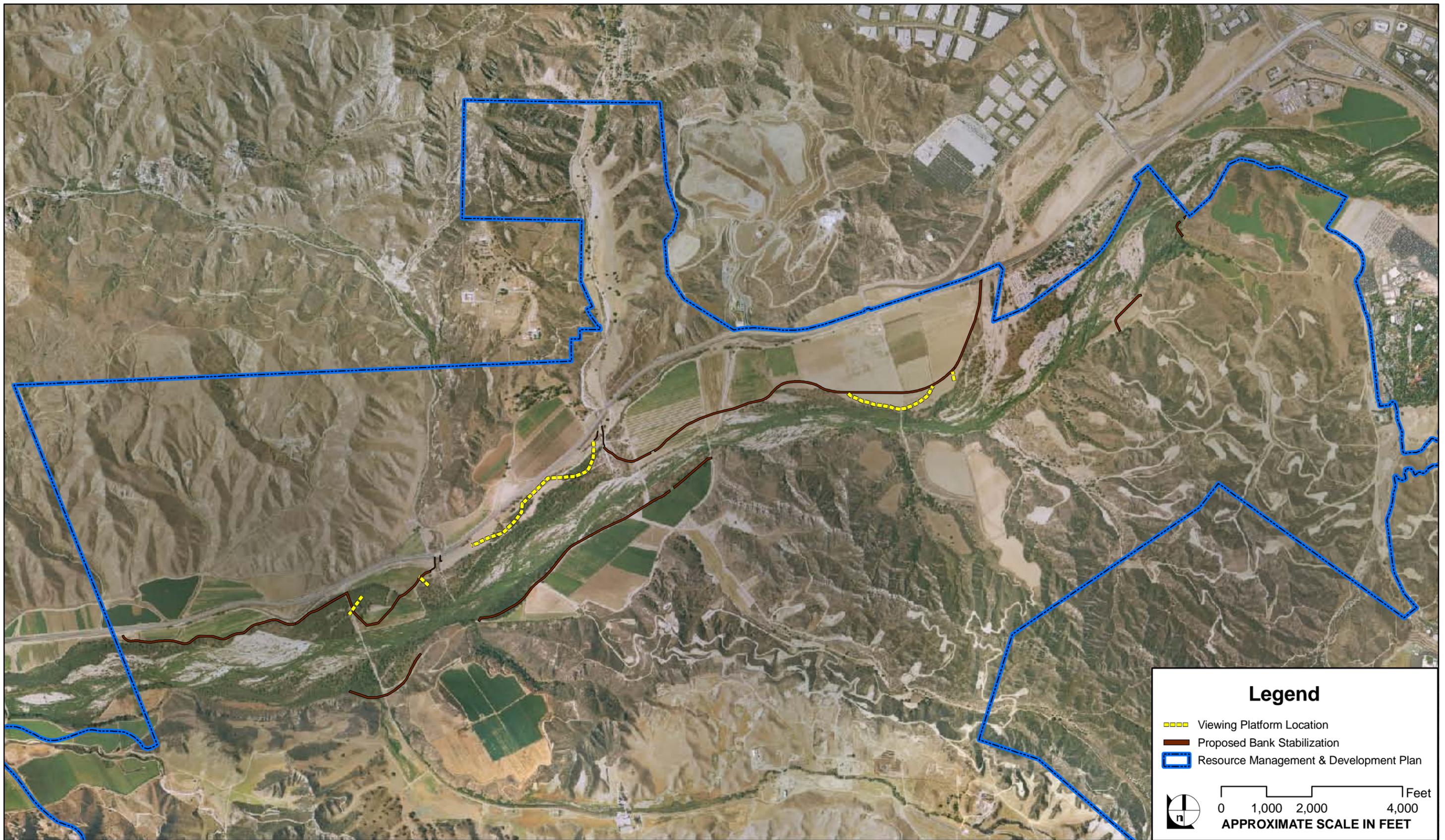
²³ CSD letter to Daniel Fierros, Department of Regional Planning, dated January 22, 2007.



SOURCE: PACE 2008

FIGURE 2.0-33

TEMPORARY HAUL ROUTES



SOURCE: PACE 2008

FIGURE 2.0-34

VIEWING PLATFORM LOCATIONS



SOURCE: PACE 2008

FIGURE 2.0-35

WRP OUTFALL LOCATION

2.6.4.1.6 Storm Drain Outlets -- Santa Clara River

The RMDP proposes installation of 25 storm drain outlets along the Santa Clara River. **Figure 2.0-36** depicts the approximate locations of the storm drain outlets. A typical storm drain outlet and associated schematic are shown on **Figure 2.0-37**. Installation of storm drain outlets generally requires a 20-foot wide excavation/construction zone. All of the storm drain outlets would drain to jurisdictional areas of the Corps and CDFG, although most are constructed outside of jurisdictional areas. In total, approximately 0.2 acres of jurisdictional area would be permanently impacted by construction of the storm drain outlets in the approximately 25 locations. Associated maintenance access ramps would impact up to an additional 0.2 acres at these locations.

Maintenance of storm drain outlets would include clearing vegetation and removal of accumulated sediment. In situations where drain outlets are not draining sufficiently, pilot channels up to 75 feet long by 10 feet wide may be created to facilitate the conveyance of storm flows. See Appendix A of the RMDP for additional details on maintenance.

2.6.4.2 Tributary Drainages

The Specific Plan incorporated various treatments of tributary drainages to accommodate approved land uses within the Project area. In order to optimize the location of development within portions of the RMDP study area, mass grading would occur in portions of the northern and southern tributary watersheds. Generally, there would be some higher areas that would be graded or "cut" and lower valley areas that would be elevated with fill material, balancing the distribution of cut and fill soil material throughout the RMDP area. In many cases, the excavation of native material and placement of compacted fill material is necessary to achieve geotechnically-stable development pads. As such, tributaries requiring treatment or other modification have undergone extensive study to ensure that the channel designs provide adequate hydrologic and ecological functions and services.

Within the tributary drainages in the RMDP study area, certain drainages would not be graded and remain undisturbed, while other drainage areas would be graded, reconstructed to a soft-bottom drainage channel with buried bank stabilization along each side of the drainage, or converted to buried storm drain. Reconstructed drainage areas would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts. This design methodology is intended to create stable drainage channels that would support the in-channel habitat following project implementation. The approach focuses on developing channel width, depth, slope, and other parameters based on the future flow and sediment regime of each drainage, using an integrated approach that predicts stable characteristics, and that uses structures and other measures only in those drainage locations where erosional forces would exceed the natural stability of the drainage channel. All such structures (bank and channel bed protection) are designed to mimic natural features and use a combination of structural and vegetative methods to provide drainage channels that are stable, visually aesthetic, and maintain the desired habitat (*i.e.*, riparian, wetland, upland) after project implementation. Road crossing culverts and bridges would cross various drainages, but only where necessary to accommodate the approved Specific Plan circulation system. **Figure 2.0-38** depicts the proposed Project's modified, converted, and preserved tributary drainages within the RMDP study area. The tributary drainage/jurisdiction areas to be preserved

2.0 PROJECT DESCRIPTION

(*i.e.*, unmodified/preserved by the RMDP) are shown on **Figure 2.0-38**. The tributary drainage/jurisdiction areas to be converted to buried storm drain are shown on **Figure 2.0-38**. The tributary drainage/jurisdiction areas modified by the RMDP are depicted on **Figure 2.0-38**. Modified drainage/jurisdiction includes stabilized and engineered tributary drainages that are to be revegetated and where new drainage/jurisdiction is created.

The exact design within each drainage would be determined during the final design and Los Angeles County building and permitting stages of Project implementation. These more detailed designs would be subject to a consistency determination by the Corps and CDFG as described in Subsection 3.3.2 of the RMDP. The existing characteristics of each drainage within the RMDP boundary and associated proposed modifications are described below.

The main tributary drainages have been designed to be bed-stable, with hydromodification (erosion and sedimentation) effects minimized while still carrying the design storm flow.

Grade control and drop-pool structures are designed to be primarily self-cleaning with limited need for sediment removal or vegetation control. In the event vegetative growth affects the crest, chute or splash pool, such vegetation would be hand cut and removed. Sediment is to be removed when sedimentation occurs to the point that the structure does not function or causes nuisance conditions. These features would likely be within reasonable distance of a service road; therefore, access would be limited to short distance travel over open scrub habitat.

General vegetation cleaning would not be required within the banks of the tributaries. Invasive species may require the control and methods described in the RMDP, Subsection 7.7.5, Invasive Species Control. Clearing of excess sedimentation to enable proper flow characteristics, or to abate nuisance ponding conditions, may be required. In these instances, the grade control structures, point stabilizers, and activities in the watershed would be evaluated for the causes of excess sedimentation and measures implemented to correct the condition.

Tributary drainages would be crossed during grading for temporary haul route purposes or co-located with permanent road crossings. The temporary haul routes would be created along existing agricultural routes where possible. In the event that existing agricultural routes are used, a temporary widening of such routes may occur. In all cases, the temporary haul routes would be created to serve specific and finite construction needs of the four Specific Plan Village areas (Landmark Village, Mission Village, Potrero, and Homestead), and upon on-site determination that the routes are no longer needed to serve as temporary haul routes, the routes would either: (a) revert back to agricultural routes to continue to serve the needs of agricultural activities; (b) in the event that the routes are to be preserved for future haul route activities, the crossings would be gated during times of non-activity to prevent unauthorized access; or (c) if no longer needed for agricultural activities, the river crossings would be removed and restored to appropriate native habitats. Because the temporary haul routes are not permanent features, they would not require maintenance.



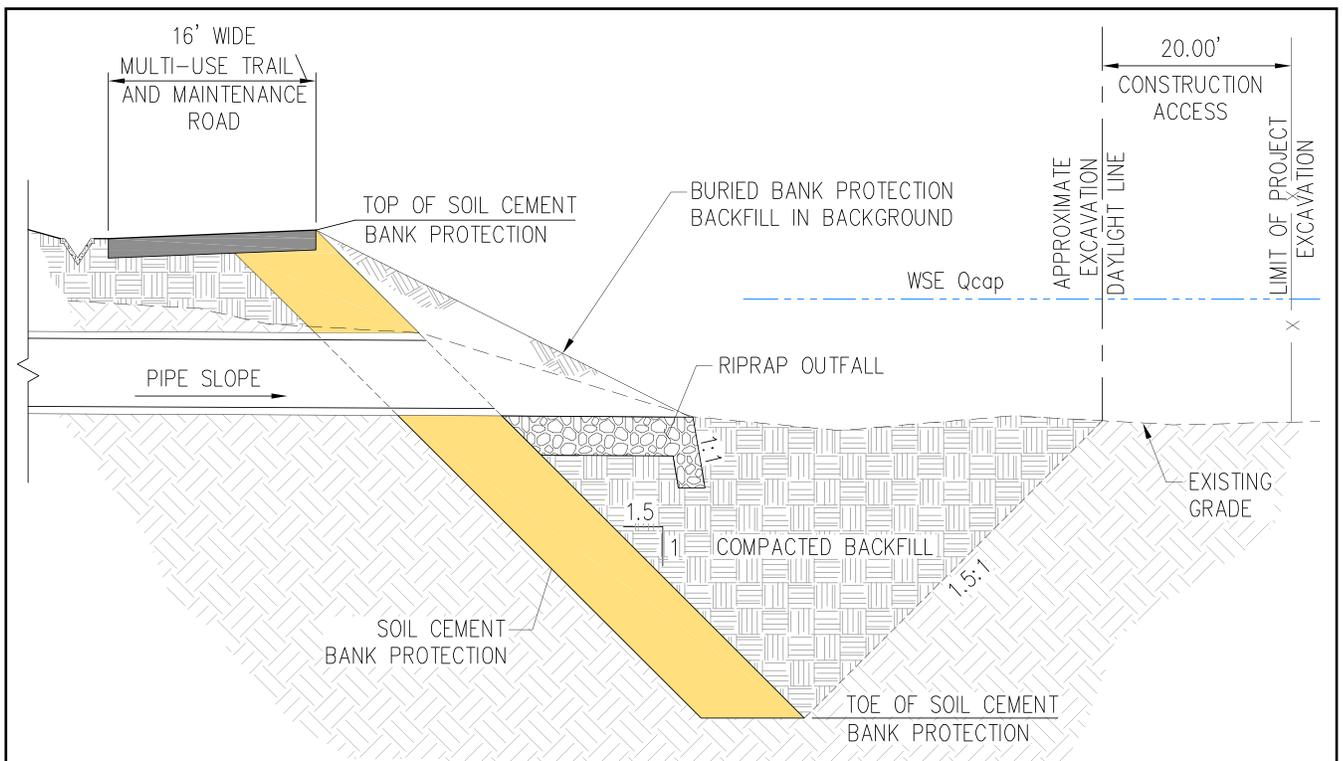
SOURCE: PACE 2008

FIGURE 2.0-36

STORM DRAIN OUTLETS
 SANTA CLARA RIVER



Storm Drain Outlet

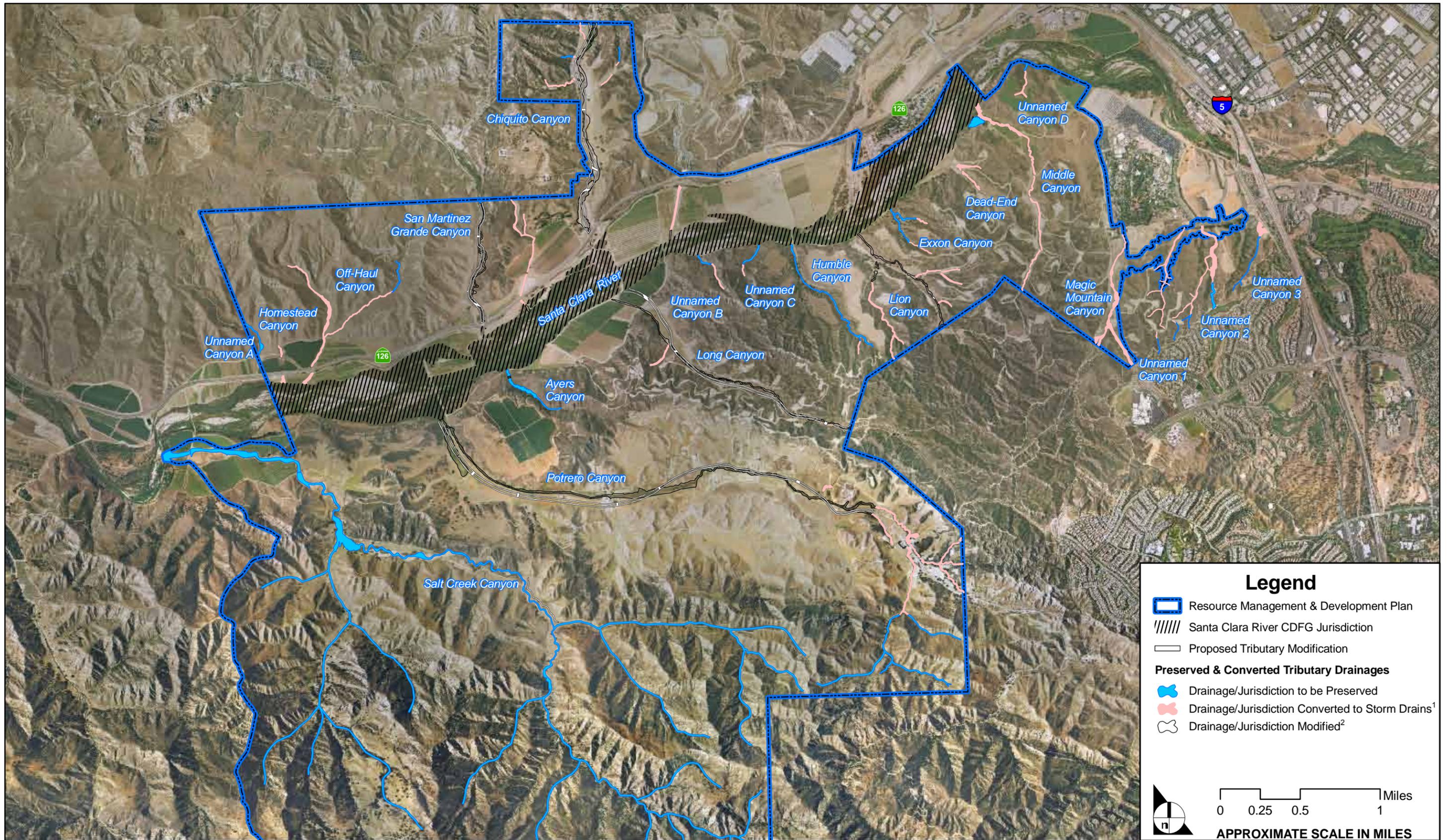


Typical Storm Drain Outlet Model

SOURCE: Newhall Ranch RMDP - February 2007

FIGURE 2.0-37

TYPICAL STORM DRAIN OUTFALL



SOURCE: PACE - April 2008

FIGURE 2.0-38
 MODIFIED, CONVERTED, AND PRESERVED
 TRIBUTARY DRAINAGES

2.6.4.2.1 Modified Tributary Drainages

Modified Tributary Drainages: Existing Channels Stabilized. In order to accommodate the Specific Plan development, some of the existing degraded major tributary drainages within the RMDP site (portions of Chiquito Canyon, San Martinez Grande Canyon, and Lion Canyon) would require stabilizing treatments to protect the channel and surrounding development from excessive vertical scour and lateral channel migration. The existing drainages would remain intact, but would sustain permanent and temporary impacts from construction of stabilization elements, including buried bank stabilization and grade stabilization structures. Virtually the entire watershed is characterized by both rugged and steeply developed foothills.

Modified Tributary Drainages: Regraded Channels. Due to the existing degraded and/or future developed conditions within portions of some drainages in the RMDP site (Potrero Canyon, Long Canyon, and portions of Chiquito, San Martinez Grande, and Lion canyons), stabilization of the existing drainages is not feasible; and, therefore, in order to meet the County's flood protection and hydromodification control objectives, these drainages would be graded, and a new drainage would be constructed in the same or similar location. The new drainages would be designed to incorporate buried bank stabilization and grade stabilization, and would have sufficient hydrologic capacity to pass the Los Angeles County Capital Flood without the need for clearing vegetation from the channels. The new channel banks would be planted with riparian vegetation following construction.

Unmodified (Preserved) Drainages. Among the minor tributary drainages within the RMDP site, some are not in a degraded condition, others are located in areas where no impacts are proposed, and others are distant enough from surrounding development that bank stabilization is not required. These drainages would remain in their existing condition; the RMDP does not propose to impact or enhance these drainages. In most situations, unmodified drainages would be located within future open space areas and maintain their current hydrologic functions, as well as providing linkages for wildlife movement to and from the Santa Clara River.

Drainages Converted to Buried Storm Drain. Some of the drainages within the RMDP site, including many of the smaller, ephemeral drainages, would be graded as part of the grading operations required to facilitate build-out of the Specific Plan. The wet-weather flows in these drainages meet the Los Angeles County flood criteria (less than 2,000 cfs) to be conveyed by storm drain. The RMDP does not propose to create new drainage channels to replace these impacted drainages. Rather, the wet-weather flows that currently occupy the drainages would be routed into the development's storm drain system, and would be discharged to the Santa Clara River via the proposed storm drain outlets.

Chiquito Canyon

Existing Characteristics. The approximate 4.85 square mile (3,106 acres) Chiquito Canyon watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 433 acres of the Chiquito Canyon watershed, or about 13.9 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The drainage is aligned generally in a north to south direction. The length of the Chiquito Canyon watershed is approximately 7,605 feet, with an average slope of 2.39 percent.

Within the RMDP boundary, Chiquito Canyon is characterized by a gently sloping valley floor surrounded by rugged and steep foothills. Approximately 96 percent of the canyon within the RMDP boundary lies in the valley floor, which averages approximately 700 feet in width, 1,000 feet at the upper end, 380 feet at its narrowest point, and 700 feet near its terminus at the Santa Clara River. The soils within the watershed area are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub and agriculture.

Proposed Modifications. The RMDP proposes to grade and reconstruct the existing Chiquito Canyon drainage alignment in order to construct a soft-bottom drainage channel with buried bank stabilization along each side of the drainage channel. The reconstructed alignment would generally be located along the same, existing drainage channel alignment. **Figure 2.0-39** shows the proposed Chiquito Canyon drainage treatments. The reconstructed drainage channel would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts.

Three road crossing culverts and one bridge for the Caltrans SR-126 widening project would cross the drainage as depicted in **Figure 2.0-39**. A typical tributary road crossing is depicted in **Figure 2.0-40**.

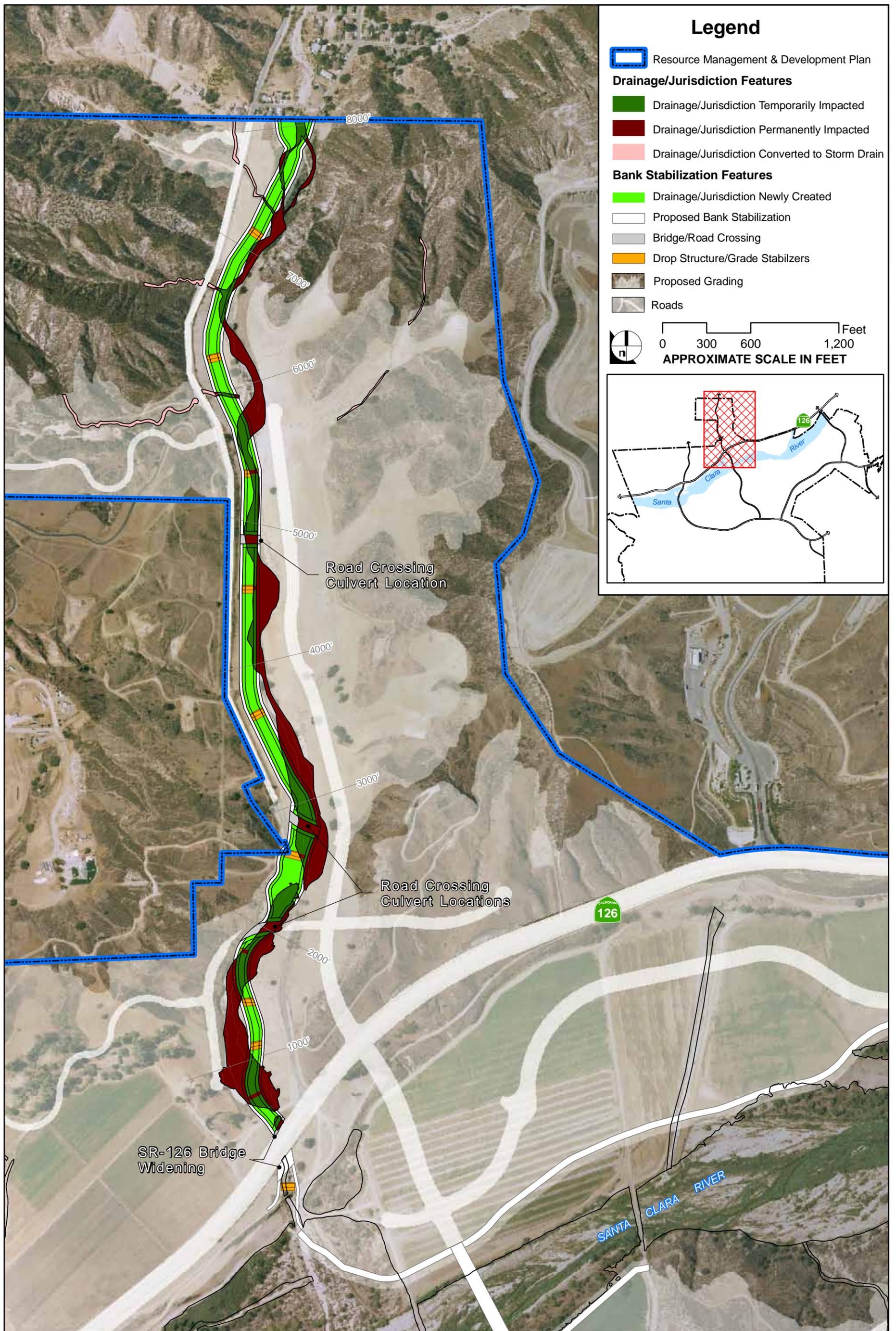
In total, the RMDP would install 7,411 lf of buried bank stabilization on the west side of the drainage, and 7,280 lf of buried bank stabilization on the east side of the drainage. In addition, approximately 2,549 lf of side drainages to the Chiquito Canyon drainage would be converted to storm drain. Three road crossing culverts over Chiquito Creek would be constructed.

Reconstruction of the drainage channel would result in 16.0 acres of modified, regraded channel, 1.0 acre of drainage converted to storm drain, and 1.0 acre for road crossings bridges/culverts, for a total impact of 18.0 acres. The proposed reconstructed channel also would result in 16.4 acres of newly created jurisdictional and upland buffer areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

Lion Canyon

Existing Characteristics. The approximate 0.84 square mile (539 acres) Lion Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 280 acres of the Lion Canyon watershed, or about 52 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in an east to west direction, and joins the Santa Clara River valley. The length of the Lion Canyon watershed is approximately 4,761 feet, with an average slope of 4.6 percent. Within the RMDP boundary, Lion Canyon is characterized by a narrow sloping valley floor surrounded by rugged and steep foothills. Approximately 43 percent of the canyon with the RMDP boundary lies in the valley floor, which averages approximately 320 feet in width, 100 feet at the upper end, its narrowest point, and 380 feet near its terminus at the Santa Clara River.

The soils within the canyon area are predominantly classified in hydrologic soil group B/C (moderate/higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub and chaparral.



SOURCE: PACE 2008

Note: Location of drop structures/grade stabilizers are approximate.

FIGURE 2.0-39

PROPOSED CHIQUITO CANYON DRAINAGE TREATMENTS



SOURCE: PACE – October 2007

FIGURE 2.0-40

TYPICAL TRIBUTARY ROAD CROSSING

Proposed Modifications. The RMDP proposes to stabilize the existing Lion Canyon drainage. **Figure 2.0-41** shows the proposed Lion Canyon drainage treatments. The drainage channel would include grade stabilizing measures (*i.e.*, drop structures/grade stabilizers) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts. One road crossing culverts would cross the drainage as depicted in **Figure 2.0-41**.

In total, the RMDP would convert approximately 6,316 lf of side drainages to the Lion Canyon drainage to storm drain. One road crossing culvert over the Lion Canyon drainage would be constructed.

Reconstruction of the drainage channel would result in 3.0 acres of modified channel, 3.4 acres of drainage converted to storm drain, and 0.4 acres of road crossing bridges/culverts for a total impact of 6.8 acres. The reconstructed channel also would result in 3.7 acres of newly created jurisdictional and upland buffer areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

Long Canyon

Existing Characteristics. The 1.99 square mile (1,271 acres) Long Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 821 acres of Long Canyon, or about 64.5 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in an east to west direction. The length of the Long Canyon watershed is approximately 9,829 feet, with an average slope of three percent. Within the RMDP boundary, Long Canyon is characterized by a gently sloping valley floor surrounded by rugged and steep foothills. Approximately 88 percent of the canyon within the RMDP boundary lies in the valley floor, which averages approximately 460 feet in width, 250 feet at the upper end, its narrowest point and 700 feet near its terminus at the Santa Clara River.

The soils in the drainage area are characterized as Castaic and Saugus soils, and are predominantly classified in the hydrologic soil group C (higher runoff potential). The associated vegetative cover within the drainage varies, but primarily includes disturbed land and chaparral.

Proposed Modifications. The RMDP proposes to grade and reconstruct the existing Long Canyon drainage alignment in order to construct a soft-bottom drainage channel with buried bank stabilization along each side of the drainage channel. The reconstructed alignment would be generally located along the same, existing drainage channel alignment, with the exception of the downstream 1,000 feet, which would be relocated to the east. **Figure 2.0-42** shows the proposed Long Canyon drainage treatments. The reconstructed drainage channel would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts. Two road crossing culverts and one bridge for Magic Mountain Parkway would cross the drainage as depicted in **Figure 2.0-42**.

In total, the RMDP would install 8,833 lf of buried bank stabilization on the west side of the drainage and 8,815 lf of buried bank stabilization on the east side of the drainage. In addition, approximately 961 lf of side drainages to the Long Canyon drainage would be converted to storm drain. Three road/bridge crossings within Long Canyon would be constructed.

Reconstruction of the drainage channel would result in 4.8 acres of permanently impacted drainage/jurisdiction, 0.7 acre of drainage converted to storm drain, and 0.3 acres of road crossing bridges/culverts for a total impact of 5.8 acres. The reconstructed channel also would result in 10.7 acres of newly created jurisdictional and upland buffer areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

Potrero Canyon

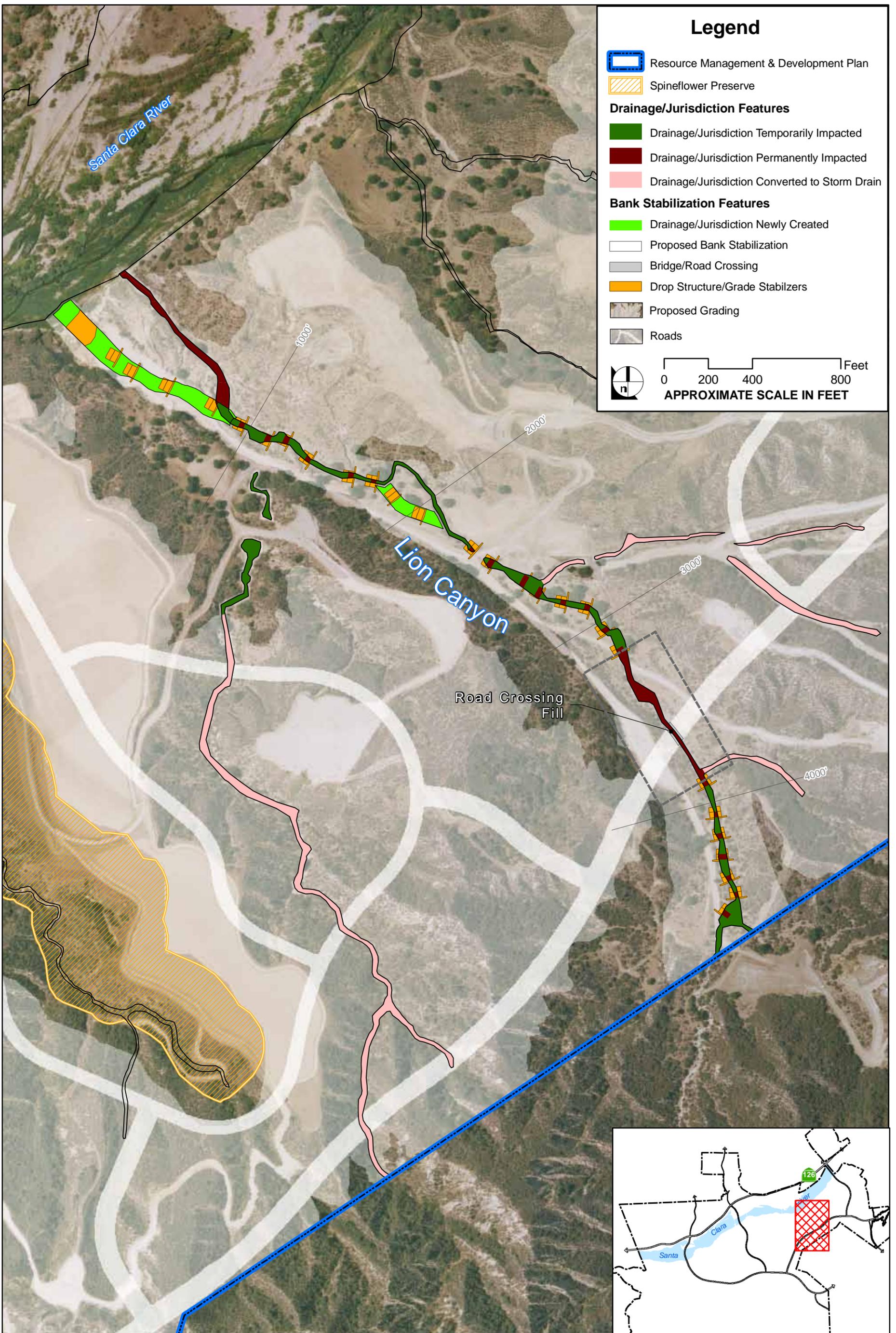
Existing Characteristics. The 4.73 square mile (3,025 acres) Potrero Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 2,626 acres of Potrero Canyon, or about 87 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in an east to west direction. The length of the Potrero Canyon watershed is approximately 25,381 feet, with an average slope of 3.1 percent.

Within the RMDP boundary, Potrero Canyon is characterized by a long, wide gently sloping valley floor surrounded by hills ranging from rolling to rugged and steep. Approximately 76 percent, including the lower 17,000 feet, of the canyon within the RMDP boundary lies within the valley floor, which averages approximately 1,000 feet in width, 700 feet at the upper end, and 210 feet near its terminus, its narrowest point, at the Santa Clara River.

The soils in the watershed area are characterized as Castaic-Balcom silty clays, and are predominantly classified in the hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California annual grasslands and agriculture. There is a unique plant community along the tributary associated within the high water table in some areas. A cismontane alkali marsh (CAM) covers 6.4 acres near the base of the valley just above the terminus with the Santa Clara River. A second highly degraded section adjoins the lower CAM and occupies approximately 22.4 acres. A third CAM covers about 11.3 acres, 6,200 feet farther up the tributary.

Proposed Modifications. The RMDP proposes to grade and reconstruct the existing Potrero Canyon drainage alignment in order to construct a soft-bottom drainage channel with buried bank stabilization along each side of the drainage channel. The reconstructed alignment would be generally located along the same, existing drainage channel alignment. **Figure 2.0-43** shows the proposed Potrero Canyon drainage treatments. The reconstructed drainage channel would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts. Five road crossing culverts would cross the drainage as depicted in **Figure 2.0-43**.

Approximately 9,679 lf of the drainage within the RMDP site would be preserved, as shown on **Figure 2.0-43**. In total, the RMDP would install 16,354 lf of buried bank stabilization on the west side of the drainage and 16,176 lf of buried bank stabilization on the east side of the drainage. In addition, approximately 10,918 lf of side drainages to the Potrero Canyon drainage would be converted to storm drain. As indicated above, five road crossings would be constructed over the Potrero Canyon drainage.



SOURCE: PACE 2008

Note: Location of drop structures/grade stabilizers are approximate.

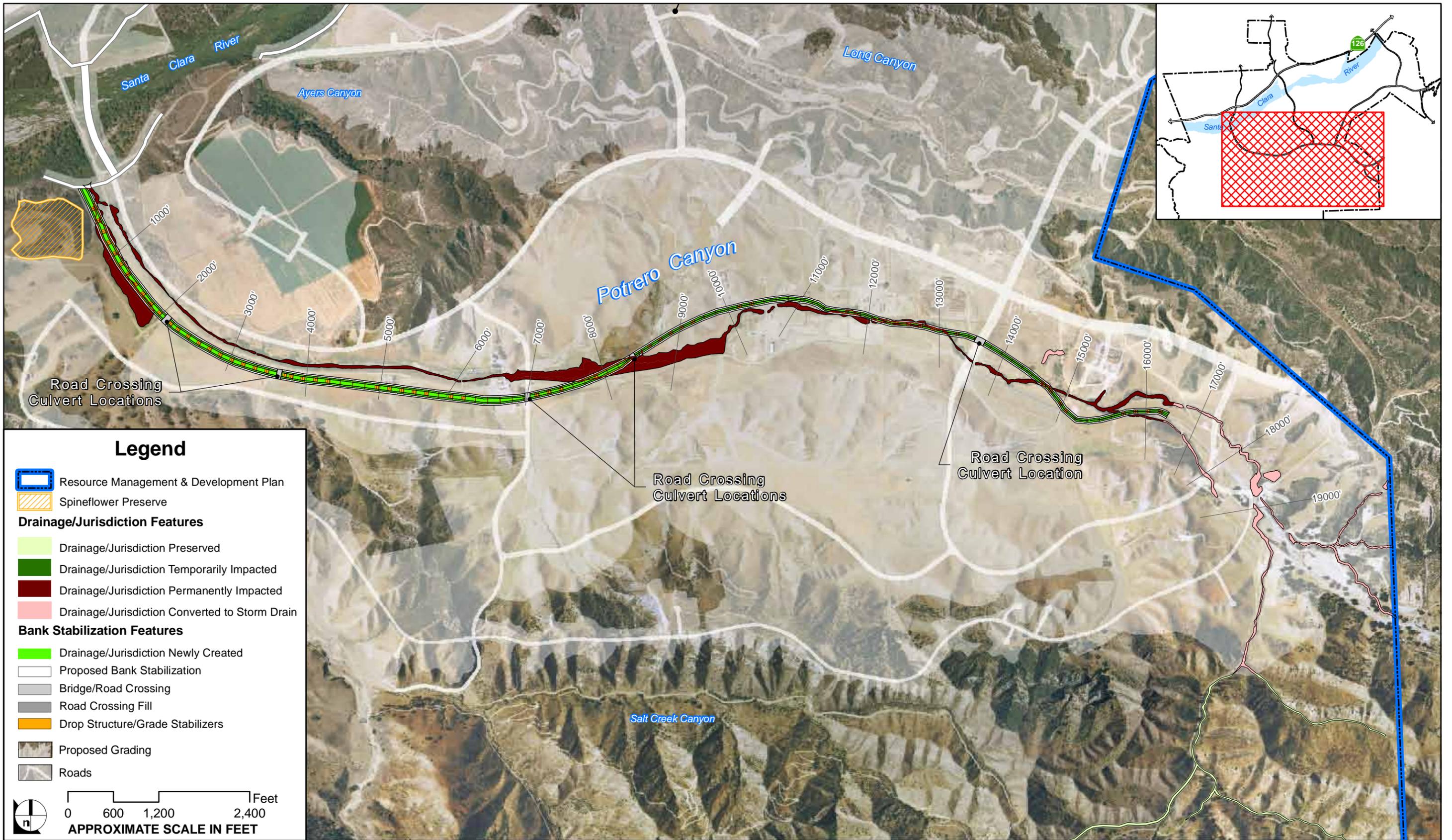
FIGURE 2.0-41

PROPOSED LION CANYON DRAINAGE TREATMENTS



SOURCE: PACE 2008

FIGURE 2.0-42
PROPOSED LONG CANYON
DRAINAGE TREATMENTS



SOURCE: PACE 2008

Note: Location of drop structures/grade stabilizers are approximate.

FIGURE 2.0-43
 PROPOSED POTRERO CANYON
 DRAINAGE TREATMENTS

Reconstruction of the drainage channel would result in 29.3 acres of permanently impacted drainage/jurisdiction, 7.6 acres of drainage converted to storm drain, and 0.1 acres of road crossing bridges/culverts for a total impact of 37.0 acres. The reconstructed channel also would result in 27.3 acres of newly created jurisdictional and upland buffer areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

San Martinez Grande Canyon

Existing Characteristics. The 3.63 square mile (2,322 acres) San Martinez Grande Canyon watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 382 acres of San Martinez Grande Canyon, or about 16.5 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction. The length of the San Martinez Grande Canyon watershed is approximately 5,170 feet, with an average slope of 1.9 percent. Within the RMDP boundary, San Martinez Grande Canyon is characterized by a gently sloping valley floor surrounded by rugged and steep foothills. Approximately 100 percent of the canyon within the RMDP boundary watershed lies in the valley floor, which averages approximately 680 feet in width, 430 feet at the upper end, its narrowest point, and 990 feet near its terminus at the Santa Clara River.

The soils in the watershed area are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in the hydrologic soil group C (higher runoff potential). The associated vegetative cover within the drainage varies, but primarily includes California annual grasslands and California sagebrush scrub.

Proposed Modifications. The RMDP proposes to grade and reconstruct the existing San Martinez Grande Canyon drainage alignment in order to construct a soft-bottom drainage channel with buried bank stabilization along each side of the drainage channel. The reconstructed alignment would be generally located along the same, existing drainage channel alignment. **Figure 2.0-44** shows the proposed San Martinez Grande Canyon drainage treatments. The reconstructed drainage channel would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium and protect the channel bed and banks from hydromodification impacts. Two road crossing culverts and one bridge from the Caltrans SR-126 bridge widening project would cross the drainage as depicted in **Figure 2.0-44**.

In total, the RMDP would install 4,279 lf of buried bank stabilization on the west side of the drainage and 4,287 lf of buried bank stabilization on the east side of the drainage. In addition, two road crossings would be constructed over the San Martinez Grande Canyon drainage. There is no drainage/jurisdiction converted to storm drain within San Martinez Grande Canyon.

Reconstruction of the drainage channel would result in a total of 2.4 acres of permanently impacted drainage/jurisdiction, and 0.1 acres of road crossing bridges/culverts, for a total impact of 2.5 acres. The reconstructed channel also would result in 5.8 acres of newly created jurisdictional areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

Grade Stabilizing Design Measures and Bank Protection

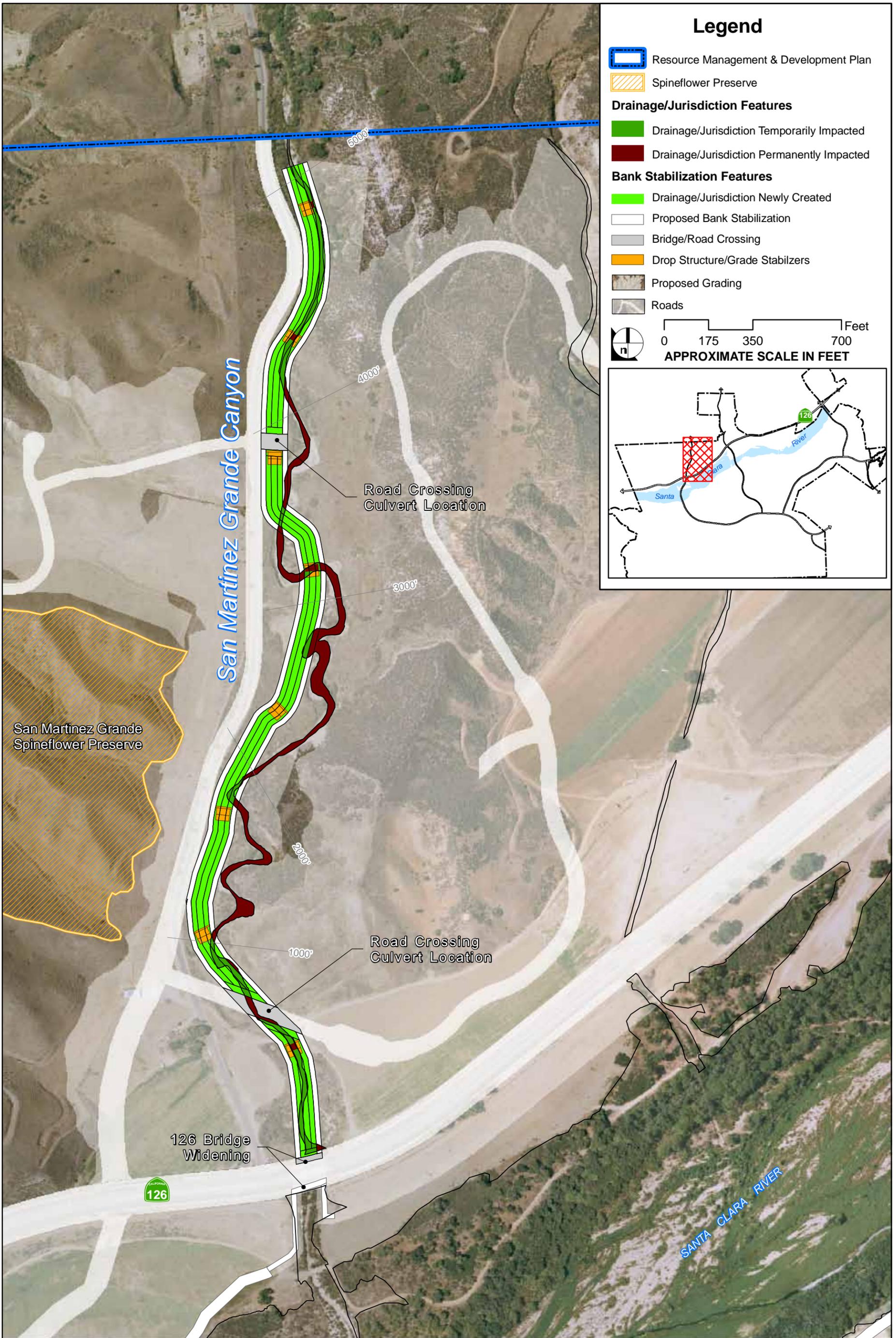
The five modified drainages described above (Chiquito, Lion, Long, Potrero, and San Martinez Grande) would contain structures (bank and channel-bed protection) designed to mimic natural features and use a combination of structural and vegetative methods to provide drainages that are stable, visually aesthetic, and support the desired habitat following Project implementation. The applicant's primary drainage design objectives include accommodating runoff flows from existing and future development, stabilizing the channel-bed and banks so they do not degrade, protecting proposed adjacent development, implementing improvements compatible with the environment, and allowing access for limited maintenance activities after modifying the tributary drainages. **Figure 2.0-45** and **Figure 2.0-46** provide examples of modified/engineered drainage channels after stabilizing and revegetating the area. The RMDP would stabilize drainage slopes, which would reduce velocities and corresponding erosion potential. Because grade stabilizing structures would minimize drainage bed lowering, reduce velocities, and shear stresses, and improve hydraulic stability, the potential for bank erosion and undercutting would be minimized and reduce the level of bank protection required in the five modified drainages. Various bank protection options are available for the five modified drainages based on specified application criteria.

Described below are the drop structures/grade stabilizers and bank protection that would be used in the design of the improved drainages within the RMDP boundary. Such improvements are required to accommodate drops in drainage elevation. As described below, construction of such features would likely include large boulders, soil cement or concrete and would mimic natural features in appearance and hydraulic function. Maintenance of these various features is discussed in Appendix A of the RMDP.

Grade Stabilization Structures. On-site soils would be combined with cement and water to form a soil cement mixture that would mimic the soils in the drainage area. The conceptual design and installation of a typical soil cement grade control structure is shown on **Figure 2.0-47**. Soil cement drop structures also would be used in the RMDP study area. **Figure 2.0-48** provides examples of soil cement drop structures. The steepest facing slopes on such structures are recommended at nearly 1.5:1 (H:V). Typical vertical drop heights for such structures can be greater than three feet and up to 15 feet. The structure length and width varies depending on the design flow of the particular drainage; typical structure dimensions may be 80 feet long by 80 feet wide. Riprap would be placed in and along the structure and downstream, and be planted with native vegetation. Soil cement would be mixed on-site, placed, compacted, finished, and cured, resulting in a durable and erosion-resistant material.

Grouted Sloping Boulder Drops. Boulders, typically 24-inch minimum smallest diameter would be placed in a step-like fashion, creating a condition similar to that in a natural riffle or small cascade. Boulders would be placed to prevent downcutting at the downstream end of the boulder drop. Twelve inches of grout would be placed at the bottom 30-50 percent depth of the boulders to lock them together.

In some cases, where the stream discharge and gradient are not excessive, grouting of the boulders would not be necessary, and non-grouted placed boulders could be installed. The steepest facing slopes are recommended at nearly 3:1 (H:V). Typical vertical drop heights for this type of drop structure can be greater than 3 feet and are proposed at up to 15 vertical feet. The structure length and width varies



SOURCE: PACE 2008

Note: Location of drop structures/grade stabilizers are approximate.

FIGURE 2.0-44

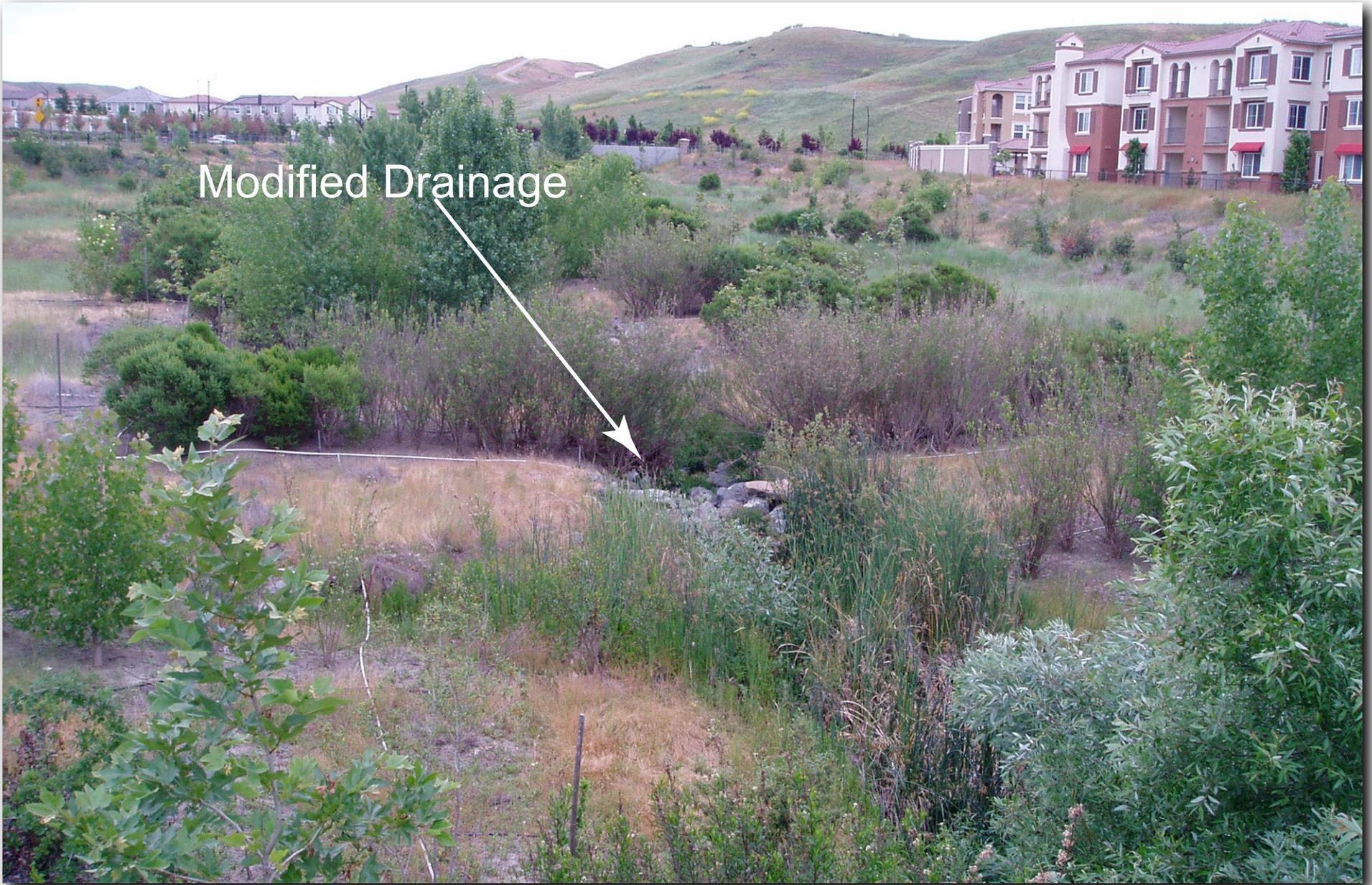
PROPOSED SAN MARTINEZ GRANDE CANYON DRAINAGE TREATMENTS



SOURCE: PACE – October 2007

FIGURE 2.0-45

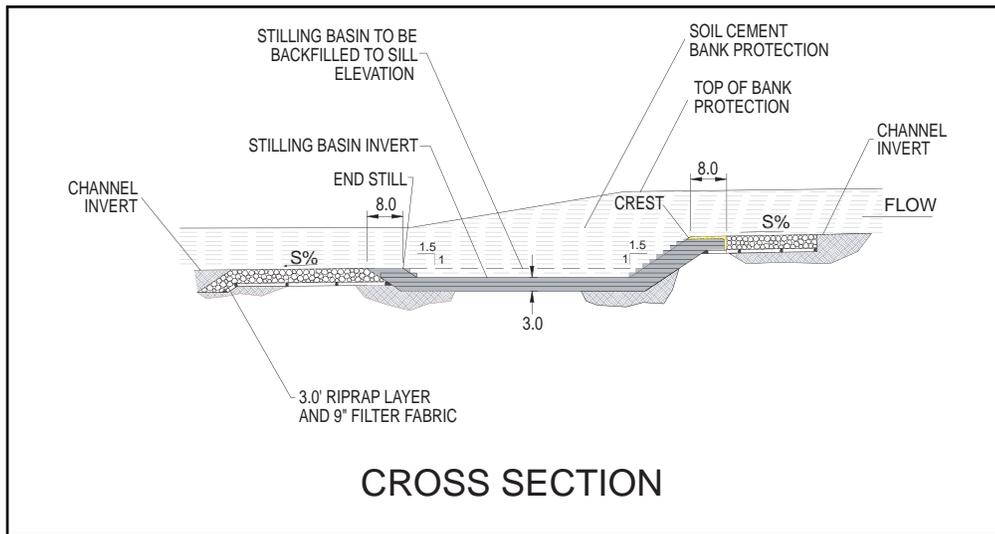
EXAMPLE OF MODIFIED/ENGINEERED CHANNEL



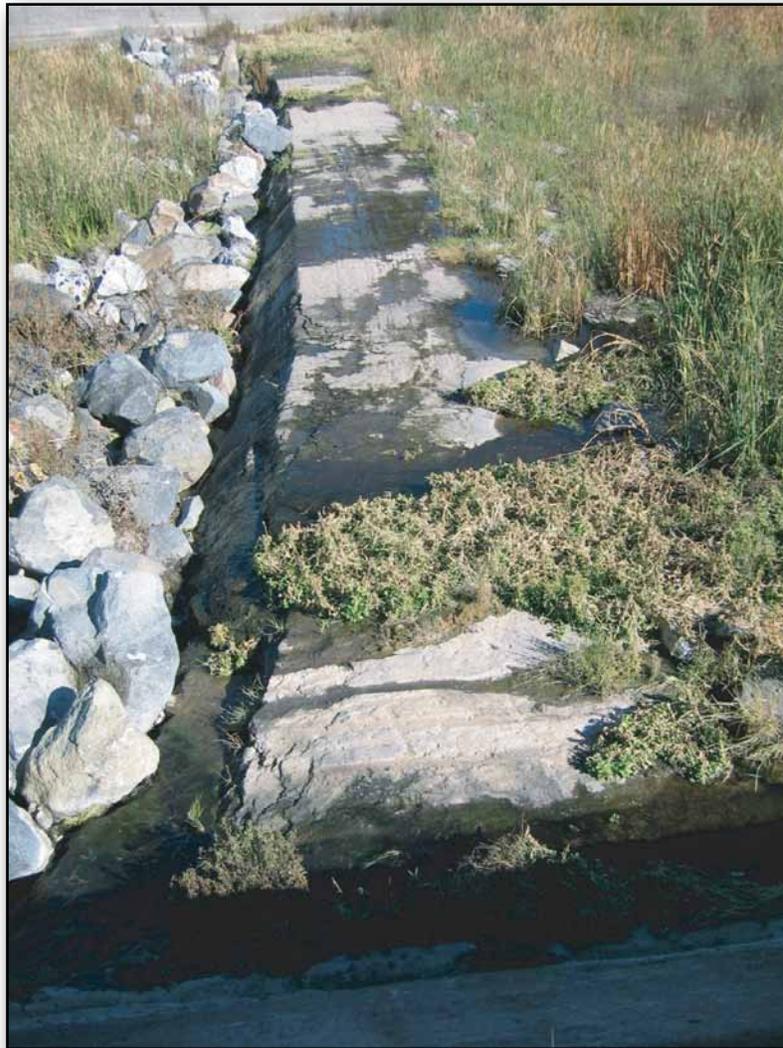
SOURCE: PACE – October 2007

FIGURE 2.0-46

EXAMPLE OF MODIFIED/ENGINEERED CHANNEL



Conceptual Soil Cement Grade Control Structure Design



Example of Soil Cement Grade Control Structure

SOURCE: Newhall Ranch RMDP - February 2007

FIGURE 2.0-47

TYPICAL GRADE STABILIZATION STRUCTURE DESIGN



SOURCE: Phillip Williams & Associates – October 2007

FIGURE 2.0-48

Examples of Soil Cement Drop Structure

depending on the design flow; typical structure dimensions may be 100 feet long by 60 feet wide. Riprap would be placed along the approach, in the upper voids of the boulders, along the upper banks, and downstream of the stilling basin, and be planted with native vegetation. **Figure 2.0-49** provides examples of grouted sloping boulder drops.

Non-Grouted Boulders and Step-Pools. Boulders, comprised of various sizes between 24-inch and 36-inch smallest diameter, would be placed to form a step-pool complex, which would prevent excessive scour while maintaining a functional drainage system. Boulders would be placed on the face of the step-pool structure, the crest, the lower part of the side slopes, and pool. The sub-base of the structure would be adequately designed using a mixture of compacted soil and riprap. The boulders would be individually placed and chinked to lock them together. Plants would also be used to prevent boulders from dislodging.

The non-grouted boulder step-pool would be designed for less than Q_{cap} and have typical dimensions of roughly 50 feet by 50 feet. Riprap would be placed along the approach, in the upper voids of the boulders, along the upper banks, and downstream of the pool, and be planted with native vegetation. **Figure 2.0-50** shows typical non-grouted placed boulders and step-pools.

Sculpted Concrete Drop Structures. Poured and shaped concrete would be molded to form an aesthetic modification to the grouted sloping boulder style drop structure. Design of these drop structures would be conducted individually, but similar to the grouted sloping boulder drop design. The finished product would be analogous to a natural streambed in a bedrock-dominated system, with alternating fast, narrow segments and broader, deeper pools. Construction typically would be conducted with a single monolithic full-depth pour or using a two pour system over steel reinforcement then contoured and textured to finish. Planting wells would be considered to help revegetate and conceal the structure. However, sculpted concrete drop structures typically would represent at least a partial break in the riparian corridor, as vegetation cannot grow on these structures as readily as on the boulder-based facilities discussed above, which support ample vegetation growth in voids between the rocks. Facing slopes are roughly similar to those of grouted sloping boulder drops, with the steepest recommendation at nearly 3:1 (H:V). Typical vertical drop heights for this type of grade control structure can be greater than 3 feet and are proposed at up to 10 vertical feet. The structure length and width varies depending on the design flow; typical structure dimensions may be 100 feet long by 80 feet wide. Riprap would be placed along the approach, in the approach at the crest, along the upper banks, and downstream of the stilling basin, and planted with native vegetation. **Figure 2.0-51** provides examples of sculpted concrete drop structures.

2.6.4.2.2 Unmodified and Converted Tributary Drainages

Agricultural Ditch

Existing Characteristics. The Chiquita Landfill site is located north of the RMDP study area, just north of SR-126, and it drains to an agricultural ditch through the RMDP area as shown on **Figure 2.0-38**, above. The watershed for the landfill area is 0.54 square mile (349 acres) and flows generally in a north to south direction. The majority of the landfill watershed is disturbed by landfill operations with steep to moderate topography, with soils generally characterized as Castaic and Saugus soils with Hanford Sandy Loam. The soils are predominantly classified in the hydrologic soil group B/C (lower to higher runoff

potential). Within the RMDP boundary, the ditch is approximately 1,810 feet in length, and associated vegetative cover in and surrounding the ditch is agriculture.

Converted Drainage. The agricultural drainage ditch would be graded to accommodate Specific Plan development, and the flows from the landfill watershed would be conveyed by buried storm drain. The RMDP is not proposing to drain into this converted storm drain. Instead, the converted storm drain would remain a separate storm drain to accommodate flows from the landfill watershed only.

Ayers Canyon

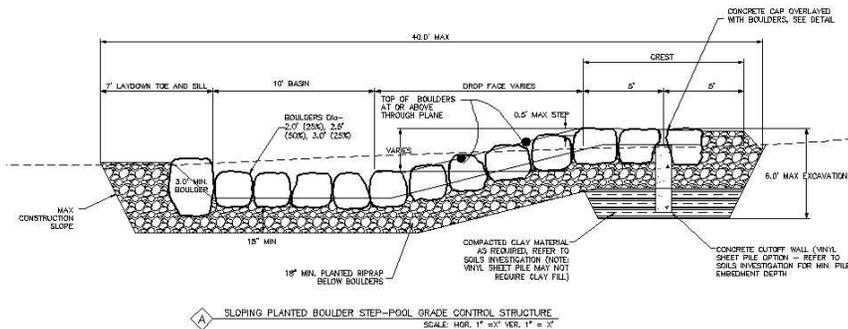
Existing Characteristics. The 0.23 square mile (147 acres) Ayers Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 147 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a west to east direction and joins with the Santa Clara River Valley. The length of the Ayers Canyon watershed is approximately 2,464 feet, with an average slope of 4.4 percent. The drainage within the RMDP boundary is characterized by a narrow steeply sloping valley floor surrounded by rugged and steep foothills. Approximately 100 percent of the drainage lies in the narrow valley floor, which gains 100 meters in elevation between the Santa Clara River terminus and its origin. It averages less than 100 feet in width, narrowing to approximately 80 feet at the upper end, its narrowest point.

The soils in the watershed are characterized as Castaic and Saugus soils, and are predominantly classified in hydrologic soil group B/C (lower to higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub-black sage, California sagebrush scrub, annual grasslands, riparian, and agriculture.

Unmodified/Preserved Drainage. The existing Ayers Canyon drainage would remain unimproved within the RMDP boundary following Project implementation (see **Figure 2.0-38**, above). In total, approximately 2.4 acres (or about 2,311 feet) of drainage/jurisdiction within Ayers Canyon would remain unimproved. One road crossing bridge/culvert would traverse the drainage in its lower reach near the confluence with the Santa Clara River.

Dead-End Canyon

Existing Characteristics. The 0.19 square mile (124 acres) Dead-End Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 124 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in an east to west direction and joins with the Santa Clara River Valley. The length of the Dead-End Canyon watershed is approximately 1,076 feet, with an average slope of 6.1 percent. The drainage is impeded by existing oil field access roads. It divides into two narrow forks approximately 600 feet above the Santa Clara River. Each of these forks is narrow, averaging approximately 80 feet in width and gaining 60 meters in elevation between the River and their origins.



SOURCE: Phillip Williams & Associates – October 2007

FIGURE 2.0-49

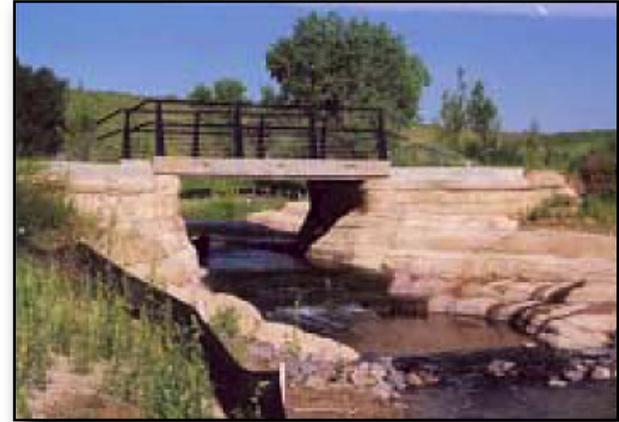
Grouted Sloping Boulder Drops



SOURCE: Phillip Williams & Associates – October 2007

FIGURE 2.0-50

Non-Grouted Placed Boulders and Step-Pools



SOURCE: Phillip Williams & Associates – October 2007

FIGURE 2.0-51

Examples of Sculpted Concrete Drop Structures

The soils in the watershed are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the drainage varies, but primarily includes California sagebrush scrub, California sagebrush scrub-purple sage and California buckwheat, undifferentiated chaparral, isolated pockets of annual grasslands, riparian, and disturbed land.

Converted Drainage. Dead-End Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drains (see **Figure 2.0-38**, above). In total, approximately 1.3 acres (or 1,931 feet) of existing drainage/jurisdiction would be converted to buried storm drain.

Exxon Canyon

Existing Characteristics. The 0.03 square mile (16 acres) Exxon Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 16 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Exxon Canyon watershed is approximately 2,193 feet, with an average slope of 9.2 percent. The drainage divides into two narrow forks approximately 150 feet above the Santa Clara River. Each fork is narrow, averaging approximately 100 feet in width and gaining 60 meters in elevation between the River and their origins.

The soils in the watershed are characterized as Saugus loam, and are predominantly classified in hydrologic soil group B (lower runoff potential). The associated vegetative cover within the drainage varies, but primarily includes California sagebrush scrub, California sagebrush scrub-purple sage and California buckwheat, undifferentiated chaparral, annual grasslands, and disturbed land.

Unmodified/Preserved and Converted Drainage. The southern portion of Exxon Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.3 acre (or 1,276 feet) of existing drainage/jurisdiction would be converted to buried storm drain. The northern drainage/jurisdiction of Exxon Canyon, adjacent to the Santa Clara River, would remain unimproved within the RMDP boundary following Project implementation (see **Figure 2.0-38**, above).

Homestead Canyon

Existing Characteristics. The 0.12 square mile (75 acres) Homestead Canyon watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 75 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction and joins with the Santa Clara River Valley. The length of the Homestead Canyon watershed is approximately 3,606 feet, with an average slope of 5.4 percent. Homestead Canyon is a narrow drainage, in a small valley less than 100 feet in width. The watershed terminates into an agricultural field.

The soils in the watershed are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-black sage and California buckwheat, dispersed annual grasslands, and agriculture.

Converted Drainage. Homestead Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.6 acre (or 609 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary following Project implementation.

Humble Canyon

Existing Characteristics. The 0.41 square mile (261 acres) Humble Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 253 acres of the watershed, or about 97 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Humble Canyon watershed is approximately 4,863 feet, with an average slope of 7.0 percent. Humble Canyon is in a narrow valley, averaging approximately 120 in width, 225 feet at its widest point at the terminus with the Santa Clara River and 60 feet at the upper origins. The canyon forks at its upper end approximately 3,800 feet above the Santa Clara River.

The soils in the watershed are characterized as Castaic and Saugus soils, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-California buckwheat, annual grasslands, undifferentiated chaparral, and agriculture. Spineflower also is located along the canyon.

Unmodified/Preserved and Converted Drainage. The southern portion of Humble Canyon, located outside of the Grapevine Mesa spineflower preserve, would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.1 acre (or about 421 feet) of existing drainage/jurisdiction would be converted to buried storm drain. The drainage/jurisdiction of Humble Canyon flowing north to the Santa Clara River, through the Grapevine Mesa spineflower preserve, would remain unimproved/preserved within the RMDP boundary following Project implementation.

Middle Canyon

Existing Characteristics. The 0.53 square mile (340 acres) Middle Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 272 acres of the watershed, or about 80 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Middle Canyon watershed is approximately 7,967 feet, with an average slope of 3.7 percent. The lower 2,800 feet of Middle Canyon lies in a valley approximately 400 feet in width. The upper portion narrows considerably, averaging less than 100 feet in width. It terminates through a year- round spring into the Santa Clara River.

The soils in the watershed are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-California buckwheat, undifferentiated chaparral, annual grasslands, riparian, and disturbed land.

Unmodified/Preserved and Converted Drainage. Middle Canyon would be graded to accommodate Specific Plan development and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 5.6 acres or about 7,439 feet of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation. A freshwater spring is located downstream of the mouth of Middle Canyon on a terrace along the Santa Clara River as depicted on **Figure 2.0-38**, above. The spring, comprising approximately 2.1 acres, is considered a unique aquatic resource that would be preserved.

Mid-Martinez Canyon

Existing Characteristics. The 0.16 square mile (105 acres) Mid-Martinez Canyon watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 67 acres of the watershed, or about 64 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction and joins with the Santa Clara River Valley. The length of the Mid-Martinez Canyon watershed is approximately 3,729 feet, with an average slope of 6.5 percent. The upper sections of Mid-Martinez Canyon consist of steep narrow canyons, less than 60 feet in width. The lower 2,400 feet is deeply incised as it passes through agricultural fields.

The soils in the watershed are characterized as Zamora Loam, and are predominantly classified in hydrologic soil group B (lower runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, annual grasslands, and agriculture.

Converted Drainage. Mid-Martinez Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 2.1 acres (or about 4,541 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Off-Haul Canyon

Existing Characteristics. The 0.92 square mile (587 acres) Off-Haul Canyon watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 470 acres of the watershed, or about 80 percent of the watershed area, are located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction and joins with the Santa Clara River Valley. The length of the Off-Haul Canyon watershed is approximately 4,223 feet, with an average slope of 7.1 percent. Off-Haul Canyon forks 1,500 above the Santa Clara River into two origin drainages. The larger, western fork is in a valley ranging from 250 width at its base, to less than 80 feet at its upper end. The eastern fork remains narrow throughout its origin. Below the fork, the drainage passes through agricultural land and is highly degraded and incised.

The soils in the watershed are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, annual grasslands, and agriculture.

Converted Drainage. Off-Haul Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 5.4 acres (or about 7,593 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Salt Creek Canyon

Existing Characteristics. The 9.2 square mile (5,859 acres) Salt Creek Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 3,808 acres of the watershed, or about 65 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a east to west direction and joins with the Santa Clara River Valley. The length of the Salt Creek Canyon watershed is approximately 25,830 feet, with an average slope of 3.4 percent. Salt Creek has multiple feeder drainages, originating from springs in the upper slopes of the Santa Susanna Mountains. Portions of Salt Creek occupy areas in Los Angeles County and Ventura County. The lower 10,000 feet of Salt Creek lies in a gently sloping valley, approximately 600-800 feet in diameter. The many upper origin areas narrow considerably into steep canyons.

The soils in the watershed are characterized as Gaviota rocky sandy loam, and are predominantly classified in hydrologic soil group C/D (higher to highest runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, annual grasslands, undifferentiated chaparral, and agriculture.

Unmodified/Preserved Drainage. The existing Salt Creek Canyon drainage would remain primarily unimproved within the RMDP boundary following Project implementation (see **Figure 2.0-38**, above). In total, approximately 84.1 acres (or about 101,470 feet) of the Salt Creek Canyon drainage/jurisdiction would remain unimproved.

Proposed Modifications. In one relatively small area of Salt Creek Canyon (approximately 6.9 acres), the RMDP proposes to stabilize and enhance a portion of the drainage with buried bank stabilization along the east side of the drainage channel. **Figure 2.0-38** shows the location of the proposed modification to the drainage. The drainage channel would integrate flood control and grade stabilizing measures (*i.e.*, a combination of drop structures/grade stabilizers and bank protection) to maintain sediment equilibrium, protect the channel bed and banks from hydromodification impacts, and render a flood prone area suitable for mitigation or enhancement activities.

In total, the RMDP would install 1,992 lf of buried bank stabilization on the east side of the drainage. The proposed bank stabilization is not located in jurisdictional areas. None of the drainage would be converted to storm drain.

Flood protection and stabilization construction would result in 6.9 acres of impacts. The reconstructed channel also would result in 114.1 acres of newly created jurisdictional and upland buffer areas. Maintenance of features constructed in the drainage is discussed in Appendix A of the RMDP.

Magic Mountain Canyon

Existing Characteristics. The 1.32 square mile (847 acres) Magic Mountain Canyon watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 178 acres of the watershed, or about 27 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Magic Mountain Canyon watershed is approximately 4,813 feet, with an average slope of 3.4 percent. The origin of this canyon has been impacted by existing development. It terminates into the Magic Mountain amusement park. Otherwise, the middle portion consists of gently sloping valley, approximately 400 feet in width.

The soils in the watershed are characterized as Castaic and Saugus soils and Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-California buckwheat, California sagebrush scrub-purple sage, undifferentiated chaparral, annual grasslands, agriculture, and disturbed land.

Converted Drainage. Magic Mountain Canyon would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 6.4 acres (or about 6,111 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Unnamed Canyon 1

Existing Characteristics. The 0.16 square mile (103 acres) Unnamed Canyon 1 watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 103 acres of the watershed, or about 100 percent of the watershed area, is located within the Project boundary (see **Figures 2.0-5 and 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon 1 watershed is approximately 2,020 feet, with an average slope of 2.7 percent. The source of the Unnamed Canyon 1 is compromised by existing development (a golf course). It terminates in a ditch next to a parking lot for the Magic Mountain amusement park.

The soils in the watershed are characterized as Castaic-Balcom silty clay loams, and are predominantly classified in hydrologic soil group B (lower runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-California buckwheat, undifferentiated chaparral, and annual grasslands.

Converted Drainage. Unnamed Canyon 1 would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**,

above). In total, approximately 0.3 acres (or about 4,647 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Unnamed Canyon 2

Existing Characteristics. The 0.6 square mile (401 acres) Unnamed Canyon 2 watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 401 acres of the watershed, or about 100 percent of the watershed area, is located within the Project boundary (see **Figures 2.0-5** and **2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon 2 watershed is approximately 3,126 feet, with an average slope of 3.1 percent. The source of the Unnamed Canyon 2 is compromised by existing development (golf course). It terminates in a ditch next to a parking lot for the Magic Mountain amusement park.

The soils in the watershed are characterized as Saugus loam, and are predominantly classified in hydrologic soil group B (lower runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-California buckwheat, annual grasslands, as well as developed and disturbed land.

Converted Drainage. Unnamed Canyon 2 would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.5 acre (or about 416 feet) of existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Unnamed Canyon A

Existing Characteristics. The 0.7 square mile (445 acres) Unnamed Canyon A watershed is a tributary to the northern bank of the Santa Clara River within the Project area. Approximately 133 acres of the watershed, or about 29 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon A watershed is approximately 1,293 feet, with an average slope of 3.4 percent. Unnamed Canyon A originates in a small steep canyon, then opens into a valley approximately 200 feet in width. It terminates into an agricultural field and drains into a narrow incised ditch which terminates through a pipe across SR-126 to the Santa Clara River.

The soils in the watershed are characterized as Castaic-Balcom complex and silty clay loams, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes annual grasslands, California sagebrush scrub, and agriculture.

Unmodified Drainage. The existing Unnamed Canyon A drainage would remain unimproved within the RMDP boundary following Project implementation (see **Figure 2.0-38**, above). In total, approximately 0.8 acre (or about 1,293 feet) of drainage/jurisdiction within Unnamed Canyon A would remain unimproved.

Unnamed Canyon B

Existing Characteristics. The 0.05 square mile (29 acres) Unnamed Canyon B watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 29 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a north to south direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon B watershed is approximately 1,574 feet, with an average slope of 15.2 percent. Unnamed Canyon B drains through a very narrow steep canyon to the Santa Clara River.

The soils in the watershed are characterized as Castaic and Saugus soils, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, undifferentiated chaparral, and agriculture.

Unmodified and Converted Drainage. The portion of Unnamed Canyon B, which is adjacent to the Santa Clara River, would remain unimproved following Project implementation (see **Figure 2.0-38**, above). In total, approximately 0.3 acre (or about 568 feet) of existing drainage/jurisdiction at the mouth of Unnamed Canyon B would be preserved. The remaining portion of Unnamed Canyon B would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.5 acre (or about 1,004 feet) of the remaining existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Unnamed Canyon C

Existing Characteristics. The 0.07 square mile (43 acres) Unnamed Canyon C watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 43 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon C watershed is approximately 1,272 feet, with an average slope of 7.3 percent. Unnamed Canyon C drains through a narrow, steep valley, measuring approximately 100 feet in diameter into the Santa Clara River.

The soils in the watershed are characterized as Castaic and Saugus soils, and are predominantly classified in hydrologic soil group C (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, California sagebrush scrub-purple sage, and agriculture.

Unmodified/Preserved and Converted Drainage. The portion of Unnamed Canyon C, which is adjacent to the Santa Clara River, would remain unimproved following Project implementation (see **Figure 2.0-37**, above). In total, approximately 0.5 acre (or about 869 feet) of existing drainage/jurisdiction at the mouth of Unnamed Canyon C would be preserved. The remaining portion of Unnamed Canyon C to the south would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.2 acre (or about 402 feet) of the remaining existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

Unnamed Canyon D

Existing Characteristics. The 0.04 square mile (28 acres) Unnamed Canyon D watershed is a tributary to the southern bank of the Santa Clara River within the Project area. Approximately 28 acres of the watershed, or about 100 percent of the watershed area, is located within the RMDP boundary (see **Figure 2.0-38**, above). The watershed is aligned generally in a south to north direction and joins with the Santa Clara River Valley. The length of the Unnamed Canyon D watershed is approximately 1,740 feet, with an average slope of 11.6 percent. Unnamed Canyon C drains through a narrow, steep valley, measuring approximately less than 100 feet in diameter into the Santa Clara River.

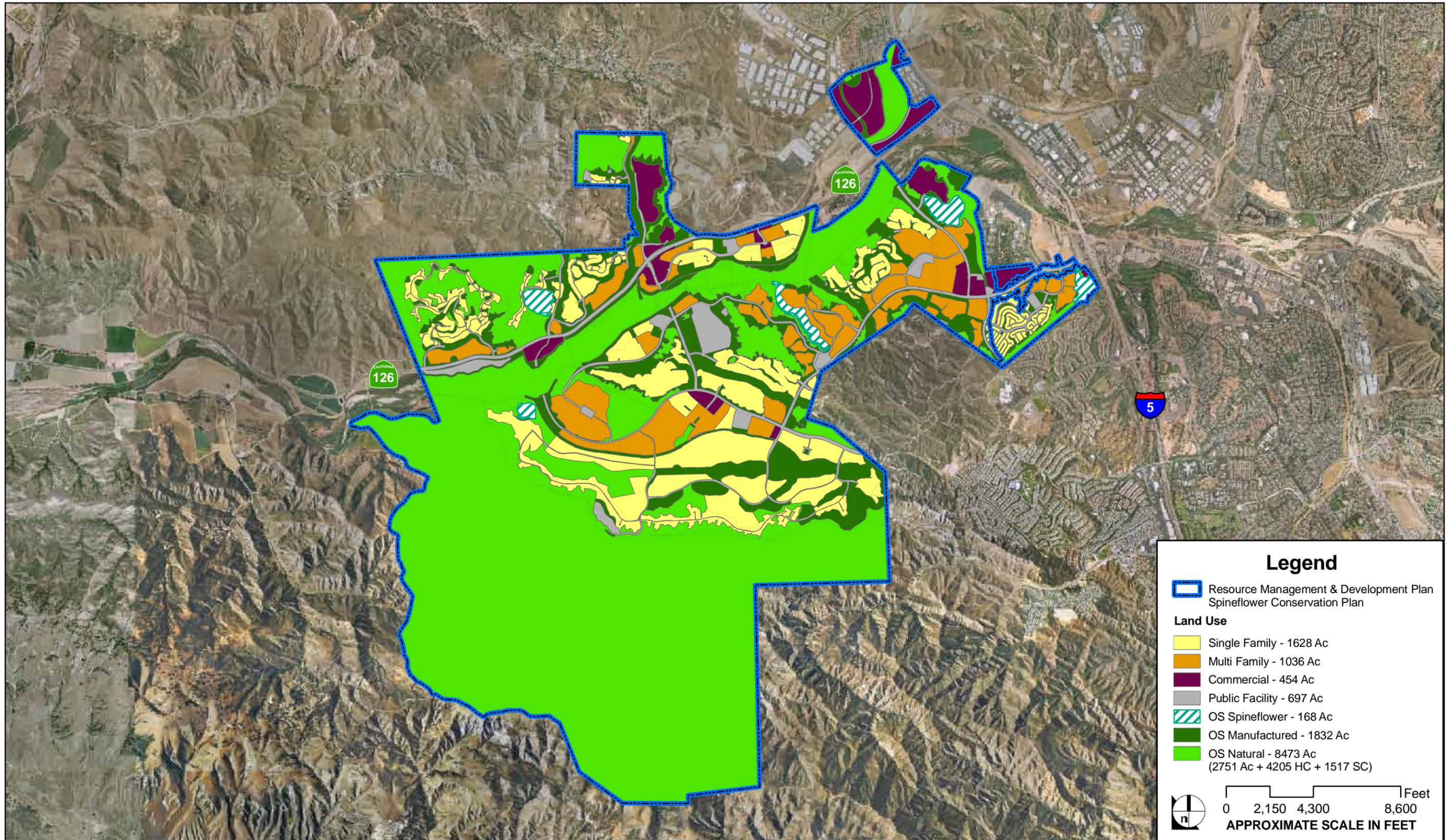
The soils in the watershed are characterized as Zamora Loam, and are predominantly classified in hydrologic soil group B (lower runoff potential). The associated vegetative cover within the watershed varies, but primarily includes California sagebrush scrub, annual grasslands, riparian, and agriculture.

Unmodified/Preserved and Converted Drainage. The portion of Unnamed Canyon D, which is adjacent to the Santa Clara River, would remain unimproved following Project implementation (see **Figure 2.0-38**, above). In total, approximately 0.1 acre (or about 260 feet) of existing drainage/jurisdiction at the mouth of Unnamed Canyon D would be preserved. The remaining portion of Unnamed Canyon D would be graded to accommodate Specific Plan development, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 2.0-38**, above). In total, approximately 0.7 acre (or about 1,232 feet) of the remaining existing drainage/jurisdiction would be converted to buried storm drain within the RMDP boundary after Project implementation.

2.6.4.3 Summary Description of Development Facilitated by RMDP

If the proposed section 404 permit and Master Streambed Alteration Agreement are issued to permit the regulated activities described above, development would be facilitated by the RMDP component of the proposed Project (Alternative 2). The authorized grading and bank stabilization in jurisdictional drainage areas would create conditions suitable for the construction of 2,550 acres of residential areas, including single-family (9,081 units on 1,559 acres) and multi-family (11,804 units on 991 acres). In addition, the RMDP would allow for the build-out of about 258 acres of commercial uses. A total of approximately 10,200 acres of public open space would be created. A 36.7-acre Visitor Serving land use designation in the Specific Plan (May 2003) allows for cultural, recreational, and commercial amenities to serve the Newhall Ranch community and the region. As described in the Specific Plan, this area is proposed to serve as an access point to the High Country SMA and is intended to contain relatively low impact uses, which take advantage of the rich natural resource setting. This 36.7-acre area is located in the Potrero Valley portion of Newhall Ranch. (Specific Plan, Section 2.3, pp. 2-27, 2-41-43.)

The development facilitated by RMDP implementation also would include the dedication and placement of 61 acres of community parks, 52 acres of neighborhood parks, a 172-acre golf course, and a 24-acre community lake. Education for site residents would be provided by five new elementary schools, a new junior high school and a new high school. A new library would be provided. A summary of the development facilitated by the RMDP component of the proposed Project (Alternative 2) is presented in **Table 2.0-6**. **Figure 2.0-52** also depicts the Alternative 2 RMDP/SCP Land Use Plan.



SOURCE: HUNSAKER, PACE 2008

FIGURE 2.0-52
ALTERNATIVE 2 RMDP/SCP
LAND USE PLAN

2.0 PROJECT DESCRIPTION

**Table 2.0-6
Development Facilitated by RMDP Component of Proposed Project (Alternative 2)**

Land Use Category ¹	Acres	Res. ³ DU	Comm. ⁴ MSF ²	Percent Res. Reduction (DU)	Percent Comm. Reduction (MSF)	Total Res. Reduction	Total Comm. Reduction
Specific Plan							
Single-Family Residential	1,559.2	9,081	0	-	-	0	0
Multi-Family Residential	991.1	11,804	0	-	-	0	0
Commercial	258.1	0	5.55	-	-	0	0
Public Facilities ⁵	642.6	0	0	-	-	0	0
Open Space ⁶	10,200.2	0	0	-	-	0	0
Subtotal Specific Plan	13,651.3	20,885	5.55	-	-	0	0
Total Specific Plan Reduction Compared to Proposed Project						0	0
Entrada Development							
Single-Family Residential	68.8	428	0	-	-	0	0
Multi-Family Residential	45.1	1,297	0	-	-	0	0
Commercial	32.2	0	0.45	-	-	0	0
Public Facilities	40.5	0	0	-	-	0	0
Open Space	129.5	0	0	-	-	0	0
Subtotal Entrada	316.1	1,725	0.45	-	-	0	0
Total Entrada Reduction Compared to Proposed Project						0	0
Valencia Commerce Center							
Commercial	53.0	0	1.10	-	-	0	0
Industrial Park	110.9	0	2.30	-	-	0	0
Public Facilities	13.7	0	0	-	-	0	0
Open Space	143.6	0	0	-	-	0	0
Subtotal VCC	321.3	0	3.40	-	-	0	0
Total VCC Reduction Compared to Proposed Project						0	0
Grand Total Project Reduction Compared to Proposed Project						0	0

Notes:

¹ In some instances, the land use categories for the Specific Plan, Entrada, and VCC have been consolidated to simplify presentation of the land use data.

² MSF means million square feet.

³ Residential includes single-family (detached homes) and multi-family (condominium/townhomes).

⁴ Commercial includes business park, office, retail, *etc.*

⁵ Public Facilities includes parks, schools, libraries, *etc.*

⁶ Open Space means natural (preserved) and manufactured open space, and includes the Specific Plan's High Country SMA/SEA 20, River Corridor SMA/SEA 23, Open Areas, spineflower preservation areas, and other specified open areas, primarily located within the Specific Plan's Estate Residential designation. Open Space does not include the Salt Creek area, adjacent to the Specific Plan boundary, comprised of about 1,517 acres. If the Salt Creek area is included, the total Open Space is approximately 10,200 acres (8,683 + 1,517 = 10,200).

Source: The Newhall Land and Farming Company, 2007.

2.0 PROJECT DESCRIPTION

2.6.4.4 Summary Description of Major Infrastructure Proposed by the RMDP

As described in detail above, the RMDP proposes infrastructure in the Santa Clara River and its tributary drainages within the RMDP study area. The major infrastructure proposed by the RMDP consists of drainage modifications, bank stabilization, bridges, and road crossings. Under the RMDP, there would be three bridges and buried bank stabilization adjacent to the Santa Clara River. In addition, certain specified tributary drainages would be modified or converted to buried storm drain. There also would be five culvert road crossings in Potrero Canyon, three in Long Canyon, three in Chiquito Canyon, two in San Martinez Grande Canyon, one in Lion Canyon, and one in Ayers Canyon. **Table 2.0-7** summarizes the major infrastructure proposed by the RMDP.

Drainage Location	Drainage Modified (lf)	Drainage Converted to Buried Storm Drain (lf)	Bank Stabilization ¹ (lf)		Preserved Drainage (lf)	Road Crossings	
			West Bank	East Bank		Bridges	Culverts
River							
Santa Clara River	-	-	20,016 ²	9,763 ²	N/A	3	-
River Subtotal	-	-	20,016 ²	9,763 ²	N/A	3	-
Modified Drainages							
Chiquito Canyon	8,612	2,549	7,411	7,280	898	-	3
Lion Canyon	5,614	6,316	-	-	-	-	1
Long Canyon	9,618	961	8,833	8,815	-	-	3
Potrero Canyon	19,095	10,918	16,354	16,176	9,679	-	5
San Martinez Grande Canyon	5,126	-	4,279	4,287	43	-	2
Subtotal	48,066	20,744	36,877	36,599	10,621	-	14
Unimproved/Converted Drainages							
Agricultural Ditch	344	1,479	-	-	25	-	-
Ayers Canyon ³	154	-	-	-	2,311	-	1
Dead-End Canyon	-	1,931	-	-	0	-	-
Exxon Canyon	-	1,276	-	-	2,265	-	-
Homestead Canyon	-	609	-	-	0	-	-
Humble Canyon	-	421	-	-	5,116	-	-
Middle Canyon	-	7,439	-	-	148	-	-
Mid-Martinez Canyon	22	4,541	-	-	250	-	-
Off-Haul Canyon	-	7,593	-	-	1,185	-	-
Salt Creek Canyon	7,290	-	-	1,992	101,470	-	-
Magic Mountain Canyon	-	6,111	-	-	-	-	-
Unnamed Canyon 1	-	4,647	-	-	-	-	-
Unnamed Canyon 2	-	416	-	-	-	-	-
Unnamed Canyon A	-	0	-	-	1,293	-	-
Unnamed Canyon B	-	1,004	-	-	568	-	-
Unnamed Canyon C	-	402	-	-	869	-	-
Unnamed Canyon D	-	1,232	-	-	260	-	-
Subtotal	7,809	39,101	0	1,992	115,760	-	1
Tributary Totals	55,875	59,845	36,877	38,551	126,381	0	15

2.0 PROJECT DESCRIPTION

**Table 2.0-7
Major Infrastructure Proposed by RMDP**

Notes

¹ The Commerce Center Drive Bridge was previously analyzed in the Final EIS/EIR prepared and approved by the Corps and CDFG in connection with the previously adopted NRMP (SCH No. 1997061090, August 1998).

² For the Santa Clara River, which generally traverses east to west, the West Bank actually describes the north side of the River and the East Bank actually describes the south side of the River. In addition, the Santa Clara River "North Bank" includes improvements along the west side or bank of Castaic Creek. For the tributary drainages, which generally are in a north/south direction, the West Bank and East Bank are accurate descriptions of each side of the drainages.

³ Depending on the final decision on SR-126/Chiquito Canyon interchange, the culvert depicted may in actuality include 3 independent bridge decks and a separate trail bridge.

Source: PACE, 2008

Construction of culvert road crossings typically results in a temporary disturbance of a 60-foot wide corridor on each side of the crossing. Following completion of this construction activity, the temporary impact zone would be restored to channel grade and revegetated with native riparian and upland species as appropriate. Maintenance of bridges and road crossing culverts is discussed in Appendix A of the RMDP.

2.6.4.5 Bridges/Culvert Road Crossings - Tributaries/SR-126

In addition to the proposed and previously approved bridges over the Santa Clara River, the RMDP addresses three proposed widened bridges/culvert road crossings at SR-126. There are two proposed widened bridges at SR-126; the first is at Castaic Creek (six lanes expanded to eight), and the second is at San Martinez Grande Canyon (four lanes expanded to six). There also is one proposed culvert extension at SR-126 and Chiquito Canyon (four lanes expanded to six). The proposed widened bridges/culvert road crossings are part of the Caltrans widening project for SR-126, and they are proposed by Caltrans to accommodate increased traffic flow along SR-126. **Table 2.0-8** provides the characteristics for the proposed widened bridges/culvert road crossings at SR-126. **Figure 2.0-53** shows the approximate location of Caltrans' SR-126 road widening project in relation to the proposed Project area.

**Table 2.0-8
Proposed Widened Bridges/Culvert Road Crossings at SR-126**

Location	Existing Length (feet)	Existing Width (feet)	Proposed Length (feet)	Proposed Width (feet)
Castaic Creek (bridge)	468	80	533	156
Chiquito Canyon (culvert)	175	43	229	43
San Martinez Grande Canyon (bridge)	81	87	99	107

Source: RMDP, 2008.

A previously approved project processed by the applicant allowed for expansion of the SR-126/Castaic Creek bridge from four to six lanes, which widened the bridge by an additional 50 feet. The proposed RMDP would widen this previously approved bridge from six to eight lanes. An additional 50 feet of width, plus a separate ten-foot wide pedestrian/bike lane would be located on the south side of the bridge,

with utility crossings located on both the north and south sides of the bridge in a 100-foot-wide disturbance zone.

2.6.5 Magic Mountain Parkway Extension

The approved Specific Plan includes an extension of Magic Mountain Parkway to the west into the RMDP study area. The purpose of this roadway extension is to accommodate future traffic associated with development of the approved Specific Plan and surrounding region. The general alignment of the proposed Magic Mountain Parkway extension is depicted on **Figure 2.0-54**. The precise alignment of the roadway would be defined by subsequent tract maps that implement the Specific Plan.

This roadway extension would extend existing culvert road crossings over drainages at Unnamed 1 and Unnamed 2 canyons, both tributary drainages of the Santa Clara River. Each crossing would be approximately 94 to 100 feet in width, similar to the width of the roadway. Construction of this road would result in permanent impacts to the drainages due to the extension of existing culverts and construction of debris-retaining inlets. Temporary impacts would include areas necessary for construction of the debris-retaining inlets. Following completion of construction activities, the temporary impact zone would be restored to channel grade and revegetated with native riparian and upland species as appropriate.

2.6.6 Utility Corridor and Crossings

Primary electrical, sewer, water, gas, and communications lines would be installed south of SR-126 and across the Santa Clara River (two locations), Castaic Creek, Chiquito Canyon, and San Martinez Canyon to serve the approved Specific Plan. Other locally-serving utilities would be installed across other tributaries and drainages. On the river, utility lines would be installed in rights-of-way adjacent to bridges where access for installation and repair could be readily accommodated. Directional drilling techniques would be used to avoid the environmental impacts associated with trenching across the Santa Clara River. In the Chiquito Canyon and San Martinez Grande Canyon tributaries, where trenching would be used, installation of buried lines would require a 30- to 50-foot-wide construction zone. In other tributaries and drainages, trenching is likely to be used with similar construction zones. Buried lines across watercourses would be buried below scour depth and weighted or cemented in place, where appropriate, or co-located with bed stabilization features that provide scour protection. Following completion of construction activities, the temporary impact zone would be restored to channel grade and revegetated with native riparian and upland species as appropriate. Permanent access for maintenance of utilities would be located outside the jurisdictional limits of the streambed and associated habitats. Maintenance of utility crossings is discussed in Appendix A of the RMDP.

2.6.7 Water Quality Treatment Basins and Debris Basins

The RMDP proposes to implement the Sub-Regional Stormwater Mitigation Plan to address the Specific Plan's construction, municipal, and industrial stormwater discharges under the NPDES program. This program requires that all flood control facilities be in compliance with the General Permit for Los Angeles County, or through conditions placed upon individual NPDES permits. The Specific Plan's Sub-Regional Stormwater Mitigation Plan (Geosyntec, 2008) is found in **Appendix 4.4** of this EIS/EIR.



SOURCE: PSOMAS, PACE 2008

FIGURE 2.0-53

STATE ROUTE 126 ROAD WIDENING



SOURCE: PACE 2008

FIGURE 2.0-54

MAGIC MOUNTAIN PARKWAY EXTENSION

Pursuant to NPDES regulations for permitting of stormwater discharges, the State Water Resources Control Board has issued a statewide general Permit and Waste Discharge Requirements for stormwater discharges from construction sites. Under this Construction General Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the State Water Resources Control Board and implementing a Stormwater Pollution Prevention Plan; and this plan is required to implement best management practices to reduce or eliminate pollutants in stormwater discharges.

As build-out of the Specific Plan occurs, individual tract maps would comply with those NPDES requirements in effect at the time the proposed water quality features are designed. The drainage concept for the Specific Plan was developed to respond to the NPDES program, and project-specific drainage concept reports are to be prepared with each tract map. A description of the Specific Plan drainage concept is found in the Newhall Ranch Revised Draft EIR, Section 4.2 (March 1999). The drainage plans would include implementation of BMPs to document compliance with the Los Angeles County Standard Urban Stormwater Mitigation Plan (SUSMP) requirements.

Each of these water quality control facilities requires maintenance. The RMDP Maintenance Manual (Appendix A of the RMDP) specifies the anticipated maintenance practices and restrictions for each facility type and includes general restrictions for all maintenance. In general, each facility type requires periodic removal of vegetation, sediment, and debris; although some facility types require planting and maintenance of specific plant species to maintain function. Access ramps to the facilities would be maintained as well.

2.6.7.1 Water Quality Treatment/Detention Basins

The RMDP proposes NPDES water quality treatment/detention basins throughout the RMDP study area, and are evaluated in **Section 4.4**, Water Quality, of this EIS/EIR. **Figure 2.0-55** depicts the approximate locations of the water quality treatment/detention basins within the RMDP study area. **Figure 2.0-56** illustrates typical water quality treatment/detention basins that would be used within the RMDP study area.

Water quality treatment/detention basins are typically sized to capture the predicted runoff (first flush) volume and retain the design volume for a period typically between 24 and 48 hours. Detention basins can be designed with multiple stages to provide both flood control and water quality benefits. The upper stage is designed to store a large volume of runoff to reduce flood peaks. The lower, smaller volume stage provides slower drainage times (longer detention) to promote water quality by settling of particulates and removal of nutrients, heavy metals, and other pollutants potentially present in the sediment (see **Figure 2.0-56**).

Catch basin inserts are screens or filters that are installed in existing or new storm drains to capture pollutants in the stormwater runoff. Catch basin inserts are proposed for use at various locations throughout the planned storm drain system to treat lower flow storm waters prior to reaching downstream BMPs. During storm events, catch basin insert filters would treat stormwater runoff up to a maximum

flow capacity. Any flows greater than this maximum value would bypass the filter and flow directly into the downstream storm system. The bypass would occur either from the insert overflowing into the storm drain due to storm water flows that exceed the capacity of the system, or flows being conveyed to another storm drain due to runoff that is backed up at the inlet. Final locations and exact number would be determined during final tract map design.

Vegetated swales are linear bioretention features often located adjacent to portions of busy roads, next to the frontage or in the medians, as well as in parking lots. They are engineered grass-lined channels that provide water quality benefits in addition to conveying stormwater runoff. Low slopes and vegetation reduce the velocity of stormwater flow, aiding in sediment removal, and increased absorption and filtration. **Figure 2.0-57** illustrates typical water quality treatment/bioretention facilities that would be used within the RMDP study area. Final locations and exact number would be determined during final tract map design.

Separators are in-line structures that reduce or manipulate runoff velocities such that particulate matter falls out of suspension and settles in a collection chamber. Typically, separators have an outlet designed to discharge from below the water surface, which allows floatable trash, oils, and grease to be collected in the structure as well.

2.6.7.2 Debris Basins

The RMDP study area would consist of numerous open drainage channels, buried storm drain, and natural drainage areas fed by the overall watershed. These systems eventually drain into the Santa Clara River. To ensure the proper function of the engineered portions of the storm drainage system, in certain areas Debris Retaining Inlets (DRIs) are proposed at the interface between development and undeveloped areas upstream. The primary function of a DRI is to trap debris coming from the upper watersheds. Debris basins are proposed in various natural slope and tributary locales in the RMDP area. **Figure 2.0-58** shows the approximate locations of the proposed debris basins. The precise locations of the basins and access to the basins would be defined by subsequent tract maps that implement the Specific Plan. **Figure 2.0-59** illustrates a typical debris basin that would be used within the RMDP study area.

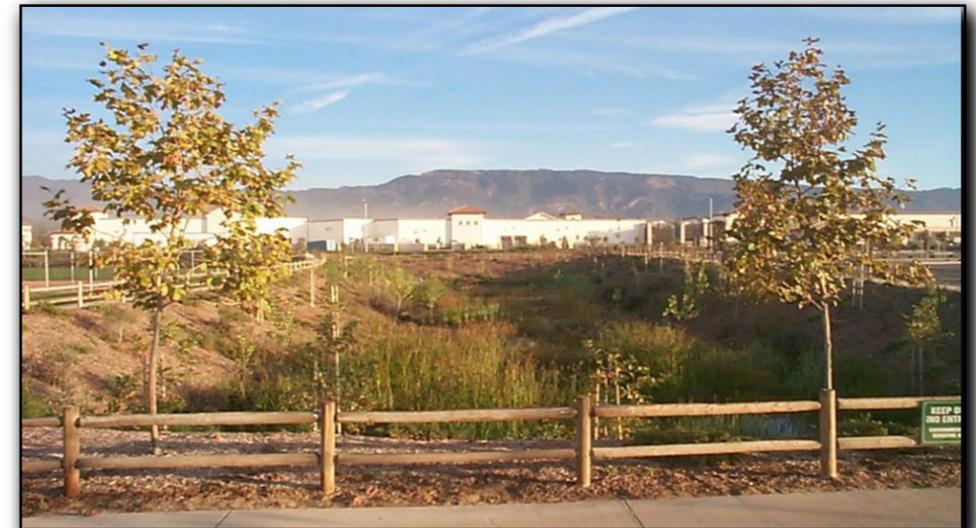
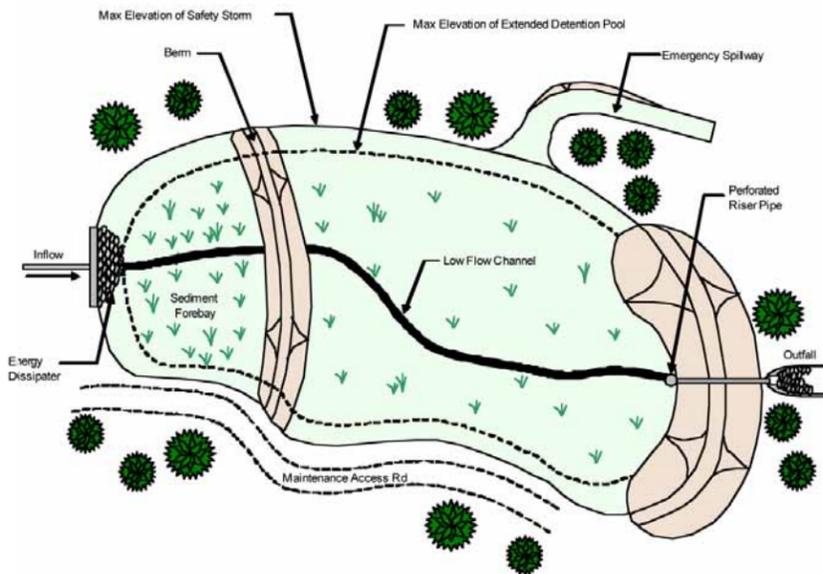
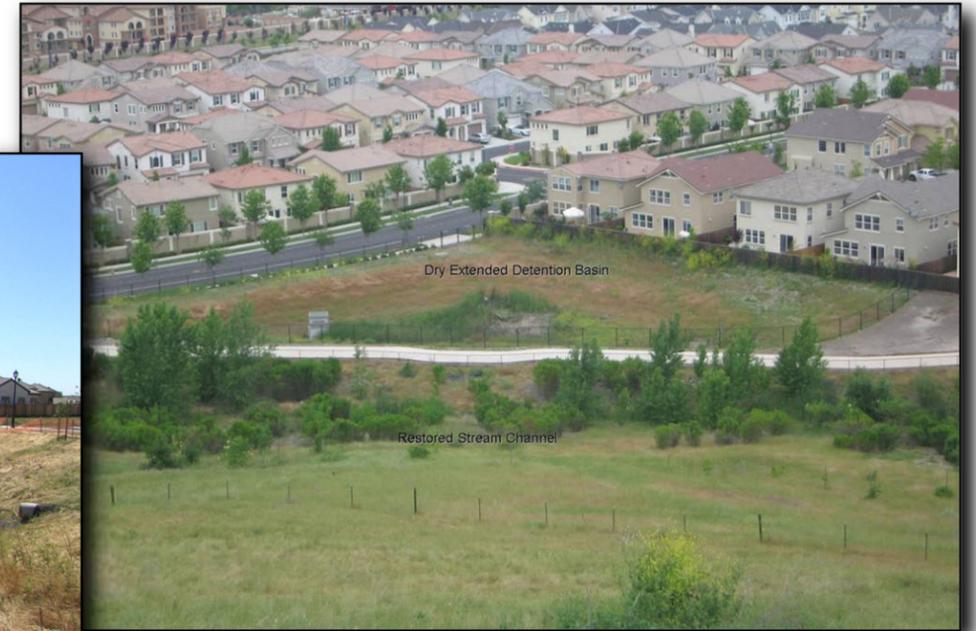
Debris control structures would be constructed downstream of natural watersheds to protect developed area drainage systems from debris flows. The design capacity for debris control structures would take into account the classifications stated in the debris production maps provided in Appendix A of the DPW 1991 Hydrology Manual. Debris control structure capacity and transportation rates would be based on the specification stated in the DPW Sedimentation Manual. Maintenance of the basins would include the periodic removal of accumulated sediment and other debris. Maintenance of various debris basins is discussed in Appendix A of the RMDP.



SOURCE: DUDEK, PACE 2008

FIGURE 2.0-55

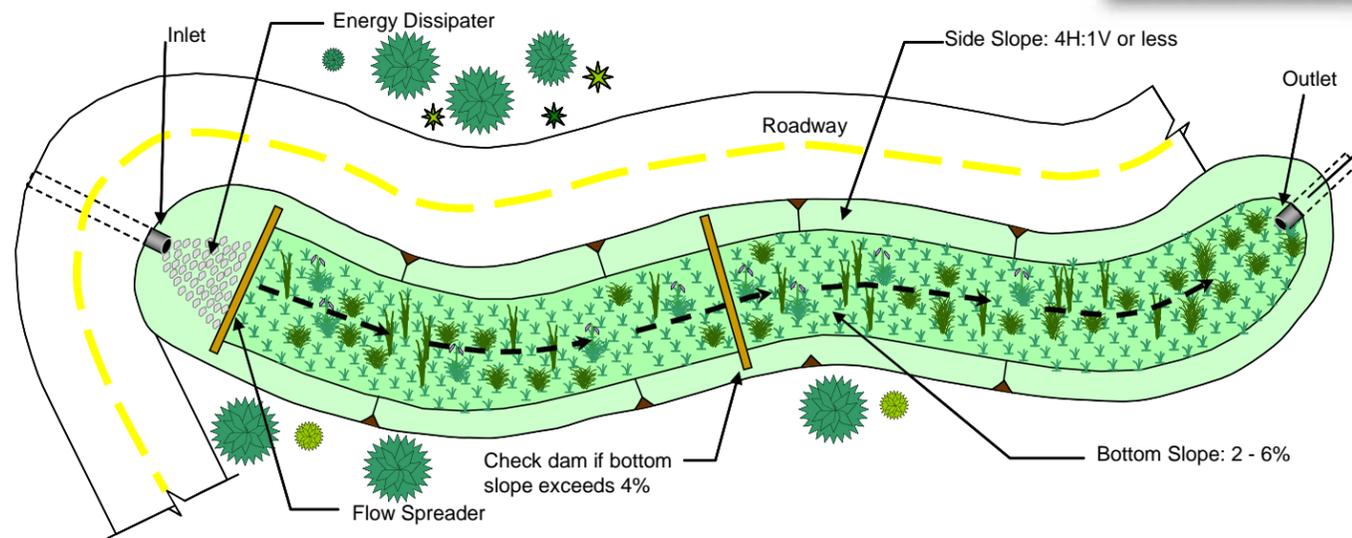
LOCATIONS OF WATER QUALITY TREATMENT BASINS



SOURCE: Phillip Williams & Associates; Geosyntec; PACE; 2007

FIGURE 2.0-56

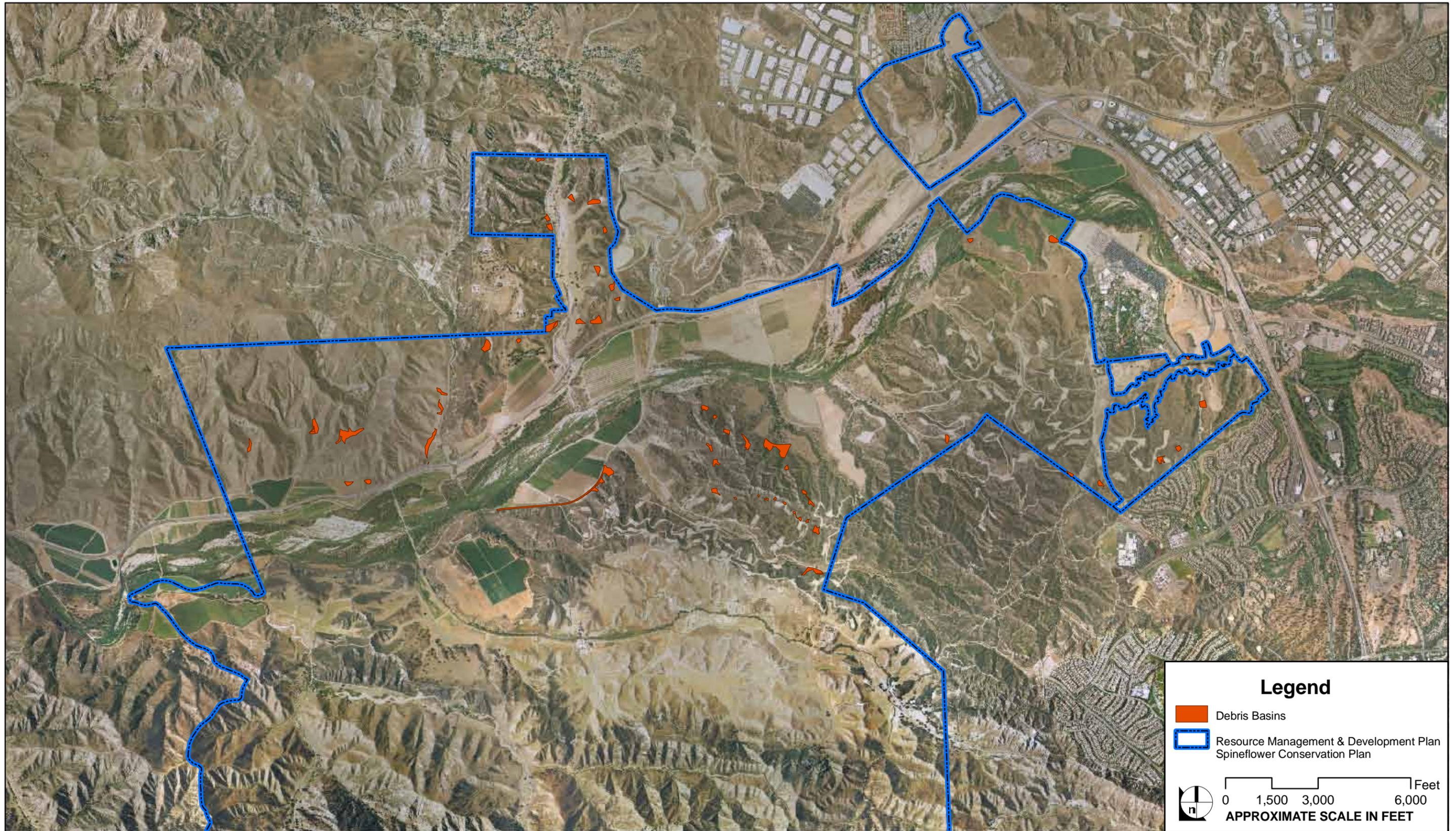
Typical Water Quality Treatment / Detention Basins



SOURCE: Geosyntec - 2007

FIGURE 2.0-57

Typical Water Quality Treatment Bioretention Facilities



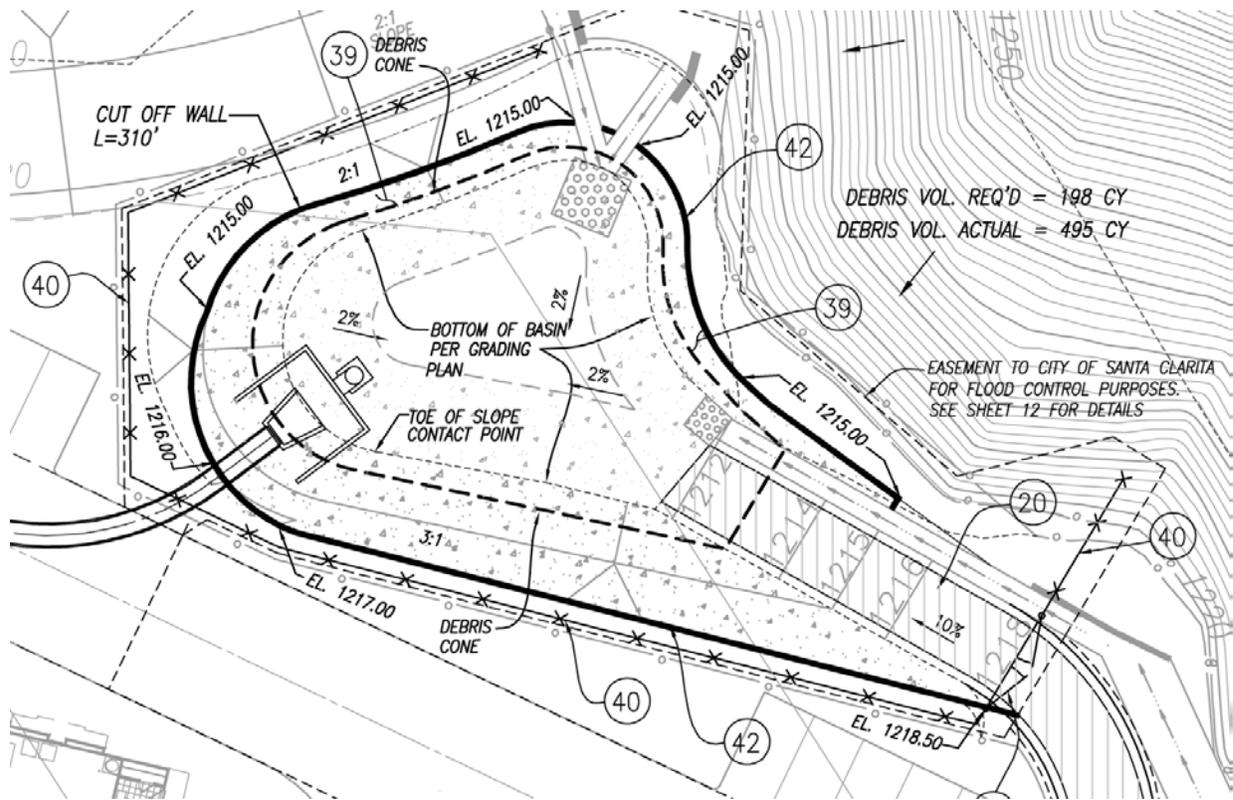
SOURCE: HUNSAKER, PACE 2008

FIGURE 2.0-58

LOCATIONS OF DEBRIS BASINS



Newly Constructed



Typical

SOURCE: Impact Sciences, Inc. - December 2007, Newhall Ranch RMDP - February 2007

FIGURE 2.0-59

Typical Debris Basin

2.6.8 Maintenance Activities

DPW or other entity would be responsible for the maintenance of flood, drainage, and water quality protection facilities located within the RMDP study area. In general, maintenance activities would involve the periodic inspection of the structures to ensure that the structures are intact, and to monitor vegetation growth and sediment buildup at or near the structures. These maintenance activities would ensure that the integrity of the structures is maintained and that planned conveyance capacity is present. Vegetation and sediment would be removed when the capacity of facilities has been reduced.

In addition, DPW or another designated entity would conduct regular maintenance to ensure that all flood control structures operate at their design standards. For example, DPW requires that open channels, closed conduits, bridges, dams, and debris basins not under CDFG jurisdiction to accommodate flows resulting from a Capital Flood. Other facilities in developed areas must be designed to accommodate the "Urban Flood," which is the amount of runoff resulting from a 25-year frequency storm falling on a saturated watershed. On the Specific Plan project site, maintenance may include activities such as:

- Periodic removal of woody vegetation from riprap to protect its structural integrity
- Periodic clearing of storm drain outlets to ensure proper drainage
- Periodic removal of ponded water that causes odor and/or mosquito problems
- As needed repairs and routine maintenance of bridges
- As needed repairs of bank protection
- As needed cleaning of detention and debris basins and removal of deposits per approved maintenance procedures
- Emergency maintenance activities

Routine maintenance of drainage facilities would generally require the use of a backhoe or other similar construction equipment to excavate accumulated sediment and other debris. The excavated material would be placed into on-highway trucks for removal from the site and transportation to an approved reuse or disposal site. Maintenance activities on the RMDP site conducted by DPW or other management entity would be required to comply with conditions of approval issued to DPW or other management entity as part of the Corps' General Permit 45. This permit precludes the removal of sediment and debris until the drainage facility capacity has been reduced by 25 percent. If the contributing watershed is in a burned conditions, sediment and debris may be removed if the facility's capacity has been reduced by more than five percent.

The applicant has prepared a RMDP Maintenance Manual for use within the RMDP study area. The Maintenance Manual identifies the extent and frequency of various maintenance activities that may occur on site and describes standard mitigation, monitoring, notification, and reporting conditions applicable to all types of maintenance activities. The Maintenance Manual is found in Appendix A of the RMDP.

2.6.9 Roadway Improvements to SR-126

SR-126 is presently a four-lane highway between the Los Angeles County/Ventura County line and its connection to I-5, approximately one mile east of the Specific Plan site. Chiquito Canyon Road/Del Valle Road is an existing two-lane road designated as a Limited Secondary Highway by the Santa Clarita Valley Area Plan. San Martinez Grande Road is an existing local road that provides access to portions of the approved Specific Plan site north of SR-126. The Specific Plan calls for improvements to several existing roadways, including SR-126, Magic Mountain Parkway, Potrero Valley Road, Commerce Center Drive, Chiquito Canyon Road, San Martinez Grande Road, and Pico Canyon Road. Bridge-widening activities on SR-126 are discussed in **Subsection 2.6.4.5**, above.

2.6.10 Recreational Facilities

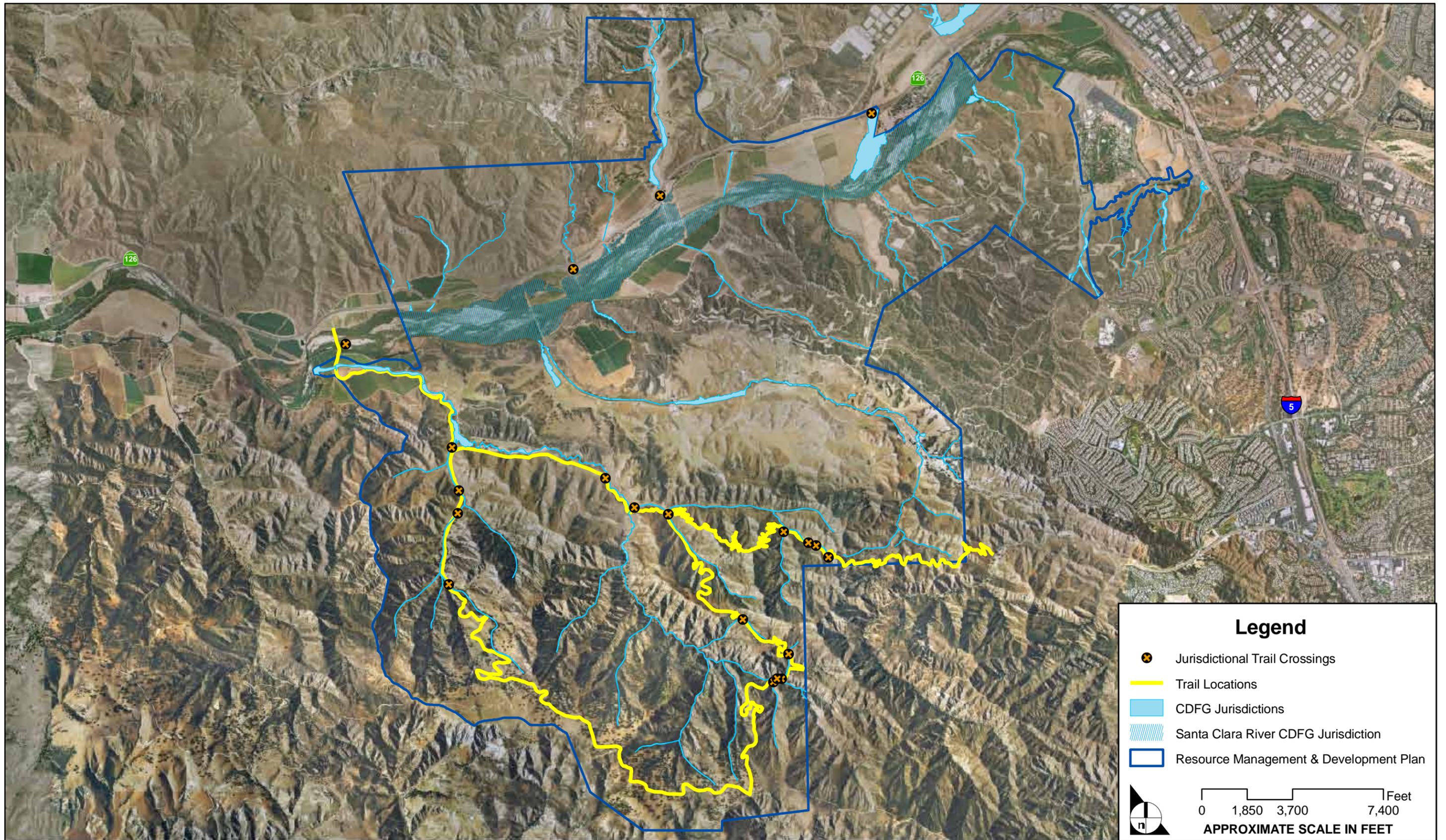
The Specific Plan Master Trails Plan encompasses a comprehensive system of bicycle, pedestrian, and equestrian trails that would facilitate movement throughout the RMDP study area. The Plan also provides potential connections to regional trail systems within the Santa Clarita Valley. Trails are a key component of the recreation element of the approved Specific Plan and provide public access to open space within the Specific Plan site.

Approximately 20 trail crossings would be required in or adjacent to the Santa Clara River and its drainages within the RMDP study area, many of them unimproved within the channel bed. The approximate locations of proposed trail crossings are depicted on **Figure 2.0-60**. The precise location of trails and proposed trail crossings would be defined by final tract maps that implement the Specific Plan.

2.6.11 Geotechnical Investigations

Geotechnical investigations are conducted to give a better understanding of subsurface geologic and hydrogeologic conditions to engineers, planners, and agencies when determining design feasibility of flood protection and other RMDP facilities. On occasion, the investigations also are used to determine canyon alluvial deposits that coincide with Corps/CDFG jurisdiction. To obtain the required data, access into jurisdictional areas is necessary, well in advance of grading activities. The duration of a typical investigation at any one location may take as little as 2 hours and up to 2 days depending upon the extent of information sought and the type of activity performed. Investigation activities have similar types of temporary impacts as typical construction activities, although on a much reduced scale. Equipment used during these activities may include drill rigs, van-truck mounted drill rigs, backhoes and excavators (for test pits), dozers and rubber tire loaders (for trenches), and support vehicles (pickups, tool-trucks).

Equipment would access investigation sites along a 10 to 20 foot wide access route, avoiding sensitive vegetation to the extent possible. Where necessary, an access ramp of similar width would be cut into the bank to reach the lower terrace locations, and at the completion of activities the bank would be returned to its original shape. Vegetation in the access route and at the drill site would be cut a few inches above the ground surface to allow for native revegetation. At the drill site, an area 20' by 50' would be cleared of vegetation for personnel and fire safety. Test pit excavations are up to 20' deep, 36" wide, and 200' long, with the excavated soils temporarily removed and then placed back into the excavated area. Trench excavations may be much wider and longer than test pits and generally are deeper.



SOURCE: PACE - December 2007

FIGURE 2.0-60
 TRAIL CROSSINGS

2.6.12 Environmental Protection Design Features

The RMDP incorporates a variety of design features that minimize impacts to riparian resources. These features include avoidance, minimization, and restoration of riparian habitat, and enhancement activities.

2.6.12.1 Restoration Design Features

Riparian resources along the Santa Clara River that are impacted by the RMDP would require restoration. The primary objective of restoration efforts would be to enhance habitat quality and values within the Project area. Habitat restoration activities that would be implemented in conjunction with the RMDP include revegetation of native plant communities on candidate sites contiguous to existing riparian habitats. Site restoration also would include the maintenance of revegetation sites, including the control of non-native plants and irrigation system maintenance. Monitoring of the restoration sites would be conducted to evaluate the success of revegetation efforts. Contingency plans and appropriate remedial measures to be implemented should habitat restoration objectives not be achieved would also be included in proposed habitat restoration plans.

The proposed RMDP revegetation plan would be prepared as part of the Corps section 404 permit or the CDFG Master Streambed Alteration Agreement. The revegetation plan would provide details on where restoration sites are located and the appropriate restoration methods to be used at each location. **Section 4.5, Biological Resources**, of this EIS/EIR provides more detail on the restoration methods proposed to be used.

2.6.12.2 Enhancement Design Features

Habitat enhancement associated with the RMDP includes rehabilitation of areas of native habitat that have been disturbed by past activities (*e.g.*, grazing, roads, oil and natural gas operations, *etc.*), or impacted by non-native plant species such as giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.). Removal of grazing is an important means of enhancing riparian habitat values. Without ongoing disturbance from cattle, vegetative conditions in many riparian areas would improve, although weed management would be necessary. Consequently, grazing would be excluded from the River Corridor SMA/SEA 23. However, controlled grazing may be used in areas such as open space and SMAs as a means to manage annual grass growth in some areas of the Specific Plan instead of mowing or applying herbicides.

Not all enhancement areas would necessarily require supplemental plantings of native species. Some areas may support conditions conducive for rapid natural re-establishment of native species. The revegetation plan may incorporate means of enhancement to areas of compacted soils or poor soil fertility, locations containing trash or flood debris, and roadways as a way of increasing riparian habitat values. Removal of non-native species such as giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), tree tobacco (*Nicotiana glauca*), and castor bean (*Ricinus communis*) to mitigate impacts would be subject to the management requirements described in the Specific Plan.

2.7 SPINEFLOWER CONSERVATION PLAN AND CANDIDATE CONSERVATION AGREEMENT

This section of the EIS/EIR describes the second component of the proposed Project, which is the SCP and the associated CCA. As stated above, the planning area addressed by the SCP and related CCA includes the Specific Plan and portions of the VCC and Entrada planning areas (see **Figure 2.0-4**, above). The SCP addresses the conservation of spineflower within the SCP planning area. From a regulatory standpoint, the spineflower is a state endangered plant species, and a federal candidate plant species.

The applicant's SCP is necessary to fulfill the requirements of a section 2081 incidental take permit under the CESA, and it will be used to satisfy the issuance criteria for a CCA under the federal ESA. As stated below, the CCA is an agreement between USFWS and the applicant to address the conservation needs of the spineflower in order to reduce threats so that the species need not be listed as threatened or endangered at the federal level.

2.7.1 Background

In May 1999, there was only one known extant population of spineflower, located in Ventura County in the vicinity of Laskey Mesa in the southeast edge of the Simi Hills.²⁴ Prior to May 1999, spineflower was thought to be extinct until it was rediscovered at the Ahmanson Ranch/Laskey Mesa location. It had last been collected in 1927 from the Castaic area of Los Angeles County. At Newhall Ranch, spineflower was first identified in the Airport Mesa and Grapevine Mesa areas in 2000. Also in 2000, surveys determined the presence of spineflower in the Entrada area. Subsequent surveys in 2001 identified spineflower plants in San Martinez Grande Canyon and at the VCC site.

In 2003, the Ahmanson Ranch property was acquired by the people of the State of California through the Wildlife Conservation Board and transferred to the Santa Monica Mountains Conservancy (Conservancy) for the purposes of wildlife habitat preservation, corridor protection, restoration and management, wildlife-oriented education and research, and for compatible public uses, consistent with wildlife habitat preservation and protection of sensitive biological resources. It is now called the Upper Las Virgenes Canyon Open Space Preserve. As a result, the USFWS has acknowledged that threats to the spineflower from the former Ahmanson Ranch development project have been eliminated. The USFWS and the CDFG are working with the Conservancy to manage the site, including conservation of spineflower located there. Indirect Impacts to spineflower populations include introduction of non-native, invasive species such as plants and domestic animals, vegetation clearing, trampling, changes in hydrology, chemical pollutants such as herbicides and fertilizers, and increased fire frequency by nearby human activity.

Currently, spineflower is known from the Las Virgenes Canyon Open Space Preserve in Ventura County and the applicant's land holdings in Los Angeles County. These two spineflower populations are approximately 17 miles apart.

²⁴ Laskey Mesa is located within the former Ahmanson Ranch property in Ventura County.

The distribution of spineflower on the applicant's land holdings within the SCP planning area primarily consists of six general population occurrences, with four located within the Specific Plan and one occurrence each within the VCC and Entrada planning areas. Each occurrence consists of spineflower populations that are generally in proximity to each other within a particular area (*e.g.*, Airport Mesa, Grapevine Mesa, Potrero Canyon, San Martinez Grande Canyon, *etc.*) and separated from others by distance or existing site features such as ridgelines, roadways, and SR-126. There are also scattered, intervening populations not located within the six general population areas.

The Specific Plan area includes the Airport Mesa, Grapevine Mesa, Potrero Canyon, and San Martinez Grande Canyon spineflower occurrences. Spineflower within the Specific Plan area accounted for approximately 85.4 percent of the total cumulative area occupied by spineflower on the applicant's land holdings. The Entrada occurrence is located in the southeastern portion of the SCP planning area. The cumulative area occupied by spineflower within the Entrada area accounted for approximately 10.4 percent of all cumulative area occupied by spineflower on the applicant's land holdings. The VCC occurrence is located on the slopes above Castaic Creek near Castaic Junction, within the SCP planning area. The VCC occurrence accounted for approximately 4.2 percent of the total cumulative area occupied by spineflower on the applicant's land holdings (see SCP (Appendix B), pp. 7, 18-19). When acreage is combined, spineflower occurrence data collected annually from 2002 through 2007 show a cumulative total of 20.24 acres of occupied spineflower habitat within the SCP area.

2.7.2 Spineflower Conservation Plan

The Specific Plan requires that the project applicant establish spineflower preserves. The proposed SCP sets forth biological goals and objectives as cornerstones of the adaptive management program for the spineflower in the preserves established within portions of the applicant's land holdings in Los Angeles County where there are known spineflower populations. Three main goals for the spineflower preserves are presented in the SCP. The goals describe the desired conditions of the spineflower populations; the communities in which the spineflower occurs, and the ecosystem processes known or hypothesized to maintain the spineflower populations and associated communities. For each goal, the applicant's SCP describes a set of objectives for attaining the goals, along with a brief explanation or rationale for each objective. The applicant's SCP's three goals are as follows:

- **Goal 1:** Maintain or increase spineflower populations within the preserves;
- **Goal 2:** Maintain or enhance the structure and native species composition of the native communities within the spineflower preserves; and
- **Goal 3:** Facilitate the natural ecological processes required to sustain the native populations and communities in the preserves.

Figure 2.0-4, above, depicts the preserves called for in the applicant's SCP component of the proposed Project. In some cases, the preserves are to be connected to the permanently protected and managed open space on the Specific Plan site, including the River Corridor SMA/SEA 23, High Country SMA/SEA 20, and the designated Open Areas that are depicted on Exhibit 2.6-1 (Major Open Areas) of the Specific

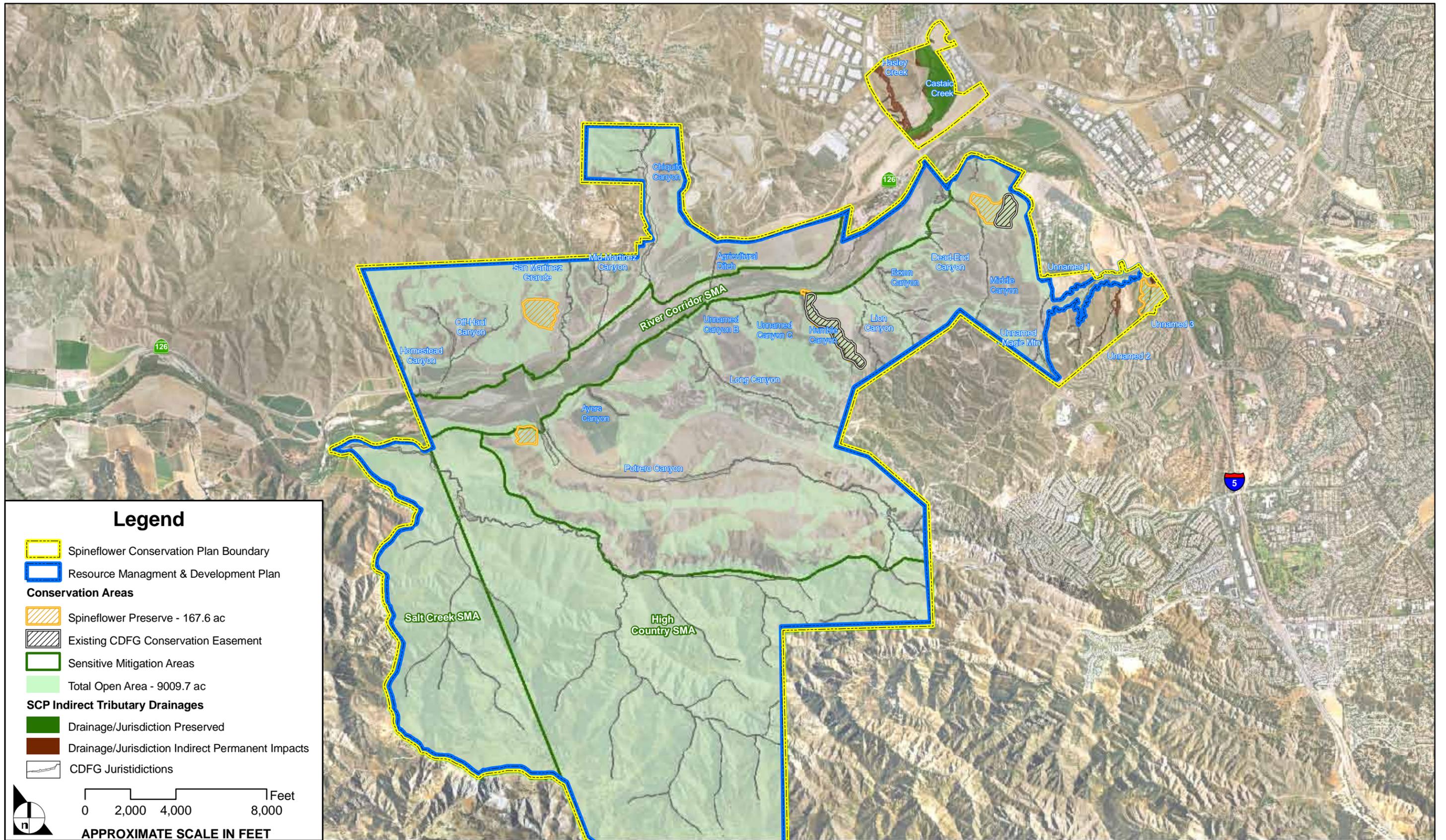
Plan. The five proposed preserve areas will be connected to each other through lands designated as open space.

Figure 2.0-61 depicts the applicant's proposed five preserve areas in relationship to each other and other open space within the SCP study areas. The Potrero, Grapevine Mesa, and Airport Mesa preserves each connect to the River Corridor SMA/SEA 23. The Entrada preserve is connected to an open space corridor that runs southwest, which, in turn, connects to the Specific Plan Open Space corridors and the River Corridor SMA/SEA 23. The San Martinez preserve is located to the west of designated open space.

In addition, the adopted Specific Plan Mitigation Monitoring Plan imposed a spineflower mitigation program to ensure the long-term conservation of spineflower on the Specific Plan area. In response to those Specific Plan requirements and the applicant's need for a section 2081(b) Incidental Take Permit for spineflower, the applicant caused to be prepared the SCP, which addresses overall preserve design and associated conservation measures for spineflower within all of the applicant's land holdings in the SCP study area. The SCP is included in **Appendix 1.0** of this EIS/EIR.

The applicant's proposed SCP provides a comprehensive management approach to address potential impacts to spineflower resulting from development within the SCP planning area, which consists of the Specific Plan, Entrada, and VCC study areas. The SCP also provides background information on the plant and its habitat, describes mitigation measures, and recommends establishment of preserves on SCP planning area lands known to contain spineflower populations, consistent with the applicant's proposed Project. The applicant will submit the SCP to CDFG as part of the section 2081(b) application along with this EIS/EIR. These documents will be used by CDFG to determine whether to issue a section 2081(b) Incidental Take Permit, and, if issued, to determine the conditions to be imposed under the permit. The applicant's proposed SCP is designed to develop a management and preservation framework that provides for the long-term persistence of spineflower within the SCP planning area. Specifically, the applicant's proposed SCP seeks to:

- Permanently protect and manage a series of preserves designed to maximize long-term persistence of spineflower. Preserves include habitat for potential pollinators and dispersal agents. Management includes restoration of degraded or damaged habitat and inclusion of site-specific measures for minimizing adverse edge effects from adjacent land uses.
- Connect the delineated preserves to permanently protected and managed open space areas (*e.g.*, River Corridor SMA, High Country SMA, Open Area, *etc.*). Management in the open space areas includes restoration of degraded or damaged habitat.
- Include core spineflower occurrences within preserves to maximize genetic diversity and overall population size while capturing the range of environmental conditions where the taxon is found.
- Provide opportunities for restoration and introduction of additional occurrences, if necessary.
- Provide suitable habitat within preserves to accommodate natural evolutionary and ecological processes for spineflower, such as spatial fluctuations and colonization events.



SOURCE: PACE 2008

FIGURE 2.0-61
 SPINEFLOWER PRESERVES IN
 RELATION TO OPEN SPACE

2.0 PROJECT DESCRIPTION

Within the SCP planning area, the applicant's proposed SCP would establish five preserves, four within the Specific Plan area and one additional preserve within a portion of the Entrada planning area. The locations of each proposed preserve are depicted on **Figure 2.0-4**, above. No urban development would be permitted within these preserve areas, and mitigation funds would be provided for management, monitoring and maintenance of spineflower populations within the preserves.²⁵ Each preserve area and corresponding buffer zone would be placed into a permanent conservation easement to ensure long-term protection. The conservation easement would be granted to CDFG by the applicant and it would contain appropriate restrictions to help ensure that the preserve land remains in a natural condition in perpetuity. The conservation easement language would establish specific protections for the spineflower and preserve areas. The CDFG would review and approve the preserve area easement language drafted by the applicant before it is recorded. The spineflower preserves would be managed by the applicant and their qualified preserve manager and/or qualified natural lands management organization(s) (NLMO). The applicant would submit a statement of qualifications for the proposed preserve manager(s)/NLMO(s) for approval by the CDFG and County.

As depicted on **Figures 2.0-16** and **2.0-17**, above, conservation easements already have been granted to CDFG for portions of two proposed Specific Plan preserve areas (Airport Mesa and Grapevine Mesa). These easements, totaling 64.4 acres, are part of a settlement and are not part of mitigation for spineflower impacts caused by implementation of the Specific Plan. The Grapevine Mesa preserve would be a total of 46.34 acres, which includes 44.1 acres subject to an existing conservation easement and an additional 2.24 acres. The Airport Mesa preserve would be a total of 44.98 acres, which includes 20.3 acres subject to an existing conservation easement and an additional 24.68 acres. Two additional preserves would be established in the SCP area, one west of Potrero Canyon (14.80 acres) and the other west of San Martinez Grande Canyon (34.42 acres). One additional preserve comprised of 27.02 acres would be established in a portion of the Entrada planning area. As shown in **Table 2.0-9**, the five preserves proposed by the applicant would encompass a total of 167.6 acres within the SCP study area.

Table 2.0-9	
Spineflower Preserves on Newhall Ranch and Entrada	
Preserve Location	Preserve Area (in acres)
Specific Plan	
Potrero Canyon	14.80
San Martinez Grande Canyon	34.42
Grapevine Mesa	46.34 ¹
Airport Mesa	44.98 ²
Entrada	27.02
Total	167.56
Notes:	
¹ This acreage figure includes CDFG's existing 44.1-acre Grapevine Mesa Conservation Easement.	
² This acreage figure includes CDFG's existing 20.3-acre Airport Mesa Conservation Easement.	
Source: SCP, December 2007.	

²⁵ Development within the preserves could include fencing, signage, limited access facilities, and drainage and erosion control, all of which are necessary for the overall management and monitoring of the preserves.

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The preserve areas also have been designed to accommodate expansion of the spineflower population over time. **Table 2.0-10** summarizes each of the Alternative 2-proposed preserve areas and the preserve design elements, including the core or occupied spineflower population areas, the interior areas within the core that allow for expansion of the preserves, and the designated buffer, which represents the area within the preserve between the core perimeter and the outer preserve boundary or urban edge. The buffer zone widths were designed and sized based on the adjacent land uses, their potential edge effects, and site-specific factors including percent slope, micro-topography, vegetation type, and density. Some development areas have mitigating factors incorporated into the design that may offset risk factors. For instance, brow ditches and swales are to be installed to intercept water before it reaches the preserve buffer area and prevent an increase in water supply, and split rail fencing is to be used to help preclude intrusion by humans and vehicles.

Section 8.0 of the SCP describes the preserves, and discusses individual buffer distances for each preserve (see EIS/EIR, **Appendix 1.0**). Buffer widths vary by location due to site-specific factors, mitigating factors, site design, and management techniques.

Preserve	Preserve Statistics		Preserve Design Elements		
	Proposed Preserve ¹ (ac)	Cumulative Area Occupied ² (ac)	Core ³	Buffer ⁴	Expansion ⁵
Specific Plan					
Airport Mesa	44.98	5.22	26.16	18.82	20.94
Grapevine Mesa	46.34	4.02	9.01	37.33	4.99
Potrero	14.80	1.32	4.37	10.43	3.05
San Martinez Grande	34.42	2.29	8.24	26.17	5.95
Subtotal	140.53	12.85	47.79	91.92	35.71
Entrada	27.02	1.03	9.00	18.02	7.97
VCC	-	-	-	-	-
Grand Total	167.56	13.88	56.79	110.77	42.90

Notes:

¹ Proposed preserve is the total area within the preserve boundary.

² Cumulative area occupied the total area of mapped spineflower within the preserve between 2002 and 2007.

³ Core identifies the perimetered occupied/preserved populations interior to buffer area and preserve boundary.

⁴ Buffer represents the area within the preserve between the core perimeter and the preserve boundary (urban edge.)

⁵ Expansion area represents the area interior to the core that is not part of the cumulative area occupied.

Source: Dudek, 2008.

Sections 9.1 through 9.3 of the SCP describe the management activities designed to help ensure the long-term survival of spineflower. Section 9.1 of the SCP identifies general management measures to be implemented for spineflower populations adjacent to currently active agricultural areas and during Project development and construction activities. Section 9.2 of the SCP describes general long-term management measures for the permanent spineflower preserve areas. In general, the preserve management requirements pertain to landscaping adjacent to the preserves, access, fencing, signage and storm water drainage. Section 9.3 of the SCP identifies specific management measures for each preserve. In general, requirements are provided regarding the treatment of specific slopes adjacent to the preserves, the effects

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of proposed fire hazard reduction zones, weed management, the effects of adjacent development, site drainage, and fencing requirements.

Section 10.0 of the SCP sets forth the proposed adaptive management program. The adaptive management strategy seeks to monitor management activities and make adjustments over time to improve conditions for spineflower and its habitat components. Provisions to remediate and recover spineflower habitat (if necessary) following wildfire/geological events and any other actions or events that may negatively impact spineflower preserves, are included. This program includes restoration and enhancement activities within preserve areas.

Section 11.0 of the SCP includes provisions for the long-term monitoring of preserves. The goal of long-term biological monitoring of the spineflower preserve areas is to track the viability of the spineflower populations and ensure the persistence of spineflower within the SCP study area. The monitoring includes collecting, analyzing and summarizing data on spineflower populations and the condition of their habitat to determine if steps need to be taken to maintain spineflower populations within the preserves. The monitoring of the preserve areas and related buffers will be conducted quarterly for ten years, and will include quantitative, and qualitative monitoring methods, and mapping which will be documented in annual reports submitted to Los Angeles County and CDFG.

Ongoing preserve management is also an important component of the SCP. Management will include weed control and other activities as necessary to maintain the preserves in compliance with performance standards, removing accumulated trash, and repairing fencing, signage and other preserve-related components on a quarterly basis. In addition, maintenance will include controlling plant diseases and animal pests determined to be significant to the health and survival of the spineflower.

Section 12.0 of the SCP describes a spineflower introduction program, if necessary, and Sections 13.0 and 14.0 address funding and responsible parties, respectively. Sections 15.0 and 16.0 of the SCP contains reporting and schedule information, and Sections 17.0 and 18.0 provide conservation and take estimates, and the references used in the SCP.

As shown on **Figure 2.0-4**, above, the proposed preserves encompass approximately 74.4 percent (12.86 acres) of the 17.28 acres of mapped spineflower within the SCP study area. The proposed preserve within the Entrada planning area encompasses approximately 48.6 percent (1.03 acres) of the 2.11 acres of mapped spineflower on that site. Populations occurring outside of the dedicated preserves could be negatively affected by development depending on location, and project-related take would be covered under the proposed CESA section 2081 Incidental Take Permit for the spineflower.

The applicant's five proposed preserves encompass approximately 68.6 percent (13.88 acres) of the 20.24 acres of mapped spineflower within the larger SCP study area. **Table 2.0-11** reflects the proposed conservation and take by site within the SCP study area. The calculations reflected in **Table 2.0-11** are based on cumulative spineflower data collected from 2002 through 2007.

**Table 2.0-11
Spineflower Preserve Alternatives Summary
Alternative 2 (Proposed Project)**

Location	Preserve Size (ac)	Spineflower Preserved (ac)	Spineflower Impacted (ac)	Percent Preserved (ac)	Percent Taken (ac)
Specific Plan	140.54	12.85	4.12 ¹	74.4%	25.6%
Airport Mesa	44.98	5.22	2.87	64.6%	35.4%
Grapevine Mesa	46.34	4.02	0.78	80.9%	19.1%
Potrero	14.80	1.32	0.48	68.7%	31.3%
San Martinez Grande	34.41	2.29	0.00	100.0%	0.0%
Other Intermediate	0.00	0.00	0.00		
Entrada	27.02	1.03	1.09	48.6%	51.4%
Valencia Commerce Center	0.00	0.00	0.85	0.0%	100.0%
Grand Total	167.56	13.88	6.06	68.6%	31.4%

Notes:

¹ A small portion (0.30 acre) of this area lies within what will be designated as open space within the Grapevine Mesa and Potrero areas. While this area does not fall within the impact footprint, it will not be managed or monitored. For purposes of this analysis this area is considered to be taken.

Source: Dudek, 2008.

For further technical biological information regarding the spineflower, please refer to the SCP (EIS/EIR, **Appendix 1.0**), and **Section 4.5**, Biological Resources, of this EIS/EIR.

2.7.3 Candidate Conservation Agreement

The applicant also has applied to the USFWS for a draft CCA (EIS/EIR, **Appendix 1.0**). Upon execution of the CCA, the applicant would commit to implement the conservation, management, and monitoring measures for spineflower within the SCP study area as set forth in the SCP, which, when combined with the benefits achieved by conservation of the spineflower on the former Ahmanson Ranch property, would preclude the need to list the spineflower in the future as threatened or endangered under the federal ESA.

The applicant's proposed CCA includes a discussion of the background and status of the spineflower, its historic and modern range, and its biological characteristics. **Section 4.5**, Biological Resources, provides an overview of threats to the spineflower, including, among other things, the five threat factors that must be considered for listing decisions under the federal ESA.

In addition, the proposed CCA sets forth conservation measures, which must be adopted and implemented in accordance with the CCA/SCP for the benefit of the spineflower. The applicant's proposed conservation measures are designed to provide for the long-term persistence of spineflower within the SCP study area while also allowing for take of spineflower outside of preserve areas.

In summary, the proposed SCP, and related CESA section 2081 Incidental Take Permit, would conserve spineflower located within the proposed spineflower preserves as described in the SCP, and allow for take of spineflower to the extent that taken individuals are located outside of the spineflower preserves.