CASTAIC AREA MULTI-USE TRAILS PLAN

FINAL MITIGATED NEGATIVE DECLARATION

Volume I

Prepared for:

County of Los Angeles Department of Parks and Recreation
510 S. Vermont Ave.
Los Angeles, CA 90020

Prepared by:

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August 12, 2016

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Section 1

Project Description

The County of Los Angeles Department of Parks and Recreation (County Parks) proposes to adopt a multi-use trails plan for the unincorporated area of Castaic.

The California Environmental Quality Act (CEQA), as established by statute (Public Resources Code §§ 21000 *et seq.*), requires that the environmental implications of an action by a local agency be estimated and evaluated before project approval. This Initial Study was prepared by the County pursuant to CEQA, as amended (Division 13, California Public Resources Code) and the State CEQA Guidelines (Division 6, California Administrative Code).

The proposed Mitigated Negative Declaration was circulated for public and agency review between May 13, 2016, and June 13, 2016. Revisions have been made in response to public and agency comments.

1.1 PROJECT TITLE

Castaic Area Multi-Use Trails Plan

1.2 LEAD AGENCY

County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, California 90020

1.3 PRIMARY CONTACT PERSON

Julie Yom, Park Planner
510 South Vermont Avenue
Los Angeles, California 90020
(213) 351-5127

1.4 PROJECT LOCATION

The Castaic Area Multi-Use Trails Plan (proposed project) area encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated County of Los Angeles (Figure 1.4-1, *Regional Vicinity Map*). The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties.[1] The Castaic project area is composed of generally mountainous and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 1.4-2, *Local Vicinity Map*). The Castaic project area, which is located in the Fifth Supervisorial District, includes a portion of the County-managed Castaic Lake State Recreation Area.

[1] U.S. Geological Survey. Accessed 4 January 2016. TopoView. Available at: http://ngmdb.usgs.gov/maps/TopoView/viewer/#11/34.5626/-118.5353

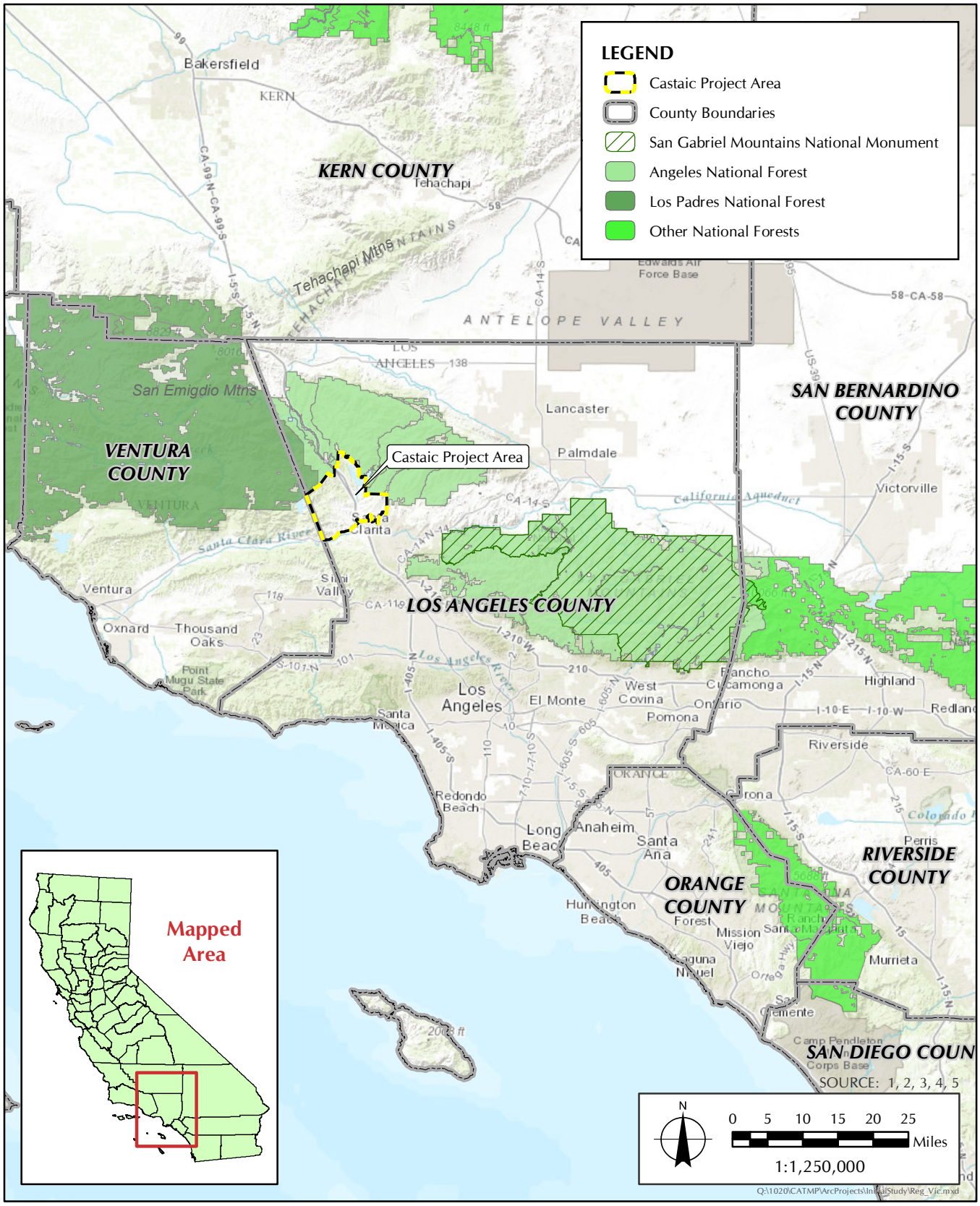

FIGURE 1.4-1

Regional Vicinity Map

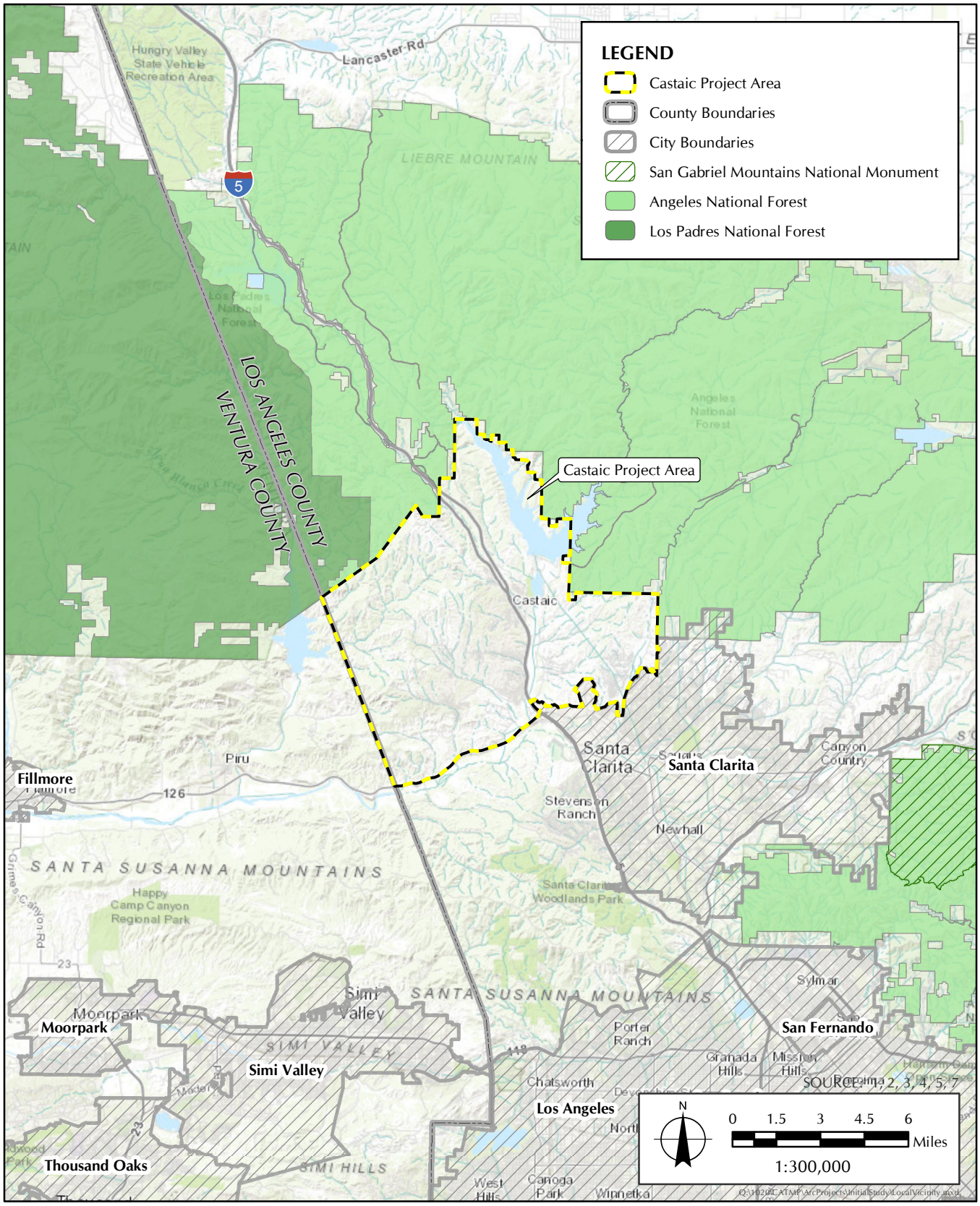

FIGURE 1.4-2

Local Vicinity Map

The Castaic project area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 1.4-3, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[2,3,4,5] The elevation of the Castaic project area ranges from 2,756 feet above mean sea level (MSL) near the northern edge of the Castaic project area between Violin Canyon and Palomas Canyon, to 863 feet above MSL near the Santa Clara River at the southwestern corner of the Castaic project area. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

1.5 PROJECT SPONSOR

County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, California 90020

1.6 GENERAL PLAN LAND USE DESIGNATION

The Castaic project area, located within the Santa Clarita Valley Area Plan Area, is bordered in the north by the Angeles National Forest, administered by the U.S. Department of Agriculture (USDA) Forest Service pursuant to the Angeles National Forest Land Management Plan; and the Los Padres National Forest, administered by the Los Padres National Forest Land Management Plan. The land to the southeast lies within incorporated City of Santa Clarita (administered by the City of Santa Clarita General Plan), designated as Major Commercial and Specific Plan land use designations. Ventura County land (administered by the Ventura County General Plan) is to the southwest. Portions of the Castaic project area are subject to the provisions of Specific Plans, Community Standards Districts, and the County of Los Angeles Rural Outdoor Lighting District Ordinance.[6,7,8,9]

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[2] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[3] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[4] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

[6] County of Los Angeles Department of Regional Planning. June 1992. Northlake Specific Plan. Available at: http://planning.lacounty.gov/view/northlake_specific_plan/

[7] County of Los Angeles Department of Regional Planning. Adopted 27 May 2003. Newhall Ranch Specific Plan. Available at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[8] County of Los Angeles Department of Regional Planning. Accessed 29 July 2014. Community Standards Districts. Available at: http://planning.lacounty.gov/view/community_standards_districts

[9] County of Los Angeles Department of Regional Planning. 28 September 2012. Ordinance No. 2012-0047. Available at: http://planning.lacounty.gov/assets/upl/data/ord_outdoor-lighting.pdf

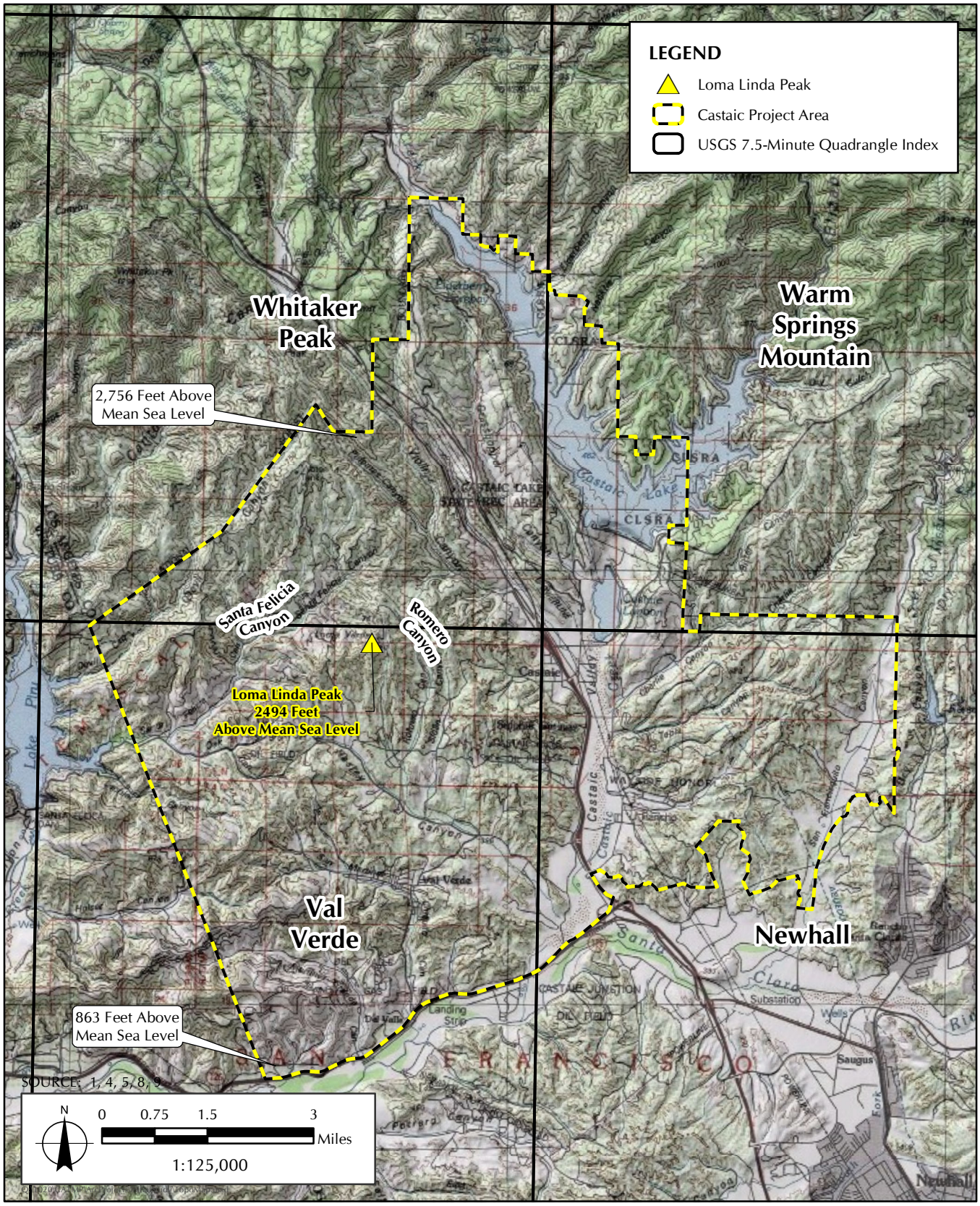

FIGURE 1.4-3

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

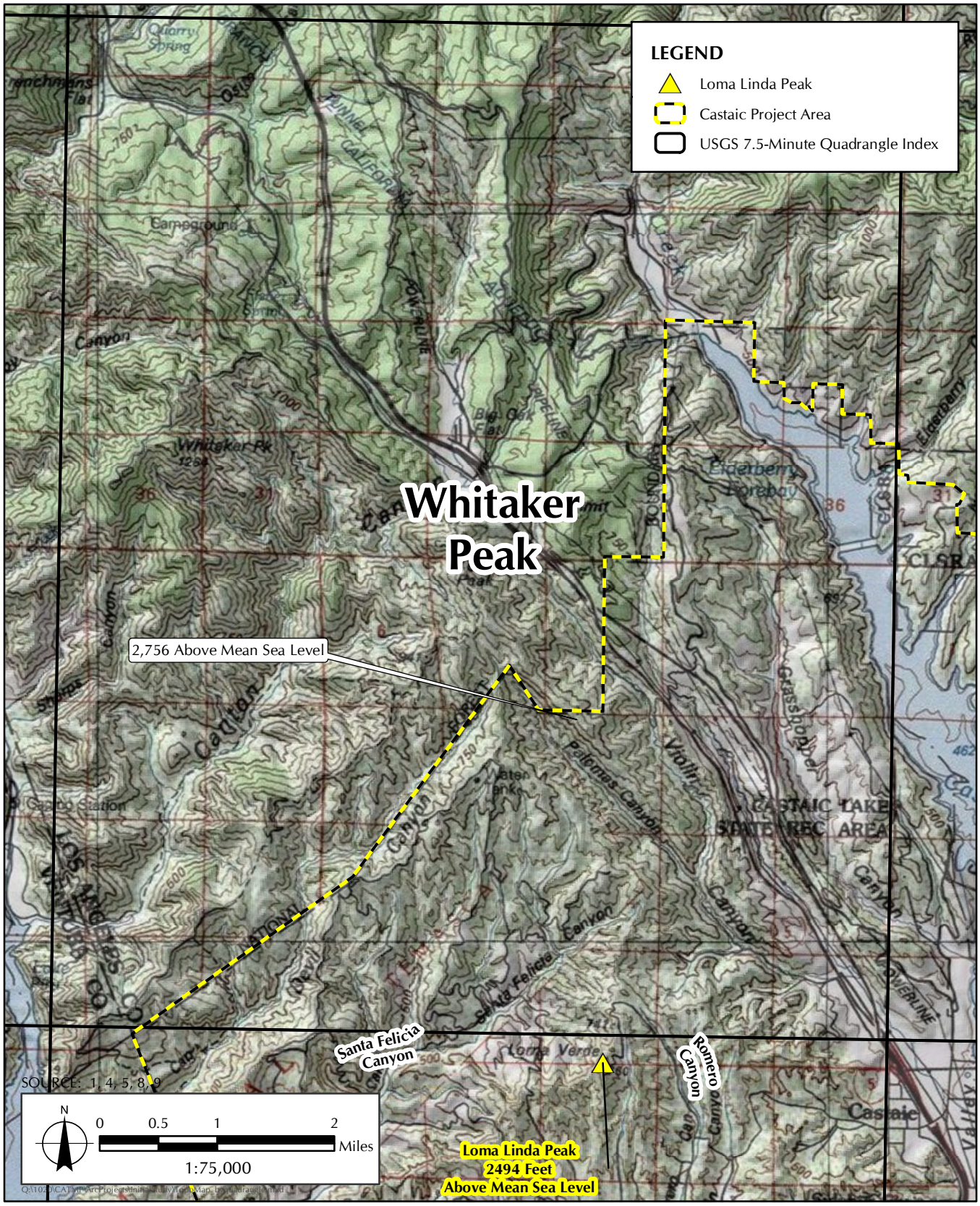

FIGURE 1.4-3A

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

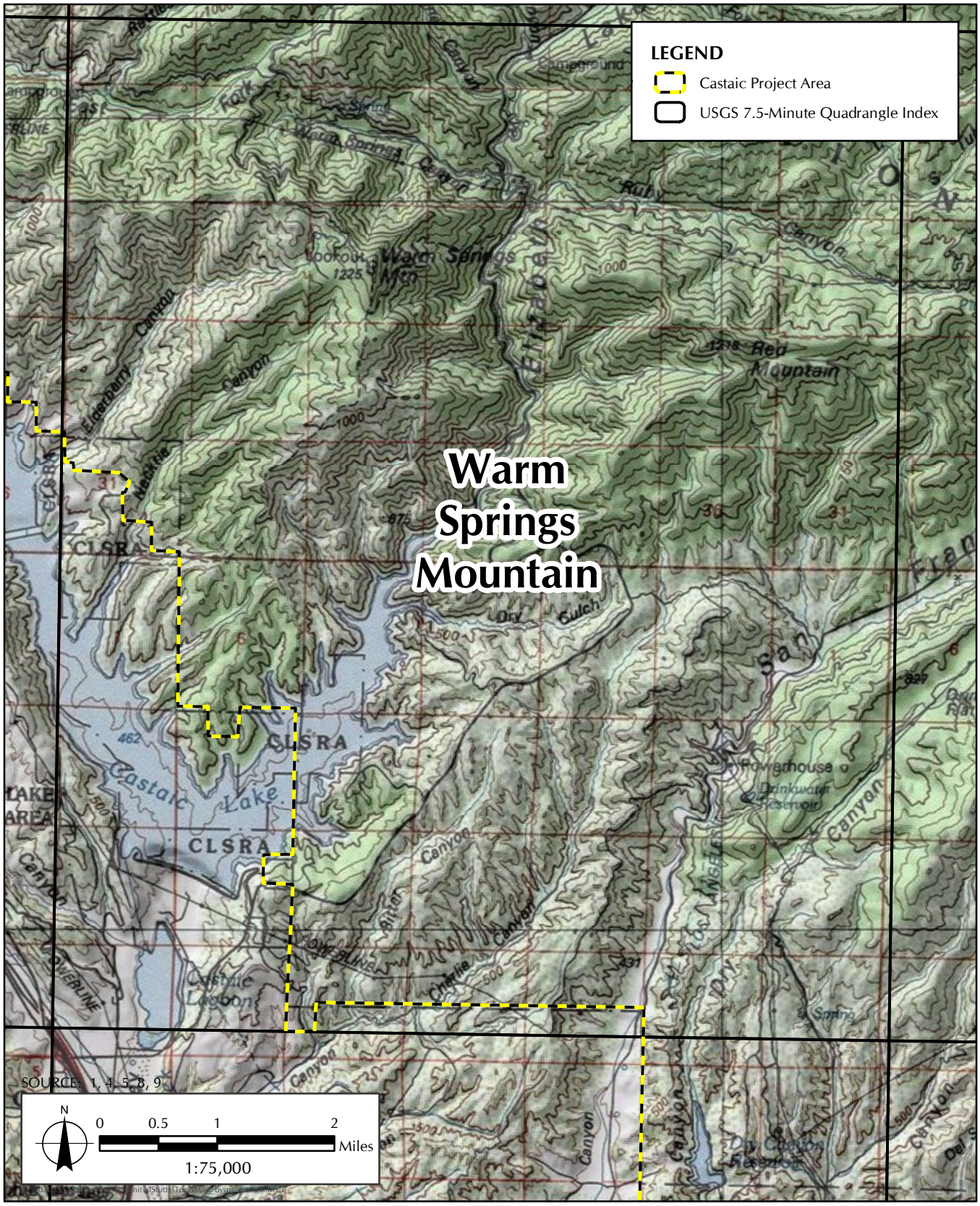

FIGURE 1.4-3B

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

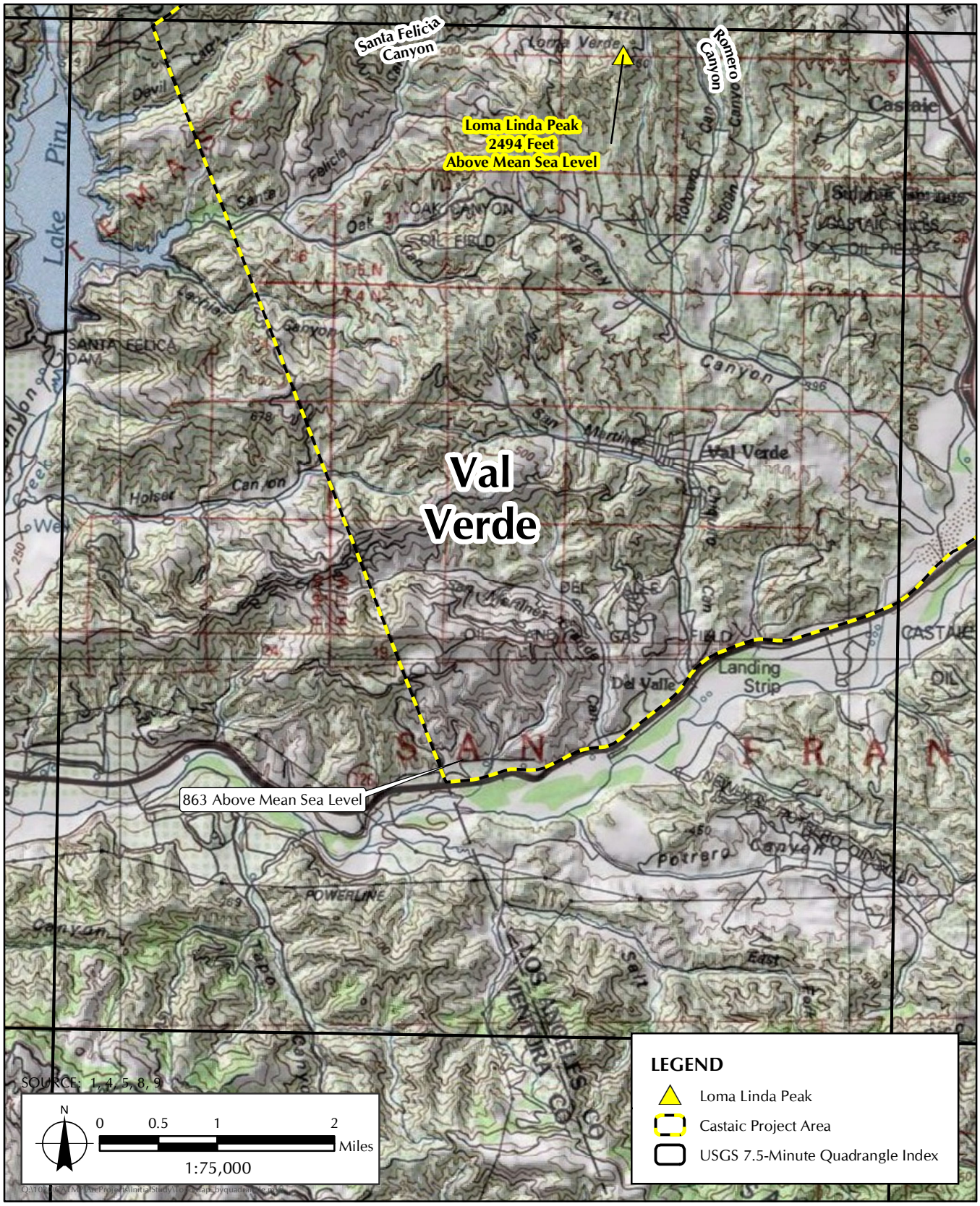

FIGURE 1.4-3C

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

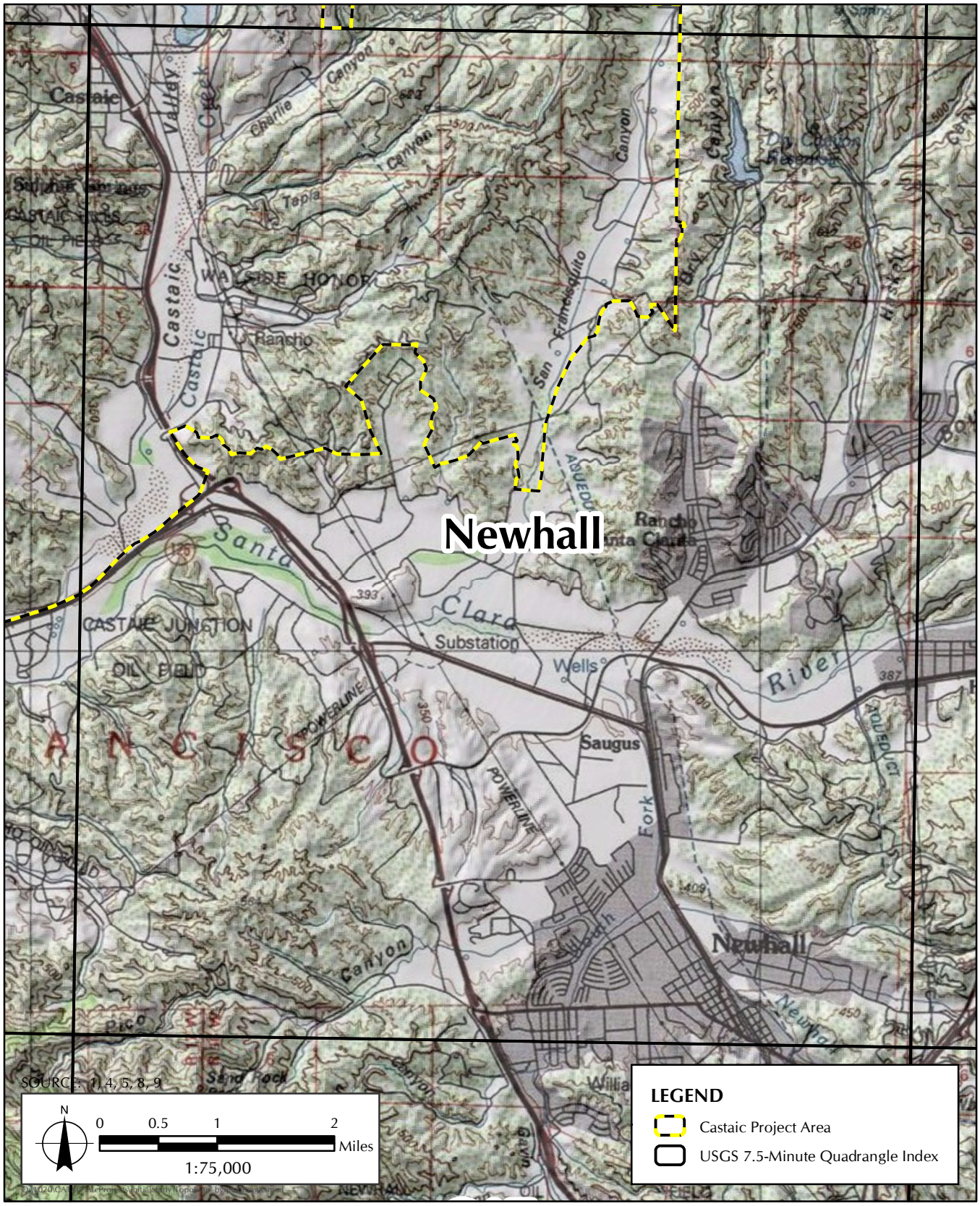

FIGURE 1.4-3D

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

Approximately 45,247 acres of the Castaic project area are located within the Castaic Area Community Standards District (CSD), and approximately 899 acres of the Castaic project area is located within the San Francisquito Canyon CSD. The western portion (heavy agricultural, open space, neighborhood business, residential agricultural, and single-family residence zones) and northeastern portion (open space, heavy agricultural, and single-family residence zones) of the Castaic project area (approximately 29,006 acres) are located within the jurisdiction of the County of Los Angeles Rural Outdoor Lighting District (Figure 1.6-1, *County of Los Angeles Rural Outdoor Lighting District and Community Standards District Boundaries*).

The Northlake Specific Plan is located entirely within the Castaic project area, and a small portion of the Newhall Ranch Specific Plan area is located within the Castaic project area.

The County land use designations for the Castaic project area are predominantly Rural Land, Parks and Recreation, Public and Semi-Public, Residential, Water, Industrial Office, and Conservation (Table 1.6-1, *Castaic Project Area Land Use Designations*, and Figure 1.6-2, *County of Los Angeles Land Use Designations – Santa Clarita Valley Area Plan*). Although the Santa Clarita Valley Area Plan only directly mentions trails within the Parks and Recreation land use designation, the land use policy defers to the specific allowable uses and development standards determined by underlying zoning designations and adopted Specific Plans.

Approximately 452.6 acres in the Castaic project area have been designated for OS-BLM use, and approximately 44.9 acres in the Castaic project area have been designated for OS-NF use (Figure 1.6-3, *Ownership of OS-BLM and OS-NF Land Use Categories within Castaic Project Area*). The majority of the OS-BLM land use (448.7 acres) is located well within the Castaic project area, and the remaining 3.9 acres are located along the boundary of the Castaic project area; two (2) proposed trail segments would have the potential to cross OS-BLM land owned by the U.S. Government: Castaic Lake Trail (EF1) and Lake West (LW1). A portion of this land is located within the County-managed Castaic Lake State Recreation Area. The OS-NF land use is located along the edge of the Castaic project area, and includes land owned by the U.S. government (42.3 acres), the State of California (0.0002 acre), and private landowners (2.5 acres). The Castaic Lake Trail (EF1) would cross OS-NF land owned by the U.S. government. A portion of this land is also located within the County-managed Castaic Lake State Recreation Area.

TABLE 1.6-1
CASTAIC PROJECT AREA LAND USE DESIGNATIONS

County Land Use Designation	Acres in Castaic Project Area	Compatible with Trails?
RL20 – Rural Land 20	14,708.7	**Yes –** Equestrian uses, private recreation, and public facilities are allowable uses; specific allowable uses and development standards shall be determined by underlying zoning designation.
RL5 – Rural Land 5	5,052.3	**Yes –** Equestrian uses, private recreation, and public facilities are allowable uses; specific allowable uses and development standards shall be determined by underlying zoning designation.
OS-PR – Parks and Recreation	4,065.2	**Yes –** Use for public and private parks and golf courses includes multi-purpose trails; specific allowable uses and development standards shall be determined by underlying zoning designation.
RL2 – Rural Land 2	3,720.8	**Yes –** Equestrian uses, private recreation, and public facilities are allowable uses; specific allowable uses and development standards shall be determined by underlying zoning designation.

TABLE 1.6-1
CASTAIC PROJECT AREA LAND USE DESIGNATIONS

County Land Use Designation	Acres in Castaic Project Area	Compatible with Trails?
P – Public and Semi-Public	3,447.3	**Yes –** Not described in Area Plan
SP – Specific Plan	2,956.9	**Yes –** Specific allowable uses, maximum intensity standards, and development standards shall be determined by the adopted Specific Plan. **Newhall Ranch:** The adopted plan will allow construction of public trails. The design provides residents with access to nature by providing undeveloped open space accessible by trails from each village. **Northlake:** Trails are a compatible use for the recreation/open space uses in the plan.
H2 – Residential 2	2,545.3	**Yes –** Density-controlled development is encouraged to preserve open space for protection of natural features or resources; specific allowable uses and development standards shall be determined by underlying zoning designation.
OS-W – Water	2,466.6	**Somewhat –** Use for open space lands that are water courses, including lakes, rivers, and creeks
H5 – Residential 5	2,035.6	**Yes –** Density-controlled development is encouraged to preserve open space for protection of natural features or resources; specific allowable uses and development standards shall be determined by underlying zoning designation.
IO – Industrial Office	1,502.0	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
RL10 – Rural Land 10	1,431.7	**Yes –** Equestrian uses, private recreation, and public facilities are allowable uses; specific allowable uses and development standards shall be determined by underlying zoning designation.
OS-C – Conservation	1,052.6	**Yes –** Use for passive recreation; specific allowable uses and development standards shall be determined by underlying zoning designation.
IL – Light Industrial	741.9	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
RL1 – Rural Land 1	623.3	**Yes –** Equestrian uses, private recreation, and public facilities are allowable uses; specific allowable uses and development standards shall be determined by underlying zoning designation.
OS-BLM – Bureau of Land Management	452.6	**Yes –** Use for land owned by BLM; specific allowable uses and development standards shall be determined by underlying zoning designation.
H18 – Residential 18	391.4	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
CG – General Commercial	87.6	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
H30 – Residential 30	79.2	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
CM – Major Commercial	70.2	**Yes –** Specific allowable uses and development standards shall be determined by underlying zoning designation.
OS-NF – National Forest	44.9	**Yes –** Use for land within the Angeles and Los Padres National Forests, including private inholdings that permit equestrian uses, private recreation, and public facilities; specific allowable uses and development standards shall be determined by underlying zoning designation.

SOURCE: County of Los Angeles Department of Regional Planning. 2012. *Santa Clarita Valley Area Plan*. Chapter 2: Land Use. Available at: http://planning.lacounty.gov/ovov

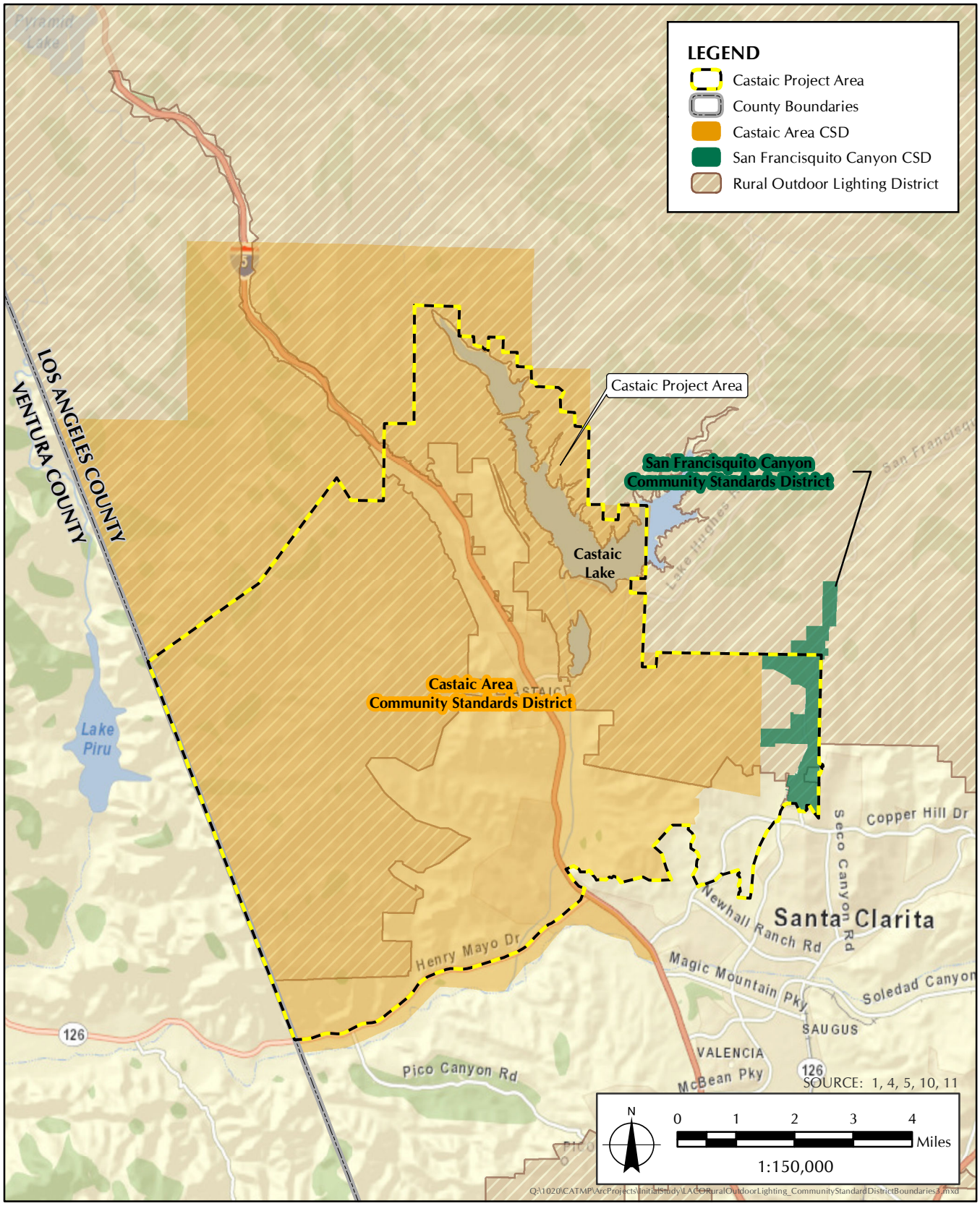

FIGURE 1.6-1

Los Angeles County Rural Outdoor Lighting District and Community Standards District Boundaries

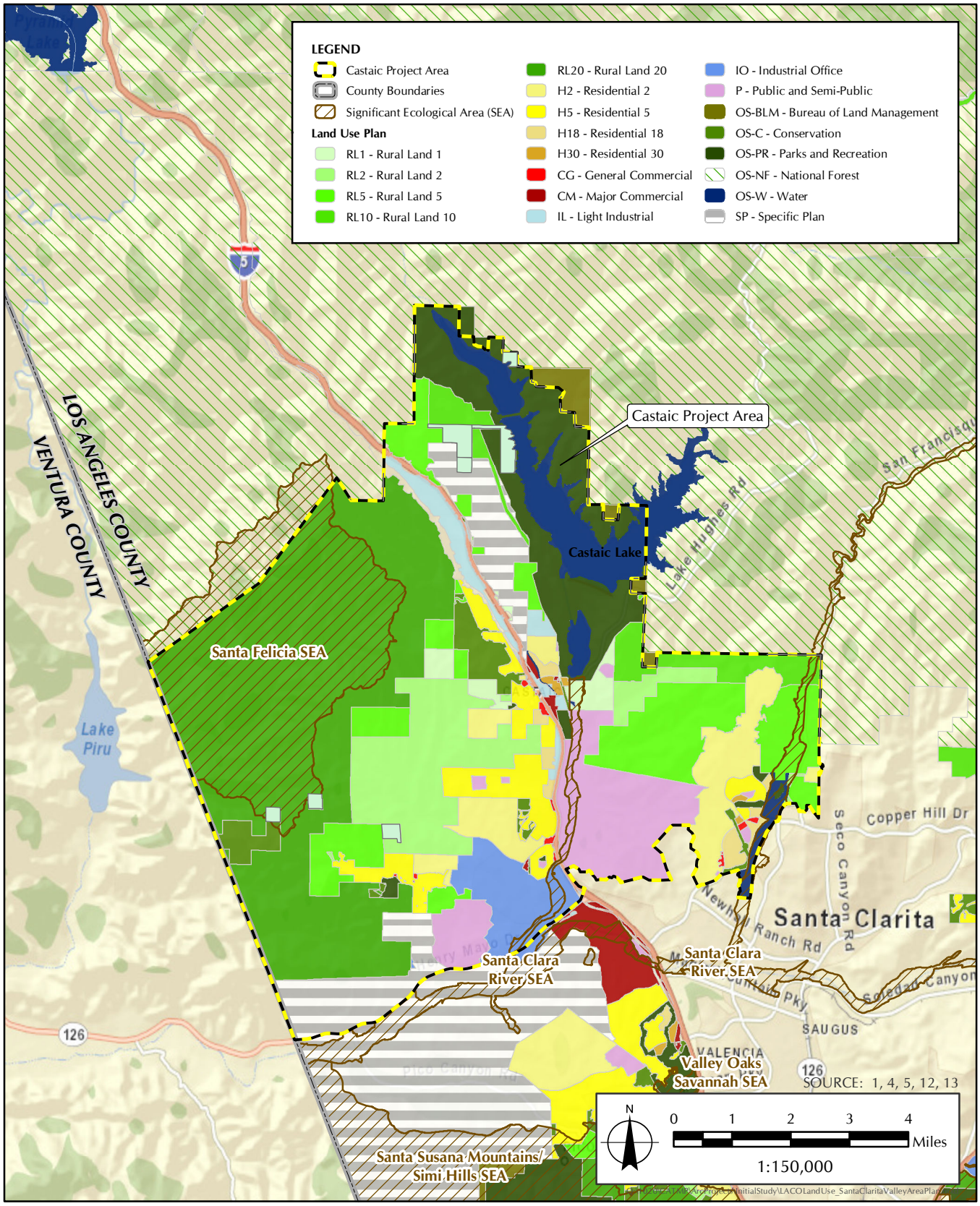

FIGURE 1.6-2

Los Angeles County 2015 Land Use Designations - Santa Clarita Valley Area Plan

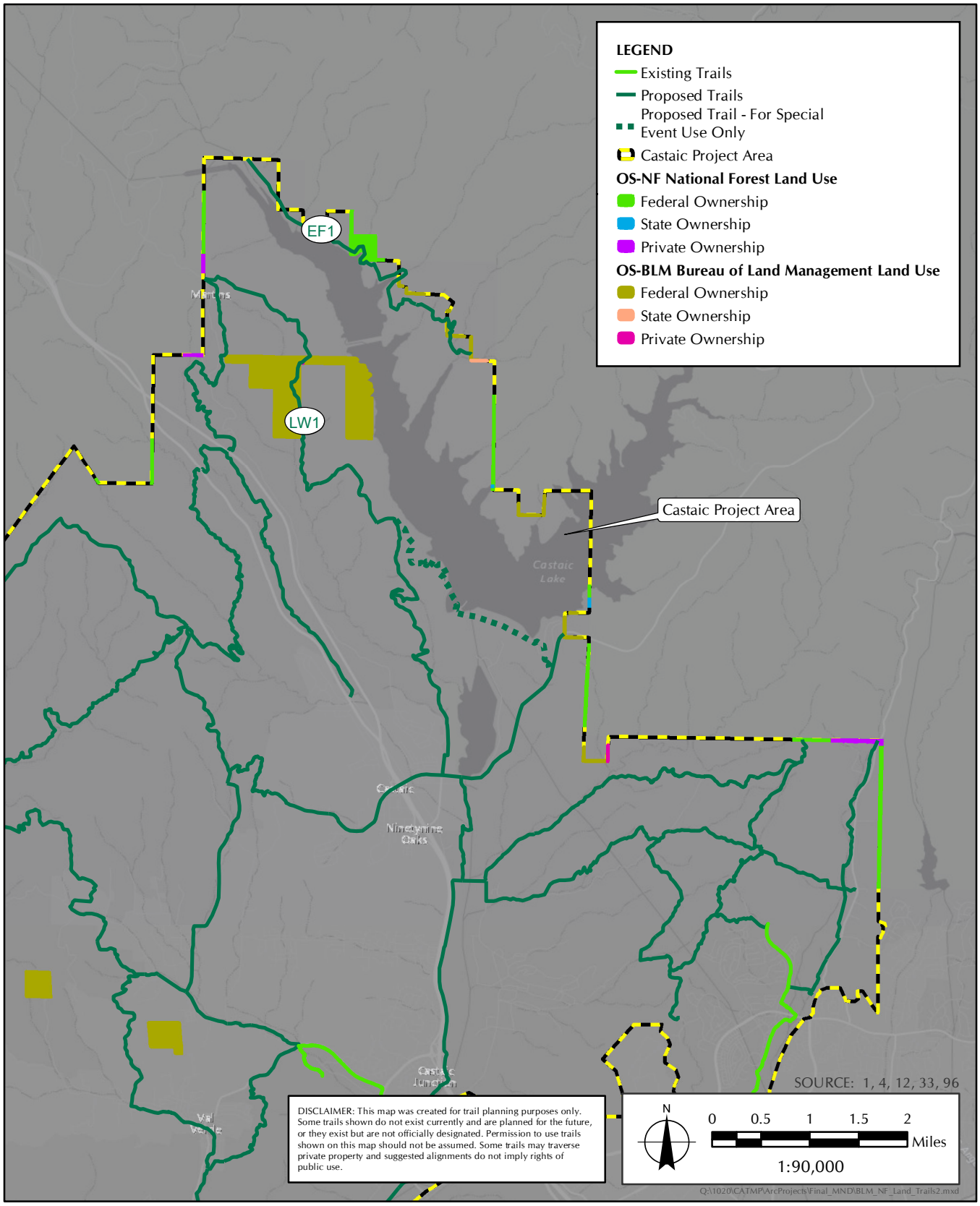

FIGURE 1.6-3

Ownership of OS-BLM and OS-NF Land Use Categories within Castaic Project Area

1.7 ZONING

The County zoning designations for the Castaic project area are predominantly heavy agricultural and open space, with two specific plan areas (Northlake Specific Plan and Newhall Specific Plan) and land designated with single-family residence, residential planned development, and restricted heavy manufacturing zones also comprising portions of the Castaic project area (Table 1.7-1, *Castaic Project Area Zoning Designations*, and Figure 1.7-1, *County of Los Angeles Zoning Designations*). The Heavy Agricultural Zone, Specific Plan Zone, manufacturing zones, Unlimited Commercial Zone, Neighborhood Business Zone, and Watershed Zone permit riding and hiking trails; the Open Space, Light Agricultural Zone, Manufacturing Industrial Planned Development Zone, Commercial Planned Development Zone, and residential zones in the Castaic project area allow for riding and hiking trails if they have been approved by the Planning Director of the County of Los Angeles Department of Regional Planning (Director); and riding and hiking trails may be allowed in the Institutional Zone upon approval of a Conditional Use Permit (CUP). The Castaic project area is enclosed on the north by County-designated Watershed Zone; on the southeast by the City of Santa Clarita; on the south by Specific Plan Zone, Manufacturing Industrial Planned Development Zone, and Neighborhood Business Zone; and on the southwest by the County of Ventura.

TABLE 1.7-1
CASTAIC PROJECT AREA ZONING DESIGNATIONS

County Zoning Designation	Acres in Castaic Project Area	Compatible with Trails?[1]
A-2 – Heavy Agricultural	29,229.5	**Yes –** Riding and hiking trails are permitted (excludes trails for motor vehicles), provided all buildings or structures used in connection shall be located not less than 50 feet away from any street or highway or any building used or designed for human habitation. Also allows for campgrounds, picnic areas, and trails with overnight camping facilities (not structures for permanent human occupancy).
O-S – Open Space	7,707.4	**Yes –** Riding and hiking trails (excludes trails for motor vehicles), as well as campgrounds, picnic areas, and trails with overnight camping facilities (not structures for permanent human occupancy), are permitted uses, provided that: 1 Premises shall remain essentially unimproved and building, structures, grading excavation, fill or other alterations are prohibited except as otherwise expressly provided in Sections 22.40.420 and 22.40.430. 2 Where such premises are located within a significant ecological area, such uses shall be deemed to be uses subject to Director's review and approval pursuant to Section 22.40.420.
SP – Specific Plan	2,924.2	**Yes –** Subject to limitations and conditions of specific plan. **Newhall Ranch:**[2] Specific Plan's objectives include (1) establishing a diverse system of pedestrian and bicycle trails, segregated from vehicle traffic and (2) providing an extensive system of pedestrian, bicycle, and hiking trails within the Villages and hiking trails in the *Special Management Areas (SMAs)* and *Open Area*. **Northlake:**[3] Specific Plan's objectives include providing a network of biking, jogging, and equestrian trails.
R-1 – Single-Family Residence	2,464.9	**Yes –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles).

TABLE 1.7-1
CASTAIC PROJECT AREA ZONING DESIGNATIONS

County Zoning Designation	Acres in Castaic Project Area	Compatible with Trails?[1]
RPD – Residential Planned Development	1,610.1	**Somewhat –** Subject to the approval of the hearing officer, open space may include present or future hiking, riding or bicycle trails, designated for the use and enjoyment of all of the occupants of the planned residential development.
M-1.5 – Restricted Heavy Manufacturing	1,231.8	**Yes –** Riding and hiking trails are permitted
M-1 – Light Manufacturing	628.3	**Yes –** Riding and hiking trails are permitted (excludes trails for motor vehicles)
A-1 – Light Agricultural	279.8	**Yes –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles); a conditional use permit allows for campgrounds, picnic areas, and trails with overnight camping facilities (not structures for permanent human occupancy)
MPD – Manufacturing Industrial Planned Development	162.6	**Yes –** As with R-A Zone, riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)
R-3 – Limited Multiple Residence	114.1	**Yes –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)
M-2 – Heavy Manufacturing	104.1	**Yes –** Riding and hiking trails are permitted
C-3 – Unlimited Commercial	81.7	**Yes –** Riding and hiking trails are permitted (excludes trails for motor vehicles)
C-2 – Neighborhood Business	47.3	**Yes –** Riding and hiking trails are permitted (excludes trails for motor vehicles)
R-2 – Two-Family Residence	32.3	**Somewhat –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)
R-A – Residential Agricultural	30.2	**Yes –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)
W – Watershed	11	**Yes –** Riding and hiking trails are permitted (excludes trails for motor vehicles)
CPD – Commercial Planned Development	4.3	**Yes –** As with R-A Zone, riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)
IT – Institutional	0.4	**Yes –** Trails are not specifically listed as a permitted use, but parks, playgrounds, and recreational areas are allowed upon approval of a conditional use permit
R-4 – Unlimited Residence	0.2	**Yes –** Riding and hiking trails are subject to Director's review and approval (excludes trails for motor vehicles)

SOURCE:

1. Municode. Accessed 4 January 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO
2. County of Los Angeles Department of Regional Planning. Adopted May 27, 2003. *Newhall Ranch Specific Plan*. Available at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/
3. County of Los Angeles Department of Regional Planning. June 1992. *Northlake Specific Plan.* Available at: http://planning.lacounty.gov/view/northlake_specific_plan/

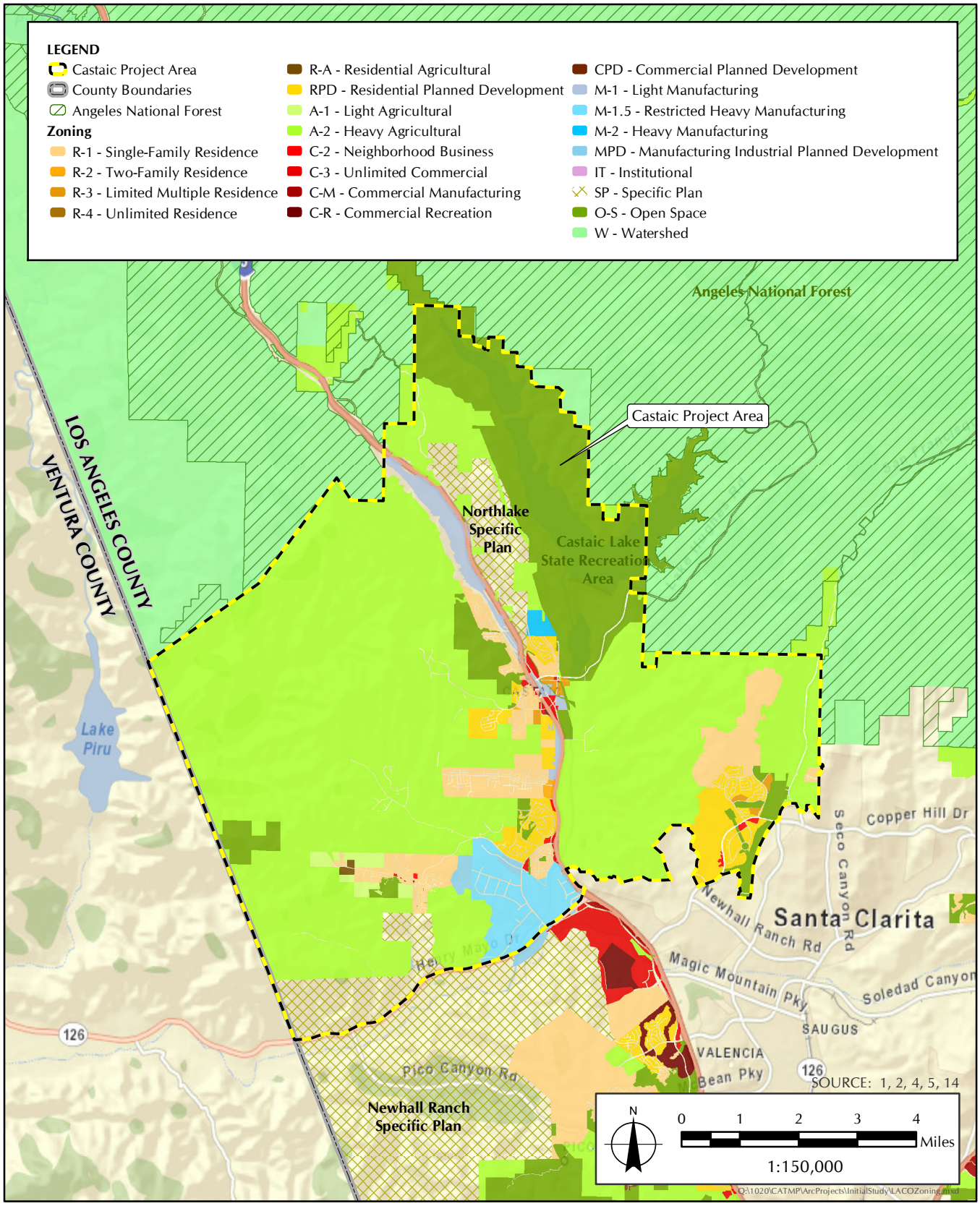

FIGURE 1.7-1

Los Angeles County Zoning Designations

1.8 BACKGROUND AND EXISTING CONDITIONS

Background

In November 1969, an operating agreement was entered into between the State and County for the care, maintenance, development, and control of Castaic Lake State Recreation Area.[10] In September 1969, the Castaic Lake Recreation Plan was prepared by the State of California Department of Water Resources based on plans and information furnished by the State of California Department of Parks and Recreation presenting a development plan for the Castaic Project which described a proposed trail around Castaic Lake:[11]

> "**Equestrian and Trail Camps**
> A Riding and hiking trail would encircle Castaic Lake as shown on Plate 1, and would cross the Castaic arm on the Forebay dam. A section of trail would continue on north from Elderberry Mesa to the Castaic Canyon area and allow travelers to make connections with the camp area and the Fish Creek Service road. No trail would be located on the west shore of the Forebay because of the hazardous crossing of the powerhouse penstock on the steep terrain."

At the direction of Supervisor Michael D. Antonovich, the County embarked on the development of the proposed project due to the emerging need for additional trail and recreation opportunities in the Castaic area of the County. The proposed project is intended to address the existing practice of conceptualizing and requiring implementation of trail segments, in conjunction, with the approval process for development projects on a case-by-case basis to guide the development of a backbone trail system that meets the needs of the Castaic region. The County has participated in five trail planning efforts (Rim of the Valley Trail Corridor Master Plan, Northlake Specific Plan, Newhall Ranch Specific Plan, the Regional Trail System adopted in the County General Plan 2035, and Santa Susana Mountains Final Trails Master Plan (SSMFTMP) over the past 26 years and has developed a trails manual; the development of trail planning in the Castaic region is needed in order to maintain and increase trail connectivity and access to open space with anticipated future private development and projected population growth in the Castaic area (Figure 1.8-1, *Previous Trail Planning Efforts in Proximity to Castaic Project Area*). Additional trail planning efforts have been undertaken by the United States Forest Service, National Park Service, California Department of Parks and Recreation, and the City of Santa Clarita. The proposed project would recognize and complement other regional trail planning efforts being undertaken to provide another step towards providing trail connections in the County of Los Angeles.

Rim of the Valley Trail Corridor Master Plan: In 1990, the Santa Monica Mountains Conservancy (SMMC) published the *Rim of the Valley Trail Corridor Master Plan*, as authorized by Assembly Bill 1516 (1989) to guide the activities and expenditures of the SMMC and the legislature over a 5- to 10-year planning period in preservation of important resources and provision of public recreation. The Rim of the Valley Corridor is a wildlife corridor that connects the Santa Monica,

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[10] State of California Department of Parks and Recreation and County of Los Angeles Department of Parks and Recreation. Original Agreement Made 18 November 1969. Amendment No. 5 Approved 10 August 1990. *Castaic Lake State Recreation Area Operating Agreement*. Available at County of Los Angeles Department of Parks and Recreation Headquarters, 510 S. Vermont Avenue, Los Angeles, California.

[11] State of California Department of Parks and Recreation and County of Los Angeles Department of Parks and Recreation. Original Agreement Made 18 November 1969. Amendment No. 5 Approved 10 August 1990. *Castaic Lake State Recreation Area Operating Agreement*. Available at County of Los Angeles Department of Parks and Recreation Headquarters, 510 S. Vermont Avenue, Los Angeles, California.

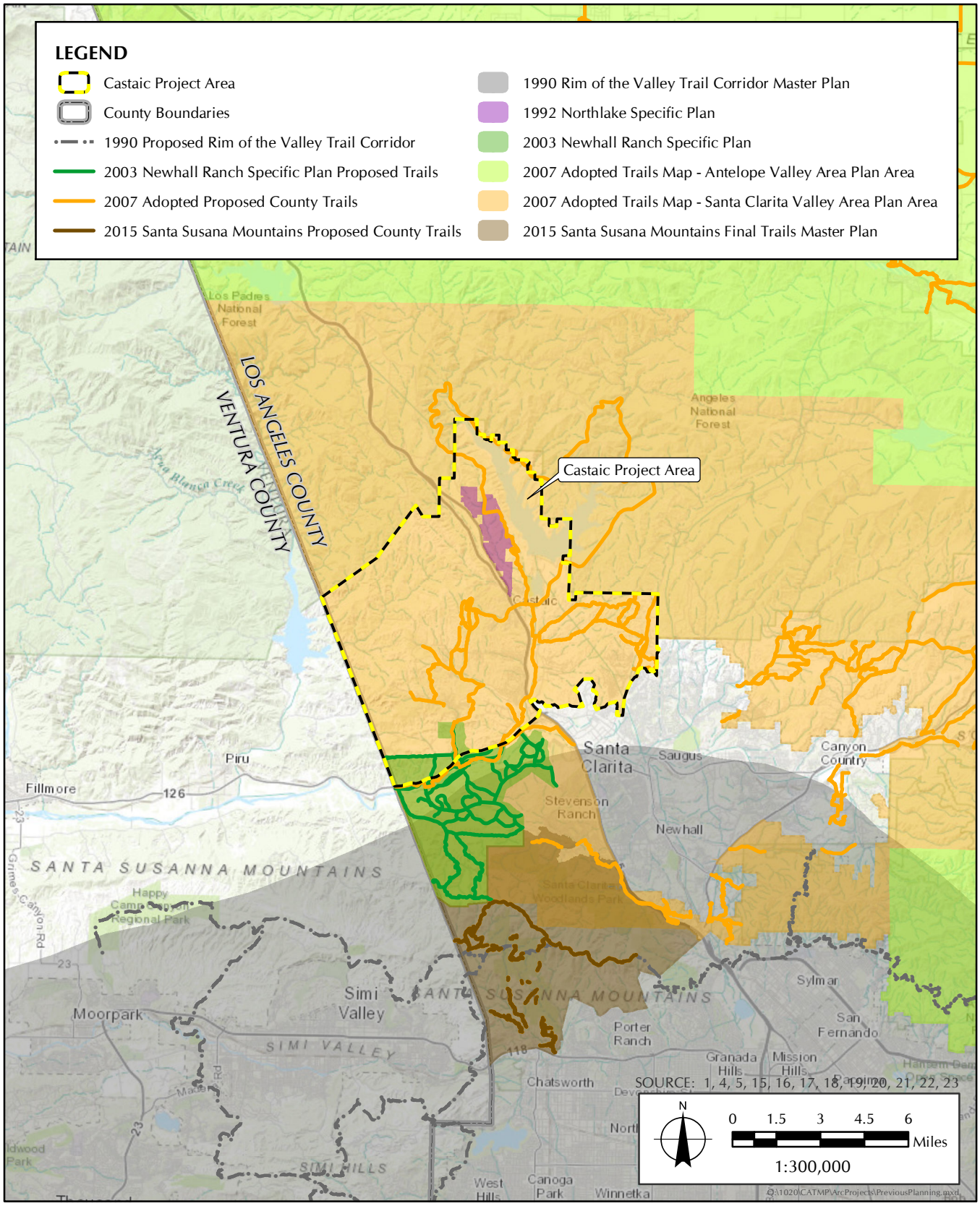

FIGURE 1.8-1

Previous Trail Planning Efforts in Proximity to Castaic Project Area

Santa Susana, Sespe, and San Gabriel Mountains. The recreational objective of the plan was to provide opportunities for linear recreation in a natural setting through a continuous trails system in the Valley Trail Corridor, whether on foot, horseback, or mountain bikes, in consideration of trailhead access and facilities, difficult terrain, environmentally sensitive areas, existing trails and fire roads, access to natural or cultural resources, and views of the valleys and natural surroundings.

Northlake Specific Plan: In June 1992, the Northlake Specific Plan was approved, which proposed the development of a network of trails within the Castaic project area to provide adequate recreation opportunities for the population growth that would result from residential subdivision projects described in the Specific Plan.

Newhall Ranch Specific Plan: In May 2003, the Newhall Ranch Specific Plan was approved, which proposed the development of a system of trails connecting the development to natural open space in order to provide adequate recreation opportunities for the population growth that would result from residential subdivision projects described in the Specific Plan. The Specific Plan area overlaps with the Castaic project area.

Adopted Proposed County Trails: In 2007, the County adopted a proposed trails plan for the Santa Clarita Valley and Antelope Valley when the Santa Clarita Valley was largely undeveloped.[12,13] As stated on the Trails Map of the Antelope Valley Area Plan, the alignments of the adopted proposed trails, which include several trails within the Castaic project area, are not intended to be precise and require further study to determine the most feasible route as these properties are developed and the trail and trail connectivity needs of these developments become clear.

County Trails Manual: In June 2013, the County published the *County of Los Angeles Trails Manual* (County Trails Manual) as a manual to provide guidelines for trail planning, design, development, and maintenance of County of Los Angeles Department of Parks and Recreation trails.[14] The purpose of the County Trails Manual is to provide guidance to the County Department of Parks and Recreation that interfaces with trail planning, design, development, and maintenance of hiking, equestrian, and mountain biking recreational trails, while addressing physical and social constraints and opportunities associated with the diverse topographic and social conditions that occur in the unincorporated territory of the County. The County uses the planning process delineated in the County Trails Manual in considering the development of future trails. It is the policy of County of Los Angeles Department of Parks and Recreation that all trails in the County are multi-use (hiking, mountain biking, equestrian). The County Trails Manual serves as a procedural document.

Santa Susana Mountains Final Trails Master Plan: In May 2015, the County adopted the Santa Susana Mountains Final Trails Master Plan (SSMFTMP), which was undertaken at the direction of Supervisor Michael D. Antonovich in order to identify recreational trail opportunities in the Santa Susana Mountains area, located approximately 3 miles south of the Castaic project area, with the

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[12] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. County of Los Angeles General Plan 2035. Figure 10.1: Regional Trail System. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf

[13] County of Los Angeles Department of Regional Planning. Adopted by the Board of Supervisors on January 16, 2007. Antelope Valley Areawide General Plan: Trails Map. Available at: https://trails.lacounty.gov/Files/Documents/67/Antelope%20Valley%20Trail%20Plan.pdf

[14] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

intent of adopting these proposed trails as party of the County's Regional Trail System.[15] The SSMFTMP involves the extension of the 35.7 miles of existing County-, City-, and Conservancy-managed trails in the Castaic project area by approximately 35.9 miles with 22 proposed trail segments, for a total of approximately 71.5 miles of trails within the SSMFTMP Area. The Rim of the Valley Trail Corridor encircles the San Fernando and La Crescenta Valleys and passes through the Northwest San Fernando Valley Subarea of the Trails Master Plan Area.

Existing Conditions

The Castaic project area is generally considered rural and includes the existing communities of Castaic, Castaic Junction, Val Verde, Hasley Canyon, Hillcrest, and Paradise Ranch. The Castaic project area contains several ridges and canyons and approximately 4.9 miles of existing trail in three existing trail segments (Figure 1.8-2, *Existing Trails*):

- Cliffie Stone Trail (2.9 miles)
- Hasley Canyon Trail (1.7 miles)
- North Park Trail (0.3 miles)

Additionally, the County operates and maintains approximately 7 miles of recreational trails that are not part of the County's regional trail system near the southwestern edge of Castaic Lake at Castaic Lake State Recreation Area (SRA), which are multi-use and can be accessed from the Lower Lagoon near Grasshopper Canyon:[16]

- Fire roads (open to all users)
  - Cutler Canyon Fire Road
  - Pine Ridge Fire Road
  - Vista Ridge Fire Road
- Open trails (hiking, biking, horses)
  - Fisherman Trail
  - West Ridge Trail
  - Pro's Uphill
- Single track – mountain bikes only
  - Deer Trail
  - The Grapevine (Downhill Race Course)

These trails do not currently connect to trails outside the SRA as it is a regional recreation destination on its own.

Major canyons and valleys within the Castaic project area include Santa Felicia Canyon, Palomas Canyon, Hasley Canyon, Violin Canyon, Devil Canyon, Oak Canyon, Castaic Valley, Charlie Canyon, Romero Canyon, Tapia Canyon, Sloan Canyon, San Martinez Grande Canyon, San Martinez Chiquito Canyon, Holser Canyon, and San Francisquito Canyon. The Castaic project area

[15] County of Los Angeles Department of Parks and Recreation. May 2015. Santa Susana Mountains Final Trails Master Plan. Available at: https://trails.lacounty.gov/Files/Documents/115/FINAL%20Santa%20Susana%20Mountains%20Final%20Trails%20Master%20Plan%20May%202015.pdf

[16] Friends of Castaic Lake. Accessed 6 January 2016. Castaic Lake State Recreation Area: Trails. Available at: http://www.castaiclake.com/trails.html

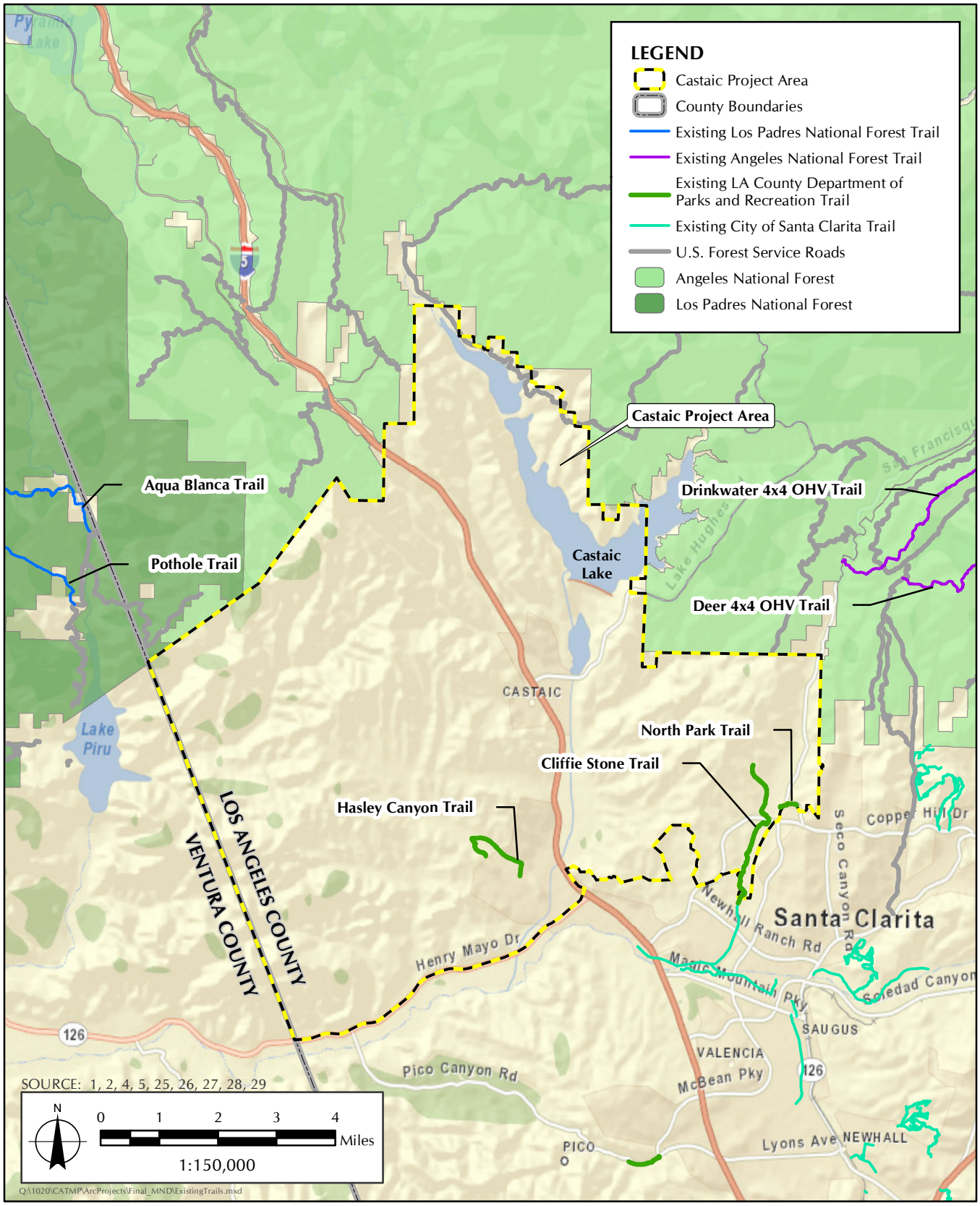

FIGURE 1.8-2

Existing Trails

contains the Valencia Commerce Center, the Peter Pitchess Detention Center, the Northlake development area, and a portion of the Newhall Ranch development area. The Castaic project area includes a portion of Castaic Lake, as well as Castaic Lagoon and Castaic Creek, and the Santa Felicia Significant Ecological Area (SEA) has been adopted in the northwestern portion of the Castaic project area to preserve the area's ecological integrity. Proposed trails that have been adopted in the vicinity of the Castaic project area include the Condor Trail Corridor and Santa Clara River Trail Corridor identified in the California Recreational Trails Plan, adopted proposed trails from the County's adopted 2007 trails map, and trails identified in the Newhall Ranch Specific Plan (Figure 1.8-3, *Adopted Proposed Trails*).

1.9 PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual. After the 30-day NOI public review period, five proposed trail segments, EF1, EF2, EF3, EF4, and LW3, were revised in response to comment letters from DWR regarding the South State Water Project (SWP) Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426 surrounding Elderberry Forebay and Castaic Power Plant and review of the *Castaic Lake State Recreation Area Operating Agreement*. Proposed trail segments EF1, EF2, and EF3, which originally provided recreation access along the western shore of Elderberry Forebay, have been removed; and segment EF4 has been renumbered as EF1, Castaic Lake Trail, consistent with the *Castaic Lake State Recreation Area Operating Agreement.* Please note that revisions made to this section apply also to the technical reports previously prepared for the project and attached as Appendices A through H.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area (Figure 1.9-1, *Proposed Trails Plan*). The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1.9-1, *County Trail Types*).

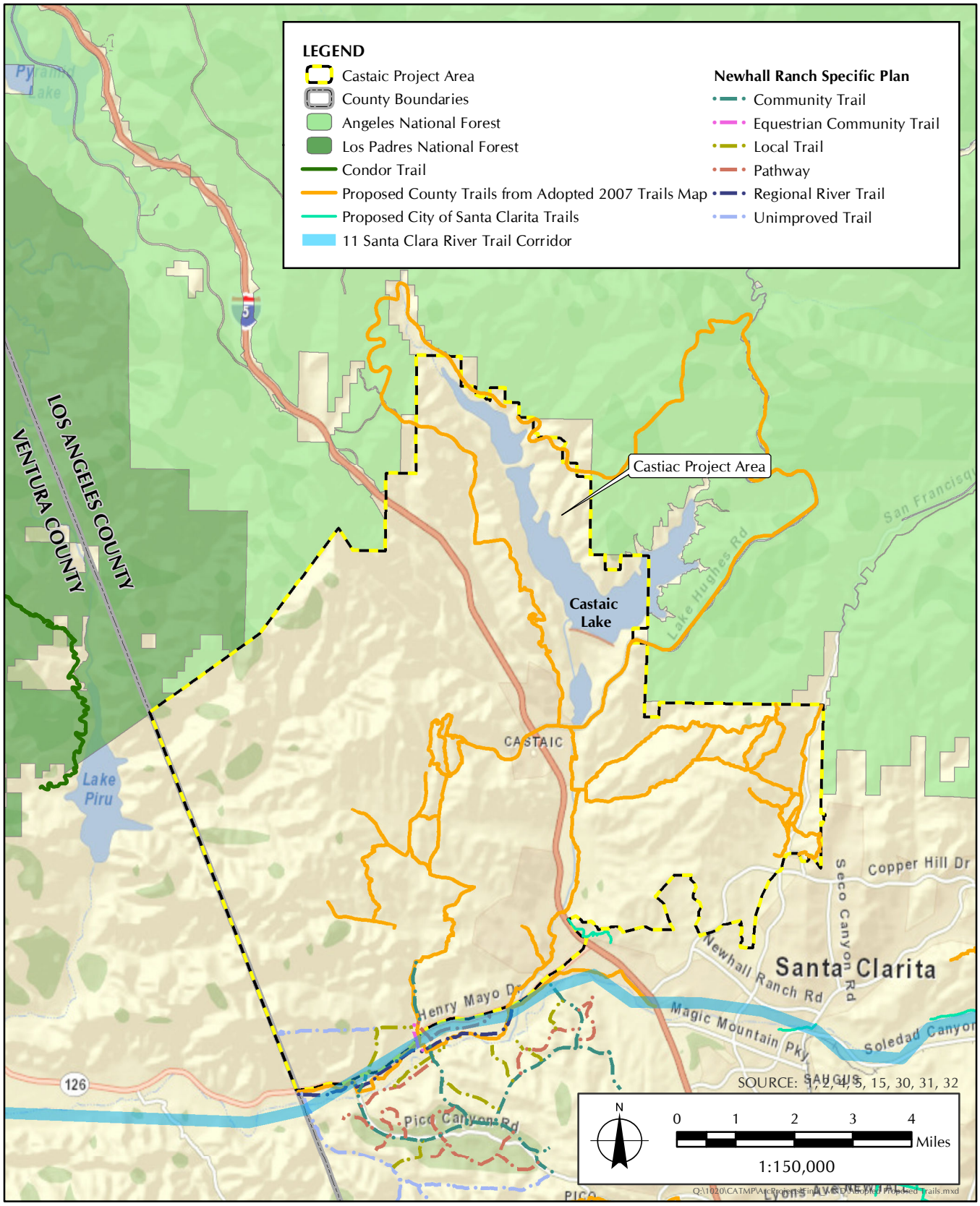

FIGURE 1.8-3

Adopted Proposed Trails

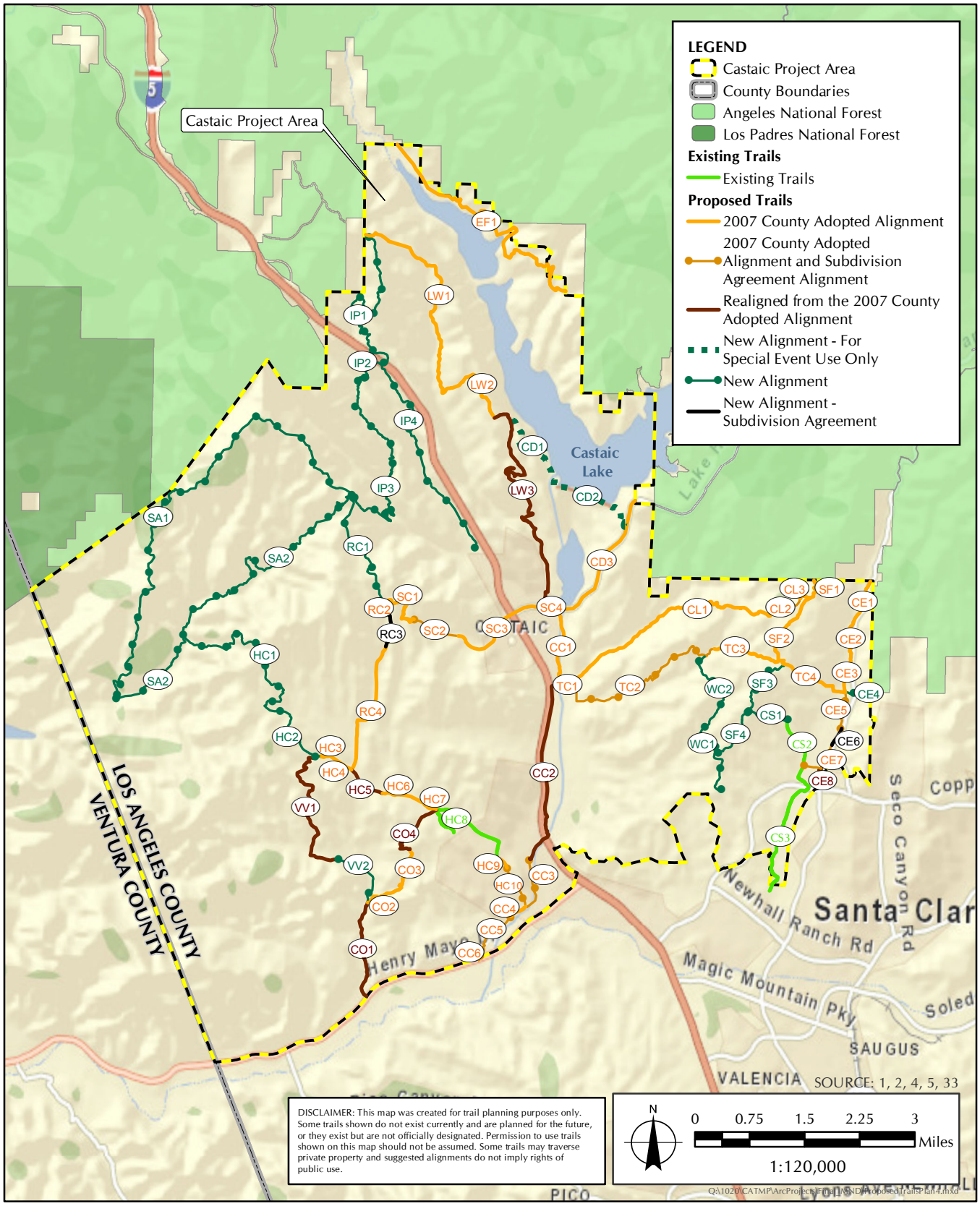

FIGURE 1.9-1

Proposed Trails Plan

TABLE 1.9-1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four (4) existing trail segments and 64 proposed trail segments (Table 1.9-2, *Existing and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

TABLE 1.9-2
EXISTING AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. Follows 2007 County adopted trail alignment. *De facto* trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Realigned from 2007 County adopted trail alignment. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	MUT	No existing trail. Portion of segment parallels existing dirt road. Follows 2007 County adopted trail alignment. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	MUT	No existing trail. Along paved utility road adjacent to creekbed. Follows 2007 County adopted trail alignment. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	MUT	No existing trail. Parallels Franklin Parkway and Castaic Creek. Follows 2007 County adopted trail alignment. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.21	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. New proposed alignment. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed around the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	CD2 (Castaic Dam Crossing)	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. New proposed alignment. Dam crossing, bridging east and west sides of Castaic Lake. Currently for special event use only. Subject to further coordination with State Department of Water Resources. Any Special Use Authorization for recreational use over the Castaic Dam service road shall incorporate a safety plan including security for SWP critical infrastructure and control structures. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	CD3 (Lake Hughes East)	1.98	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. Follows 2007 County adopted trail alignment. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California*. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Follows 2007 County adopted trail alignment. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Minor realignment of 2007 County adopted trail to conform to the ROW. Passes through Tesoro Del Valle but is not included in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Minor realignment of 2007 County adopted trail to conform to the ROW.
	CE4 (Lady Linda)	0.13	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). New proposed alignment. Follows Lady Linda Lane to connect to proposed trailhead.

TABLE 1.9-2
EXISTING AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Follows 2007 County adopted trail alignment. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. New proposed alignment; subdivision agreement. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Realigned from 2007 County adopted trail alignment. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Minor realignment from 2007 County adopted trail routes to follow road on County property. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Follows 2007 County adopted trail alignment. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Follows 2007 County adopted trail alignment. Connection to San Francisquito Trail. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	1.39	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows 2007 County adopted trail alignment. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Minor realignment from 2007 County adopted alignment to minimize parcel crossings, Requires access beyond locked gate..
	CO4 (Chiquito Canyon and Creek – North)	1.04	MUT	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. New proposed alignment. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Castaic Lake Trail)	4.57	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Follows 2007 County adopted trail alignment.. Northern connection to USFS roads. Extends beyond Castaic project area. County Parks to install fencing on the western (water) side of trail segment within the FERC Project 2426 boundary to discourage users from leaving the trail.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. New proposed alignment. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. New proposed alignment. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.

TABLE 1.9-2
EXISTING AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Minor realignment of 2007 County adopted trail alignment to meet the new proposed segment HC4.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Minor realignment of 2007 County adopted trail to follow de facto trails.
	HC7 (Hasley-Los Valles)	0.56	MUT	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations – slightly realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Follows 2007 County adopted trail alignment.. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	MUT	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. New proposed alignment. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. New proposed alignment. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. New proposed alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. New proposed alignment. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	LW3 (Lagoon-Lake)	4.08	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Adjusted from 2007 County adopted trail route to avoid electrical transmission line parcel leading from Castaic Power Plant. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee.. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
North Park Trail	North Park Trail	0.33	Natural	Existing trail

TABLE 1.9-2
EXISTING AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. New proposed alignment. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Follows 2007 County adopted trail alignment.. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	MUT	No existing trail. Currently a construction site leading to Romero Canyon Road. New proposed alignment; subdivision agreement. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows 2007 County adopted trail alignment.. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. New proposed alignment. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. New proposed alignment. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.33	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows 2007 County adopted trail alignment.. Follows San Francisquito Motorway to the edge of the Castaic project area. When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed by County Parks (at County Parks cost). When crossing within 100 feet of a transmission line tower right-of-way, a fence would be installed the base of the tower by County Parks (at County Parks cost), or its designee. Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries shall comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Follows 2007 County adopted trail alignment.. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. New proposed alignment. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. New proposed alignment. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Minor realignment of 2007 County adopted alignment to follow contours and enhance safety. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	MUT	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Follows 2007 County adopted alignment. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. Follows 2007 County adopted alignment On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Follows 2007 County adopted alignment. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	MUT	No existing trail. Parallels Tapia Canyon Road. Follows 2007 County adopted alignment. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*

TABLE 1.9-2
EXISTING AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	TC2 (Tapia Bypass)	2.74	MUT	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Follows 2007 County adopted alignment. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Follows 2007 County adopted alignment.. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Realigned from 2007 adopted proposed trails plan for the 2007 County adopted alignment. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. New proposed alignment. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. New proposed alignment. Requires connection through cul-de-sac in West Creek. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. New proposed alignment. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area. Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.*
TOTAL				
Total of 18 Routes	**Total of 68 Trail Segments** • 4 Existing Segments • 64 Proposed Trail Segments			**Total of 93.8 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 88.90 Miles Proposed and Under Consideration

NOTES:
MUT = Multi-Use Trail
ROW = New Designation
Green highlight = Existing Trails
No highlight = Proposed County Trails (from adopted 2007 Trails Map), as shown in the Los Angeles County General Plan 2035: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf
Yellow highlight = Proposed County Trails Adjusted from adopted 2007 Trails Map and Subdivision Agreement Alignment
Pink highlight = Proposed County Trails Realigned from 2006 County Adopted Alignment
Grey highlight = Proposed County Trails for Special Event Use Only (New Alignment)
Blue highlight = Proposed County Trails (New Alignment)
Purple highlight = Proposed County Trails (New Alignment – Subdivision Agreement)
Source: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map.* Available at: http://castaiclake.com/map_trails.html

Development of any trail segments that cross the rights-of-way for the Metropolitan Water District of Southern California (MWD) Foothill Feeder shall be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California* (Figure 1.9-2, *MWD Coordination Requirements*). Trail design plans for trail segments that would pass through MWD's fee property, easements, or rights-of-way for the Foothill Feeder shall be submitted to MWD's Substructures Team for review and written approval. All submitted designs or plans shall clearly identify MWD's facilities and rights-of-way. Three (3) copies of tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans shall be submitted to MWD's review and written approval as they pertain to MWD's facilities, fee properties, and/or easements, prior to the commencement of any construction work.

The proposed trail segments CD1 and CD2 (Castaic Dam Crossing) would be for special event use only, and use is subject to further coordination with State Department of Water Resources (DWR) to ensure that State Water Project critical infrastructure (water intake tower, spillway, and the Castaic Dam) is protected if recreational trails are constructed at the dam crest road for Castaic Dam. DWR would not fund any trail construction costs or continuing maintenance for the proposed trails. The County of Los Angeles Department of Parks and Recreation shall:

- Coordinate with the California Department of Water Resources (DWR) to ensure that State Water Project critical infrastructure (water intake tower, spillway, and the Castaic Dam) is protected if recreational trails are constructed at the dam crest road for Castaic Dam.
- Coordinate with the DWR to ensure that the use of dam crest road for recreational trail use is according to design intent if recreational trails are constructed at the dam crest road for Castaic Dam.
- Install emergency call-boxes and first-responder emergency vehicle access if recreational trails are constructed at the dam crest roads for Castaic Dam.
- Coordinate with the DWR to ensure DWR access roads at the base of the Castaic Dam are compatible with recreational use if recreational trails are constructed at the dam crest road for Castaic Dam.

Development of any trail segments located within the boundary of the South State Water Project (SWP) Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426 surrounding Elderberry Forebay and Castaic Power Plant, which is operated under a cooperative agreement between the State Department of Water Resources (DWR) and City of Los Angeles Department of Water and Power (LADWP), and will require coordination with both licensees (DWR and LADWP). The FERC boundary roughly extends from the southwestern edge of Elderberry Dam, around Elderberry Forebay, and northwest past the edge of the Castaic Project Area towards Pyramid Lake then Quail Lake (Figure 1.9-3, *FERC Coordination Requirements*).[17] LADWP facilities include the Elderberry Dam and Forebay, as well as the Castaic Pumping – Generating Plant. DWR facilities include the Angeles Tunnel, Pyramid Lake and Dam, William E. Warne Power Plant, and Peace Valley Pipeline northwest to Quail Lake. The FERC license for Project No. 2426 requires that the project provide protection for wildlife habitat and other environmental factors, "while affording

[17] California Department of Water Resources, Hydropower License Planning and Compliance Office. December 2014. *South SWP Hydropower West Branch Detail: FERC Project No. 2426*. Schematic map available at: http://www.water.ca.gov/hlpco/images/hlpco/20141124_P2426_West_Branch_Schematic.jpg Main project website: http://www.water.ca.gov/hlpco/p2426.cfm

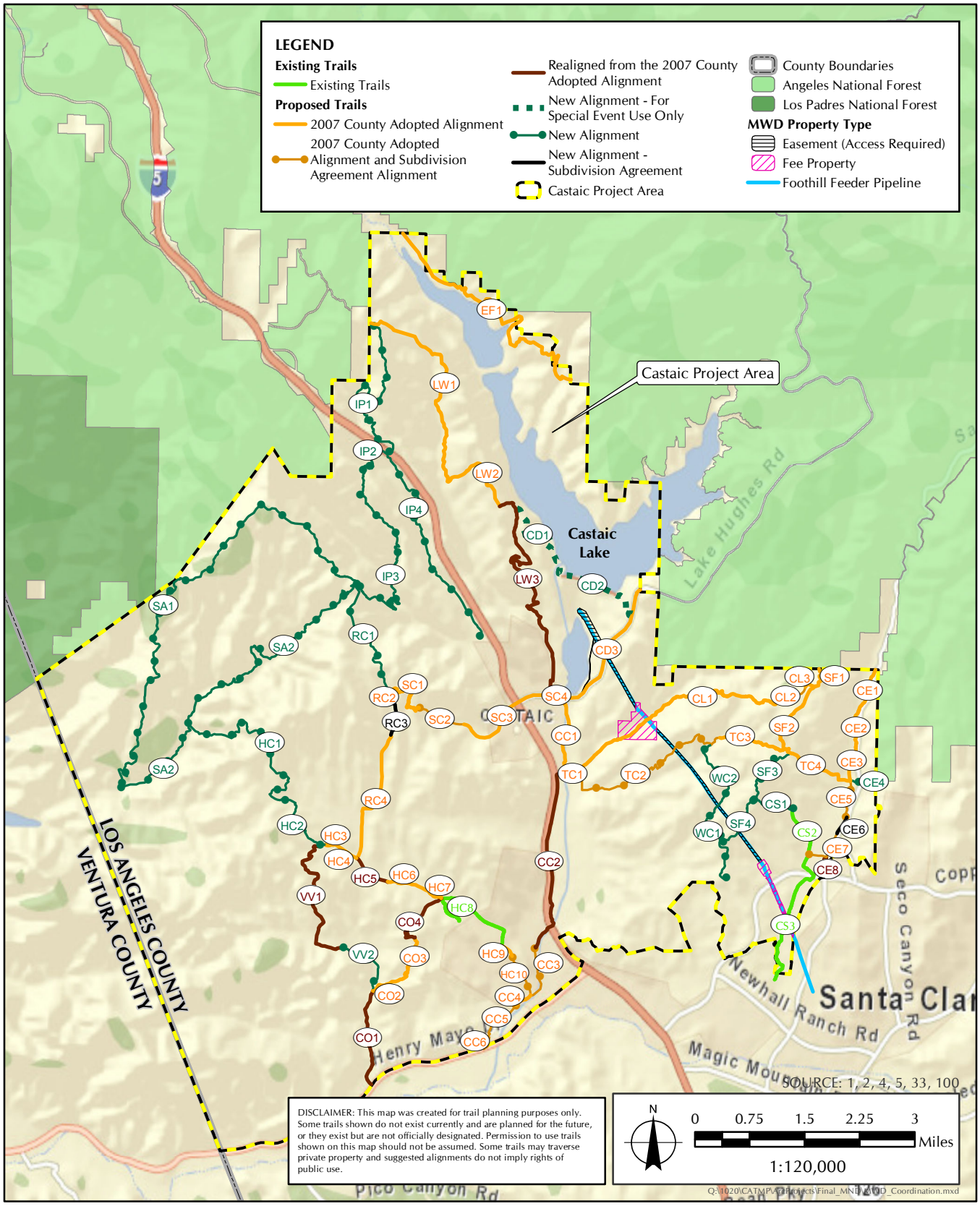

FIGURE 1.9-2

MWD Coordination Requirements

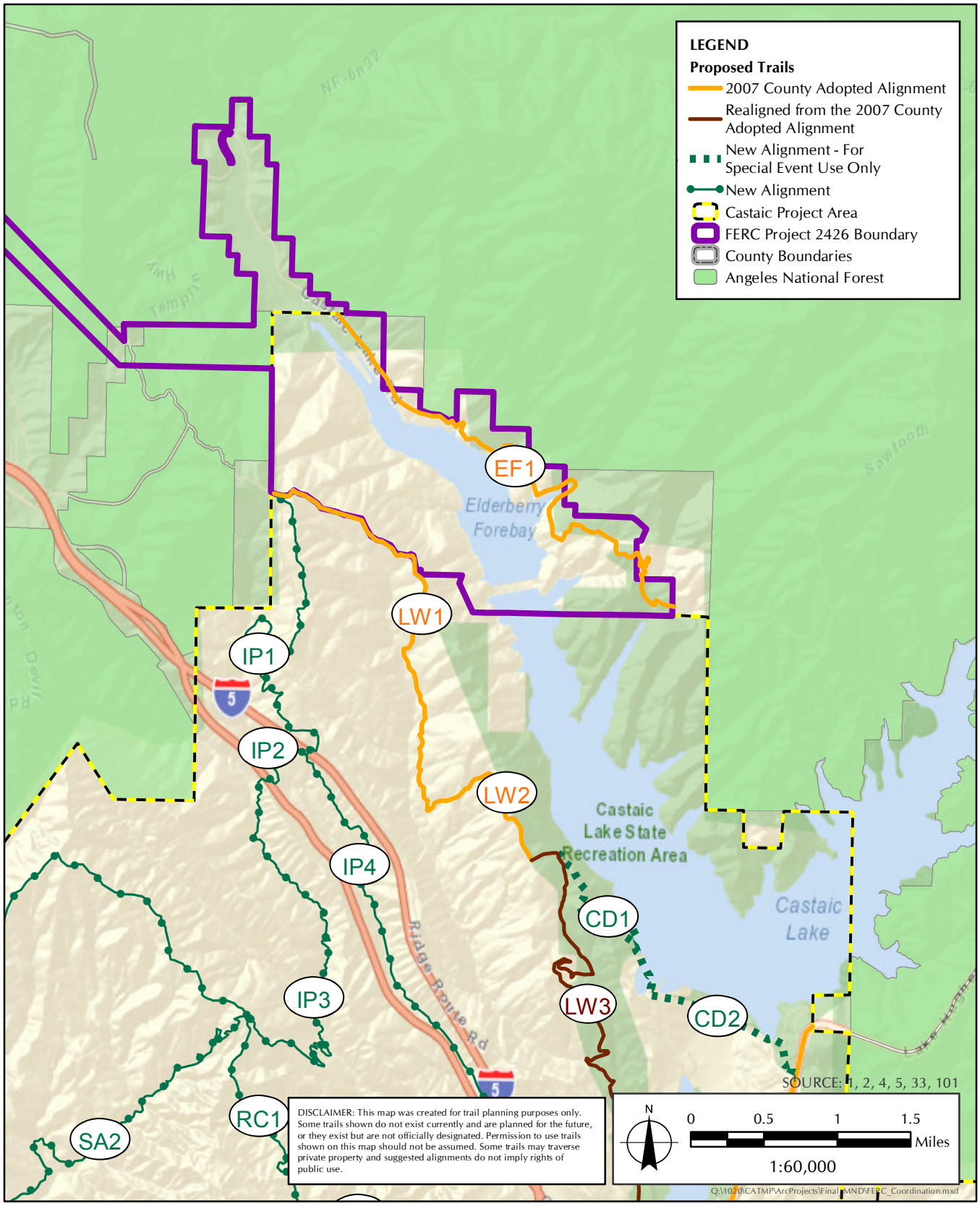

FIGURE 1.9-3

FERC Project 2426 Boundary

provision for recreational use of the affected areas" (Commission finding #9).[18] Article 50 of the FERC license states that the revised Exhibit R (due by 1980) "shall consider, among other things, the need for… (3) recreational development of the Upper Castaic area for camping, picnicking, and other associated recreation activities, specifically excluding any use by the public of the water surface or subsurface of Elderberry Forebay." Article 60 of the FERC license establishes safety device installment requirements within the FERC boundary:

> "Article 60. The Licensees shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices below the powerhouses to warn the public of fluctuations in flow from the project, and shall install such signs, lights, and other safety devices above the powerhouse intakes and spillways as may be reasonably needed to protect the public in its recreational use of the project lands and waters."

Multiple recreation websites identify U.S. Forest Service Route 6N13 (aka Goodell Fire Road) as a de facto trail along the eastern shore of Elderberry Forebay.[19,20,21] Due to security and safety concerns within the FERC boundary, it is important that an official trail EF1 be adopted with fencing along the western side to prevent accidents /falling into Elderberry Forebay.

The County of Los Angeles Department of Parks and Recreation shall:

- Install fencing on the western (water) side of trail segment EF1 within the FERC boundary to discourage users from leaving the trail.
- Coordinate with the City of Los Angeles Department of Water and Power (LADWP) to ensure that Castaic Power Plant critical infrastructure (powerhouse, the Elderberry Forebay, and the Elderberry Forebay Dam) is protected if recreational trails are constructed at the dam crest road for the Elderberry Forebay Dam.
- Coordinate with LADWP to ensure that the use of dam crest roads for recreational trail use is according to design intent if recreational trails are constructed at the dam crest road for the Elderberry Forebay Dam.
- Coordinate with LADWP to ensure LADWP access roads at the base of the Elderberry Forebay Dam are compatible with recreational use if recreational trails are constructed at the dam crest road for the Elderberry Forebay Dam.

Development and maintenance of any trail segments located within the rights-of-way of LADWP transmission line boundaries would comply with LADWP's requirements and clearances pursuant to the Federal North American Electric Reliability Corporation (NERC) standards (Appendix J, *LADWP Transmission Line Rights-of-Way Requirements*).

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections,

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[18] United States of America Federal Energy Regulatory Commission. 22 March 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power – Project No. 2426*. "Opinion and Order Issuing License.

[19] AllTrails. Accessed 8 August 2016. *Goodell fire road.* Available at: https://www.alltrails.com/explore/recording/goodell-fire-road

[20] Trailhead Finder. Accessed 8 August 2016. *Goodell Fire Road – Hiking trail near Castaic, California, United States – Maps & GPS*. Available at: http://trailheadfinder.com/trail_editor/maps/1064#.V5fT-dIrJhF

[21] Norton, Valerie. 15 March 2015. *Moments in Dirt and Ink*. "Elderberry Forebay (Castaic Lake)." Available at: http://valhikes.blogspot.com/2015/03/elderberry-forebay-castaic-lake.html

and the boundaries of trail easements on private property and National Forest lands.[22] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five (5) simple trailheads at access points, up to three (3) bike skills park amenities, four (4) equestrian amenities, and nine (9) staging areas and trail amenities (Table 1.9-3, *Proposed Trail Related Facilities*; Figure 1.9-4, *Proposed Trail Related Facility Locations*). The bike skills parks would occupy up to 45 acres.

TABLE 1.9-3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables	Tapia Canyon Road
	Castaic Lake State Recreation Area Upper Lot

[22] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 1.9-3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
• Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be designed and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[23]

[23] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

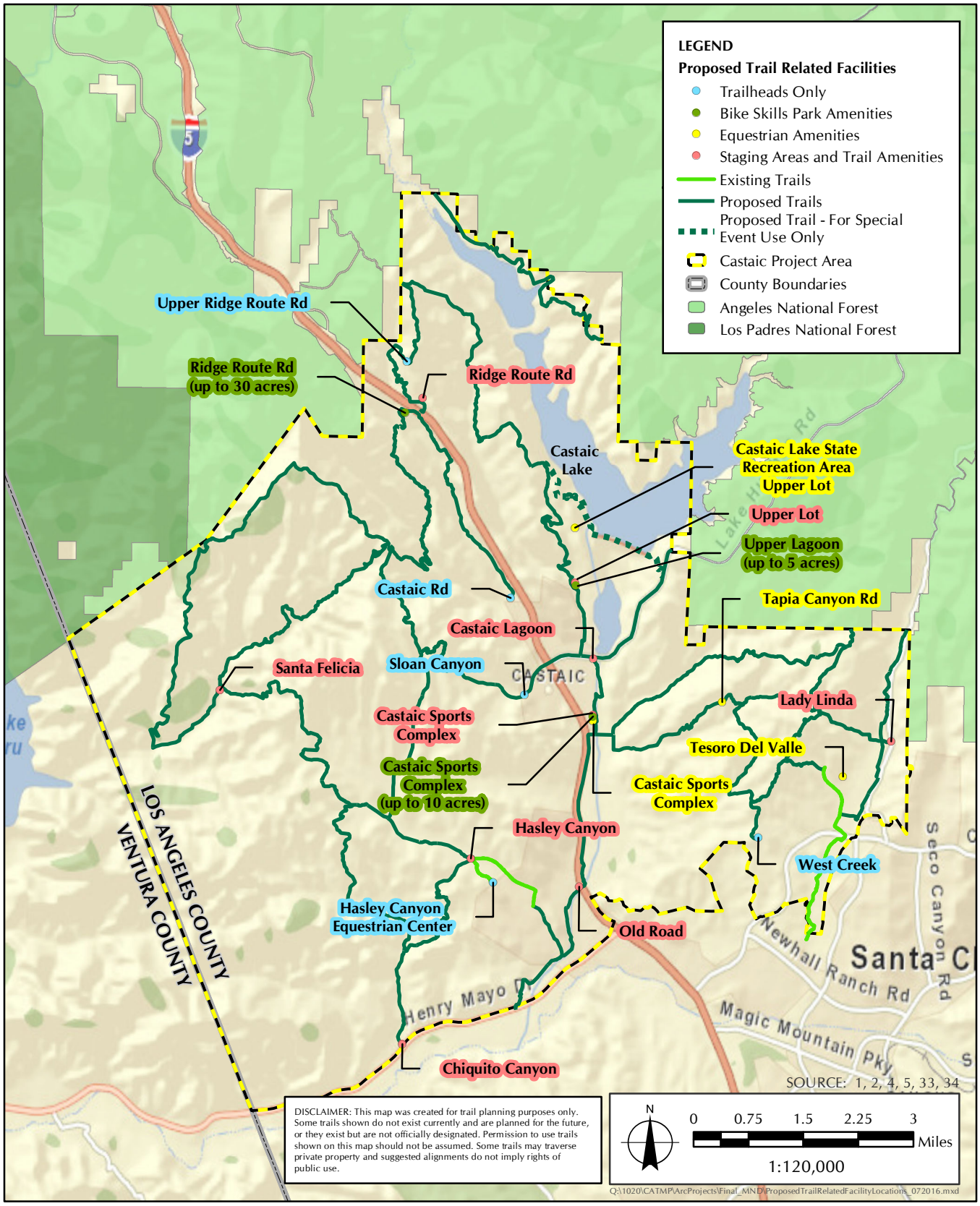


FIGURE 1.9-4

Proposed Trail Related Facility Locations

1.10 STATEMENT OF OBJECTIVES

Goals

The Multi-Use Trails Plan would act as a framework to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment with seamless transitions throughout the Castaic project area to areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would include recommendations for reducing unmet local recreation demand in the Santa Clarita Valley Planning Area and in the 5th Supervisorial District. The County has identified two goals related to the proposed project:

1. Develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with seamless transitions to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and a safe and sustainable design that is consistent with the County of Los Angeles Trails Manual.

2. Develop a recreational trail system that supports low-intensity use, including mountain biking, equestrian use, and hiking, to accommodate the population increase anticipated in the Santa Clarita Valley Planning Area through the 2035 planning horizon consistent with the Parks and Recreation Element of the County of Los Angeles General Plan 2035.

Objectives

The County identified and prioritized eight basic objectives that are important to achieving the project goals:

1. Accommodate a wide range of trail user types and abilities.
2. Connect to desirable destinations, features, and settings.
3. Provide safe and sustainable trails.
4. Avoid or minimize environmental impacts.
5. Identify the means to implement and maintain trails as feasible within the scope and budget of the Multi-Use Trails Plan.
6. Develop plan consistent with the County's multi-use (equestrians, hikers, and mountain bikers) trail policy.
7. Develop plan consistent with the Parks and Recreation Element of County General Plan.
8. Develop plan consistent with the Castaic Lake Recreation Plan.

1.11 CONSTRUCTION SCENARIO

This Initial Study is based on an evaluation of the construction that would be required to build out the proposed trails in the general configurations of the conceptual plan. Proposed trail alignments are conceptual and will require additional survey, design, and engineering work to support dedication of easements and ultimately trail construction, operation, and maintenance. The final trail alignments are subject to refinement in relation to environmental, geologic, hydrologic, ownership, topology, and other factors, as specified in the County Trails Manual.

The approximately 100 miles of existing and planned trails within and adjacent to the Trails Plan include a wide variety of terrain and elevation range. The highest location of the planning area is the ridgeline between Palomas Canyon and Violin Canyon connected to Townsend Peak (elevation 3,184 feet above MSL) at 2,756 feet above MSL, and the lowest location is the Santa Clara River valley at 863 feet above MSL. This results in an elevation range of 1,893 feet (see Figure 1.4-3). Slopes in the planning area range from 0 degrees to 83 degrees at the steepest (Figure 1.11-1, *Castaic Project Area Slope*). Trails would need to be constructed consistent with the provisions of the trails plan, which sets standards for slope, width, visibility, and drainage. Additionally, five of the proposed trail segments and the Santa Felicia General Staging Area cross areas of wetland identified by the National Wetlands Inventory (NWI) as identified in Table 1.11-1, *Proposed Trail Segment NWI Crossings*. The Santa Felicia General Staging Area crosses Riverine wetland.

TABLE 1.11-1
PROPOSED TRAIL SEGMENT NWI CROSSINGS

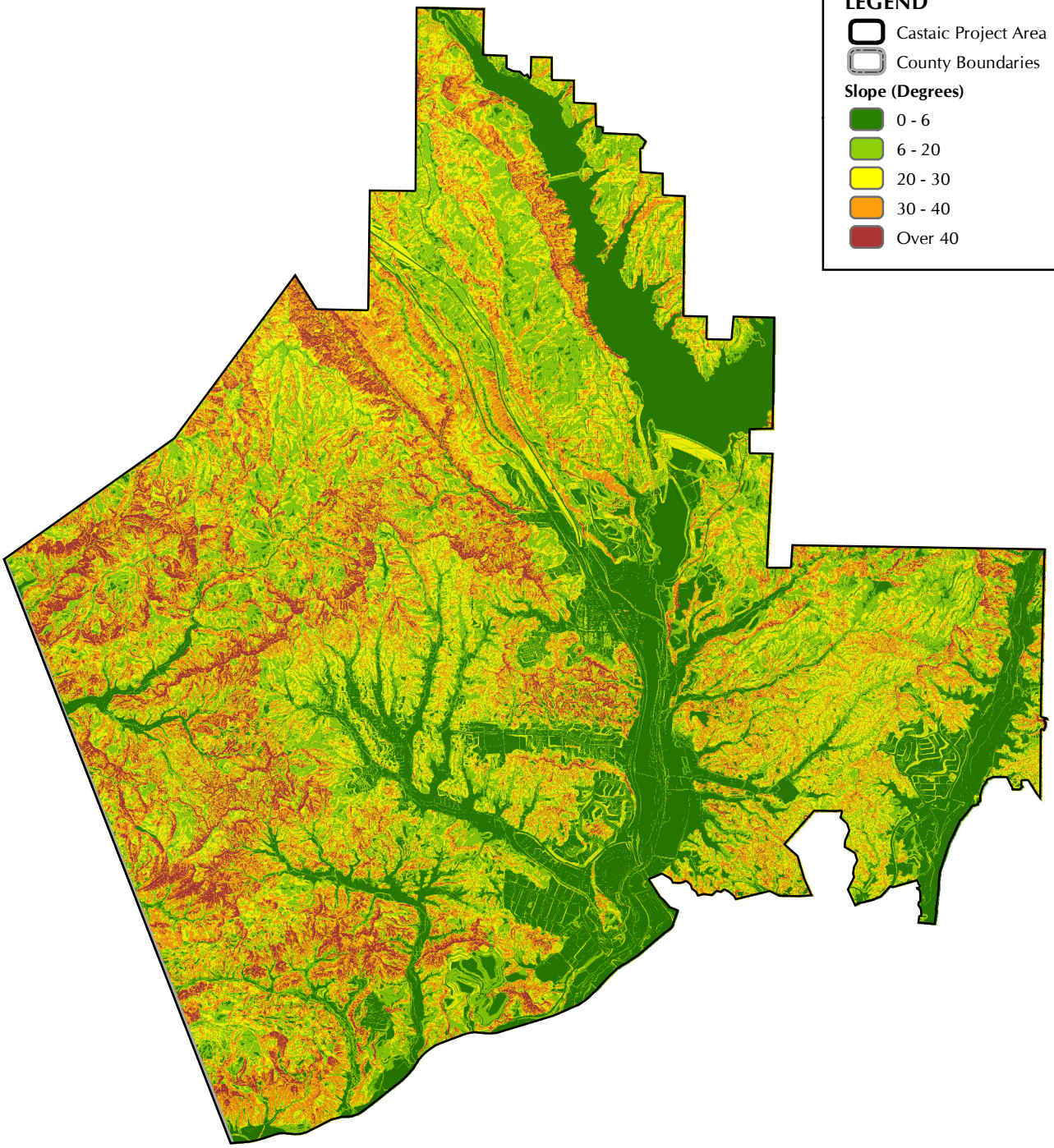
Proposed Trail Name	Number of NWI Crossings	NWI Wetland Types (Number of NWI Crossings)
Castaic Creek (CC4, CC5)	3	Freshwater Forested/Shrub Wetland (1) Freshwater Emergent Wetland (2)
Castaic Dam (CD1)	1	Lake (1)
Cliffie Stone East (CE4, CE5)	2	Riverine (2)
Hasley Canyon (HC1)	1	Riverine (1)
Santa Felicia (SA2)	1	Riverine (1)

SOURCE: U.S. Fish and Wildlife Service, National Wetlands Inventory. n.d. Wetlands Mapper. Available at: http://www.fws.gov/wetlands/Data/Mapper.html

The environmental analysis for the proposed project is based on a potential worst-case scenario for construction activities, including improvements to existing trails, construction of new trails, site grading, and delivery and hauling of construction materials and equipment. Construction activities associated with the proposed project, as currently conceived, would entail improvements to and construction of approximately 100 miles of trails. Construction equipment would be limited to mini-dozers; graders; small tractors; a water truck; and hand tools including picks, hoes, shovels, and wheelbarrows. Construction would be conducted in accordance with the guidelines specified in the County Trails Manual.[24] The County Trails Manual contains specific methods for building trails in areas with steep slopes and riparian crossings. The County Trails Manual should be referenced for further information to determine the constructability of trail segments.

The easement area should include a minimum of two feet on either side of the trail tread to provide for construction and maintenance of the trail segment(s). In areas of very steep topography, it may be advantageous to acquire an easement that is much wider than the actual trail tread width to be constructed in order to provide a greater level of flexibility for trail design and construction.

[24] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf



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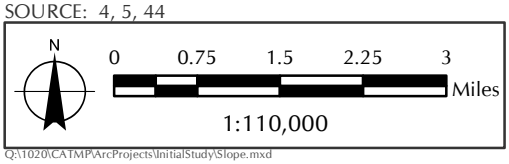

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FIGURE 1.11-1

Castaic Project Area Slope

Construction activities may include excavation, grading, and construction of trails and small structures at trailheads, rest areas, and trail staging areas. The County would require preparation of a trail site plan, site-specific geotechnical investigation, survey for biological and cultural resources, and a Categorical Exemption or Initial Study (the appropriate CEQA document) in support of each trail segment before project approval and construction can commence.

Site preparation and construction of the proposed project would be in accordance with all federal, state, and County building codes. Daily construction activities would be subject to County noise regulations, which state that construction equipment may not operate between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or holidays. Noise levels exceeding 75 dBA (A-weighted decibels) for single-family residences, 80 dBA for multi-family residences, and 85 dBA for semiresidential/commercial land uses are prohibited by the County Noise Control Ordinance, Title 12 of the County Code. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise levels.

The construction contractor would be required to incorporate best management practices (BMPs) consistent with the guidelines provided in the *California Stormwater Best Management Practice Handbooks: Construction*, for elimination of non-stormwater discharge from the project site; retaining eroded sediments and other pollutants on the site; retaining stockpiles of earth and other construction related materials on site; proper storage of fuels, oils, solvents, and other toxic materials to prevent spills from being washed into the drainage system; retaining concrete wastes on-site until they can be disposed as solid waste; proper covered storage of trash and construction related solid wastes to prevent contamination of rainwater and dispersal by wind; stabilization of roadways to inhibit sediments from being deposited into the public way; and stabilization of any slopes with disturbed soils or denuded of vegetation to inhibit erosion by wind and water. Should the construction period continue into the rainy season, supplemental erosion measures would need to be implemented.

Wherever possible, grading activities would be undertaken outside the normal rainy season (i.e., October 15 to April 15 for most of Southern California), thus minimizing the potential for increased surface runoff and the associated potential for soil erosion. A recommended construction period would begin in late April or early May and completed in late January, assuming the majority of the construction would be completed in this recommended 9-month period. BMPs to control surface runoff and soil erosion would be required for construction taking place during rainy periods. In accordance with the guidelines in Section 4.5.2, *Construction Scenario*, of the County Trails Manual, in locations with steep sideslopes, loose soils and rocks, areas which are prone to destabilization, large retaining structures, or areas that require extensive annual maintenance work, grading and earthwork shall be performed under the supervision of an engineering geologist or soils engineer to ensure that appropriate recommendations are made to remediate site-specific erosion and soil stability conditions.[25] Retaining walls would be included in the trail design to hold back the backslope where cut trails are required. Where cutting specified in the trail design requires greater disturbance of the upslope vegetation, the plans and guidelines or maintenance plan must provide for supplemental slope and erosion control measures until adequate slope vegetation exists (Figure 4.5.2.3-1 of the County Trails Manual).

[25] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

Best management practices for erosion control would be implemented during trail construction and improvements in order to maintain the unique topography of designated Significant Ridgelines where trails of the Trail Planning Castaic project area traverse ridgelines that have been designated in the Santa Clarita Valley Area Plan. The proposed project proposes three trail segments within San Francisquito Canyon (segments SF1, SF4, and WC1) that would intersect with three of the County's significant ridgelines. Although trails are exempted from Community Standards District (CSD) regulations regarding protection because they are not structures, care should be taken to not re-grade the ridgelines during trail construction. No supporting facilities are proposed on these significant ridgelines (i.e., restrooms, trailhead shade structures, or bike skills parks).

Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation after construction as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

Construction equipment would be turned off when not in use. The construction contractor would ensure that all construction and grading equipment is properly maintained. All vehicles and compressors would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

1.12 RELATED PROJECTS

The area surrounding the Castaic project area was examined in order to determine whether there are currently any projects in progress or proposed for the future that could potentially benefit the project or add to the impacts of the proposed project, creating cumulative significant impacts (evaluated in Mandatory Findings of Significance). It was determined that there are at least 15 related projects that could affect the cumulative impacts analysis for the proposed project. These projects, which are anticipated to be implemented within the next decade (when implementation of the trails plan is anticipated to occur), occur within an approximately 5-mile radius of the proposed project site (Table 1.12-1, *List of Related Projects*; Figure 1.12-1, *Related Projects*). Projects B, C, D, E, F, H, K, L, and O include the provision of trail easements in the Castaic project area. Projects L and M are trail planning projects in close proximity to the Castaic project area.

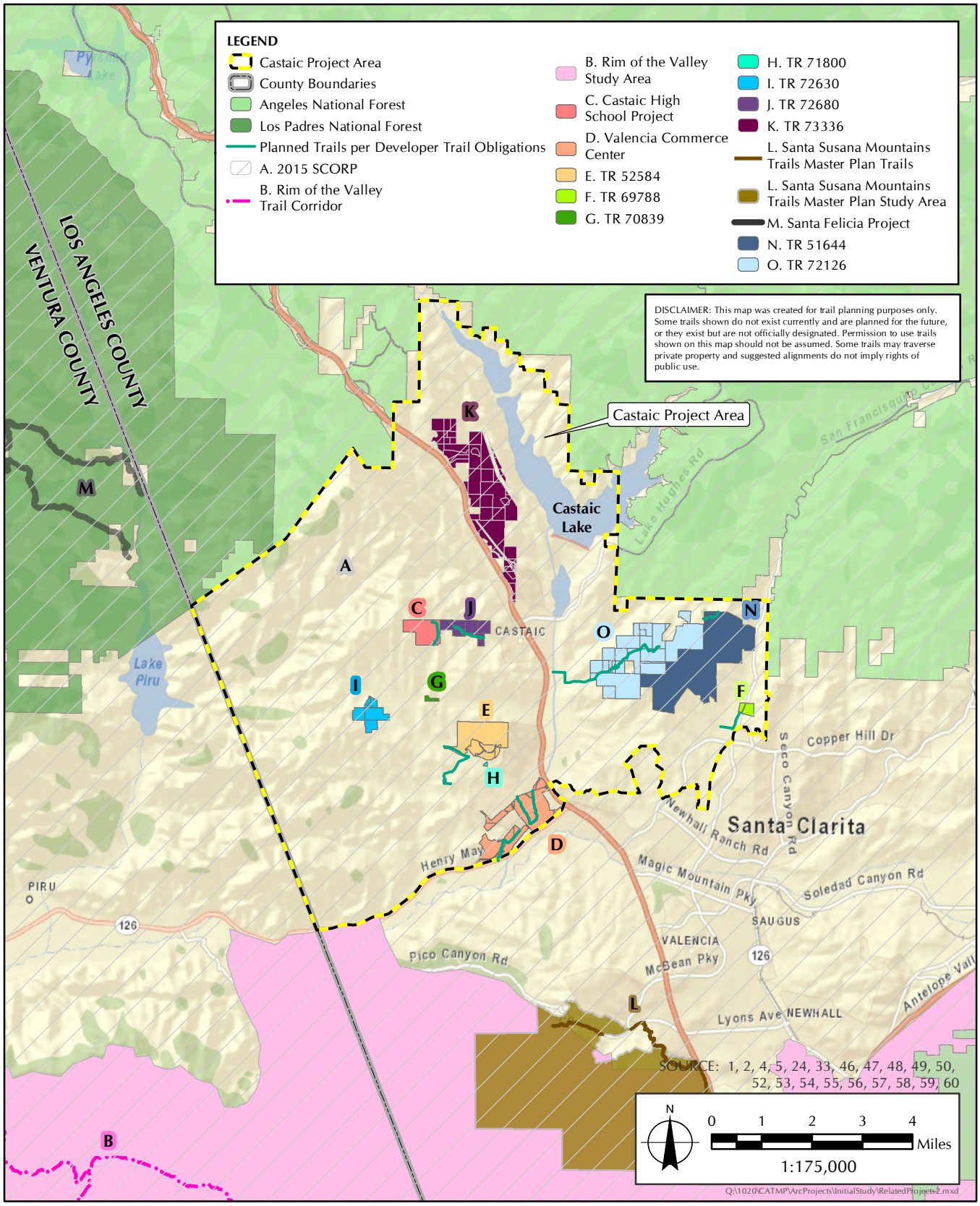

FIGURE 1.12-1

Related Projects

TABLE 1.12-1
LIST OF RELATED PROJECTS

Label	Cumulative Project	Location	Description
A.	2015 Statewide Comprehensive Outdoor Recreation Plan (SCORP)[1]	Statewide (California)	**Approved –** California Department of Parks and Recreation's statewide master plan for state and local parks and outdoor recreational open space areas. The SCORP offers policy guidance to federal, state, local, and special district agency recreation providers and establishes priorities for Land and Water Conservation Fund grant allocations to local governments. No trail alignments.
B.	Rim of the Valley Special Resources Study[2]	Adjacent to southern edge of Castaic project area (State Route 126) Approximately 650,000-acre Castaic project area includes portions of Los Angeles and Ventura counties, roughly bound by Highway 126 and Highway 14 to the north, Angeles Crest Highway to the east, urbanized areas and the Pacific Ocean to the south, and Mugu Lagoon to the west.	**Under Review in 2016 –** National Park Service study evaluating whether portions of the area known as the Rim of the Valley Corridor are nationally significant, suitable, and feasible for inclusion in the national park system. The study also evaluates whether any portions of the corridor would be eligible for inclusion in the Santa Monica Mountains National Recreation Area (SMMNRA). Includes proposed regional Rim of the Valley Trail corridor, which would provide a challenging long distance trail encircling the San Fernando and La Crescenta valleys in County of Los Angeles, and another trail loop encircling Simi Valley in Ventura County.
C.	Castaic High School Project[3,4,5]	Within Castaic project area; APNs: 3247-068-900, 3247-068-901, 3247-068-902, 3247-068-903	**Approved –** Construction of a new approximately 250,000-square-foot Castaic High School facility and associated access roads within a 198-acre, four-parcel site, which includes the 58-acre site for development of the high school campus. The project proposes to permanently impact 1.20 acres of streambed, and mitigate with 2.48 acres of restoration of similar habitat to that which was impacted. In addition, the approved project provides for the grading and construction of other facilities on the School Site (such as water tanks, helipad, debris basins, and perimeter road), and grading and construction of access roads. A Supplemental EIR was prepared to address modification related to Approved Project including grading, site configuration, drainage, and location of mitigation sites. The project includes the dedication of a 12- to 16-foot wide multi-use (hiking, mountain biking, and equestrian) trail easement and trail construction outside of the public right-of-way and any other easements. The proposed "Sloan Canyon Trail" or "unnamed SCVTAC trail" runs contiguous to and parallel to the north side of Sloan Canyon Road and Canyon Hill Road. Full public access will be provided for the trail easement dedications.
D.	Valencia Commerce Center (Vesting Tentative Parcel Map #18108)[6]	Within Castaic project area; APNs: 2866-001-001, 2866-002-045, 2866-002-052, 2866-002-061, 3271-001-038, 3271-002-017, 3271-002-038, 2866-002-007	**Under Review in 2016 –** Subdivision to create 74 lots, including 25 industrial lots, 25 open space lots, 18 commercial lots, 3 water quality lots, 1 parking lot, 1 utility lot, and 1 debris basin, on 591 gross acres. Project requires an Oak Tree Permit for removal of 33 oak trees (1 heritage) and a CUP for grading in excess of 100,000 cubic yards, construction of supporting infrastructure including a water tank, and modification of the Castaic Area Community Standards District development standards. Project includes dedication of a 14-foot easement to the County for multi-use (hiking, mountain biking, and equestrian) trail purposes, construction of a minimum 10-foot wide trail, and installation of appropriate fencing within the dedicated trail easement for the Castaic Creek Trail and the Hasley Canyon Trail.
E.	Los Valles (Tentative Tract Map 52584)[7]	Within Castaic project area; APNs: 2866-062-032, 2866-062-033, 3247-032-052	**Under Review in 2016 –** Residential subdivision (497 single-family dwelling units) including a community recreation center controlled by a homeowner's association, an approximately 19-acre community park, seven private recreational lots, and approximately 5 miles of pedestrian trails and accompanying infrastructure and public and private roadways. Approximately 232 acres, comprising over 50 percent of the Property, will be utilized as recreational and open space. Project requires an oak tree permit for the removal of one or more protected trees; a variance to authorize the non-exempted development of the easterly ridgeline, which is mapped as a significant ridgeline; and a CUP authorizing density-controlled development, a Castaic Area Community Standards District (CSD) significant ridgeline exemption with respect to the westerly ridgeline for open space, construction of trails, landscape areas, stabilization of a pre-existing sand mining operation and access via extension of Barcelona Road and related infrastructure, development in accordance with the County's urban hillside management criteria, and an on-site grading project involving more than 100,000 cubic yards of combined cut/fill.
F.	Tentative Tract Map 69788[8]	Within Castaic project area on San Francisquito Canyon Road; APN: 3244-030-005	**Approved –** Residential subdivision creating four single-family parcels on 29.1 gross acres, as well as a 13.5 gross acre remainder parcel. The entire remainder parcel, which is located on a SEA, shall be permanent open space. Trail Alignment for Cliffie Stone Trail (12') and Backbone Trail (20') approved.
G.	Tentative Tract Map 70839[9]	Within Castaic project area; APN: 3247-047-032	**Under Review in 2016 –** Residential subdivision of one existing single-family parcel to create four new single-family parcels varying between two and six acres in size on 12.7 gross acres. Requires a CUP for non-urban hillside management, an Oak Tree Permit for two encroachments, and provision of 0.03 acres of park land obligation or $5,686 of in-lieu fees. Project requires Applicant to dedicate two separate 12-foot-wide multi-use (hiking, mountain biking, and equestrian) trail easements to the County of Los Angeles and construct the required segments of the Adopted Proposed Trail alignments consistent with the Master Plan of Trails within the Santa Clarita Valley Area Plan.
H.	Tentative Tract Map 71800[10]	Within Castaic project area on Hasley Canyon Road; APN: 2866-060-073	**Approved –** Two industrial lots in an M-1.5-DP (Restricted Heavy Manufacturing-Development Program) zone; a re-subdivision of one of 21 lots created through Parcel Map No. 20685. Existing Hasley Canyon Trail passes through northern side of the project site. No trail requirements.
I.	Homestead at Sloan Canyon (Tentative Tract Map 72630)[11]	Within Castaic project area; APNs: 3247-052-003, 3247-052-004	**Under Review in 2016 –** Residential subdivision creating 46 single-family parcels and one open space lot on 168.73 gross acres. The entire remainder parcel, which is located on a SEA, shall be permanent open space. No trail requirements.
J.	Claremont (Tentative Tract Map 72680)[12,13]	Within Castaic project area, on Sloan Canyon Road at Canyon Hill Road in Hasley Canyon Area; APNs: 2865-023-006, 2865-023-007, 2865-018-033, 2865-018-034, 3247-026-055, 2865-023-019, 2865-023-021, 3247-026-056	**Under Review in 2016 –** Residential subdivision (139 single-family lots, 2 open space lots, and 9 public facility lots) on approximately 186.5-acre project site. Project requires a zone change from A-2-2 and A-2-1 Zone to RPD Zone, a variance to allow development within 50-foot radius of the crest of a primary ridgeline, a CUP for hillside management and onsite grading in excess of 100,000 cubic yards, and an oak tree permit for removal of 24 oak trees. Project included payment of Quimby parkland obligation in-lieu fees of $80,634 to meet obligation of 0.42 net acres. Project (not yet approved) has been revised to include trail easement dedication to the County.

TABLE 1.12-1
LIST OF RELATED PROJECTS

Label	Cumulative Project	Location	Description
K.	Northlake (Tentative Tract Map 73336)[14]	Within Castaic project area, in Northlake Specific Plan Area; APNs: 3247-040-008, 3247-041-008, 3247-041-020, 3247-041-021, 3247-041-023, 3247-041-022, 2865-036-003, 2865-036-002, 2865-036-001, 2865-003-013, 3244-012-049, 3244-012-048, 3244-012-046, 3244-012-058, 3244-004-052, 3244-004-024, 3244-013-001, 3244-012-045, 3247-017-019, 3244-012-050, 3244-014-015, 3244-014-067, 3244-014-068, 3247-041-018, 3247-041-015, 3244-014-053, 3244-013-004, 3244-013-002, 3244-013-005, 3244-013-009, 3244-013-010, 3244-014-050, 3244-014-062, 3247-041-007, 3247-041-009, 3247-041-010, 3244-014-045, 2865-003-035, 3244-004-051, 3244-004-053, 3247-040-013, 3247-040-009, 3244-012-054, 3244-012-059, 3244-012-057, 3244-012-013	**Under Review in 2016 –** Residential subdivision (1,974 residential dwelling units [DUs] consisting of 288 single-family lots, 23 multi-family lots [1,686 DUs]; 2 commercial lots; 5 industrial lots; 10 park [1 public] lots; 40 open space lots [including private parklets, trails, natural open space, landscaping, and various other green spaces]; 2 water tanks; 10 debris basins; 1 water quality basin; 1 pump station; and 1 fire station) on approximately 720-acre project site, with a basic Quimby park land obligation of 16.00 net acres (maximum slope 3%). Subdivider proposes to include one public park as part of the subdivision: Lot 319 (15.1 net acres). Project includes a 20-foot wide easement dedication to the County for multi-use trail purposes, construction of a variable seven to ten-foot wide natural trail within the dedicated trail easement, and installation of required trail infrastructure. Trail alignments will be designated as the Castaic Lake Trail and the Castaic Lake Connector Trail (Grasshopper Canyon Area).
L.	Santa Susana Mountains Trails Master Plan[15]	Located approximately 3 miles south of Castaic project area Approximately 24,122.5-acre (37.7 square miles) Castaic project area	**Approved –** Trails master plan for the development of approximately 35.9 miles of trail with 22 proposed trail segments, for a total of approximately 71.5 miles of trails within the Santa Susana Mountains Trails Master Plan Area. The Santa Susana Mountains Trails Master Plan would connect Newhall Ranch Specific Plan trails to the Rim of the Valley Trail corridor.
M.	Santa Felicia Project[16,17]	Located adjacent to the Santa Felicia Canyon portion of Castaic project area in eastern Ventura County, approximately 5 miles north of Piru, California	**Under Review in 2016 –** The United Water Conservation District (United) is preparing a Recreational Trail Plan to comply with its Santa Felicia Project (FERC License No. 2153-12). The Plan would provide enhanced trail access on the northwestern end of Lake Piru, specifically related to two existing National Forest Trails outside of the Project boundary: Pothole Tal (No. 18W04) and Agua Blanca Trail (No. 19W10).
N.	Tesoro Del Valle Project (Tentative Tract Map 51644)[18]	Within Castaic project area, north of Tesoro Del Valle Drive; APNs: 3244-30-3 & 27, 3244-160-ALL PARCELS ON SHT.1, 3244-160-043, 3244-160-048, 3244-161-ALL PARCELS, 3244-162-ALL PARCELS, 3244-163-ALL PARCELS, 3244-163-ALL PARCELS, 3244-164-ALL PARCELS	**Under Review in 2016 –** Residential subdivision (795 residential units, including 115 senior's units) on 1,795 gross acres, with 1,263 acres of open space. The project includes a conceptual master trails plan that proposes community trails, proposed neighborhood trails, and a proposed County trail segment of the Cliffie Stone Trail to connect to the existing Cliffie Stone Trail. All trails are subject to County approval prior to recordation of final maps.
O.	Tapia Ranch Project (Tentative Tract Map 72126)[19]	Located within eastern portion of Castaic project area Approximately 1,167 acres of undeveloped hillside and canyon land located approximately 1.5 miles southeast of the community of Castaic, and approximately one mile east of Interstate 5 in unincorporated Los Angeles County.	**Under Review in 2016 –** Residential subdivision (405 detached single-family residential homes), with 74 percent of project site retained as landscaped or natural open space. Offsite areas that would be improved in conjunction with the project include portions of Castaic Road, Tapia Canyon Road, and the construction of a new bridge spanning Castaic Creek, as well as a small area for the roadway connection to the adjacent Tesoro Del Valle Project (Project O). The project would incorporate portions of existing unpaved hiking and equestrian trails into the larger trail system, which loops around and through the project site.

Source:

1. California Department of Parks and Recreation. Accessed 4 January 2016. *Parks for All Californians*. Available at: http://www.parksforcalifornia.org/scorp.
2. National Park Service. Accessed 4 January 2016. *Rim of the Valley Draft Special Resource Study and Environmental Assessment (Spring 2015*). Available at: http://parkplanning.nps.gov/document.cfm?documentID=65351.
3. California Governor's Office of Planning & Research. 28 August 2013. *Castaic High School: NOD*. Available at: http://www.ceqanet.ca.gov/NODdescription.asp?DocPK=674175.
4. California Governor's Office of Planning & Research. 28 August 2013. *Castaic High School: SIR*. Available at: http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=679974.
5. King, Kathline, County of Los Angeles Department of Parks and Recreation. May 19, 2014. Letter to Mr. Ben Rodriguez, COO at William S. Hart Union High School District. *Subject: Draft Supplemental Environmental Impact Report (EIR) for Castaic High School.*
6. County of Los Angeles Department of Parks and Recreation. *Park Obligation Report: Tentative Map # 18108*. Available at: http://planning.lacounty.gov/assets/upl/case/pm18108_parks-report-20151119.pdf
7. County of Los Angeles. December 19, 2013. *Notice of Preparation/Notice of Scoping Meeting*. "Los Valles" Project. Available at: http://planning.lacounty.gov/assets/upl/case/tr52584_nop.pdf
8. County of Los Angeles Department of Regional Planning. October 28, 2010. *Approval Package for Project No. PM069788-(5).* Available at: http://planning.lacounty.gov/assets/upl/case/pm_069788_approval-package.pdf
9. County of Los Angeles Department of Parks and Recreation. March 6, 2013. *Park Obligation Report: Tentative Map # 70839*. Available at: http://planning.lacounty.gov/assets/upl/case/PM070839_parks_report.pdf
10. County of Los Angeles Department of Regional Planning. March 5, 2014. *Approval Package for Project No. R2012-00108-(5).* Available at: http://planning.lacounty.gov/assets/upl/case/pm071800_approval-package.pdf
11. County of Los Angeles Department of Regional Planning. Accessed 6 July 2016. *Project No. R2014-00025-(5) / Tentative Tract Map 072630*. Available at: http://planning.lacounty.gov/case/view/tr072630
12. County of Los Angeles Department of Regional Planning. Accessed 6 July 2016. *Project No. R2014-00285-(5) / Tentative Tract Map 072680*. Available at: http://planning.lacounty.gov/case/view/tr072680
13. County of Los Angeles Department of Parks and Recreation. 4 March 2014. *Park Obligation Report: Tentative Map # 72680*. Available at: http://planning.lacounty.gov/assets/upl/case/tr072680_parks-report.pdf
14. County of Los Angeles Department of Parks and Recreation. 13 October 2015. Letter to Mr. Jodie Sackett. *Vesting Tentative Tract Map 073363 (Northlake) Park Conditions of Map Approval and Trail Comments: Regional Planning Map Dated September 15, 2015; Subdivision Committee Meeting on October 22, 2015*. Available at: http://planning.lacounty.gov/assets/upl/case/tr073336_parks-20151022.pdf. Main website: http://planning.lacounty.gov/case/view/tr073336/
15. County of Los Angeles Department of Parks and Recreation. May 2015. *Santa Susana Mountains Final Trails Master Plan*. Available at: https://trails.lacounty.gov/Files/Documents/115/FINAL%20Santa%20Susana%20Mountains%20Final%20Trails%20Master%20Plan%20May%202015.pdf
16. United Water Conservation District. 14 January 2015. *Santa Felicia Whitewater Boating Access Monitoring Report for 2014*. Available at: http://www.unitedwater.org/images/stories/Resource-Conservation/Santa-Felicia-Dam/FERC/whitewater_boating_access_plan/whitewater_monitoring_annual_reports/2014_WW_Boating_Annual_Report.pdf
17. United Water Conservation District. 30 December 2015. *Santa Felicia Project – Draft Recreation Trail Plan*.
18. SIKAND. 22 December 2015. *Revised Vesting Tentative Tract No. 51644*. Available at: http://planning.lacounty.gov/assets/upl/case/tr51644-1_revised-tentative-map.pdf Main website: http://planning.lacounty.gov/case/view/92074-5/
19. County of Los Angeles Department of Regional Planning. 9 July 2015. *Project No. R2012-02667-(5) / Tentative Tract Map 072126*. Available at: http://planning.lacounty.gov/case/view/r2012-02667/

Section 2

Environmental Checklist and Impact Analysis

Environmental Checklist Form (Initial Study)

County of Los Angeles, Department of Parks and Recreation

Project title: "Castaic Area Multi-Use Trails Plan"

Lead agency name and address: Los Angeles County, 510 S. Vermont Ave., Los Angeles, CA 90020

Contact Person and phone number: Julie Yom, AICP, Park Planner, (213) 351-5127

Project sponsor's name and address: Los Angeles County Department of Parks and Recreation, 510 S. Vermont Ave., Los Angeles, CA 90020

Project location: Please see Section 1, *Project Description*
APN: several *USGS Quad*: Whitaker Peak, Warm Springs Mountain, Val Verde, Newhall

Gross Acreage: Please see Section 1, *Project Description*

General plan designation: Please see Section 1, *Project Description*

Community/Area wide Plan designation: Please see Section 1, *Project Description*

Zoning: Please see Section 1, *Project Description*

Description of project: Please see Section 1, *Project Description*

Surrounding land uses and setting: Please see Section 1, *Project Description*

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

Public Agency	*Approval Required*
USFS	Project Level Approval for Elderberry Forebay Trail
US Army Corps of Engineers	Nationwide or Individual Permits under Section 404 of the Federal Clean Water Act
US Fish and Wildlife Service	Section 10(a)(1) of the Federal Endangered Species Act for incidental take of listed species
California Department of Fish and Wildlife	Streambed Alteration Agreement pursuant to Section 1600 of the State Fish and Game Code Section 2081 of the California Endangered Species Act for incidental take of listed species
Native American Heritage Commission	Consultation Pursuant to AB52, as applicable

Los Angeles Regional Water Quality Control Board	Water Quality Certification or Waiver of Water Quality Certification under Section 401 of the Federal Clean Water Act
County of Los Angeles Department of Regional Planning	Conditional Use Permit, Site Plan Review, and/or Oak Tree Permits
County of Los Angeles Department of Public Works	Site Plan Review, Building Permit, and/or Grading Permit
County of Los Angeles Flood Control District	Shared Use Agreement

Major projects in the area: Please see Section 1, *Project Description (Table 1.12-1)*

Project/Case No.	*Description and Status*
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Reviewing Agencies:

Responsible Agencies

- ☐ None
- Regional Water Quality Control Board:
  - ☒ Los Angeles Region
  - ☐ Lahontan Region
- ☐ Coastal Commission
- ☒ Army Corps of Engineers

Special Reviewing Agencies

- ☒ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☒ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of Santa Monica Mountains Area
- ☐

Regional Significance

- ☒ None
- ☐ Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns. Area
- ☐

Trustee Agencies

- ☐ None
- ☒ State Dept. of Fish and Wildlife
- ☐ State Dept. of Parks and Recreation
- ☐ State Lands Commission
- ☐ University of California (Natural Land and Water Reserves System)

County Reviewing Agencies

- ☒ DPW:
  - Land Development Division (Grading & Drainage)
  - Geotechnical & Materials Engineering Division
  - Watershed Management Division (NPDES)
  - Traffic and Lighting Division
  - Environmental Programs Division
  - Waterworks Division
  - Sewer Maintenance Division
- ☒ Fire Department
  - Forestry, Environmental Division
  - Planning Division
  - Land Development Unit
  - Health Hazmat
- ☒ Sanitation District
- ☒ Public Health/Environmental Health Division: Land Use Program (OWTS), Drinking Water Program (Private Wells), Toxics Epidemiology Program (Noise)
- ☒ Regional Planning
- ☒ Sheriff Department
- ☐ Subdivision Committee
- ☐

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project.

☒ Aesthetics	☐ Greenhouse Gas Emissions	☐ Population/Housing
☐ Agriculture/Forest	☐ Hazards/Hazardous Materials	☐ Public Services
☐ Air Quality	☐ Hydrology/Water Quality	☐ Recreation
☒ Biological Resources	☐ Land Use/Planning	☐ Transportation/Traffic
☒ Cultural Resources	☐ Mineral Resources	☐ Utilities/Services
☐ Energy	☒ Noise	☒ Mandatory Findings of Significance
☒ Geology/Soils		

DETERMINATION: (To be completed by the Lead Department.)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Laura Male — 8/11/16
Signature (Prepared by) — Date

Kathleen King — 8/11/16
Signature (Approved by) — Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the Lead Department cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Department has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines § 15063(c)(3)(D).) In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) The explanation of each issue should identify: the significance threshold, if any, used to evaluate each question, and; mitigation measures identified, if any, to reduce the impact to less than significance. Sources of thresholds include the County General Plan, other County planning documents, and County ordinances. Some thresholds are unique to geographical locations.

8) Climate Change Impacts: When determining whether a project's impacts are significant, the analysis should consider, when relevant, the effects of future climate change on : 1) worsening hazardous conditions that pose risks to the project's inhabitants and structures (e.g., floods and wildfires), and 2) worsening the project's impacts on the environment (e.g., impacts on special status species and public health).

1. AESTHETICS

This analysis is undertaken to determine if the proposed project would have a significant impact to aesthetics, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis in this section is based on the *Castaic Area Multi-Use Trails Plan Aesthetics Assessment* (Appendix A).

Would the project:	***Potentially Significant Impact***	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

The proposed project would result in no impacts to aesthetics in regard to having a substantial adverse effect on a scenic vista. There are no designated scenic vista points within the Castaic project area; nor is the Castaic project area visible from scenic vista points designated within the Los Angeles County General Plan 2035 (County General Plan) or by the California Department of Transportation (Caltrans).[1] There are no officially designated County scenic vistas in the northern one-third of the County, according to the County General Plan.[2] Caltrans has designated one scenic vista within the County, Lamont Odett Vista Point, which is located at Post Mile 57.8 along the northbound side of State Route 14 and overlooks the Aerospace Valley, Lake Palmdale, and the California Aqueduct toward the north and northeast from the Vista Point (see Figure 8, *Caltrans Designated Scenic Vista Points,* in Appendix A). Lamont Odett Vista Point is located approximately 23.8 miles east of the Castaic project area, on the opposite side of the San Gabriel Mountains. The Castaic project area is not visible from this vista point due to distance, an intended directional vista towards the north, and intervening topography. Therefore, there would be no impacts to scenic vistas as a result of the proposed project, and no mitigation would be required.

b) Be visible from or obstruct views from a regional riding or hiking trail?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to aesthetics in regard to being visible from or obstructing views from a regional riding or hiking trail. Existing regional riding or hiking trails in the vicinity of the Castaic project area include the Pacific Crest National Scenic Trail (PCT), an approximately 2,650-mile trail extending from the Mexico-California border northward along the mountain ranges of the West Coast states to the Canadian-Washington border, and the County's Regional Trail System. The proposed project has the potential to be barely visible from the PCT, which is located approximately 8.5 miles north of the Castaic project area. A viewshed analysis determined that approximately 17.0 percent of the Castaic project area (including proposed trails on the western edge of Castaic Lake, within Santa Felicia SEA, Castaic Valley, and Hasley Canyon) would potentially be visible from the PCT (see Figure 2.1-1, *Viewshed Map – Pacific Crest National Scenic Trail* [revised from Figure 14, *Viewshed Map – Pacific Crest National Scenic Trail*, in Appendix A]). The visual character of the viewshed from the PCT within the Castaic project area includes ridgelines and slopes, several of which are crossed by dirt

[1] Male, Laura, Sapphos Environmental, Inc. Pasadena, CA. 3 July 2015. Communication with Daniel Kitowski, Transportation Manager (GIS), California Department of Transportation.

[2] The County has designated scenic vistas in the Santa Monica Mountains land use plans, which are located more than 15 miles south of the Castaic project area. As the Castaic project area is not located in the vicinity of these scenic vistas, they have not been included in the analysis. Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

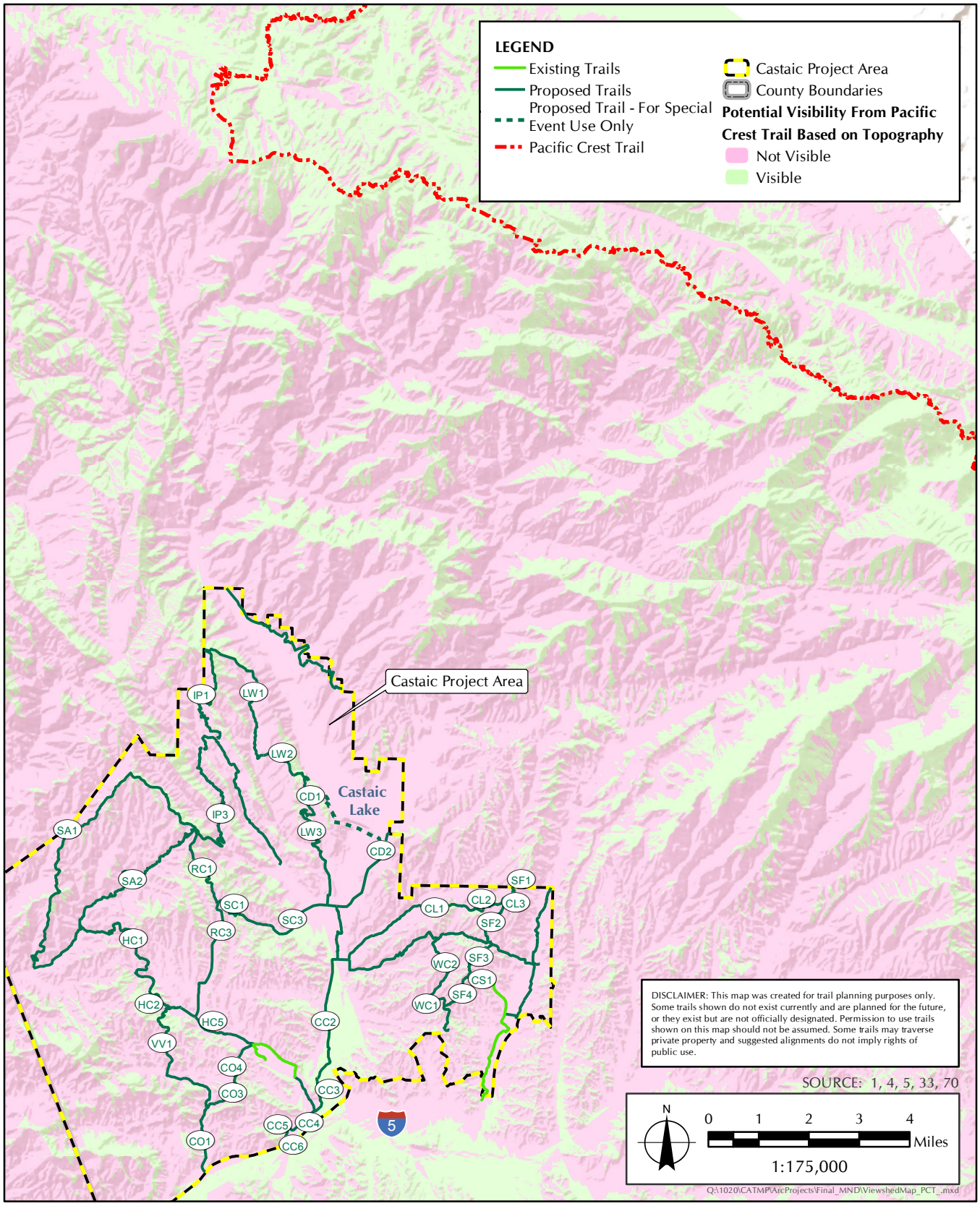

FIGURE 2.1-1

Viewshed Map - Pacific Crest National Scenic Trail

roads, and a few of which have been extensively graded for oil drilling and other industrial uses; agricultural land and the Santa Clara River Corridor along State Route 126; suburban and industrial development in Hasley Canyon; suburban development in Villa Canyon and the community of Castaic; portions of the graded hillside on the western side of Castaic Lake; the edges of the I-5 freeway; agricultural land in the Castaic Valley; and suburban development in the community of Valencia. The Castaic Lake State Recreation Area is a major component of the viewshed, including portions of the existing Fisherman Trail and Pine Ridge Fire Road.[3] According to the viewshed analysis based on topography, none of the existing trail segments are visible from the PCT due to distance and intervening topography; approximately 16.4 percent (approximately 16.1 miles) of the proposed trail segments have the potential to be visible from the PCT with clear atmospheric conditions and no intervening trees or shrubs. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between the PCT and the Castaic project area would be expected to reduce the potential visibility level further than this estimate. Furthermore, trails and supporting facility structures would not be expected to dramatically alter the form of ridgelines within the Castaic project area and would therefore not be likely to be visible from, or obstruct views from, the PCT.

Three existing trail segments within the Castaic project area, with a maximum length of approximately 140 feet of consecutive County trail, are part of the County's Regional Trail System. There are approximately 4.9 miles of existing trail segments in the Castaic project area. Although the proposed project would be visible from these existing regional trail segments because new trail segments would be located adjacent to the existing segments, it would enhance the existing recreational experience and trail system by providing connections between the existing trail segments that would be visible from these trails. The proposed project, which would involve new trails, staging areas, bike skills parks, restrooms, parking lots, and other related trail facilities, would be designed to enhance views from recreational trails and would not be expected to obstruct views from existing County trails or the PCT. Therefore, there would be less than significant impacts to regional riding or hiking trails as a result of the proposed project, and no mitigation would be required.

c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐

The proposed project would result in significant impacts to aesthetics in regard to substantially damaging scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Incorporation of mitigation measures would reduce these impacts to below the level of significance. Although the proposed project would not be visible from Officially Designated State Scenic Highways, the Castaic project area is located within two Eligible State Scenic Highway corridors: Henry Mayo Drive (State Route 126) and the Golden State Highway (Interstate 5). The proposed project would not be visible from the nearest officially designated state scenic highways—Angeles Crest Highway (State Route 2) and Maricopa Highway (State Route 33)—due to distance and intervening topography. Angeles Crest Highway is located over 24 miles east of the Castaic project area, and Maricopa Highway is located over 28 miles west of the Castaic project area.

The proposed project would be located within the scenic highway corridor of the nearest eligible state scenic highways—Henry Mayo Drive (State Route 126) and the Golden State Highway (Interstate 5)—because the proposed trails would cross over Henry Mayo Drive to connect to the Santa Clara River Trail and cross under the Golden State Highway to connect recreational trails from the Castaic Lake area to the western portion of the Castaic project area. The Castaic project area is located within a 15-mile potential

[3] Friends of Castaic Lake. N.d. Castaic Lake – Trail Map. Available at: http://www.castaiclake.com/map_trails.html

visible radius of four eligible state scenic highways:

- **Interstate 5** from the Interstate 210 North Tunnel Station in Pasadena east to State Route 126 near Castaic (located within the Castaic project area)
- **State Route 126** (located adjacent to the southern edge of the Castaic project area)
- **State Highway 118** (located approximately 8.6 miles south of the Castaic project area)
- **Interstate 210** (located 9.4 miles southeast of southeastern edge of the Castaic project area)

A viewshed analysis determined that approximately 17.9 percent of the Castaic project area (including proposed trails on southern and southwestern aspects near San Martinez Canyon, Hasley Canyon, Castaic Valley, and San Francisquito Canyon) would have the potential to be visible from these four eligible state scenic highways (see Figure 2.1-2, *Viewshed Map – Eligible State Scenic Highways* [revised from Figure 15, *Viewshed Map – Eligible State Scenic Highways*, in Appendix A]). According to the viewshed analysis based on topography, approximately 2.7 miles of the existing trail segments are visible from eligible state scenic highways; approximately 17.8 miles of the proposed trails have the potential to be visible from eligible state scenic highways. As shown at Key Observation Points (KOPs) 1 and 2, the landscape along the Henry Mayo Drive visual corridor contains trees and rock outcroppings that could be affected by the proposed project (see Attachment A, *Key Observation Points*, in Appendix A; see also Figure 2.1-3, *Key Observation Points* [revised from Figure 11, *Key Observation Points*, in Appendix A]). There is a potential for the proposed project to affect the health of existing coast live oak trees and other protected trees that are located along the proposed trail alignments and supporting facilities that are important to the character of the scenic highway corridors. The proposed project involves trail segments within scenic San Francisquito Canyon (within the wash), along scenic water bodies including Castaic Creek and San Francisquito Canyon), and through protected forests/woodlands: two Southern Cottonwood Willow Riparian Forest areas (segments IP2, IP3, CC2, CC3, CC4, CC5, and CC6), one Southern Sycamore Alder Riparian Woodland area (EF1), and three Southern Coast Live Oak Riparian Forest areas (SA2, TC2, and TC3). Although the construction of trails within these scenic resource areas and sensitive woodland areas would not result in significant impacts to visual character because trail construction can be conducted in a low-impact manner in accordance with the County Trails Manual, there is a potential for significant impacts to occur if scenic trees are removed. Therefore, the proposed project would result in the potential for significant impacts to scenic resources within a state scenic highway. Implementation of Mitigation Measures AES-1 and AES-2 would reduce impacts to below the level of significance.

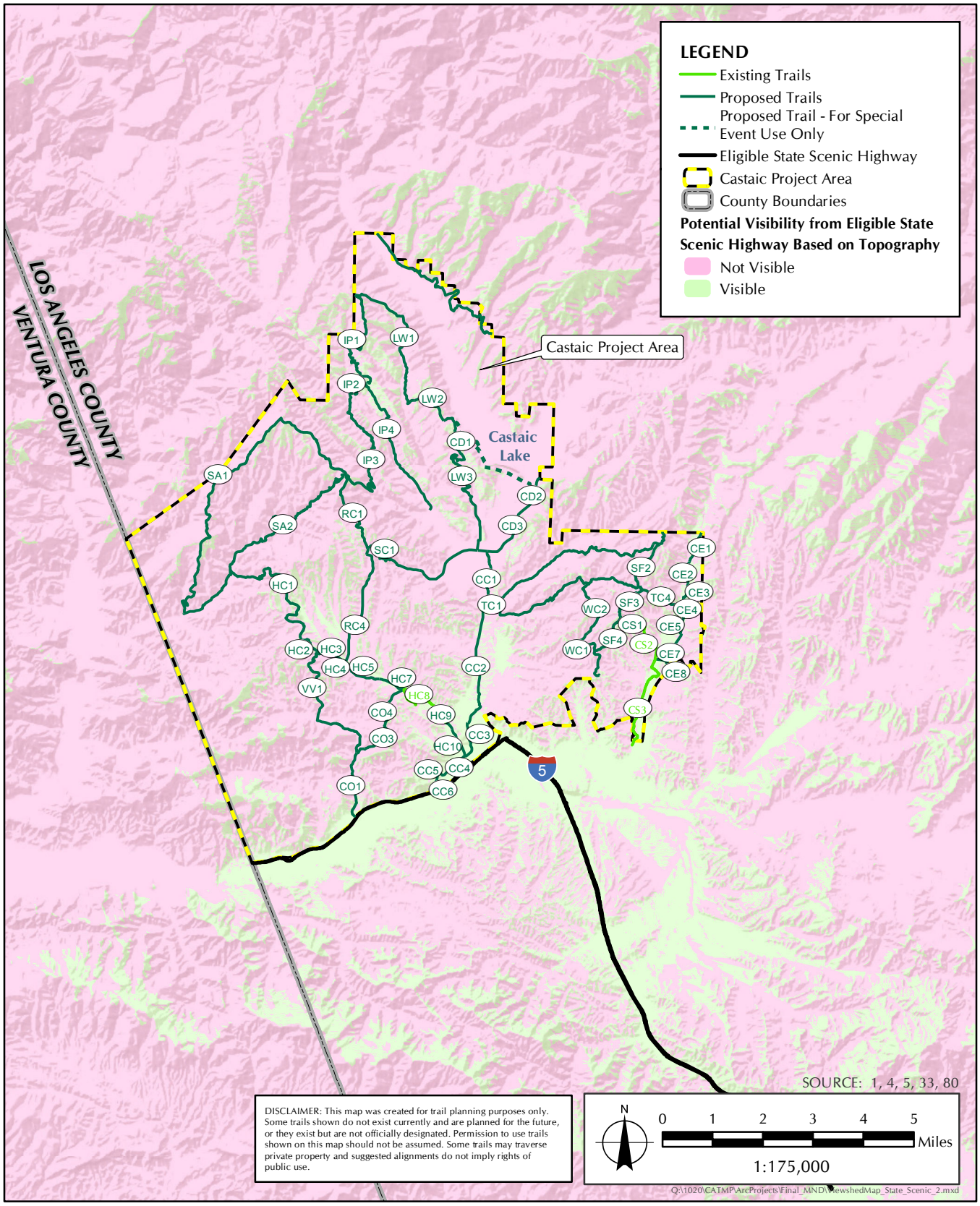

FIGURE 2.1-2

Viewshed Map - Eligible State Scenic Highways

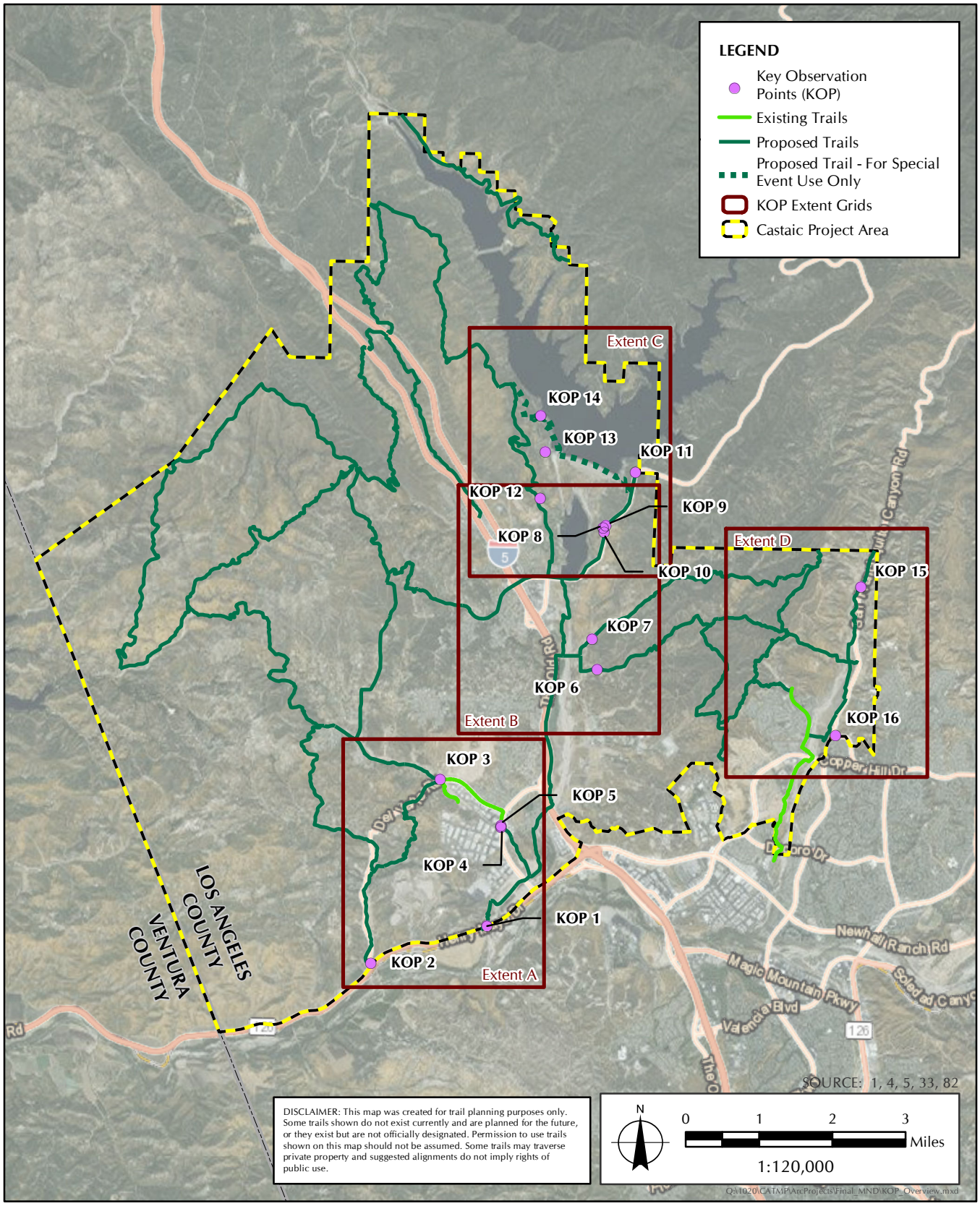

FIGURE 2.1-3

Key Observation Points Overview Map

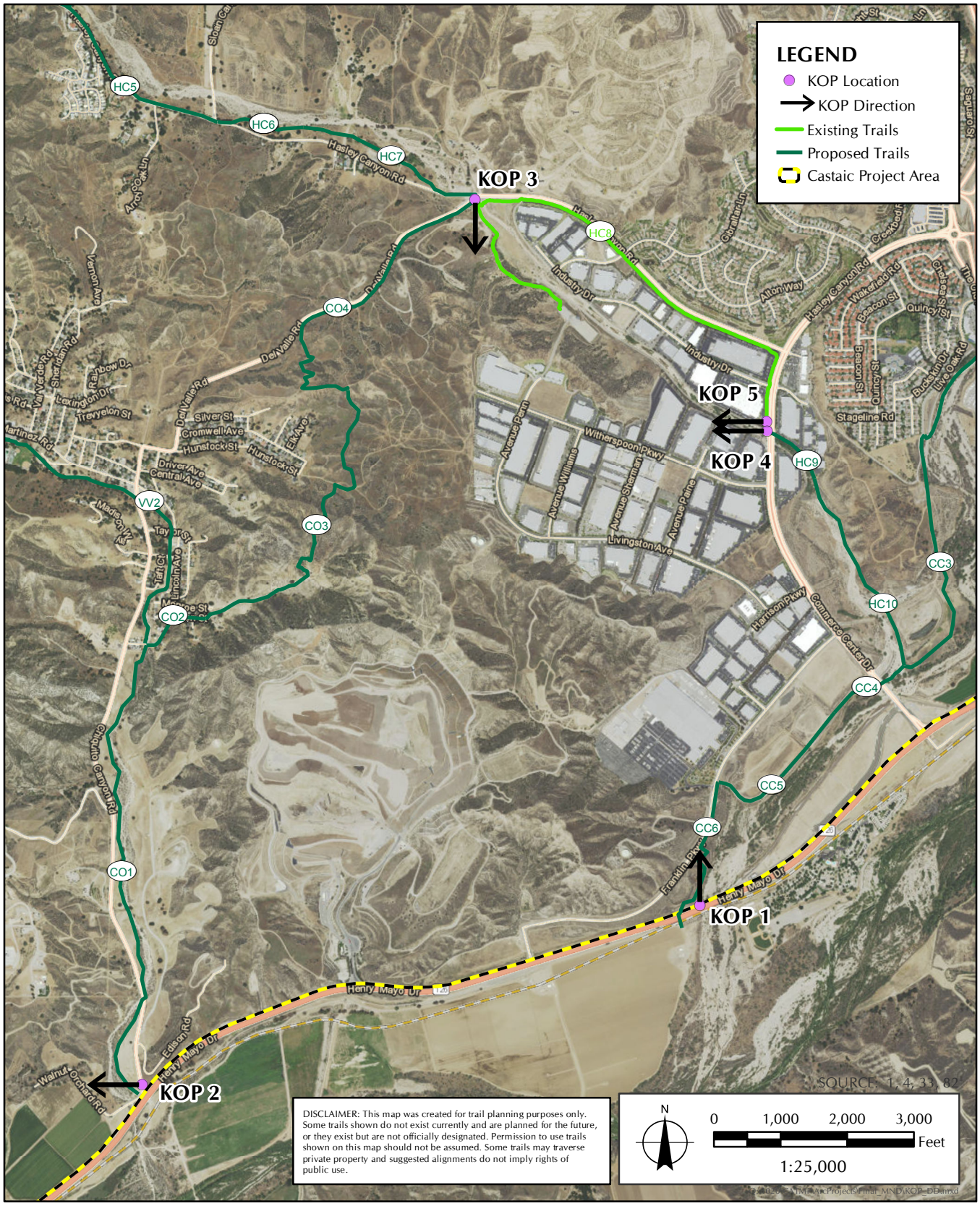

FIGURE 2.1-3A

Key Observation Points Map

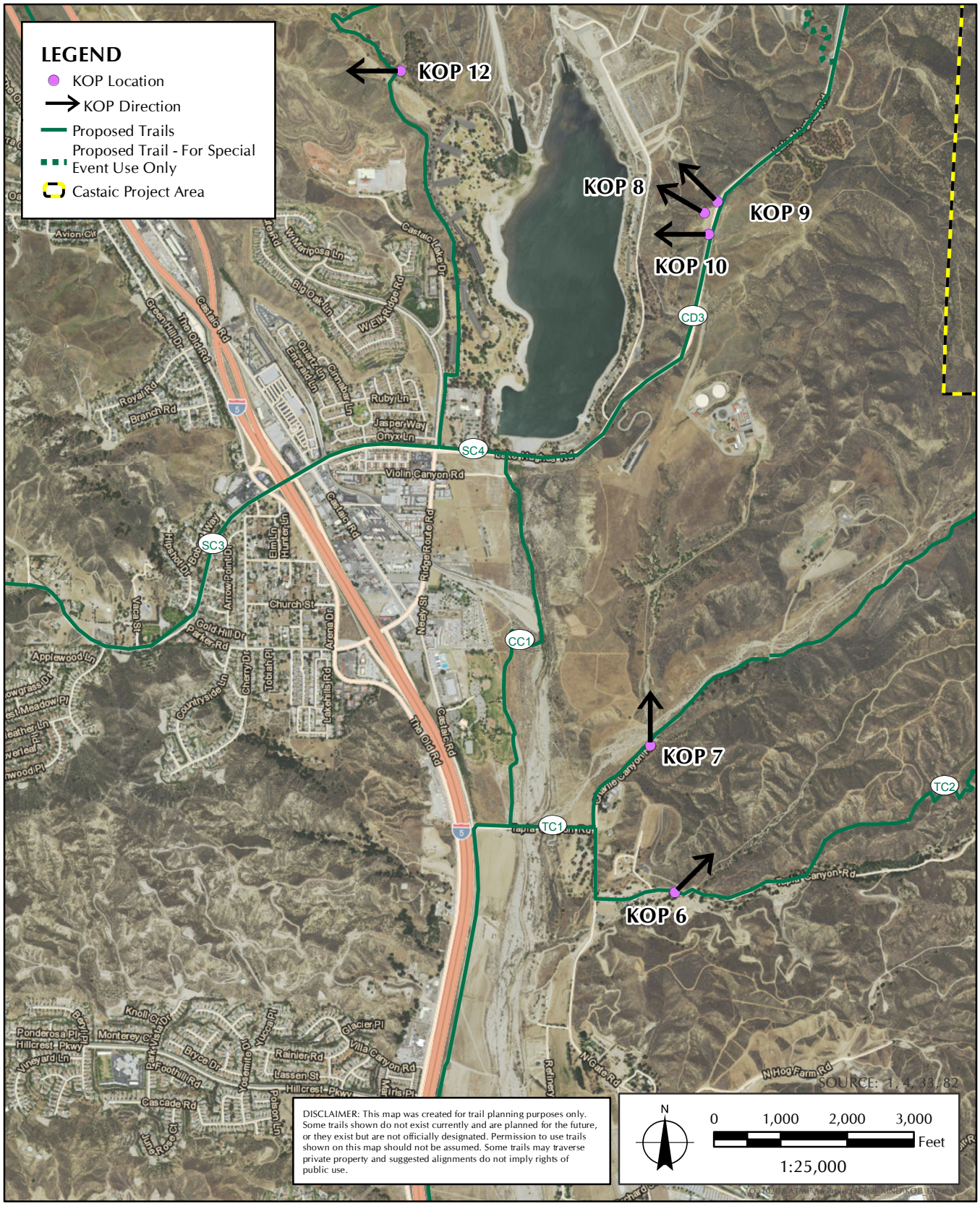

FIGURE 2.1-3B

Key Observation Points Map

FIGURE 2.1-3C

Key Observation Points Map

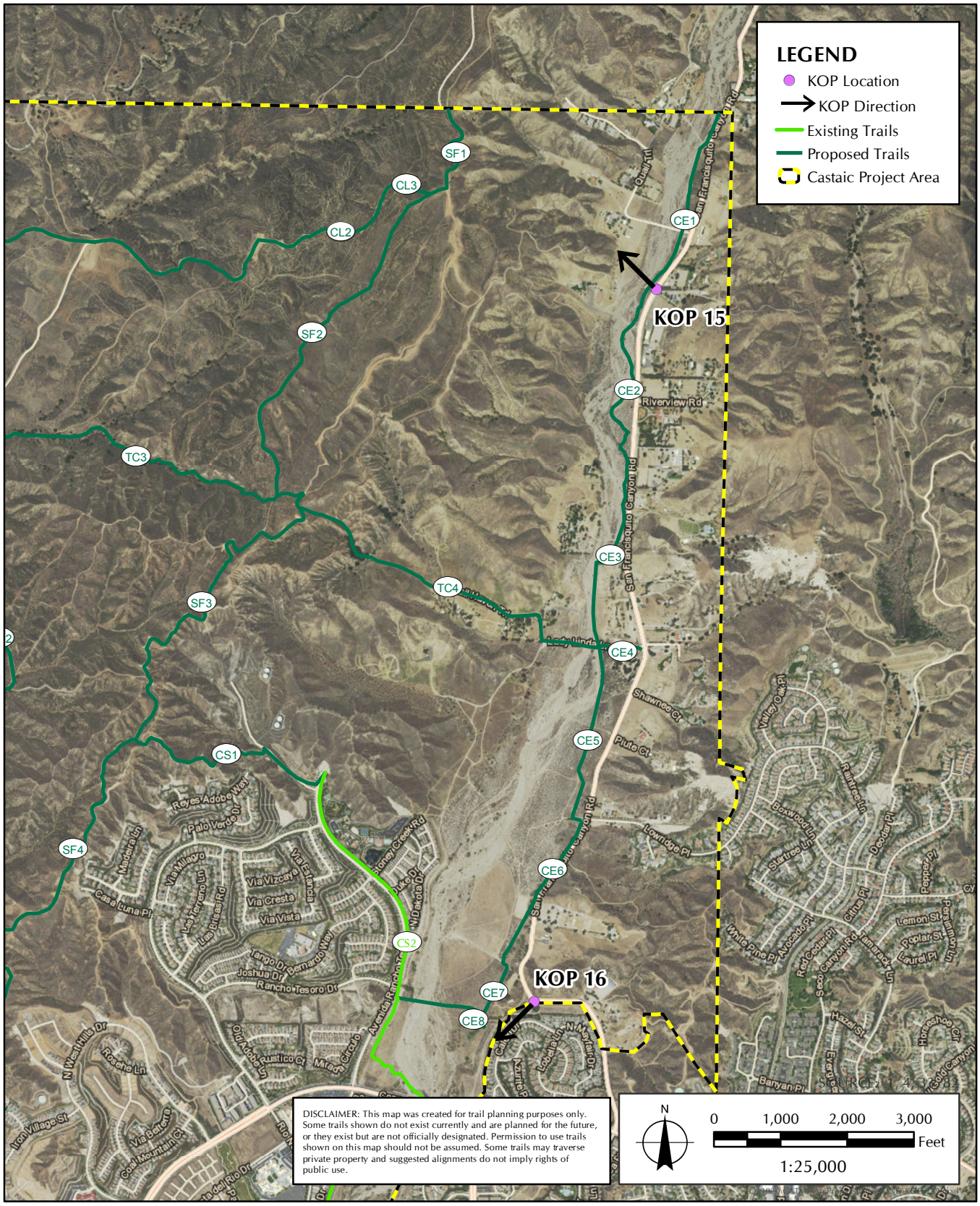

FIGURE 2.1-3D

Key Observation Points Map

Mitigation Measure AES-1: Trails and supporting facilities within a one-mile radius of officially designated and eligible state scenic highways shall be designed, constructed, and maintained (where construction equipment is involved) to avoid damaging or removal of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor.

Mitigation Measure AES-2: Trails and supporting facilities shall be designed, constructed, and maintained to avoid the drip line of any coast live oak trees and other protected trees that are located along the proposed trail alignments, in order to maintain the visual character of the area. Best Management Practices shall be used during construction and trails maintenance activities to protect the root structures of protected trees:

- A Worker Education and Awareness Program shall inform all construction workers of County Ordinances protecting oak trees and the sensitivity of roots to damage from compaction or excessive water.
- Drip line of oak trees shall be designated as off-limits during construction on all construction drawings and diagrams.
- Fencing and/or flagging shall be used to delineate the drip line of the trees as off-limits during trail construction.
- On-site monitors shall be utilized for periods when trail construction will be undertaken within 100 feet of the drip line of the oak trees.
- If a protected tree must be removed, the same species shall be replaced at a minimum of a 1:1 ratio.

d) Substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to aesthetics in regard to substantially degrading the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features. The Castaic project area is characterized by rugged topography, steep ridges, deep canyons with wide creek beds that are tributaries to the Santa Clara River, and several ridgeline and canyon trails and fire roads. The Castaic project area is generally rural and includes the existing communities of Castaic, Castaic Junction, Val Verde, Hasley Canyon, Hillcrest, and Paradise Ranch. The Castaic project area contains several ridges and canyons and approximately 4.9 miles of existing County trails. Trails and related supporting facilities would generally not be expected to substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, or character because they would be low to the ground, spaced and designed in a pattern that follows the natural topography and existing paved and dirt roads, and be consistent with the scale and character of the rural Castaic project area that already contains several dirt access roads and fire roads throughout the mountainous and hilly terrain.

Trails and related supporting facilities are generally consistent with the existing visual character of the Castaic project area and surrounding areas. Although the Santa Clarita Valley Area Plan only directly mentions trails within the Parks and Recreation land use designation, the land use policy defers to the specific allowable uses and development standards determined by underlying zoning designations and adopted Specific Plans. The County zoning designations for the Castaic project area are predominantly heavy agricultural and open space, with two specific plan areas (Northlake Specific Plan and Newhall Specific Plan) and land designated with single-family residence, residential planned development, and restricted heavy manufacturing zones also comprising portions of the approximately 75-square-mile Castaic

project area.[4] The Heavy Agricultural Zone, Specific Plan Zone, manufacturing zones, Unlimited Commercial Zone, Neighborhood Business Zone, and Watershed Zone permit riding and hiking trails; the Open Space, Light Agricultural Zone, Manufacturing Industrial Planned Development Zone, Commercial Planned Development Zone, and residential zones in the Castaic project area allow for riding and hiking trails if they have been approved by the Planning Director of the County of Los Angeles Department of Regional Planning (Director) and riding and hiking trails may be allowed in the Institutional Zone upon approval of a conditional use permit (CUP).

Consistent with planning guidelines provided by the County Trails Manual, conceptual trail alignments have been planned to maintain the characteristic rugged aesthetic of the trail. The proposed project has the potential to enhance the trail's visual quality through clarified trail designation, maintenance, and revegetation along constructed portions of the trail with native plants that may not have survived construction of subdivisions. The experience of recreation users would be enhanced through the incorporation of informational signs at trail intersections to provide orientation. The County Trail Manual specifies desired minimum trail widths for multi-use trails (accommodating bicyclists, hikers, and equestrians) at 5 feet, wherever possible, with 6- to 10-foot-wide turn outs in high-traffic areas.[31] Where trails of up to 10 feet wide are developed or existing trials are expanded up to 10 feet wide, impacts to the visual character of the viewshed from surrounding residences can be avoided through the incorporation of native vegetation as a screening material. Restoration of native vegetation along conceptual trail alignments would have the potential to enhance the visual character within the Castaic project area. Preserving existing native vegetation adjacent to the trail would protect the aesthetic quality of the Castaic project area.[5]

Trails proposed as a result of the proposed project would be consistent with the visual character of the Castaic project area and surrounding areas. The visual nature of the Castaic project area is dominated by native and non-native vegetation, transmission corridors, roads, isolated structures, suburban and industrial/commercial developed areas, and trails (see Attachment A in Appendix A). The proposed trail improvements are compatible with the existing visual character of the Castaic area. Several official trails and many unofficial trail segments currently traverse the Castaic project area. Hiking and riding are passive recreation activities that are compatible with the land use allowed within the two adopted Significant Ecological Areas (SEAs) that encompass small portions of the Castaic project area. The proposed trail alignments would not substantially degrade or alter the existing visual character of the Castaic area. As the majority of trail designations in the proposed project already exist as access roads, fire roads, right-of-ways, and desire line trails (unofficial trails created where a significant number of people want to travel), trail construction would be relatively minor, predominantly consisting of realignments, improvements, and signage. Therefore, future trails anticipated in the proposed project would not be expected to result in significant impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings.

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from County-designated Town and Country Scenic Drives and City-designated scenic highways.[6] It was determined that the entire Castaic project area would not be visible from any of the City-designated scenic highways due to the intervening topography of the Santa Susana Mountains between these highways and the Castaic project area. The viewshed analysis for County-designated Town and Country Scenic Drives determined that approximately 44.2 percent of the Castaic project area (including proposed

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[4] Municode. Accessed 12 February 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO

[5] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[6] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

trails in San Francisquito Canyon, Castaic Valley, Hasley Canyon, the community of Castaic, the Santa Felicia SEA, near Castaic Lake, and within the vicinity of Elderberry Forebay) would be visible from the sixteen County-designated Town and Country Scenic Drives located within a 15-mile radius of the Castaic

project area (see Figure 2.1-4, *Viewshed Map – County Designated Town and Country Scenic Drives* [revised from Figure 16 in Appendix A]). According to the viewshed analysis based on topography, approximately 2.8 miles of the existing trail segments are visible from Town and Country Scenic Drives, approximately 48.1 miles of the proposed trails in the proposed project have the potential to be visible from Town and Country Scenic Drives. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between the Town and Country Scenic Drives and the Castaic project area would be expected to reduce the potential visibility level further than this estimate. Furthermore, trails and supporting facility structures would not be expected to dramatically alter the form of ridgelines within the Castaic project area, and would therefore not be likely to be substantially visible from Town and Country Scenic Drives over five miles (foreground view) from the Castaic project area.

Trails are normally considered a compatible use within an SEA. Trail development within an SEA would likely require preparation of a Biota Report to demonstrate that the trail could be constructed, operated, and maintained in a manner that avoids significant impacts to the properties for which the SEA was designated, inclusive of the visual character of the area. Therefore, the proposed project would result in less than significant impacts in regard to degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features as a result of the proposed project, and no mitigation would be required.

e) Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to aesthetics in regard to creating a new source of substantial shadows, light, or glare that would adversely affect day or nighttime views in the area. County trails are open for use from dawn to dusk (County Code 17.04.330), and the County does not install lighting on trails. Parking lots and restrooms would also normally be operated from dawn to dusk but would be equipped with security lighting consistent with the provisions of the County General Plan and the Castaic Area Community Standards District (CSD) that requires the use of downward directed light to minimize disruption of the night sky. Where lighting features are provided for safety and wayfinding reasons, lighting would be installed in a manner to be nonintrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general, consistent with the guidelines of the County Trails Manual.

As the Castaic project area is generally rural, with suburban areas typically containing single-story to two-story residences and commercial and industrial buildings generally surrounded by parking lots and landscaping that provide a buffer between the buildings and potential shadow sensitive land uses, the structures considered within the proposed project would not be expected to create a new source of substantial shadows. Facilities such as restrooms, shade structures, and parking lots in support of the proposed trails would not be expected to be taller than a two-story building. Where buildings included in the proposed project are part of subdivision agreements, they would be designed to avoid creating substantial shadows on the new residences.

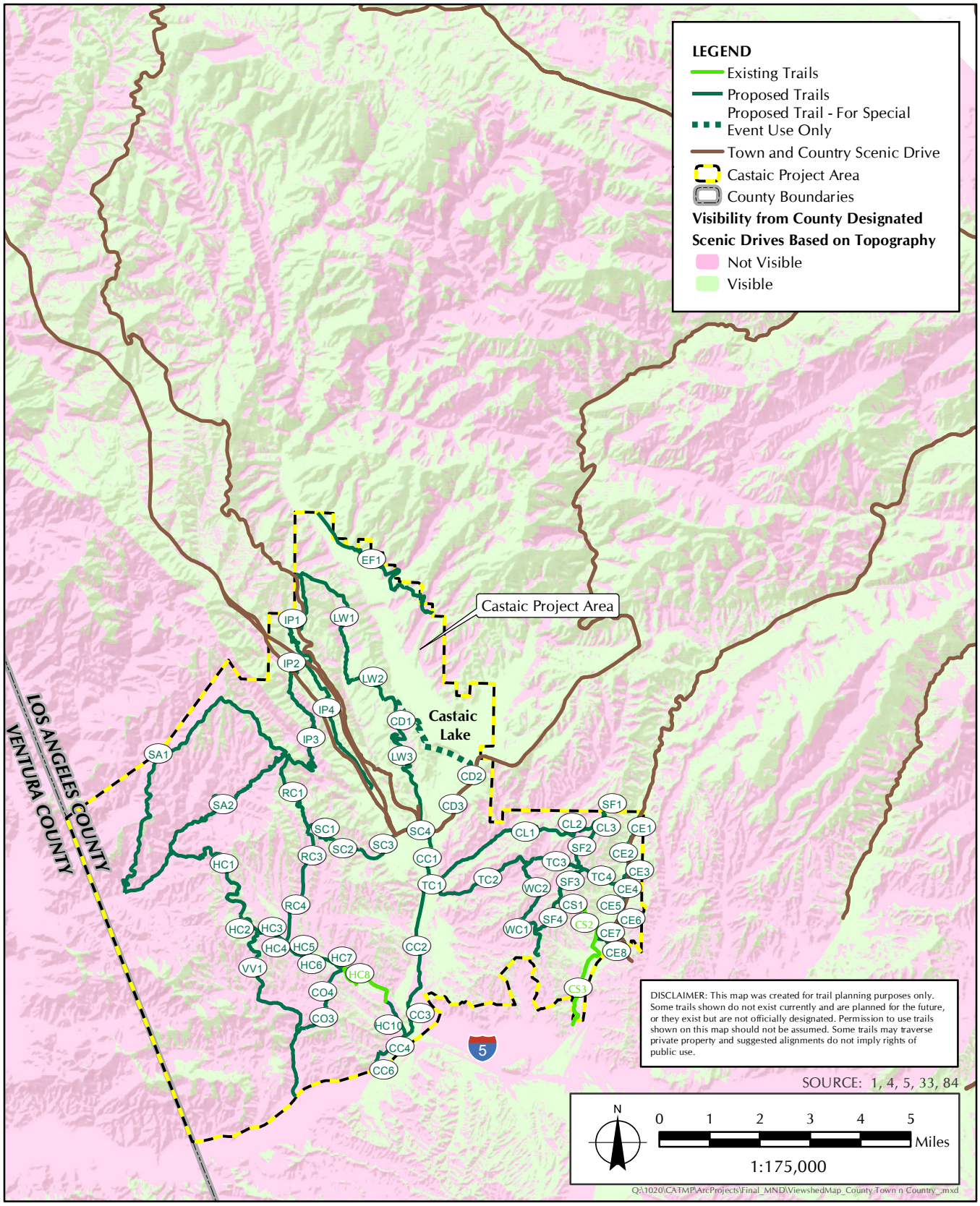

FIGURE 2.1-4

Viewshed Map - County Designated Town and Country Scenic Drives

Approximately 62 percent of the Castaic project area is located within the County's Rural Outdoor Lighting District and subject to restrictions in terms of light and glare at night to maintain dark skies at night for the residents and wildlife in the district (see Figure 7 in Appendix A).[7] Under the ordinance, outdoor lighting shall be fully shielded on properties located in residential, agricultural, open space, or watershed zones.[8] Exterior lighting on restrooms and other trail related supporting facilities would be required to conform to the ordinance. As shown in Figure 2.1-5, *Existing Light Levels at Night* (revised from Figure 13, *Existing Light Levels at Night*, of Appendix A), the remaining 38 percent of the Castaic project area that is not located within the County's Rural Outdoor Lighting District is predominantly characterized by a high level of existing nighttime sky glow, including the nearby City of Santa Clarita, the communities of Castaic (near Castaic Lake) and Valencia (near the City of Santa Clarita), and the industrial Castaic Junction area in the southeastern portion of the Castaic project area. Due to the high level of existing nighttime sky glow, impacts from exterior lighting on restrooms and other trail-related supporting facilities would be less than significant.

The hours of operation for County trails are typically from dawn to dusk (County Code 17.04.330). Therefore, the proposed project does not include installation of nighttime lighting along the proposed trails; nor would the trails include nighttime safety lights that may affect nighttime views or add an additional source of light to the surrounding area. For safety purposes and to avoid disturbing the neighborhood from which the site is accessed, construction would not be conducted at night. In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would be installed in a manner to be nonintrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[9] As this guideline is independent of whether the trail segment or related supporting facility is located within the County's Rural Outdoor Lighting District, the proposed project, which would comply with the County Trails Manual, would not be expected to result in a significant new source of nighttime light.

The trail alignments under the proposed project would be predominantly natural surface trails that would not create a new source of substantial glare. The proposed project also would include interpretive signage, small structures, new parking lots, and other related supporting facilities that would have the potential to create a source of daytime glare where glass, metal, asphalt, and additional vehicles are involved. However, these facilities would be small and are anticipated to be constructed in the areas with an existing moderate to high daytime glare level, towards the City of Santa Clarita, Castaic Lake, and the Interstate 5 freeway, which contain paved roads; commercial, industrial, and residential development and infrastructure; moderate to high vehicle traffic levels on major roads and freeways; and the presence of reflective water bodies. Therefore, the supporting facilities would not be expected to create a new source of substantial glare. Therefore, the proposed project would result in less than significant impacts to shadows, light and glare, and no mitigation would be required.

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[7] County of Los Angeles Department of Regional Planning. Accessed 16 February 2016. GIS-NET3 Public. Planning & Zoning Information for Unincorporated LA County. Available at: http://gis.planning.lacounty.gov/GIS-NET3_Public/Viewer.html

[8] County of Los Angeles Department of Regional Planning. 28 September 2012. Ordinance No. 2012-0047. Available at: http://planning.lacounty.gov/assets/upl/data/ord_outdoor-lighting.pdf

[9] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

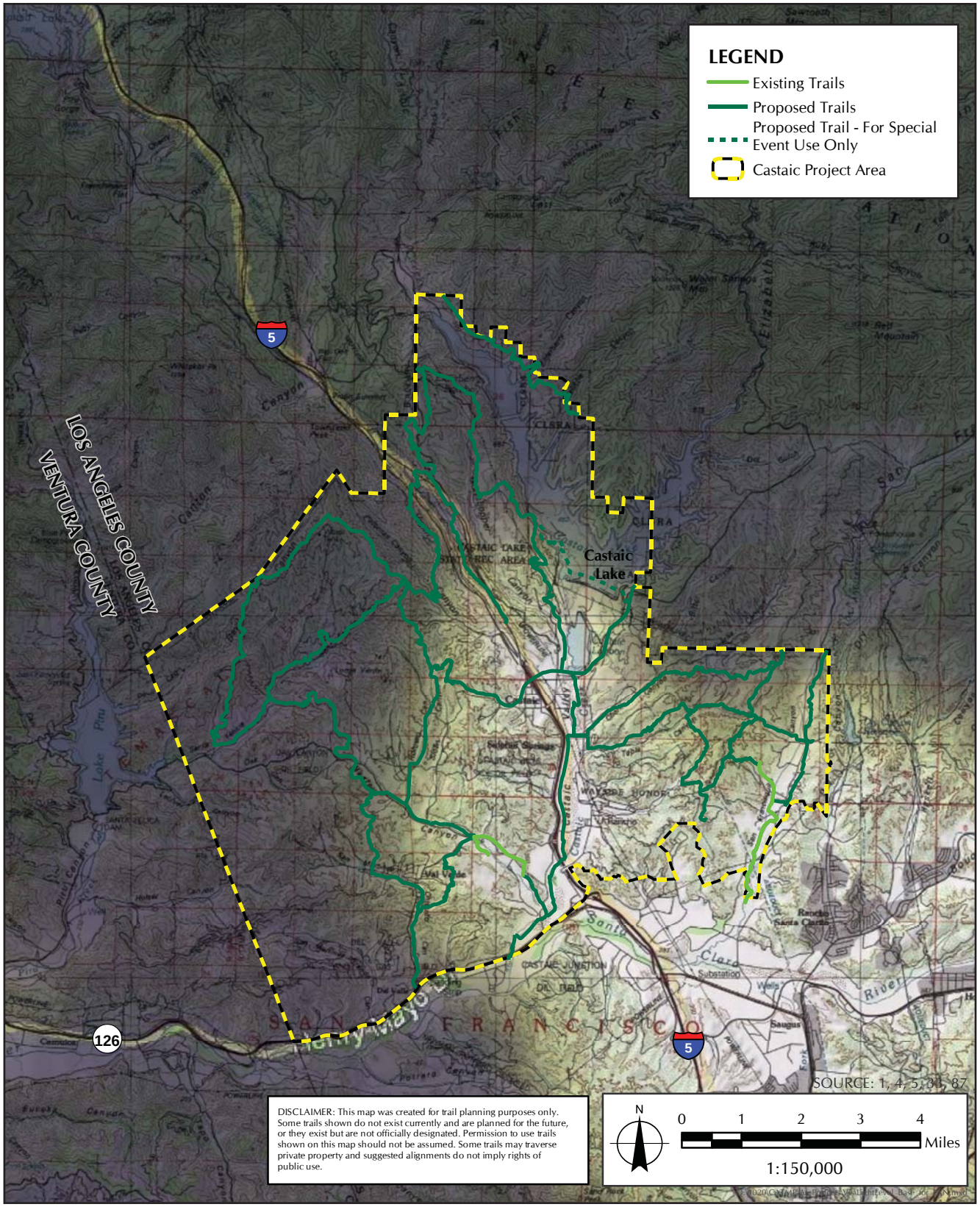

FIGURE 2.1-5
Existing Light Levels at Night

2. AGRICULTURE / FOREST

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

This analysis is undertaken to determine if the proposed project would have a significant impact on agriculture and forestry resources, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. Agriculture and forestry resources at the Castaic project area were evaluated with regard to the Farmland Mapping and Monitoring Program of the California Resources Agency,[10] the Santa Clarita Valley Area Plan One Valley One Vision Program EIR,[11] the Conservation and Natural Resources Element of the County General Plan,[12] the California Department of Conservation Williamson Act Contract Land website,[13] and Title 22 (Zoning) of the County of Los Angeles Municipal Code.[14]

Would the project:	***Potentially Significant Impact***	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to agriculture/forest in regard to converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use. Section 21060.1(a) of CEQA (Public Resources Code §§ 21060-21074) delineates the consideration of agricultural land to include "prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria, as modified for California," and is herein collectively referred to as "Farmland."[15] The FMMP was established in 1982 to assess the location, quality, and quantity

[10] State of California Department of Conservation. Accessed 21 March 2014. Farmland Mapping and Monitoring Program. Available online at: http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx

[11] County of Los Angeles Department of Regional Planning. November 2010. Santa Clarita Valley Area Plan: One Valley One Vision Program EIR. Section 3.5: Agricultural Resources. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2010-deir-3-5-ag-resources.pdf Prepared by Impact Sciences, Inc.

[12] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County General Plan 2035. Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

[13] California Department of Conservation, Division of Land Resource Protection. 2015. State of California Williamson Act Contract Land: Data Submissions Current to 2014. Map available online at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2014%20Statewide%20Map/WA_2014_11x17.pdf

[14] Municode. Accessed 4 January 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO

[15] State of California. Accessed 17 March 2016. California Law: California Public Resources Code Section 21060-21074. Available at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=21001-22000&file=21060-21074

of agricultural lands in the State of California and conversion of these lands over time.[16] The FMMP, which most recently mapped the entire Castaic project area for 2014, has classified the majority of the Castaic project area as grazing land, with approximately 13.8 percent other land (not suitable for agricultural use), approximately 9.4 percent urban and built-up land, approximately 0.6 percent Prime Farmland within Castaic Valley and along SR-126, approximately 0.3 percent Farmland of Local Importance southeast of Castaic Lagoon, approximately 0.2 percent Farmland of Statewide Importance within Castaic Valley, and approximately 0.07 percent Unique Farmland (Table 2.2-1*, FMMP Important Farmland*, Figure 2.2-1*, Important Farmland Map*).[17]

TABLE 2.2-1
FMMP IMPORTANT FARMLAND

FMMP Category	Acres in Castaic Project Area	Percentage of Castaic Project Area	Impact Area / Proposed Trails within FMMP Category
Prime Farmland	274.8	0.6%	0 acres / None
Farmland of Statewide Importance	116.4	0.2%	3.6 acres / 1.5 miles of proposed Castaic Creek Trail (Segment CC2) on the eastern side of Interstate 5
Unique Farmland	34.4	0.07%	0 acres / None
Farmland of Local Importance	130.6	0.3%	2.4 acres / 0.9 mile of proposed Chiquito Canyon Trail (segment CO1) along three segments of Chiquito Canyon Road
Grazing Land	34,179.3	71.0%	200.7 acres / 66.6 miles of proposed trails (Castaic Creek, Castaic Dam, Charlie Canyon, Chiquito Canyon, Cliffie Stone East, Elderberry Forebay, Hasley Canyon, Interstate Paintball, Lake West, Romero Canyon, San Francisquito, Santa Felicia, Sloan Canyon, Tapia Canyon, Val Verde, and West Creek)
Urban and Built-Up Land	4,499.7	9.4%	23.9 acres / 6.4 miles proposed trails (Castaic Creek, Castaic Dam, Chiquito Canyon, Elderberry Forebay, Hasley Canyon, Interstate Paintball, Lake West, Romero Canyon, Sloan Canyon, Val Verde, and West Creek)
Other Land	6,635.7	13.8%	33.8 acres / 12.5 miles of proposed trails (Castaic Creek, Castaic Dam, Charlie Canyon, Chiquito Canyon, Cliffie Stone East, Cliffie Stone West, Hasley Canyon, Romero Canyon, San Francisquito, Sloan Canyon, Tapia Canyon, Val Verde, and West Creek)
Water	2,167.3	4.5%	0.5 acres / 0.2 miles of proposed trails (Castaic Dam)
Not Surveyed	68.8	0.1%	0.8 acre / 0.3 miles of proposed trails (Elderberry Forebay)
Total	**48,107.0**	**99.97%**	**265.7-acre Impact Area**

SOURCE: California Department of Conservation, Farmland Mapping and Monitoring Program. 2014. *Important Farmland Data Availability*. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2014/

No existing or proposed trail alignments cross Prime Farmland or Unique Farmland within the Castaic project area. Based on a maximum constructed trail width of 12 feet and a maximum 20-foot-wide construction disturbance area for proposed trails and trail related facilities, the proposed project would directly impact up to 3.6 acres of Farmland of Statewide Importance, along approximately 1.5 miles of the proposed Castaic Creek Trail (see Table 2.2-1). However, as the proposed alignment would follow an existing dirt road (at least 15 feet wide) adjacent to the agricultural fields in this area, it would not be expected to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-

[16] State of California Department of Conservation. Accessed 21 March 2014. Farmland Mapping and Monitoring Program. Available online at: http://www.conservation.ca.gov/DLRP/FMMP/Pages/Index.aspx

[17] State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Published January 2015. Los Angeles County Important Farmland 2012. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/los12.pdf

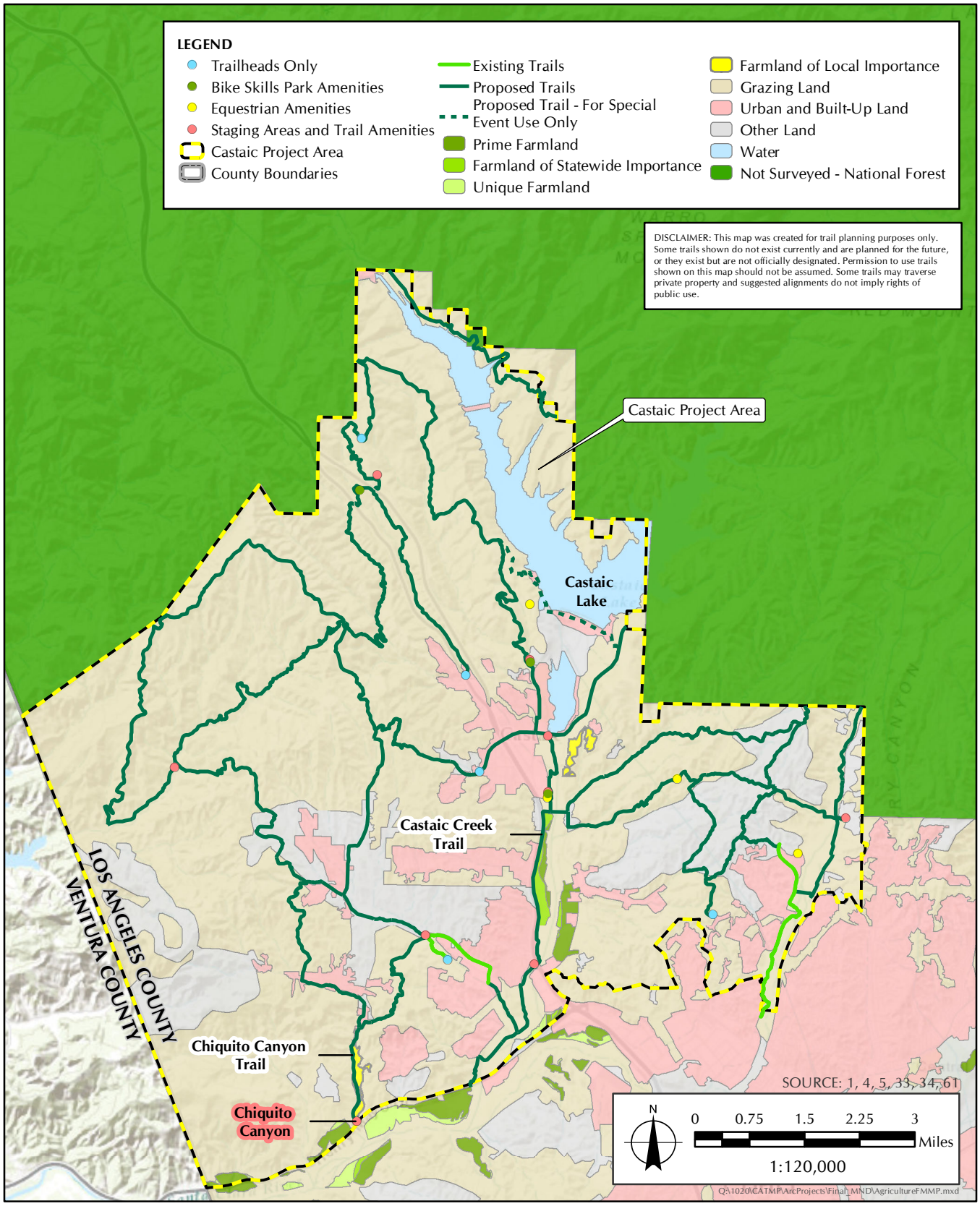

FIGURE 2.2-1

Important Farmland Map

agricultural use.

Within the approximately 272.3-acre project impact area, 13 of the 21 proposed trail related facilities would be located on or partially located on Grazing Land, six trail-related facilities would be located on Urban and Built-Up Land, one facility would be located on other (non-agricultural) land, and one General Staging Area (Chiquito Canyon) would be located on Farmland of Local Importance. Approximately 66.6 miles of proposed trails and planned trails per developer obligations would cross Grazing Land, 1.5 miles of the proposed Castaic Creek Trail would cross Farmland of Statewide Importance, and approximately 0.9 mile of the proposed Chiquito Canyon Trail would cross Farmland of Local Importance. Thus, the proposed project would result in no impacts in regard to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as a result of the construction of the trail-related facilities. Therefore, the proposed project would result in less than significant impacts in regard to converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use, and no mitigation would be required.

b) Conflict with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or with a Williamson Act contract?	☐	☐	☐	☒

The proposed project would result in no impacts to agriculture/forest in regard to conflicting with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or with a Williamson Act contract. Although approximately 61.4 percent of the Castaic project area is located within areas zoned for agricultural use (29,229.5 acres of the Castaic project area is located within an A-2 – Heavy Agriculture zone designation, approximately 279.8 acres are located within an A-1 – Light Agricultural zone designation, and approximately 30.2 acres are located within a R-A – Residential Agricultural zone designation), trails are generally an allowable use on agricultural lands that would not conflict with existing zoning (see Table 1.7-1, *Castaic Project Area Zoning Designations*; see Figure 1.7-1, *County of Los Angeles Zoning Designations*). As described in Table 1.7-1, the Heavy Agricultural Zone permits riding and hiking trails; and the Light Agricultural Zone and Residential Agricultural Zone in the Castaic project area allow for riding and hiking trails if they have been approved by the Director.

Agricultural Opportunity Areas (AOAs) were a Los Angeles County identification tool to indicate land with an existing or anticipated future commercial agricultural use based on the presence of prime agricultural soils, compatible adjacent land uses, and an existing County agricultural land use policy.[18] Agricultural Opportunity Areas have been replaced by Agricultural Resource Areas (ARAs) in the County General Plan, consisting of farmland identified by the California Department of Conservation, including Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland.[19] There is one designated ARA for the preservation of agricultural land that has been identified by the FMMP as Farmland of Local Importance within the Castaic project area, located southeast of Castaic Lagoon and Lake Hughes Road (Figure 2.2-1).[20] No trails or trail supporting facilities are proposed within this ARA.

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[18] County of Los Angeles Department of Regional Planning. November 2010. Santa Clarita Valley Area Plan: One Valley One Vision Program EIR. Section 3.5: Agricultural Resources. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2010-deir-3-5-ag-resources.pdf Prepared by Impact Sciences, Inc.

[19] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County General Plan 2035. Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

[20] County of Los Angeles Department of Regional Planning. May 2014. Los Angeles County General Plan 2035. Figure 9.5: Agricultural Resource Areas Policy Map. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-5_agricultural_resource_policy.pdf

According to the Los Angeles County Williamson Act FY 2015/2016 map by the California Department of Conservation Division of Land Resource Protection, the Castaic project area is classified as nonenrolled land or urban and built-up land and therefore not enrolled in a Williamson Act contract.[21,22] There are no Williamson Act contract properties in the Castaic project area. The nearest Williamson Act contract property in the County is located approximately 64 miles south of the Castaic project area on Santa Catalina Island. Therefore, the proposed project would result in no impacts in regard to conflicting with existing zoning for agricultural use, with a designated Agricultural Opportunity Area, or with a Williamson Act contract, and no mitigation measures are required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g))?	☐	☐	☐	☒

The proposed project would result in no impacts to agriculture/forest in regard to conflicting with existing zoning for, or causing rezoning of, forest land, timberland, or timberland zoned Timberland Production. Public Resources Code § 12220(g) of CEQA defines forest land as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."[23] Public Resources Code § 4526 defines Timberland as "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees."[24] California Government Code § 51104(g) defines a Timberland Production Zone (TMZ) as "an area which has been zoned pursuant to § 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to general plans of cities and counties, 'timberland preserve zone' means 'timberland production zone.'"[25]

Forest land is protected within the adjacent Angeles National Forest and Los Padres National Forest. Within the Santa Clarita Valley Area Plan area, "open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber" is a land use type that has been designated for open space preservation pursuant to state law.[26] Although approximately 60.8 percent of the Castaic project area is zoned A-2, approximately 0.6 percent is zoned A-1, and approximately 0.1 percent is zoned R-A. Trails are generally an allowable use on agricultural lands that would not conflict with existing zoning. As described in Table 1.7-1, the A-2 zone permits riding and hiking trails, and the A-1 and R-A zones in the Castaic project area allow

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[21] California Department of Conservation, Division of Land Resource Protection. 2016. Los Angeles County Williamson Act FY 2012/2013. Map available online at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_15_16_WA.pdf

[22] California Department of Conservation, Division of Land Resource Protection. 2015. State of California Williamson Act Contract Land: Data Submissions Current to 2014. Map available online at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2014%20Statewide%20Map/WA_2014_11x17.pdf

[23] State of California. Accessed 17 March 2016. Public Resources Code Section 12220. Available online at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=12001-13000&file=12220

[24] State of California. Accessed 21 March 2014. Public Resources Code Section 4521-4529.5. Available online at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=04001-05000&file=4521-4529.5

[25] State of California. Accessed 21 March 2014. Government Code Section 51100-51104. Available online at: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=51001-52000&file=51100-51104

[26] County of Los Angeles Department of Regional Planning. 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Chapter 4: Conservation and Open Space. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_04_os.pdf

for riding and hiking trails if they have been approved by the Director. As Zones A-1, A-2, and R-A permit crops (including trees and nursery stock), and Zones A-1 and A-2 permit the sale of Christmas trees if approved by the Director, there is a potential for forest land to exist in the Castaic project area.[27] The County does not have a designated zone for timberland or Timberland Production. Therefore, the proposed project would result in no impacts in regard to conflicting with existing zoning for, or causing rezoning of, forest land, timberland, or timberland zoned Timberland Production, and no mitigation would be required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

The proposed project would result in no impacts to agriculture/forest in regard to resulting in the loss of forest land or conversion of forest land to non-forest use. Forest land is protected within the adjacent Angeles National Forest and Los Padres National Forest.[28] Although oak and other native woodlands are present in the Castaic project area, there are no forest resources within the Castaic project area that would be affected by the proposed project. As stated above, trees, nursery stock, and Christmas trees are permitted agricultural uses. Therefore, the proposed project would result in no impacts in regard to resulting in the loss of forest land or conversion of forest land to non-forest use, and no mitigation would be required.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

The proposed project would result in no impacts to agriculture and forestry resources in regard to involving other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. Trails are generally a compatible use with agricultural and forest land uses. The proposed project would involve trails ranging from 3 to 12 feet in width, with a maximum easement of 20 feet, and supporting facilities that would be located to avoid Important Farmland and follow existing roads and disturbed areas where possible. Therefore, the proposed project would result in no impacts in regard to involving other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use, and no mitigation would be required.

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[27] Municode. Accessed 4 January 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO

[28] County of Los Angeles Department of Regional Planning. 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Chapter 4: Conservation and Open Space. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_04_os.pdf

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

This analysis is undertaken to determine if the proposed project would have a significant impact to air quality, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the Air Quality Analysis for Castaic Area Multi-Use Trails Plan (Appendix B).

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to air quality in regard to conflicting with or obstructing implementation of applicable air quality plans within the South Coast Air Quality Management District (SCAQMD). The two main plans of concern are the Air Quality Element of the County General Plan and the SCAQMD Air Quality Management Plan (AQMP). The proposed project would also be consistent with the Southern California Association of Governments (SCAG) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The construction, operation, and maintenance of the proposed project would not cause a violation of the SCAQMD AQMP because it would not impede the ability of the basin to achieve the National Ambient Air Quality Standards (NAAQS) attainment deadlines for those pollutants not in attainment. Designations for attainment are determined from the ambient air quality. The proposed project would be consistent with the AQMP's goals to invest in strategies that improve air quality by supporting transportation control measures to reduce vehicle miles traveled (VMT). This is also consistent with the Air Quality Element for the County General Plan, which states a direct link between transportation activities and air pollution. The project design measures to limit particulate matter from construction are in alignment with Policy AQ 1.3.

For operations, the proposed project would minimally increase the number of vehicles coming to and from the parks and open space areas in the area by providing recreational opportunities close to where people live and through the long-term conservation of open space lands. These trips would be recreational in purpose, occurring mainly on weekends and/or outside peak hour traffic, and therefore not causing additional traffic. With limited new trips, the proposed project would support Goal 2 of the County General Plan by coordinating land use, transportation, and air quality planning. The proposed project would also not have a long-term consequence on achieving attainment deadlines in the SCAQMD AQMP for criteria pollutants that are not in attainment. The proposed project is aligned with the 2016–2040 RTP/SCS because it would reduce VMT and encourage nearby recreation. Therefore, the proposed project would result in less than significant impacts in regard to conflicting with or obstructing implementation of applicable air quality plans, and no mitigation would be required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to air quality in regard to violating any air quality standard or contributing substantially to an existing or projected air quality violation. The SCAQMD monitors air quality through a network of 39 permanent, multi-pollutant monitoring stations and 4 additional single-pollutant source impact lead (Pb) monitoring stations in the South Coast Air Basin and a portion of the Salton Sea Air Basin in Coachella Valley. Ambient air quality of two nearby monitoring stations is reported in Table 7, *Summary of 2012–2014 Ambient Air Quality Data in the Trails Plan Vicinity*, in Appendix B. The project's daily construction emissions were generated using CalEEMod 2013.2.2. Table 10, *Estimated Daily Construction Emissions*, in Appendix B summarizes the daily construction emissions associated with the proposed project's construction activities and indicates that emissions would be far below the SCAQMD daily constructional emissions thresholds of significance. Given that the proposed project would be operated as a trail that would not require any stationary sources for daily operation and maintenance, long-term operation-related air emissions in the Castaic project area are likely to result from vehicles traveling to and from the trailheads and minimal usage of a loader/backhoe/tractor for trail maintenance. According to Table 11, *Estimated Daily Operational Emissions*, in Appendix B operational emissions associated with the proposed project are expected to be below the level of significance as determined by the SCAQMD. Therefore, the proposed project would result in less than significant impacts in regard to air quality standards, and no mitigation would be required.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to air quality in regard to resulting in cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. Compared to the NAAQS, the County portion of the South Coast Air Basin is a nonattainment area for 1-hour ozone, 8-hour ozone, fine particulate matter ($PM_{2.5}$), and lead for near-source monitors. Compared to the California Ambient Air Quality Standards (CAAQS), the County portion of the South Coast Air Basin is a nonattainment area for 1-hour ozone, 8-hour ozone, $PM_{2.5}$, and respirable particulate matter (PM_{10}). The proposed project would generate these pollutants during the construction of trail improvements. It is not expected for the operations and maintenance phases of the proposed project to cause a cumulatively considerable net increase of any criteria pollutant, as the proposed project is a recreational trail generating minimal new vehicle trips and requiring minimal equipment for trail maintenance. Short-term cumulative impacts related to air quality could occur if project construction and nearby construction activities were to occur simultaneously. In particular, with respect to local impacts, cumulative construction particulate matter (i.e., fugitive dust) impacts are considered when projects are located within a few hundred yards of each other.

Many of the related projects located within the Castaic project area are residential subdivisions with the potential to create significant air quality impacts cumulatively during the construction phase. However, the proposed project is a trails plan, which provides recreational opportunities close to areas where people live and work. This is consistent with the strategies in the 2016–2040 RTP/SCS for reducing VMT and enhancing public health. Therefore, the proposed project's emissions would not be cumulatively considerable, impacts would be less than significant, and mitigation would not be required.

d) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to air quality in regard to exposing sensitive receptors to substantial pollutant concentrations. Land uses identified to be sensitive receptors by SCAQMD in the California Air Resources Board's (CARB's) Air Quality Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.[29] There are 12,011 known sensitive receptors within the Castaic project area. There are an additional 5,318 known sensitive receptors within a 0.5-mile radius of the Castaic project area (Figure 2.3-1, *Sensitive Receptors*). Exposure of sensitive receptors to potential emissions would vary from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. Due to the short-term nature of project construction, sensitive receptors would not be expected to be adversely affected by construction. For operation or maintenance of the proposed project, sensitive receptors would experience a longer duration of exposure. These emissions are below the level of significance and would decrease rapidly with distance from the proposed project site. Best management practices would be required for dust suppression, pursuant to County building codes. Therefore, impacts in regard to exposing sensitive receptors to substantial pollutant concentrations would be less than significant, and mitigation would not be required.

e) Create objectionable odors affecting a substantial number of people? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to air quality in regard to creating objectionable odors affecting a substantial number of people. According to the CARB's Air Quality Handbook,[30] land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The construction, operation, and maintenance of the proposed project would not involve the type of land uses or industrial operations typically associated with odor nuisance. There are no land uses typically associated with the generation of nuisance odors in the Castaic project area. Construction and maintenance of the proposed project would occur over very short durations. With the exception of providing access for individuals afforded protection pursuant to the Americans with Disabilities Act, the County does not allow the use of motorized equipment on trails or within park facilities, other than those designated for such use. Therefore, impacts in regard to creation of objectionable odors would be less than significant, and no mitigation would be required.

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[29] California Air Resources Board. April 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: http://www.arb.ca.gov/ch/handbook.pdf

[30] California Air Resources Board. April 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: http://www.arb.ca.gov/ch/handbook.pdf

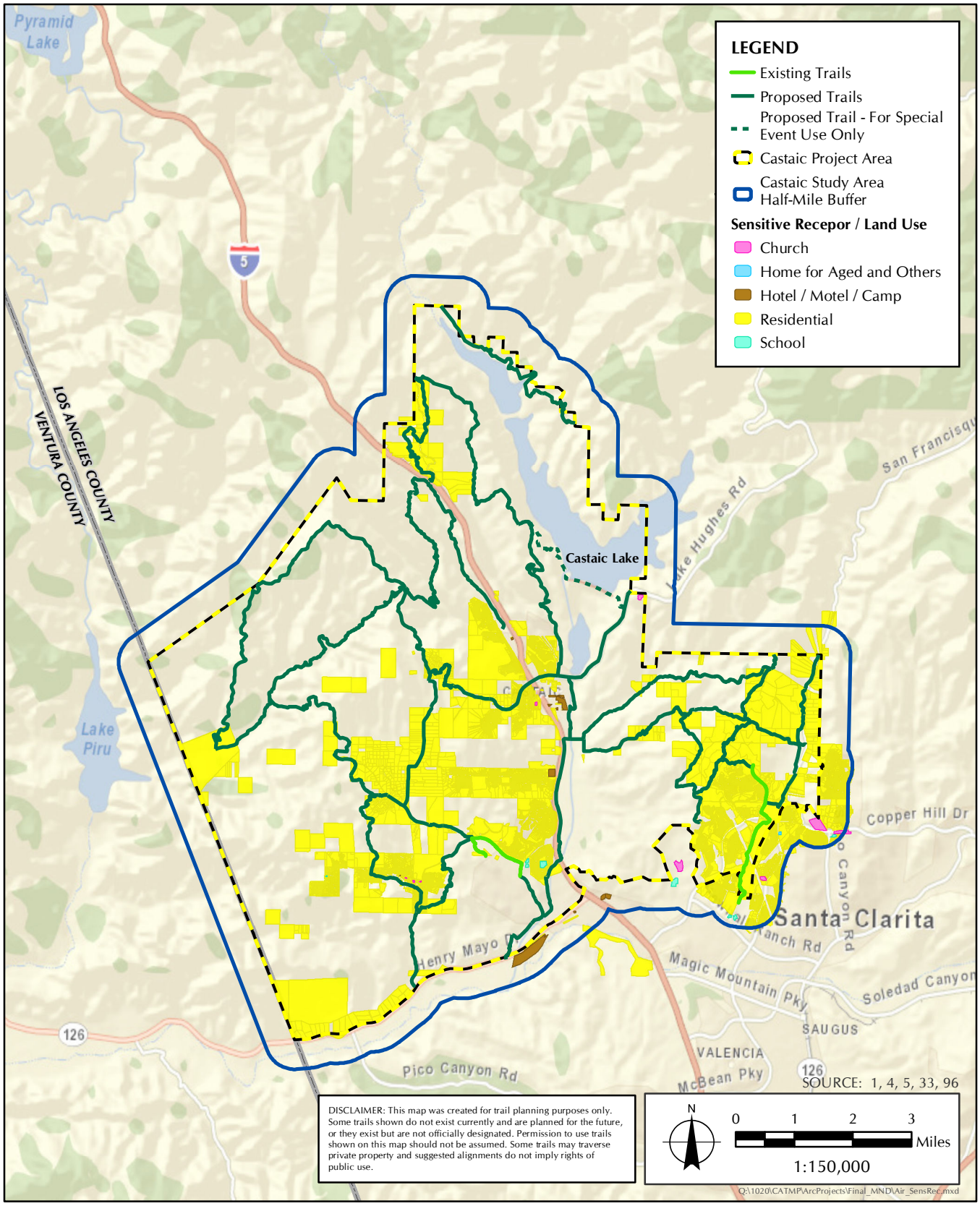

FIGURE 2.3-1

Sensitive Receptors

4. BIOLOGICAL RESOURCES

This analysis is undertaken to determine if the proposed project would have a significant impact to biological resources, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the *Castaic Area Multi-Use Trails Plan Biological Resources Assessment* (Appendix C).

Would the project:	***Potentially Significant Impact***	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐

The proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS) through the disturbance of natural habitats capable of sustaining these species during the construction and operation of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

Approximately 268.0 acres of USFWS-designated critical habitat for the federally endangered Arroyo toad (*Anaxyrus californicus*), 154.8 acres of critical habitat for the federally and state endangered southwestern willow flycatcher (*Empidonax traillii extimus*), and 1.9 aces of critical habitat for the federally and state endangered least Bell's vireo (*Vireo bellii pusillus*) are located within the Castaic project area (see Figure 6, *Critical Habitat Present within the Castaic project area*, in Appendix C). There are also California Natural Diversity Database (CNDDB) records of these species present within the Castaic project area. Therefore, it is assumed that the species are present within the Castaic project area. In addition to arroyo toad, southwestern willow flycatcher, and least Bell's vireo, there are 15 federally and/or state listed threatened, endangered, or candidate species listed under protection of the federal Endangered Species Act (ESA) or California ESA that are known from the region and have a moderate to very high likelihood to be present in the Castaic project area (see Figure 4, *Listed Plant and Wildlife Species with the Potential to Occur in the Castaic project area*, in Appendix C). Furthermore, there are 35 other sensitive wildlife species and 33 rare and locally important plant species with a moderate to very high likelihood to occur within the Castaic project area based on CNDDB records, California Native Plant Society (CNPS) records, and an evaluation of suitable habitat (see Figure 7, *Sensitive Wildlife Species with the Potential to Occur in the Proposed Project*, and Figure 8, *California Natural Diversity Database Rare and Locally Important Plant Species with the Potential to Occur in the Castaic project area*, in Appendix C).

Proposed trail width within the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 191.5 acres of critical habitat for listed species (126.3 acres for arroyo toad, and 65.2 acres for southwestern willow flycatcher would be converted

to trails and other recreation amenities or would be disturbed through associated construction activities. Furthermore, there are CNDDB records and suitable habitat for the federally and state-listed endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), the CNPS rare plant slender mariposa lily (*Calochortus clavatus* var. *gracilis*), and sensitive wildlife species including western spadefoot (*Spea hammondii*), coast horned lizard (*Phrynosoma blainvillii*), loggerhead shrike (*Lanius ludovicianus*), and burrowing owl (*Athene cunicularia*) within 250 feet of the planned trail activities that may be disturbed through trail development and associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within areas of potentially suitable and occupied habitat for listed and special-status species. Direct impacts would occur during trail construction and would include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Additionally, direct impacts may occur through the direct habitat loss and fragmentation during construction of the trails and associated structures; introduction of non-native plants; and introduction of lighting, dust, and noise during construction. Further, indirect impacts resulting from the development of trails projects in the proposed project could occur as a result of increased human interaction with sensitive plants and wildlife.

This analysis of impacts of trails projects included in the proposed project to sensitive plant and wildlife species and their habitats and designated critical habitat is programmatic, and conservatively assumes that all species with critical habitat and/or CNDDB records in the Castaic project area are present. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of the federal and state ESA, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, and 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Implementation of Mitigation Measure BIO-1 would reduce impacts to below the level of significance.

Mitigation Measure BIO-1: To mitigate potential impacts on listed, sensitive, and locally important species and their habitats, the County of Los Angeles Department of Parks and Recreation shall require that a habitat assessment by a qualified biologist take place using approved U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) protocols to identify suitable habitat for any listed, sensitive, and locally important species on-site. Where suitable and/or occupied habitat is determined to be present, mitigation shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of the federal and state Endangered Species Acts (ESAs), may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any occupied habitat, potentially suitable habitat, and designated critical habitat for any listed, sensitive, or locally important species and to minimize impacts to native plant communities, wherever practicable and feasible.
- Consultation with USFWS and CDFW with regards to trail building activities within critical habitat and suitable habitat.
- Implementation of pre-construction habitat surveys to delineate occupied or suitable sensitive species' habitat to facilitate avoidance.
- Formal consultation with the USFWS will be required if a species afforded protection pursuant to the federal ESA is determined to be present as a result of focused protocol

surveys. Formal consultation with the CDFW will be required if a species afforded protection pursuant to the state ESA is determined to be present as a result of focused protocol surveys.

- Altering the timing of construction to avoid seasons when sensitive species may be present (i.e., nesting bird season).
- Worker Education and Awareness Program to inform all construction workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- Designation of suitable habitat as off-limits during construction on all construction drawings and diagrams.
- Use of fencing and/or flagging to delineate environmentally sensitive areas as off-limits during trail construction.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of environmentally sensitive areas.
- Where temporary impacts to critical habitat may occur, the development and implementation of a habitat restoration plan shall be required.
- Where permanent impacts to critical habitat may occur, compensatory mitigation such as purchasing credits at a mitigation bank, purchasing off-site lands, or similar shall be required.

b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?	☐	☒	☐	☐

The proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on any sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS through the disturbance of these communities during the construction of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

Based on a review of the information available through the Natural Heritage Division of CDFW, approximately 1,614.5 acres of the Castaic project area are state designated sensitive plant communities.[31] Of the 3,362 acres of state designated sensitive plant communities, approximately 1,283.5 acres are riparian plant communities (see Figure 9, *Riparian and State Sensitive Plant Community Records in the Castaic project area*, in Appendix C).

Proposed trail width for trail projects within the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum trail width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 319.7 acres of state designated sensitive plant communities (including 252.0 acres of riparian communities) would be converted to trails and other recreation amenities or would be disturbed through associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within sensitive natural communities on-site. Impacts associated with the disturbance of sensitive and riparian habitats would include direct loss and fragmentation of sensitive

[31] California Department of Fish and Wildlife. 2015. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

communities and riparian habitats as trails projects are developed and the introduction of non-native plants that would degrade existing communities. Further, indirect impacts resulting from the development of trails projects in the proposed project could occur as a result of increased public access to sensitive plant communities.

This analysis of impacts of trails projects included in the proposed project to sensitive plant communities and riparian habitats is programmatic, and conservatively assumes that sensitive plant communities have the potential to exist throughout the Castaic project area and that all waterways have the potential to contain riparian habitat. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on any sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS. Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce impacts to below the level of significance.

Mitigation Measure BIO-2: To mitigate potential impacts on riparian, state-sensitive plant communities, state protected wetlands, and federally protected wetlands and waters of the United States, the County of Los Angeles Department of Parks and Recreation shall require that plant community mapping be conducted by a qualified biologist with experience classifying plant communities in Southern California and/or a formal jurisdictional delineation be conducted by a certified wetland delineator to identify any state or federally protected wetlands, riparian areas, and state-sensitive plant communities on-site. Where state designated sensitive plant communities, riparian habitat, state or federally protected wetlands, or waters of the United States are determined to be present, mitigation measures shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of Section 1600 of the State Fish and Game Code and Section 404 of the Federal Clean Water Act, may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any state-sensitive plant communities or riparian habitat, or any state or federally protected wetlands or waters of the United States wherever practicable and feasible.
- Conduct pre-construction habitat surveys to delineate sensitive plant communities and riparian habitats to facilitate avoidance.
- Consult with CDFW with regards to trail building activities within state-sensitive plant communities.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of oak woodlands, native woodlands, and 100 feet of the dripline of native trees.
- Where temporary impacts may occur to sensitive plant communities, the development and implementation of a habitat enhancement and restoration plan shall be required.
- Where permanent impacts may occur to sensitive plant communities, compensatory mitigation such as purchasing credits at mitigation bank, purchasing off-site lands, or similar shall be required.
- Where impacts are located in areas subject to the jurisdiction of the CDFW pursuant to Section 1600 of the State Fish and Game Code, obtain a Streambed Alteration Agreement prior to commencing ground-disturbing activities or any other alternation of a lake or stream.

- Where impacts are located in areas subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act, obtain authorization to complete the required work pursuant to a Nationwide or individual permit.
- Where impacts are subject to the jurisdiction of the Regional Water Quality Control Board, obtain a Waiver of Water Quality Certification or Notice of Applicability of Waste Discharge Requirement permit.

c) Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal Clean Water Act or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

The proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on federally or state protected wetlands or waters of the United States through the disturbance and/or diversion of federally or state protected wetlands or waters of the United States during the construction of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

Approximately 144 linear miles of features identified as blue-line drainages and approximately 2,306 acres of National Wetlands Inventory (NWI) features that have the potential to be considered federally and/or state protected wetlands and/or waters of the United States are present within the Castaic project area (see Figure 10, *Federally Protected Wetlands and Waterways Reported in the Castaic project area*, in Appendix C). In addition to these areas, approximately 2,448 acres within the Castaic project area were identified by the CNDDB as containing riparian plant communities, which are protected under California Fish and Game Code Section 1600 (see Figure 9, Appendix C). It is anticipated that additional state and federal jurisdictional areas beyond those identified through database and literature review may occur on-site.

Proposed trail width for trail projects within the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 252.0 acres of riparian communities that may be under CDFW jurisdiction, 82.4 acres of federally protected wetlands, and 35.7 miles of blueline drainages that may include waters of the United States would be converted to trails and other recreation amenities or would be disturbed through associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within and adjacent to state and federal wetlands and or waters of the United States on-site. Impacts would include disruption of streams and wetlands as new trails are developed and dredge and fill activities associated with trail development. Trail development projects would be subject to the provisions of Section 404 of the Federal Clean Water Act. Dredge or fill in waters of the United States is subject to the regulatory authority of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act. Trail development projects would also be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on federally or state protected wetlands or waters of the United States.

Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce impacts to below the level of significance.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

The proposed project would result in significant impacts to biological resources in regard to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites directly as a result of trail construction or indirectly through the interruption of movement or migratory corridors caused by construction and use of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

The Castaic project area is considered an important wildlife corridor as determined by the County General Plan (Appendix C). Within the County General Plan, the Santa Clara River and Santa Felicia SEAs are identified as important corridors for wildlife movement, linking the Santa Monica Mountains, the San Gabriel Mountains, and Piru Lake in Ventura County. Trails and passive recreation use are an allowable use within SEAs. Although trail use would not conflict with the goals of the SEA program, new trail construction within an SEA would require consultation with the County of Los Angeles Department of Regional Planning and a Biological Technical Report prepared for Significant Ecological Area Technical Advisory Committee (SEATAC) review. Furthermore, nesting birds protected under the Migratory Bird Treaty Act (MBTA) have the potential to be present throughout the Castaic project area.

Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within areas used for native wildlife movement and within and adjacent to suitable nesting locations for native and migratory birds on-site. Impacts would include direct habitat removal that would disrupt nesting birds as new trails projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery sites. Additionally, an increase in wildlife-human interactions as a result of the development of new trails projects may increase wildlife injury.

This analysis of impacts of trails projects included in the proposed project to wildlife corridors and nursery sites is programmatic, and conservatively assumes that wildlife movement areas and nesting birds may occur throughout the Castaic project area. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of the MBTA.

Therefore, the proposed project would result in significant impacts to biological resources in regard to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites. Implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce impacts to below the level of significance.

Mitigation Measure BIO-3: To avoid impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA), trail construction should take place outside of the nesting bird season, which generally occurs between February 15 and September 1. If trail construction activities cannot avoid the nesting bird season,

pre-construction nesting bird surveys shall be conducted by a qualified biologist a maximum of three days prior to the start of construction. Should nesting birds be discovered within or adjacent to the construction footprint during these surveys, a non-disturbance buffer shall be placed on the active nest as determined by the biologist to prevent impacts to nesting birds. Construction shall be halted within the non-disturbance buffer of 250 feet of songbirds and 500 feet for raptors until the biologist has determined that the young have fledged and are flying well enough to avoid the proposed construction activities.

e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.)?	☐	☒	☐	☐

The proposed project would result in significant impacts to biological resources in regard to converting oak woodlands or woodlands otherwise containing oak or other unique native trees through the disturbance of these woodlands during the construction of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

Based on a review of the information available through the Natural Heritage Division of CDFW of approximately 50,000 acres within the Castaic project area, approximately 984 acres are state designated Southern Coast Live Oak Riparian Forest (see Figure 9, Appendix D).[32] It is anticipated that individual oak and native trees beyond those within existing woodland communities may be present in the Castaic project area.

Proposed trail width for trail projects within the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 123.1 acres of state designated Southern Coast Live Oak Riparian Forest 128.8 acres of Southern Cottonwood Willow Riparian Forest, and 6.2 acres of Southern Sycamore Alder Riparian Woodland would be converted to trails and other recreation amenities or would be disturbed through associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within oak and other native woodlands on-site or within the dripline of individual oak or other native trees. Impacts associated with the disturbance of oak and other native woodlands would include direct loss and fragmentation of woodlands as trails projects are developed, and the introduction of non-native plants that would degrade existing woodlands.

Therefore, the proposed project would result in significant impacts to biological resources in regard to converting oak woodlands or woodlands otherwise containing oak or other unique native trees. Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 would reduce impacts to below the level of significance.

Mitigation Measure BIO-4: To mitigate potential impacts on oak and other native woodlands, the County of Los Angeles Department of Parks and Recreation (County Parks) shall require that for every protected tree that must be removed, the same species shall be replaced at a minimum of a 1:1 ratio. Compensatory

[32] California Department of Fish and Wildlife. 2015. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

mitigation for protected trees in the jurisdiction of County Parks may include replacement at a 3:1 ratio for trees with a diameter at breast height (DBH) of eight inches or more at an appropriate mitigation site, and replacement at a 10:1 ratio for heritage oaks. Monitoring for at least one year would be required to meet success criteria.

f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6)?	☐	☐	☐	☒

The proposed project would result in no impacts to biological resources related to conflicts with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), SEAs (L.A. County Code, Title 22, § 22.56.215), or Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6).

The Castaic project area is not located within any Wildflower Reserve Areas or SERAs; therefore, it would not conflict with these policies. The Northlake Specific Plan does not contain any policies related to biological resources; therefore, the proposed project would not conflict with the policies of this plan. The proposed project would not result in significant impacts to biological resources related to conflicts with the County General Plan, Santa Clarita Valley Area Plan, or Newhall Ranch Specific Plan because trails and other recreation facilities are required to be designed consistent with the County Trails Manual, which requires no net loss of habitat functions and values.[33] The application of the County Trails Manual to the individual trails projects within the proposed project would accomplish the objectives within these plans of minimizing impacts to the natural environment. Furthermore, the implementation of the proposed project would be beneficial to biological resources because it would direct visitors to the Castaic project area to designated areas for use rather than permit disorganized use of the land without acknowledgement and protection of environmentally sensitive areas.

The proposed project would not conflict with Los Angeles County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas because trails and recreation facilities are an allowed use in SEAs, and any trails project under the proposed project would be required to comply with the SEATAC CUP application process. The proposed project would not conflict with Municipal Code Sections 22.56.2050–22.56.2260 – Oak Tree Ordinance because trails and recreation facilities would be designed to avoid the removal or disturbance of any protected oak tree, and any trails project under the proposed project would be required to comply with the Los Angeles County Oak Tree Removal Permit application process should tree removal be necessary. Therefore, the proposed project would result in no impacts in regard to conflicts with local policies or ordinances protecting biological resources, and no mitigation would be required.

[33] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

g) Conflict with the provisions of an adopted state, regional, or local habitat conservation plan?	☐	☐	☐	☒

The proposed project would result in no impacts to biological resources in regard to conflicting with the provisions of an adopted state, regional, or local habitat conservation plan. There are no Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) with boundaries that intersect the Castaic project area. Therefore, the proposed project would result in no impacts related to conflicts with the provision of adopted state, regional, or local habitat conservation plans, and no mitigation would be required.

5. CULTURAL RESOURCES

This analysis is undertaken to determine if the proposed project may have a significant impact to cultural resources, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. This analysis is based on the Castaic Area Multi-Use Trails Plan Cultural Resources Assessment (Appendix D).

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5?	☐	☒	☐	☐

The proposed project would have the potential to result in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5. Incorporation of mitigation measures would reduce these impacts to below the level of significance. As a result of a records search with the South Central Coastal Information Center at California State University, Fullerton, and a search of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and the County of Los Angeles Register of Landmark and Historic Districts, historical resources are located in the Castaic project area. The record search indicates that an estimated 32,000 acres have been previously surveyed in the Castaic project area. Of 88 recorded resources within the Castaic project area, only one is listed in the CRHR. This resource (P-19-002233, a prehistoric campsite) is an individual property determined eligible for the NRHP by a consensus through Section 106 process, and it is listed in the CRHR. However, the resource is not in the immediate impact area, which comprises a 60-foot buffer along the proposed trail alignment and related elements. In total, 50 of the 88 recorded resources are situated within a quarter-mile of the proposed trail alignment, but only 12 are located within the immediate impact area (Table 2.5-1, *Previously Recorded Cultural Resources within the Immediate Impact Area*). A proposed trail segment passes through the Angeles National Forest, which is State Historical Landmark No. 717.

The general vicinity of the trail alignment has a moderate to high sensitivity to contain historical resources as defined pursuant to Section 15064.5 of the State CEQA Guidelines. Eligible resource would be avoided to the greatest extent feasible. In addition, the majority of the Castaic project area has not been subject to a Phase I pedestrian survey. Although previous development in the area may have disturbed historical resources, undeveloped areas could still support resources. Therefore, there is potential to encounter resources identified in either the Phase I pedestrian surveys and/or later activities during construction, operation, and maintenance of trails, bike skills areas, and related appurtenant facilities. Therefore, the proposed project would have the potential to result in significant impacts in regard to causing a substantial adverse change in the significance of a historic resource. Implementation of Mitigation Measures CULTURAL-1 and CULTURAL-2 would reduce impacts to below the level of significance.

TABLE 2.5-1
PREVIOUSLY RECORDED CULTURAL RESOURCES
WITHIN THE DIRECT IMPACT AREA

Primary Number	Trinomial	Time Period		Description
		Prehistoric	Historic	
P-19-001446	CA-LAN-001446H		X	Foundation of Two Buildings (Historic)
P-19-001650	CA-LAN-001650	X		Prehistoric Village
P-19-001651	CA-LAN-001651	X	X	Large Milling Station (Prehistoric)
P-19-001662	CA-LAN-001662	X		Small Milling Station (Prehistoric)
P-19-001672H	CA-LAN-1672H		X	Ranch complex with at least three structures
P-19-002070	CA-LAN-002070H		X	Clougherty Ranch Caretaker's House
P-19-002072H	CA-LAN-002072H		X	Small Scatter of Historic Debris
P-19-004321	CA-LAN-004321H		X	Historic Refuse Deposit
P-19-186535			X	Los Angeles National Forest
P-19-189816			X	Sloan Canyon Road
P-19-190750			X	Utility pole

Mitigation Measure CULTURAL-1: *Archaeological and Historic Resources – Avoidance and Monitoring.* Completion of a Worker Education and Awareness Program for all personnel who will be engaged in ground-disturbing activities shall be required prior to the start of ground-disturbing activities. This shall include training that provides an overview of cultural resources that might potentially be found and the appropriate procedures to follow if cultural resources are identified. This requirement extends to any new staff prior to engaging in ground disturbing activities.

Prior to the initiation of ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall review the construction plans to ensure that any known cultural resources sites that are required to be avoided have been marked as "off-limits" areas for construction and construction staging. In addition, County Parks shall require monitoring of all ground disturbing activities by a qualified archaeologist within 100 feet of a known extant unique archaeological resources, significant historical resources, or tribal cultural resource. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

In the event that previously unknown unique archaeological resources, significant historical resources, or tribal cultural resources are encountered during construction, the resources shall either be left in situ and avoided through realignment of the trail, or the resources shall be salvaged, recorded, and reposited consistent with the provisions of a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. Data recovery is not required by law or regulation. It is, though, the most commonly agreed-upon measure to mitigate adverse effects to archaeological sites eligible or listed under Section 106 Criterion D, as it preserves important information that will otherwise be lost.

Mitigation Measure CULTURAL-2: *Pre-Construction Surveys* At the time that any new segment of trail is proposed for development that would require ground-disturbing activities in soils that have been predominantly *in situ* during the past 50 years, records and archival information shall be reviewed to determine if there are any recorded unique archaeological resources, significant historical resources as defined in Section 15064.5 of the State CEQA Guidelines, or tribal cultural resources as defined in AB52 in the Area of Potential Effects. At a minimum, the records and archival review will include a search of the South Central Coastal Information Center, a request for Sacred Lands File from the Native American

Heritage Commission, and a request for information regarding tribal cultural resources from the Most Likely Descendants designated by Native American Heritage Commission. The appropriate course of action will be undertaken in light of the results of the records search:

(A) Where the Area of Potential Effect has been subject to a Phase I Walkover Survey within two years of the proposed activity and no unique archaeological resources, significant cultural resources, or tribal cultural resources are known from the Area of Potential Effect, work shall proceed per the provision of Mitigation Measure CULTURAL-1.

(B) Where all or a portion of the Area of Potential Effect has not been surveyed for cultural resources within two years of a proposed ground-disturbing activity, a qualified archaeologist who meets the Secretary of the Interior's professional qualification standards for archaeology and shall conduct a Phase I Walkover Survey to ascertain the presence or absence of unique archaeological and/or significant historic resources, as defined in Section 15064.5 of the State CEQA Guidelines.

a. If the survey determines no unique archaeological resources or significant historical resources, including potential tribal cultural, then the work shall proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

b. If the survey determines potential unique archaeological resources or significant historical resources, including potential tribal cultural resources, then one of two courses of action shall be employed:

i. Where avoidance is feasible, the trail alignments shall be realigned to avoid the potentially significant resource, and the work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1. The new alignment will be surveyed by a qualified archaeologist. An archaeological monitor shall be present during ground-disturbing activities. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

ii. Where avoidance is not feasible, a Phase II evaluation of the cultural resources shall be undertaken to determine the significance of the cultural resource. If the Phase II investigation identifies a unique/eligible cultural resource within the area proposed for ground-disturbing work, the County shall determine whether to avoid the resource through redesign or to proceed with a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. The work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	☐	☒	☐	☐

The proposed project would have the potential to result in significant impacts to archaeological resources. Incorporation of mitigation measures would reduce these impacts to below the level of significance. As a result of the records search with the South Central Coastal Information Center and a search of the NRHP, CRHR, and County of Los Angeles Register of Landmarks and Historic Districts, 88 cultural sites have been previously recorded within the boundaries of the Castaic project area. Of these, 38 are archaeological resources situated within a quarter-mile buffer along the trail alignment. One resource (P-19-002233, a prehistoric campsite), is an individual property determined eligible for the NRHP by a consensus through

Section 106 process, and is listed in the CRHR. However, only ten (10) archaeological resources are located within the direct impact area (P-19-001446, P-19-001650, P-19-001651, P-19-001662, P-19-001672H, P-19-002070, P-19-002072H, P-19-004282, P-19-004321, and P-19-186535 [Table 2.5-1]).

While the Native American Heritage Commission (NAHC) search of the Sacred Lands File did not identify the presence of Native American cultural resources in the Castaic project area, Assembly Bill (AB) 52 requires lead agencies to consult with California Native American Tribes that request such consultation prior to the agency's release of a Notice of Intent (NOI) of a Mitigated Negative Declaration on or after July 1, 2015. Therefore, consultation has been undertaken with NAHC and Native American Representatives. The Fernandeño Tataviam Band of Mission Indians stated the project area to be of extreme risk to cultural and tribal resources and that they would like to consult with the lead agency regarding project mitigation. Another group, the Soboba Band of Luiseño Indians, expressed no specific concerns with the proposed project, but did request that the appropriate consultation to take place between tribes, project proponents, and government agencies. A third group, the San Manuel Band of Mission Indians, had no concerns with the project, since the Castaic project area lies outside the tribe's ancestral territories.

Although previous development in the area may have disturbed archaeological resources, undeveloped areas could still support resources. Field surveys should be undertaken to assess the presence or likelihood of archaeological or tribal resources, followed by an evaluation of those resources and data recovery if avoidance is not possible. Therefore, the proposed project would have the potential to result in significant impacts in regard to causing a substantial adverse change in the significance of an archaeological resource. Implementation of Mitigation Measures CULTURAL-1 and CULTURAL-2 would reduce impacts to below the level of significance.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?	☐	☒	☐	☐

The proposed project would have the potential to result in significant impacts to unique paleontological resources or unique geologic features. Incorporation of mitigation measures would reduce these impacts to below the level of significance. As a result of the records search with the Natural History Museum of Los Angeles County, the surficial geology of Castaic Lake and surrounding areas revealed that the following rock formations have the potential to yield significant paleontological resources based on previous collections and/or age and lithology and are given high paleontological sensitivity: the Saugus Formation (non-marine Pliocene and Pleistocene), Pico Formation (marine Pliocene); Towsley Formation (marine late Miocene to early Pliocene), the Sisquoc Formation (marine late Miocene), the Castaic Formation (marine late Miocene), the Monterey Formation; the Mint Canyon Formation (non-marine Miocene), and the San Francisquito Formation (marine Paleocene). Igneous and metamorphic rocks have a low potential for yielding significant paleontological resources, and are therefore assigned low paleontological sensitivity within the Castaic project area.

The proposed project would have the potential to result in impacts to paleontological resources related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. As previously outlined, most of the Castaic project area has geological units that could contain significant paleontological resources. Therefore, the proposed project would have the potential to result in significant impacts in regard to directly or indirectly destroying a unique paleontological resource or site or unique geologic feature. Implementation of Mitigation Measure CULTURAL-3 would reduce impacts to below the level of significance.

Mitigation Measure CULTURAL-3: *Paleontological Resources – Paleontological Monitoring.* Impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource from the proposed project shall be reduced to below the level of significance by monitoring, salvage, and curation of unanticipated paleontological resources discovered during ground-disturbing activities in previously undisturbed native soils located five or more feet below the ground surface that would have the potential to contact geologic units with a high to moderate potential to yield unique paleontological resources. Ground-disturbing activities include, but are not limited to, drilling, excavation, trenching, and grading. If paleontological resources are encountered during ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall require and be responsible for salvage and recovery of those resources consistent with standards for such recovery established by the Society of Vertebrate Paleontology (available at: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx).

Paleontological Resources Sensitivity Training shall be required for all project personnel prior to the start of ground-disturbing activities in geologic units with a moderate to high potential to yield unique paleontological resources. This shall include a brief field training that provides an overview of fossils that might potentially be found, and the appropriate procedures to follow if fossils are identified. This requirement extends to any new staff that joins the project.

Construction monitoring by a qualified monitor (archaeologist cross-trained in paleontology or paleontologist) shall be implemented during all ground-disturbing activities that affect previously undisturbed geologic units 12 or more inches below the ground surface and have the potential to encounter geologic units with a moderate to high potential to yield unique paleontological resources. In the event that a paleontological resource is encountered during construction, all ground-disturbing activity within 100 feet of the find shall be halted until a qualified paleontologist can evaluate the significance of the discovery. Additional monitoring recommendations may be required. If the resource is found to be significant, the paleontologist shall determine the most appropriate treatment and method for removing and stabilizing the specimen. Curation of the any significant paleontological finds shall be required with a qualified repository, such as the Natural History Museum of Los Angeles County (LACM).

Within 90 days of the completion of any salvage operation or monitoring activities, a mitigation report shall be submitted to County Parks with an appended, itemized inventory of specimens. The report and inventory, when submitted to County Parks, shall signify the completion of the program to mitigate impacts to paleontological resources. A copy of the report/inventory shall be filed with the County of Los Angeles Planning and Development Agency.

d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

The proposed project would have the potential to result in significant impacts in regard to disturbing human remains, including those interred outside of formal cemeteries. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The records search at the South Central Coastal Information Center and the NAHC Sacred Lands File, and a review of historic topographic maps, revealed known areas with historic and prehistoric burials (Table 2.5-2, *Previously Recorded Burial Grounds and Cemeteries within the Castaic project area*). The burial grounds are not located in the immediate impact area; however, they are located within the quarter-mile buffer along the trail alignment. One of the burial grounds (P-19-000324) is a prehistoric cemetery; however, it was inundated during the construction of the Castaic Reservoir. The other (P-19-001448H) is an early-twentieth-century cemetery for victims of the 1928 St. Francis Dam Disaster. In addition, not all areas of the proposed trail alignment and areas proposed for the three bike

skills areas and appurtenant recreational facilities have been subject to a Phase I pedestrian survey for cultural resources. Therefore, there is a possibility to encounter human remains during the construction, operation, and maintenance phases of the proposed project. As such, the proposed project has the potential to result in significant impacts to human remains. Implementation of Mitigation Measure CULTURAL-4 would reduce impacts to below the level of significance.

TABLE 2.5-2
PREVIOUSLY RECORDED BURIAL GROUNDS AND CEMETERIES WITHIN THE CASTAIC PROJECT AREA

Primary Number	Trinomial	Time Period		Description
		Prehistoric	Historic	
P-19-000324	CA-LAN-000324	X		Elderberry Canyon Site - Cremation Site
P-19-001448	CA-LAN-001448H		X	Historic Cemetery

Mitigation Measure CULTURAL-4: *Regulatory Requirements – Human Remains.* In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are encountered during excavation activities, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains.

If the County Coroner determines that the remains are or are believed to be Native American, s/he shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with Section 5097.98 of the California Public Resources Code, the NAHC shall immediately notify the person(s) it believes to be the most likely descendant (MLD) of the deceased Native American. The descendants shall complete their inspection and make a recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the County of Los Angeles Department of Parks and Recreation (County Parks), the disposition of the human remains. The MLD's recommendation shall be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials. If County Parks rejects the MLD's recommendations, the agency shall rebury the remains with appropriate dignity in a location that will not be subject to further subsurface disturbance (14 California Code of Regulations §15064.5(e)), consistent with the provisions of applicable federal, state, and County statutes and regulations.

6. ENERGY

This analysis is undertaken to determine if the proposed project would have a significant impact to energy, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. Energy at the Castaic project area was evaluated with regard to Los Angeles County Code Title 31.

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with Los Angeles County Green Building Standards Code (L.A. County Code Title 31)?	☐	☐	☐	☒

The proposed project would result in no impacts to energy related to a conflict with the Los Angeles County Green Building Standards Code. The purpose of the Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact, or positive environmental impact, and encouraging sustainable construction practices in the following categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. The proposed project involves proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities. At the programmatic level, restrooms would be constructed at the bike skills park. This building would be constructed consistent with the Code. While the details of the trail facilities are not known at this time, to be consistent with the County General Plan Air Element, the proposed project would be required to abide by the County's Green Building Program, Environmental Stewardship Program, and County's Community Climate Action Plan. Therefore, the proposed project would result in no impacts in regard to conflicts with L.A. County Code Title 31, and no mitigation would be required.

b) Involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?	☐	☐	☐	☒

The proposed project would have no impact to energy related to the inefficient use of energy resources. According to Appendix F of the CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy. This includes decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources.

According to the SCAG 2016–2040 RTP/SCS Program Environmental Impact Report, residential energy use per household was 70 million Btu (British thermal units) in 2012.[34] The proposed project would reduce energy usage by providing recreation close to residential land uses, which is consistent with the 2016–2040 RTP/SCS. The construction equipment required to construct the trails would be minimal and in compliance with CARB regulations for diesel programs relating to mobile source, stationary engines, and portable equipment. The proposed project would additionally help achieve the goals in Appendix F of the CEQA Guidelines by reducing VMT by creating more local recreational opportunities, thereby decreasing overall per capita energy consumption and decreasing reliance on fossil fuels. As a trails plan, construction, operations, and maintenance of the proposed project would use energy in a manner that is consistent with

[34] Southern California Association of Governments. March 2016. Program Environmental Impact Report for the 2016–2040 Regional Transportation Plan / Sustainable Communities Strategy. Prepared by: Sapphos Environmental, Inc.

the region. Therefore, the proposed project would have no impact related to the inefficient use of energy resources, and no mitigation would be required.

7. GEOLOGY AND SOILS

This analysis is undertaken to determine if the proposed project would have a significant impact to geology and soils, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the Results of the Geology and Soils Analysis for the Castaic Area Multi-Use Trails Plan (Appendix E).

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐

The proposed project would result in less than significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Although the Castaic project area is not located within a designated Alquist-Priolo zone, the San Gabriel and San Cayetano/Holser/Del Valle faults are fault zones of concern to the Castaic project area with regard to ground rupture. It is possible that fault movement of a few inches to several feet could occur with potential Magnitude (M) 6 to 7 events. However, the probability of such events and related movements is very low. The designated Alquist-Priolo zone is located to the southeast just outside of the Castaic project area, with only a few hundred feet of trail proposed in the AP zone (see Figure 2.7-1, *Earthquake Fault Activity* [revised from Figure 8, *Earthquake Fault Activity*, in Appendix E]). Active and potentially active faults may be sources of large earthquakes (M6.0 to 7.0) that would produce severe ground shaking within the Castaic project area. Local active strike-slip, reverse and thrust faults (e.g., San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults) and more distant buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park) have this potential as well. Severe shaking can be very destructive to narrow ridgelines and steep slopes, causing severe cracking and slope failures (Appendix E). Proposed trails cross potentially active fault traces in six locations. Proposed trail facilities that may propose the construction of restrooms are not located within 50 feet of potentially active fault traces (see Figure 2.7-1). These structures are not considered habitable and would be operated only between dawn and dusk. Therefore, the proposed trails and restroom facilities would not result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault beyond those that already exist in the area. Impacts would be less than significant, and no mitigation would be required.

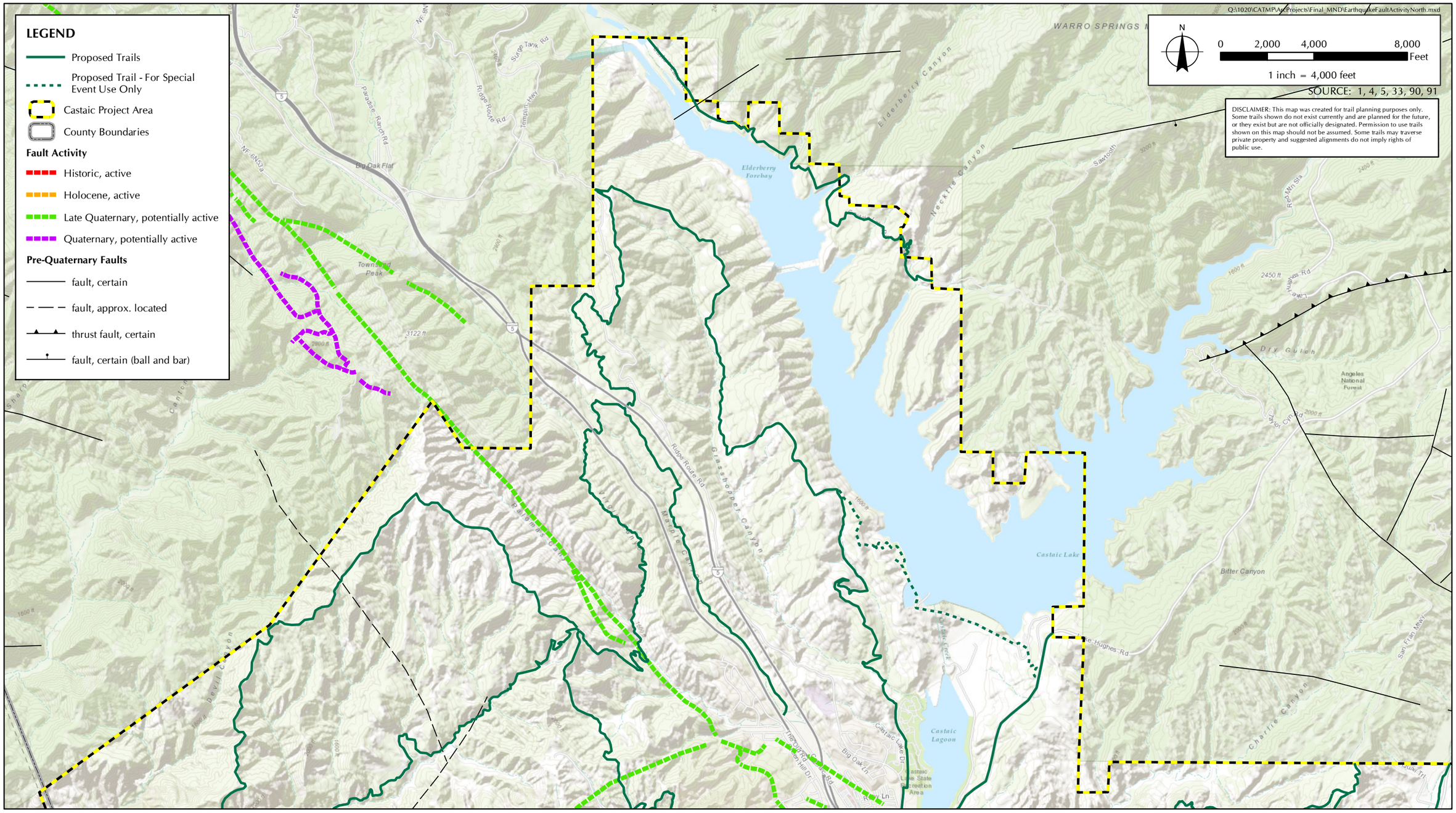

FIGURE 2.7-1A

Earthquake Fault Activity- North

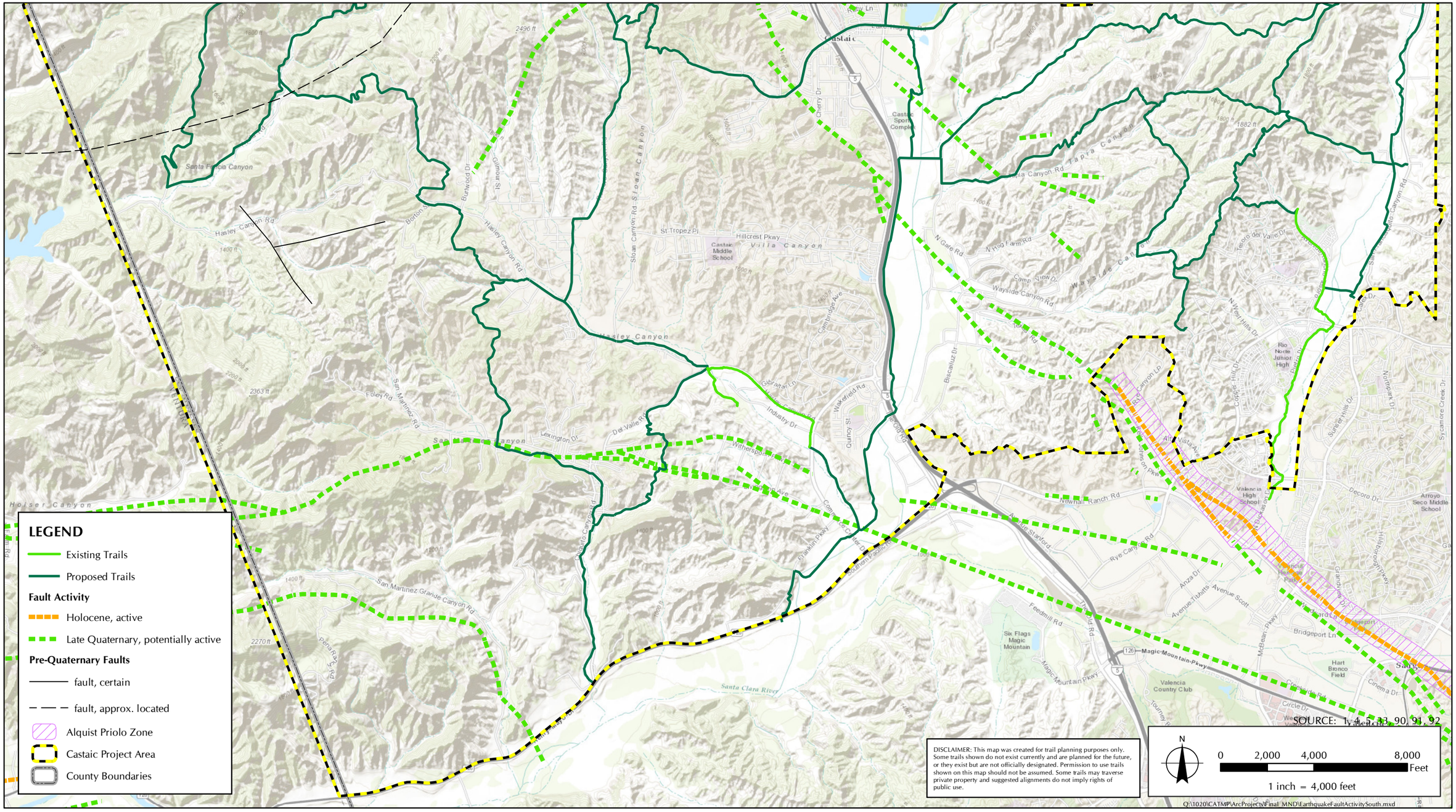

FIGURE 2.7-1B

Earthquake Fault Activity- South

ii) Strong seismic ground shaking? ☐ ☒ ☐ ☐

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The San Gabriel and San Cayetano/Holser/Del Valle faults are fault zones of concern to the Castaic project area with regard to strong seismic ground shaking as a result of the potential for M6 to 7 events (see Figure 2.7-1). Active and potentially active faults may be sources of large earthquakes (M6.0 to 7.0) that would produce severe ground shaking within the Castaic project area. Local active strike-slip, reverse and thrust faults (e.g. San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults) and more distant buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park) have this potential as well. Proposed trail facilities that may propose the construction of restrooms are not located within 50 feet of potentially active fault traces (see Figure 2.7-1). These structures are not habitable and would be operated only between dawn and dusk. However, proposed trails cross potentially active fault traces in six locations. Any severe shaking could be very destructive to narrow ridgelines and steep slopes, causing severe cracking and slope failures (Appendix F). Therefore, the proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Implementation of Mitigation Measure GEO-1 would reduce impacts to below the level of significance.

Mitigation Measure GEO-1: A geotechnical and engineering geology investigation shall be conducted for the Proposed Project, based on preliminary design plans (showing trail and restroom locations), by a licensed geotechnical engineer and a licensed engineering geologist in the State of California. The resulting Geotechnical and Engineering Geology Report and Erosion Control Plan shall summarize the results of field investigations, laboratory testing, and geotechnical/geologic analysis regarding: (1) active and potentially active faults, (2) seismic ground shaking, (3) seismic related ground failure, (4) landslides, (5) soil erosion, (6) unstable geologic and soil units, (7) expansive soils, (8) wastewater disposal characteristics, and (9) the effects of hillside ground slope on trail/restroom design and construction. The technical data, analyses, conclusions, and recommendations shall be considered and adopted in the design and construction of the project facilities based on the review and approval by the County of Los Angeles Department of Public Works and County of Los Angeles Department of Parks and Recreation. Adherence to the approved design and construction recommendations shall be verified by review and approval of the final design. Construction site inspections shall be conducted by, and in coordination with, the project geotechnical engineer and engineering geologist. All activities shall be consistent with the County of Los Angeles Trails Manual, and shall adhere to the standards and requirements in the California Building Code (California Code of Regulations, Title 24), Los Angeles County Building Code, Title 26, and/or professional engineering standards appropriate for such construction within the County. The County of Los Angeles Department of Public Works, Building and Safety Division, shall enforce conformance with these design standards through plan review and approval, prior to the issuance of building permits for any facility.

iii) Seismic-related ground failure, including liquefaction and lateral spreading? ☐ ☒ ☐ ☐

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The expected level of ground shaking in the Castaic project area is high enough to initiate liquefaction as a result of there being expected high seismic shaking levels, areas of shallow

groundwater, and cohesionless sands (see Figure 2.7-2, *Earthquake Induced Landslides and Liquefaction* [revised from Figure 9, *Earthquake Induced Landslides and Liquefaction [CDMG, 1997, etc.]*, in Appendix E]). The southern portion of the Castaic project area contains several areas that are subject to liquefaction, and 13 of the 21 proposed facility locations are within an area of liquefaction (see Figure 2.7-2). As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction and lateral spreading. Implementation of Mitigation Measure GEO-1 would reduce impacts to below the level of significance as established by the Uniform Building Code.

iv) Landslides?	☐	☒	☐	☐

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Incorporation of mitigation measures would reduce these impacts to below the level of significance. An estimated 40 to 50 percent of the mountains and hills of the Castaic project area are potential earthquake-induced landslide areas. These areas correspond to bedrock and to a lesser extent older alluvium with steep slopes (see Figure 2.7-2 and Figure 2.7-3, *Castaic Project Area Geology* [revised from Figure 5, *Multi-Use Trails Area Geology*, in Appendix E]). Landslide movement may occur along bedding planes within these formations, as rocks dislodged from exposures on steep slopes, or as surficial failures of weathered rock and soil/colluvium. Such movement could cause rock masses to dislocate and damage overlying facilities and facilities nearby and downslope from these bedrock and older alluvium areas (Appendix E). The majority of the Castaic project area is located in areas subject to earthquake induced landslides and two of the proposed facility locations are within areas subject to earthquake induced landslides (see Figure 2.7-2). As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismically induced landslides, thus requiring implementation of Mitigation Measure GEO-1 to reduce the risk to below the level of significance as established by the Uniform Building Code.

b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to geology and soils in regard to resulting in substantial soil erosion or the loss of topsoil. The Castaic project area has numerous primary and secondary drainages. West of Castaic Valley and the I-5 freeway the primary drainages from north to south include Violin, Palomas, Santa Felicia, Devil, Romero, Sloan, Hasley, Oak, Lechier, San Martinez Chiquito, Holser, and San Martinez Grande. These empty into either Castaic Valley or the Santa Clara River. East of Castaic Valley and the I-5 Freeway from north to south are Grasshopper, Charlie, Tapia, Wayside, and San Francisquito Canyons all of which also empty into either Castaic Valley or the Santa Clara River. Within the Castaic project area, most drainage areas form relatively narrow canyons at higher elevations and transition to the broader floodplains. With regard to drainage area size,[35,36,37,38] the larger drainages in the Castaic project area are Grasshopper, Violin, and Palomas from north to south; Romero and Hasley from west to east; San Martinez Grande/Chiquito from west to east to south; Charlie, Tapia, Wayside, and San Francisquito Canyons from east to west; and Castaic Valley from north to south. All eventually empty into the Santa Clara River (see Figure 2.7-4, *Castaic Project Area Hydrology Map* [revised from Figure 7, *Multi-Use Trails Plan Area Hydrology Map*, in Appendix E]).

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[35] U.S. Geological Survey. 1969. Oat Mountain 7.5-minute quadrangle, Los Angeles County, California.

[36] U.S. Geological Survey. 1969, Simi Valley East 7.5-minute quadrangle, Los Angeles County, California.

[37] U.S. Geological Survey. 1995. Val Verde 7.5-minute quadrangle, Los Angeles County, California.

[38] U.S. Geological Survey. 1995. Newhall 7.5-minute quadrangle, Los Angeles County, California.

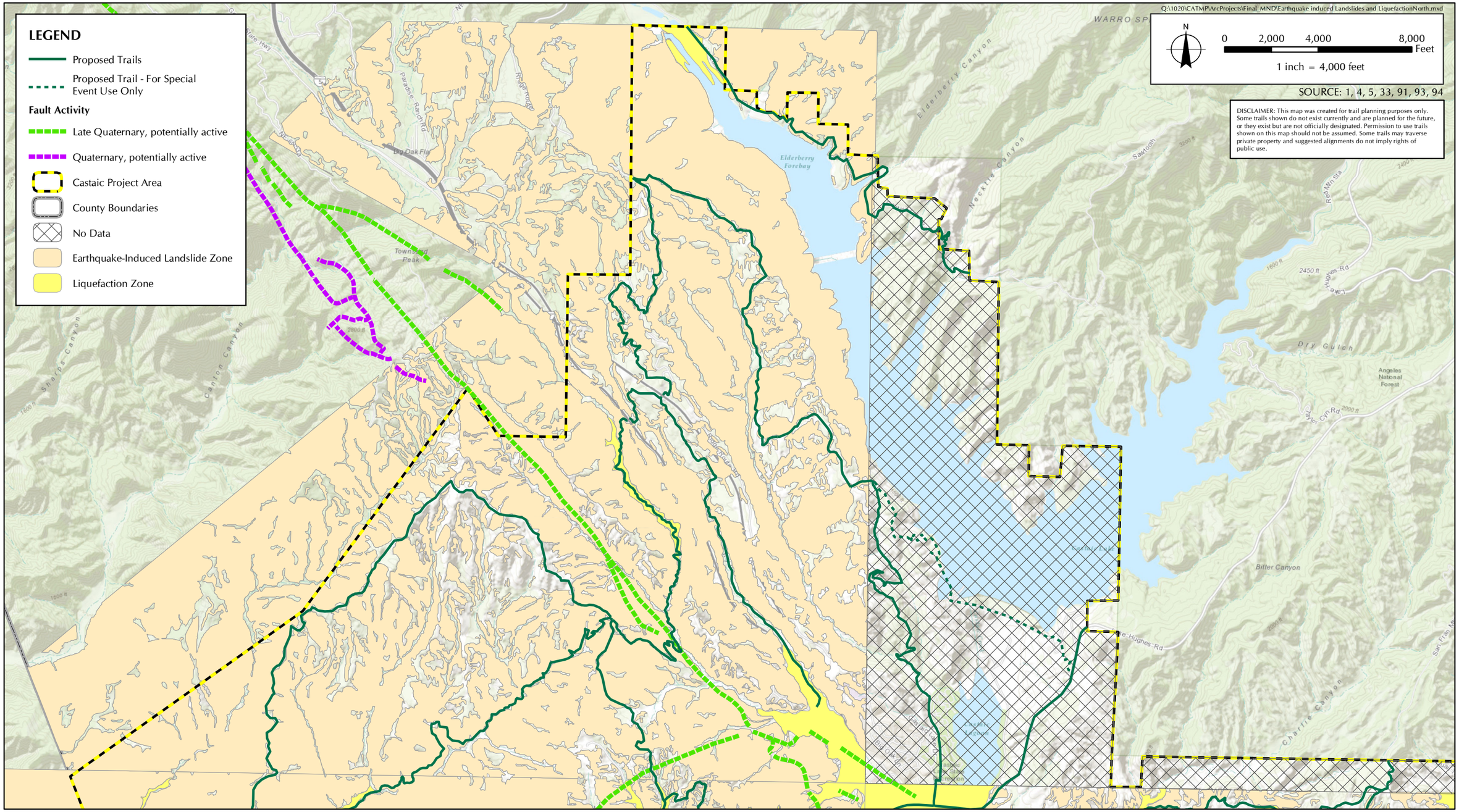

FIGURE 2.7-2A

Earthquake-induced Landslides and Liquefaction (CDMG, 1997, etc.) - North

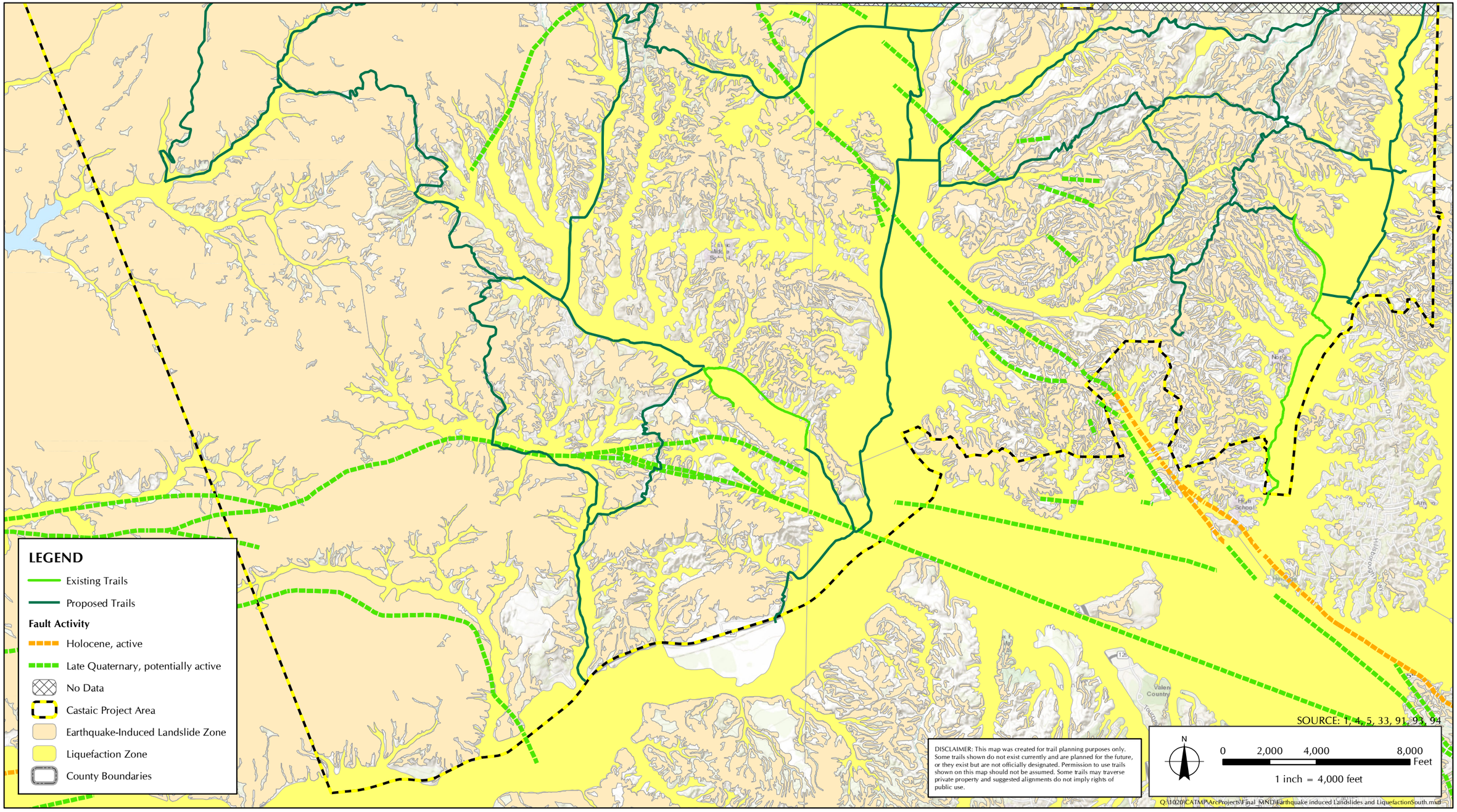

FIGURE 2.7-2B

Earthquake-induced Landslides and Liquefaction South (CDMG, 1997, etc.)

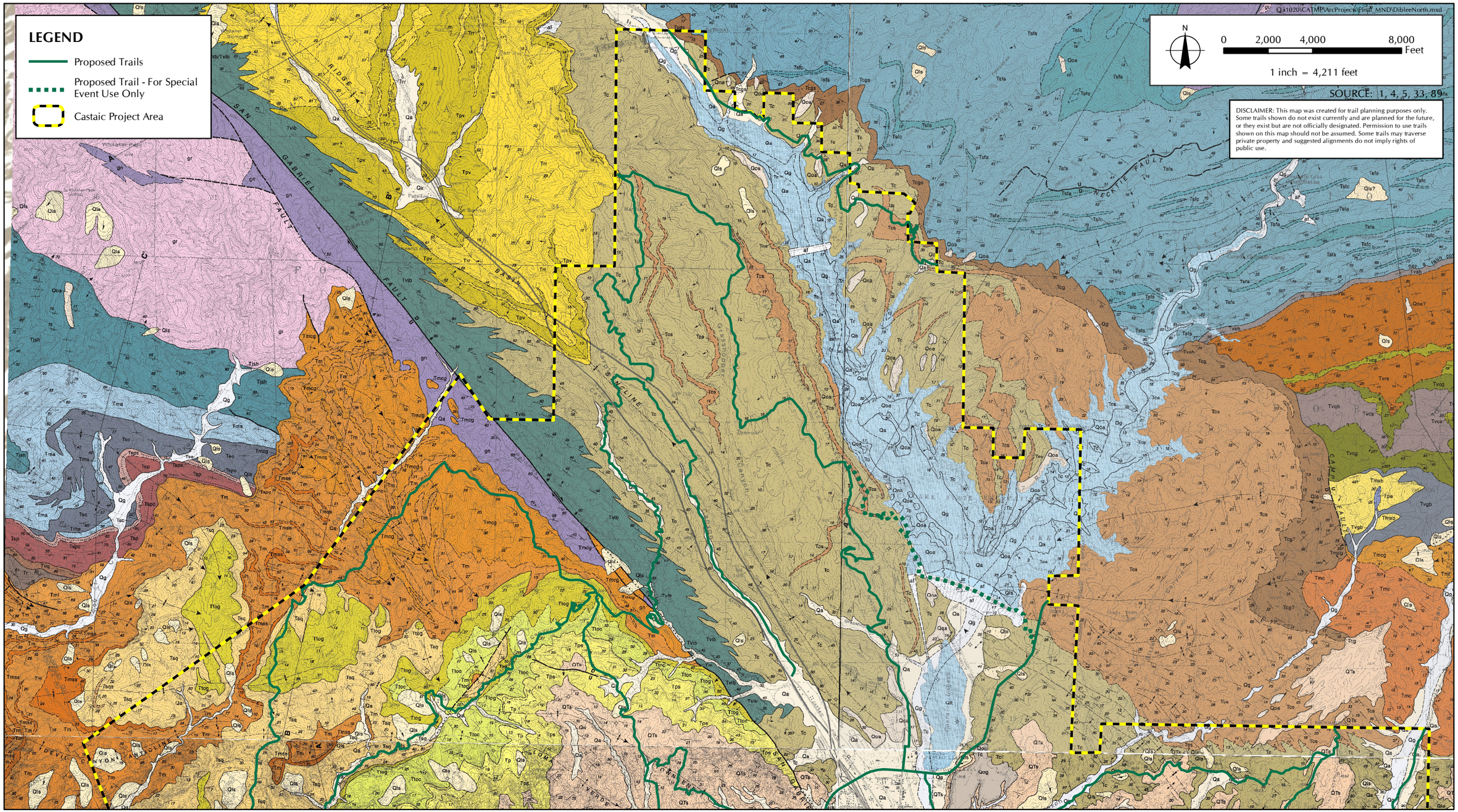

FIGURE 2.7-3A

Castaic Project Area Geology - North

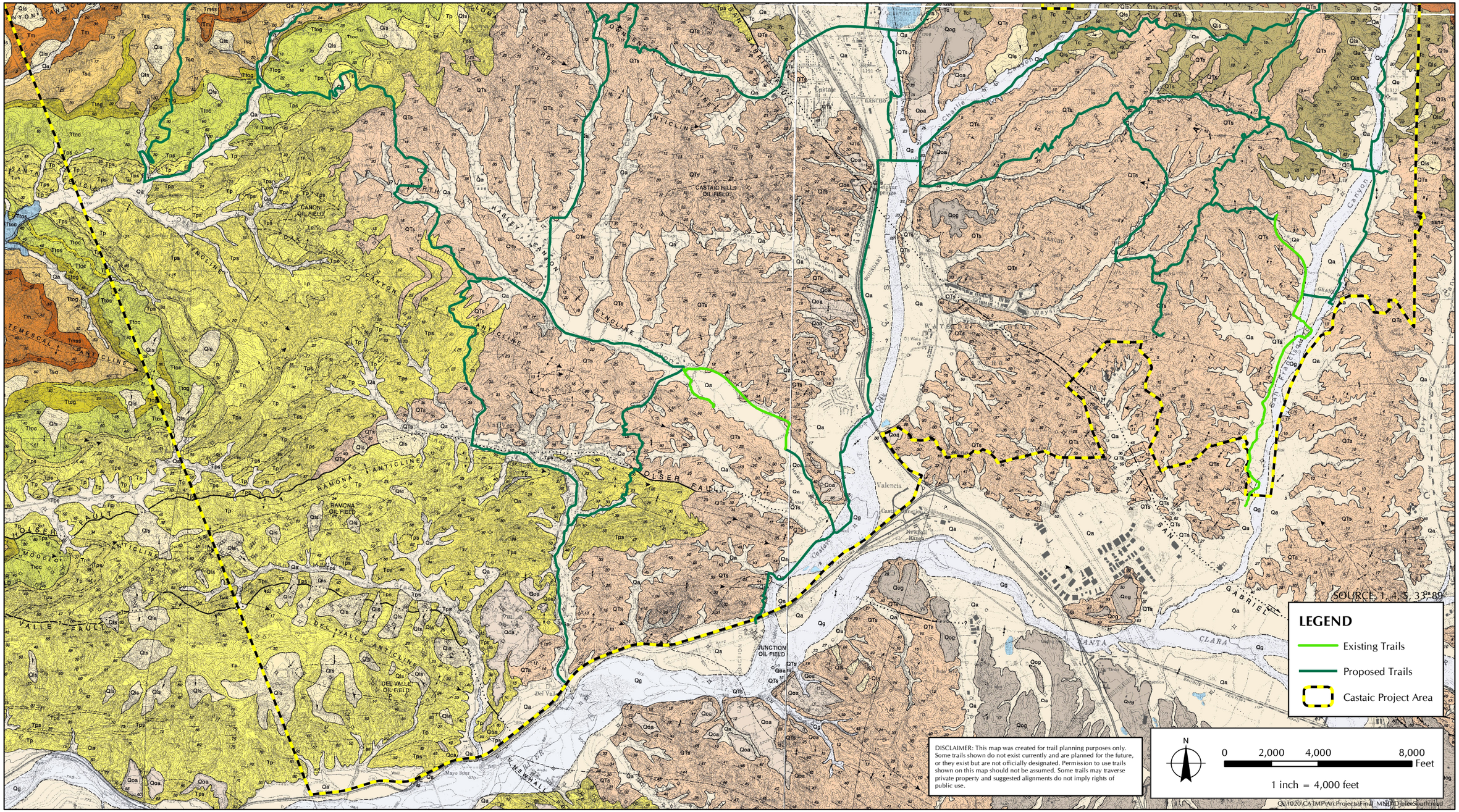

FIGURE 2.7-3B

Castaic Project Area Geology - South

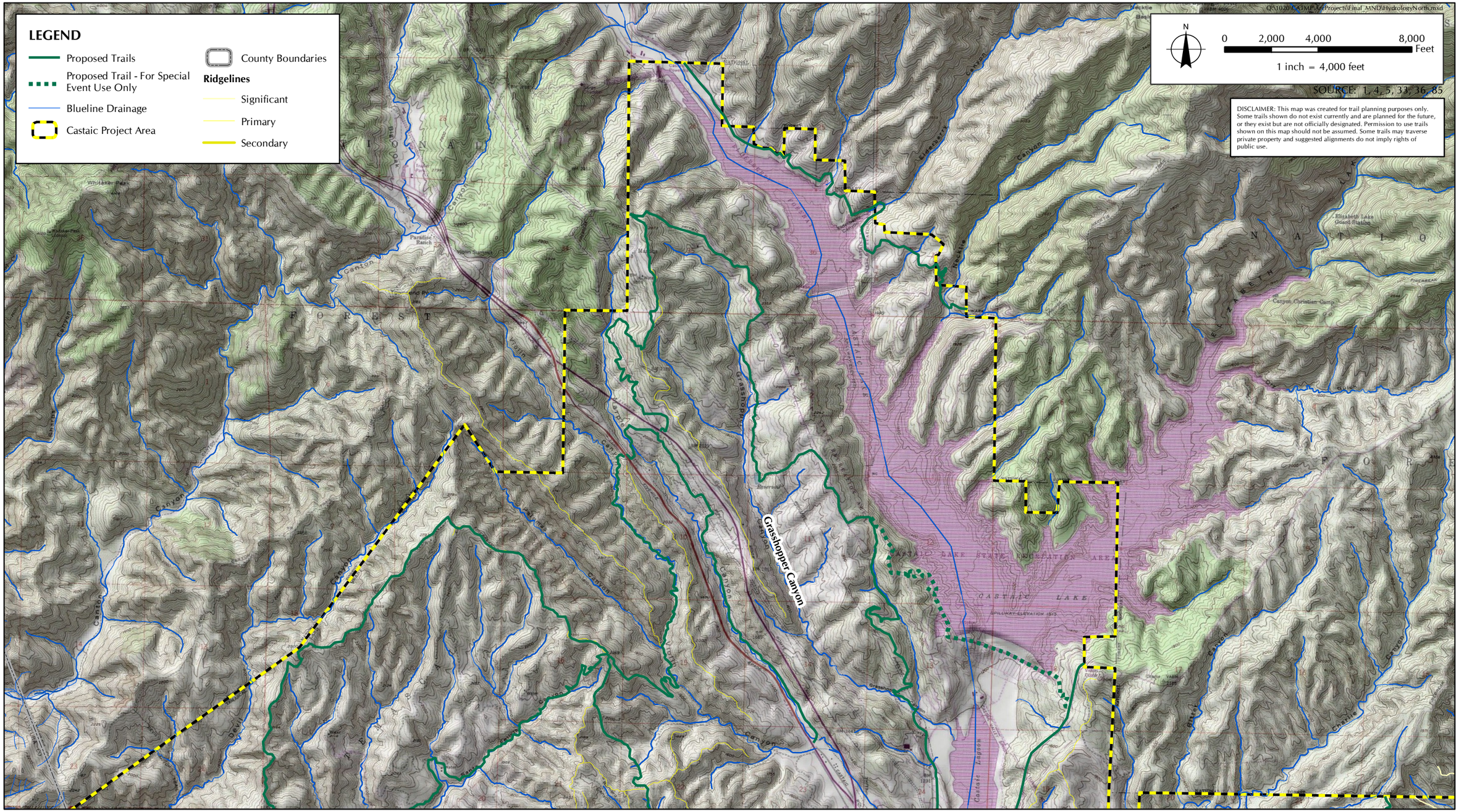

FIGURE 2.7-4A

Castaic Project Area Hydrology Map- North

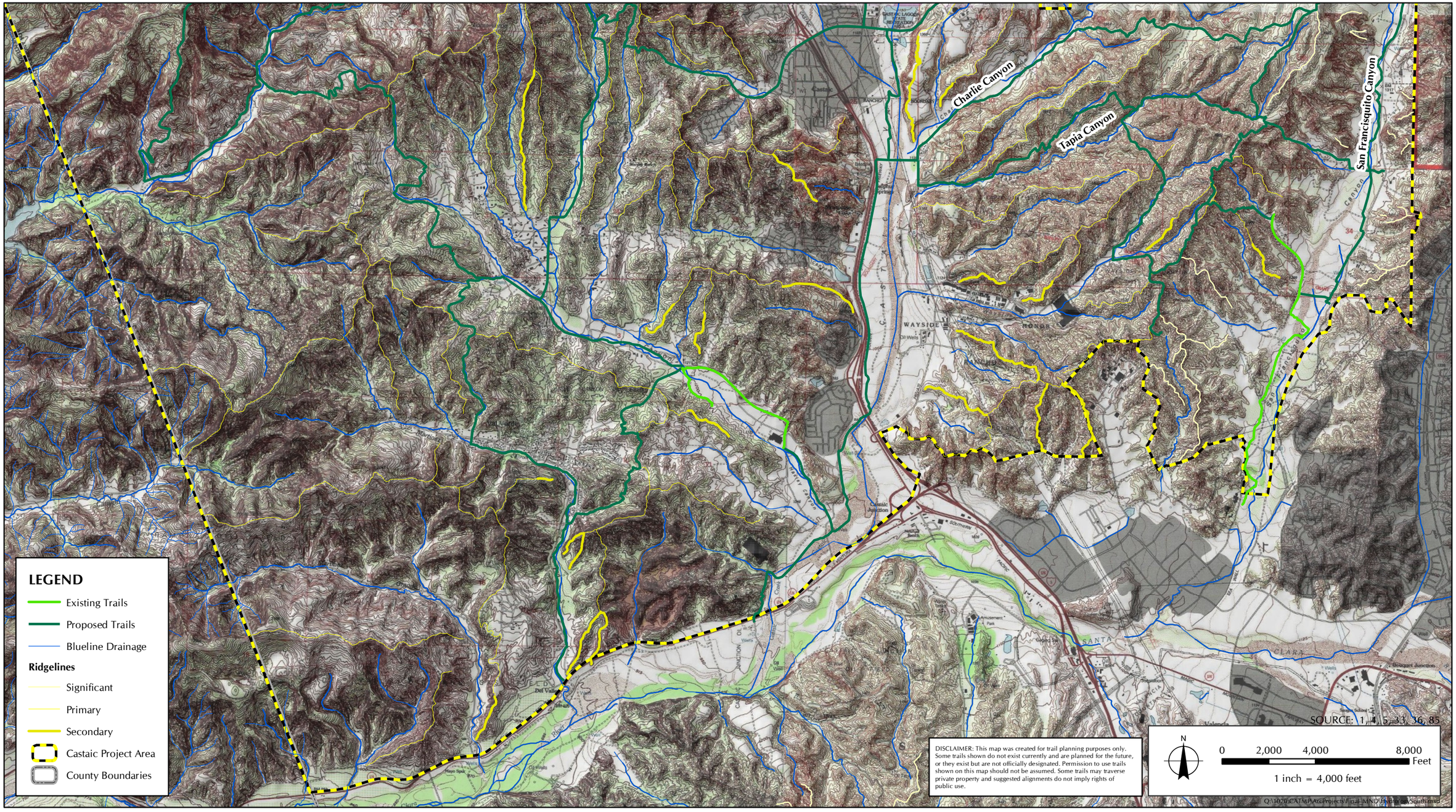

FIGURE 2.7-4B

Castaic Project Area Hydrology Map- South

Rainfall events may result in erosion or the loss of topsoil in these drainages. Proposed trails are required to be designed consistent with the standards of the County Trails Manual that requires erosion control to be an element of trail design. Additionally, trail construction would also be subject to the requirements of the County. As a result, significant impacts related to substantial soil erosion or the loss of topsoil would be avoided, and no mitigation would be required.

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

The proposed project would result in less than significant impacts to geology and soils in regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. Oil field activity in the project area could lead to local subsidence that could manifest as cracks and areas of ground settlement. Large portions of the Castaic project area contain oil fields and past oil drilling and well activity. Approximately 10.4 miles of trails are proposed for areas located within oil fields (Figure 2.7-5, *Oil Wells in the Castaic Project Area* [revised from Figure 10, *Oil Wells in the Castaic Project Area*, in Appendix E]). Due to the likely limited extent of trails in these areas, the years over which pumping has already occurred, and the relatively low level of oil extraction, this would have a minimum impact. Affected areas can be repaired to level ground and eliminate ground cracks that may form (Appendix E). Compliance with County Grading Application Requirements, the County Building Code, and the County Trails Manual are sufficient to avoid significant impacts related to proposed project trails or facilities that may be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, impacts would be less than significant, and mitigation would not be required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐

The proposed project would result in significant impacts to geology and soils in regard to being located on expansive soil. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The proposed project may result in the placement of trails or structures in areas of expansive soil. Surface subsidence/settlement may occur in the Castaic project area where it is found to have soil susceptible to expansion/contraction (very clay-rich soils) and possibly hydroconsolidation (fine-grained granular soils). When present, moderate to high expansion indices indicate that there is a substantial amount of clay in the soils and repeated episodes of wetting and drying will cause distress to structures in contact with such soils (Appendix E). Therefore, the proposed project would result in significant impacts in regard to expansive soil risks. Implementation of Mitigation Measure GEO-1 would reduce impacts to below the level of significance.

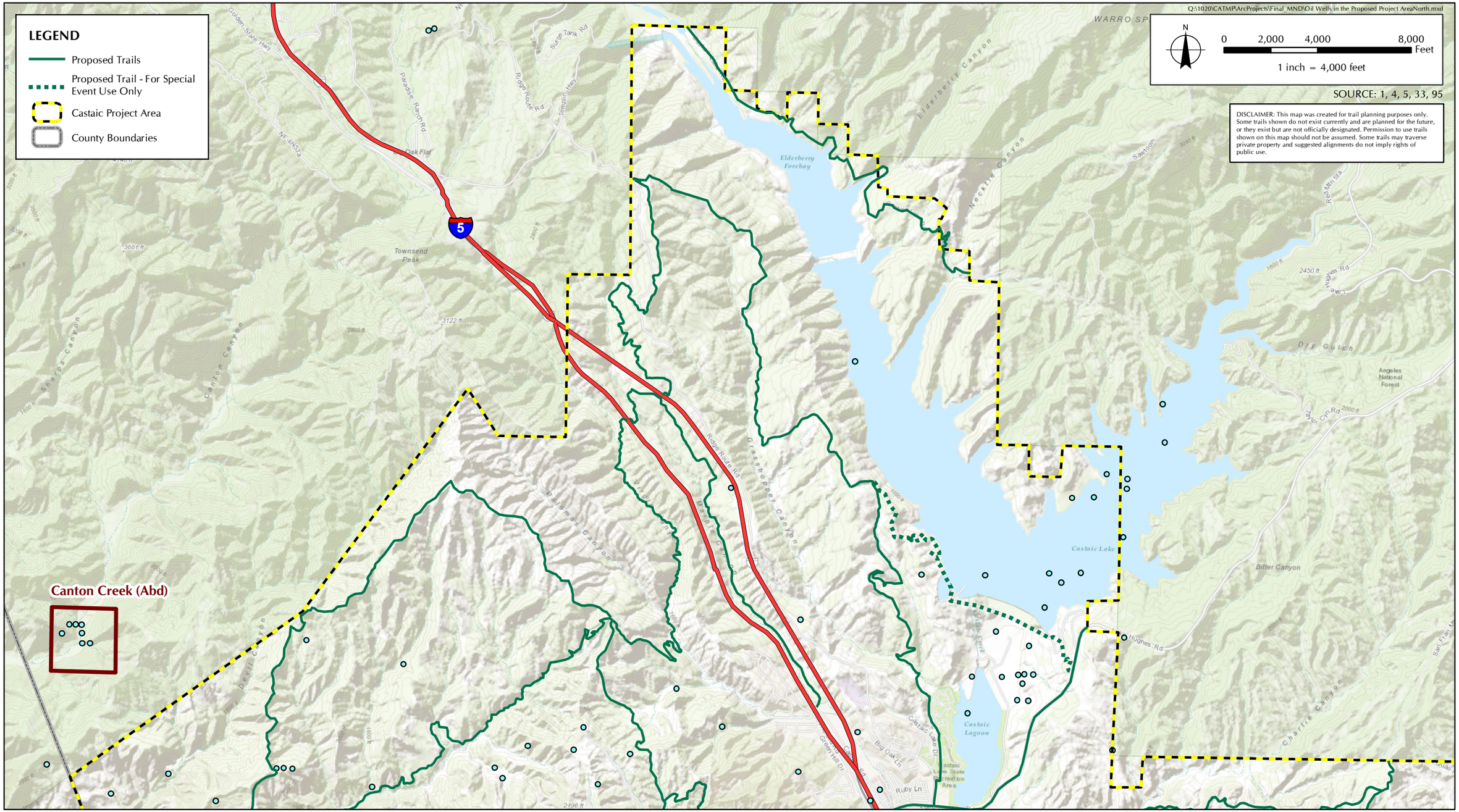

FIGURE 2.7-5A

Oil Wells in the Castaic Project Area- North

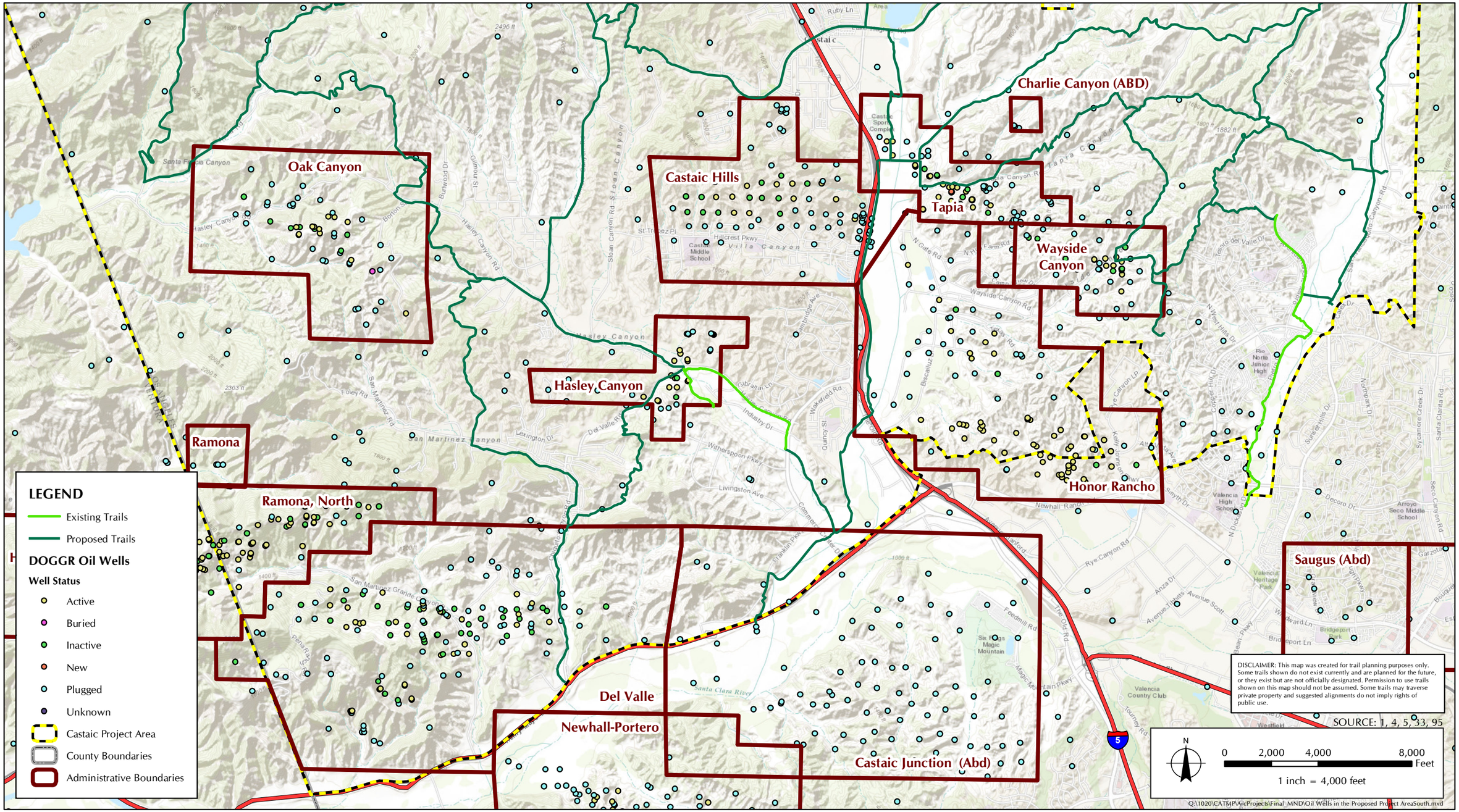

FIGURE 2.7-5B

Oil Wells in the Castaic Project Area- South

e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater? ☐ ☒ ☐ ☐

The proposed project would result in significant impacts to geology and soils in regard to having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The proposed project includes the use of restrooms at various locations throughout/along the trail system. Depending on the selected locations (e.g., bedrock or alluvium), soils may have inadequate infiltration capacity or groundwater may be sufficiently shallow that infiltration will reach potentially potable groundwater (Appendix E). The proposed project plans for restroom facilities at trailheads that may require siting within soil types that would not support onsite water treatment systems. Therefore, the proposed project would result in significant impacts in regard to having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available. Implementation of Mitigation Measure GEO-1 would reduce impacts to below the level of significance.

f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Natural Resources Element? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to geology and soils in regard to conflicts with the Hillside Management Area Ordinance or hillside design standards in the County General Plan. The Los Angeles County Hillside Management Ordinance applies to areas greater than 25 percent slope.[39] Approximately 1,926 acres of the total Castaic project area consists of slopes greater than 25 percent (see Figure 1.11-1, *Castaic Project Area Slope*). Ground surface slopes in the Castaic project area are relatively steep with most greater than 20 percent in the upper elevation hills and mountains, reaching greater than 40 percent adjacent to ridges. Slopes in the lowest foothills immediately adjacent to the mountains, in canyons, valley and active drainages designated above are generally less than 20 percent and predominantly less than 6 percent (e.g., Castaic Valley and Violin, Hasley, San Martinez Grande, and San Francisquito Canyons). Portions of proposed recreational trails may cross through the areas greater than 25 percent slope. As a result, trails that cross through these areas would be subject to the requirements and design standards of the Hillside Management Ordinance and hillside design standards in the Conservation and Natural Resources Element of the General Plan. Specifically, sensitive hillside design measures (2.1 through 2.12) would be applied to the trail and facilities (e.g., restrooms) (Appendix E). Further, the Hillside Management Ordinance requires that all new development in areas over 25 percent slope obtain a CUP as part of the entitlement process.[40] Therefore, the proposed project would not result in in conflicts with the Hillside Management Area Ordinance or the hillside design standards in the Conservation and Natural Resources Element of the County General Plan. Impacts would be less than significant, and no mitigation would be required.

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[39] County of Los Angeles. Los Angeles County Hillside Management Ordinance. November 5, 2015. Available online at: http://planning.lacounty.gov/assets/upl/project/hma_adopted-ordinance.pdf

[40] County of Los Angeles. Los Angeles County Hillside Management Ordinance. November 5, 2015. Available online at: http://planning.lacounty.gov/assets/upl/project/hma_adopted-ordinance.pdf

8. GREENHOUSE GAS EMISSIONS

This analysis is undertaken to determine if the proposed project would have a significant impact to greenhouse gas (GHG) emissions, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the *Air Quality Analysis for Castaic Area Multi-Use Trails Plan* (Appendix B).

	Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Would the project:				
a) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to generating GHG emissions, either directly or indirectly, that would have a significant impact on the environment. The principal anthropogenic GHGs that enter the atmosphere consist of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (CFCs), perfluorocarbons (HCFCs), and sulfur hexafluoride (SF_6). Among these GHGs, CO_2 emissions are considered to be the most abundant type of GHG emissions contributing to global climate change. To quantitatively analyze the proposed project's impacts on global climate change, URBEMIS 2007, version 9.2.4, was used to calculate CO_2 emissions resulting from construction and operation of the proposed project (Appendix B). Given the absence of federal, state, or regional construction-related and operation related GHG emissions thresholds of significance, California's total GHG emissions for 2010 (most recent data) were used to determine the significance level of the proposed project's impacts on global climate change. In 2010, California was reported to have contributed approximately 369.8 million metric tons of CO_2 emissions statewide. According to URBEMIS 2007, version 9.2.4, Combined Annual Emission Reports (Tons/Year), approximately 121.89 metric tons of carbon dioxide equivalent (CO_2e) per year would be emitted as result of the proposed project's construction (Appendix B). This is approximately 0.00003 percent of California's total CO_2 emissions in 2010. Operations of the proposed project would be expected to result in approximately 82.12 metric tons of CO_2e emissions per year (Appendix B). This is approximately 0.00002 percent of California's total CO_2 emissions in 2010. Therefore, the proposed project would result in less than significant impacts in regard to generating greenhouse gas emissions, and no mitigation would be required.

b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to conflicting with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The applicable plans are the SCAQMD AQMP, SCAG 2016–2040 RTP/SCS, Air Quality Element in the County General Plan, and the County of Los Angeles Community Climate Action Plan (CCAP). The proposed project would be consistent with the SCAQMD AQMP that was adopted in 2012. Because the construction and operational emissions (Table 10, *Estimated Daily Construction Emissions*, and Table 11, *Estimated Daily Operational Emissions*, of Appendix B) for $PM_{2.5}$ and the ozone precursors are below the significance threshold set by SCAQMD, the proposed project would not conflict with or obstruct implementation of SCAQMD's AQMP, cause a violation of the standards, or impact the attainment status of SCAQMD. The proposed project would be consistent with the SCAG 2016–2040 RTP/SCS and the Air

Quality Element of the County of Los Angeles General Plan 2035 because, by decreasing the distance people travel to recreational trails, the proposed project would reduce VMT and resulting GHG emissions. CARB has set the following reduction targets for the SCAG region: reduce per capita GHG emissions 8 percent below 2005 levels by 2020 and 13 percent by 2035. The proposed project also fulfills the land use and transportation strategy area in the County of Los Angeles CCAP to reduce VMT and promote sustainability in land use design in the unincorporated areas of the County. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation related to reducing GHG emissions, and no mitigation would be required.

9. HAZARDS AND HAZARDOUS MATERIALS

This analysis is undertaken to determine if the proposed project would have a significant impact to hazards and hazardous materials, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to hazards and hazardous materials in regard to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Land use within the Castaic project area is not typically associated with hazards or hazardous materials, as the predominant land use designations within the Castaic project area are agricultural and open space (see Figure 1.7-1, *Los Angeles County Zoning Designations*). No routine hazardous materials transport, use, or disposal would occur as a result of the proposed project, and hazardous materials storage would not occur. The construction of the proposed project would require limited use of hazardous materials; however, construction would occur pursuant to County building code requirements. Therefore, the proposed project would result in less than significant impacts in regard to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and mitigation would not be required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment. Land use within the Castaic project area is not typically associated with hazards or hazardous materials, as the predominant land use designations within the Castaic project area are agricultural and open space (see Figure 1.7-1). Construction activities would involve the use of hazardous materials, such as paints, thinners, solvents, acids, curing compounds, grease, oils, and other chemicals, which could pose risks to construction workers or lead to soil and groundwater contamination if not properly stored, used, or disposed. However, handling of hazardous materials would be in accordance with the following existing regulations: the Toxic Substance Control Act, Hazardous Material Transportation Act, Resource Conservation Act, Certified Unified Program Agency, and Californian Accidental Release Prevention Program. These regulations include the proper transport of hazardous materials; on-site storage and use; and procedures to implement in the event of a spill. Proposed trails may cross underground pipelines. Grading and excavation may disturb oil and gas pipelines and lead to leaks, fire, explosions, and related hazards. Compliance with Title 8, Section 1541, of the California Code of Regulation (CCR), regarding notification of and coordination with the pipelines' owners/operators (through the DigAlert program) and their approval and monitoring of activities near the pipelines would avoid damage to these lines and would prevent the creation of hazards to the surrounding area (see Figure 2.7-5, *Oil Wells in the Castaic Project Area*). The Federal and State Occupational Safety and Health Acts include

regulations pertaining to worker safety, including standards for safe workplaces and work practices. The California Office of Emergency Services, Hazardous Materials (HazMat) Section, under the Fire and Rescue Division, coordinates statewide implementation of hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats. In response to any hazardous materials emergency, the Section staff is called upon to provide state and local emergency managers with emergency coordination and technical assistance.[41] The California Office of Emergency Services immediately takes on the Incident Command responsibility after an emergency incident involving transport on the railways, and has a goal of resolving incidents within 90 minutes. The proposed project would follow the requirements of the County Trails Manual and County building codes. Therefore, impacts would be less than significant, and no mitigation would be required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to emitting hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses. There are 15 schools located within one-quarter mile of the Castaic project area (Figure 2.9-1, *Schools within One-Quarter Mile of Castaic Project Area*). The proposed project would not pose a significant hazard to the students and faculty of the schools due to the lack of routine hazardous materials use associated with the proposed trails and supporting trail facilities. During construction, hazardous material use, storage, and disposal would be made in accordance with existing regulations found in the Toxic Substance Control Act, Hazardous Material Transportation Act, Resource Conservation Act, Certified Unified Program Agency, and Californian Accidental Release Prevention Program. Therefore, the proposed project would result in less than significant impacts in regard to emitting hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses, and no mitigation would be required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, creating a significant hazard to the public or the environment. The review of the CalEPA EnviroStor database indicates that areas in the vicinity of the proposed trails plan are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Figure 2.9-2, *Hazardous Sites within One-Eighth Mile of Castaic Project Area*; Table 2.9-1, *Hazardous Materials Sites*). However, construction of the proposed project would conform to requirements of the County Trails Manual and County building codes. Therefore, the project would result in less than significant impacts in regard to being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, creating a significant hazard to the public or the environment, and mitigation would not be required.

[41] State of California. 2011. http://www.caloes.ca.gov/for-individuals-families/hazardous-materials

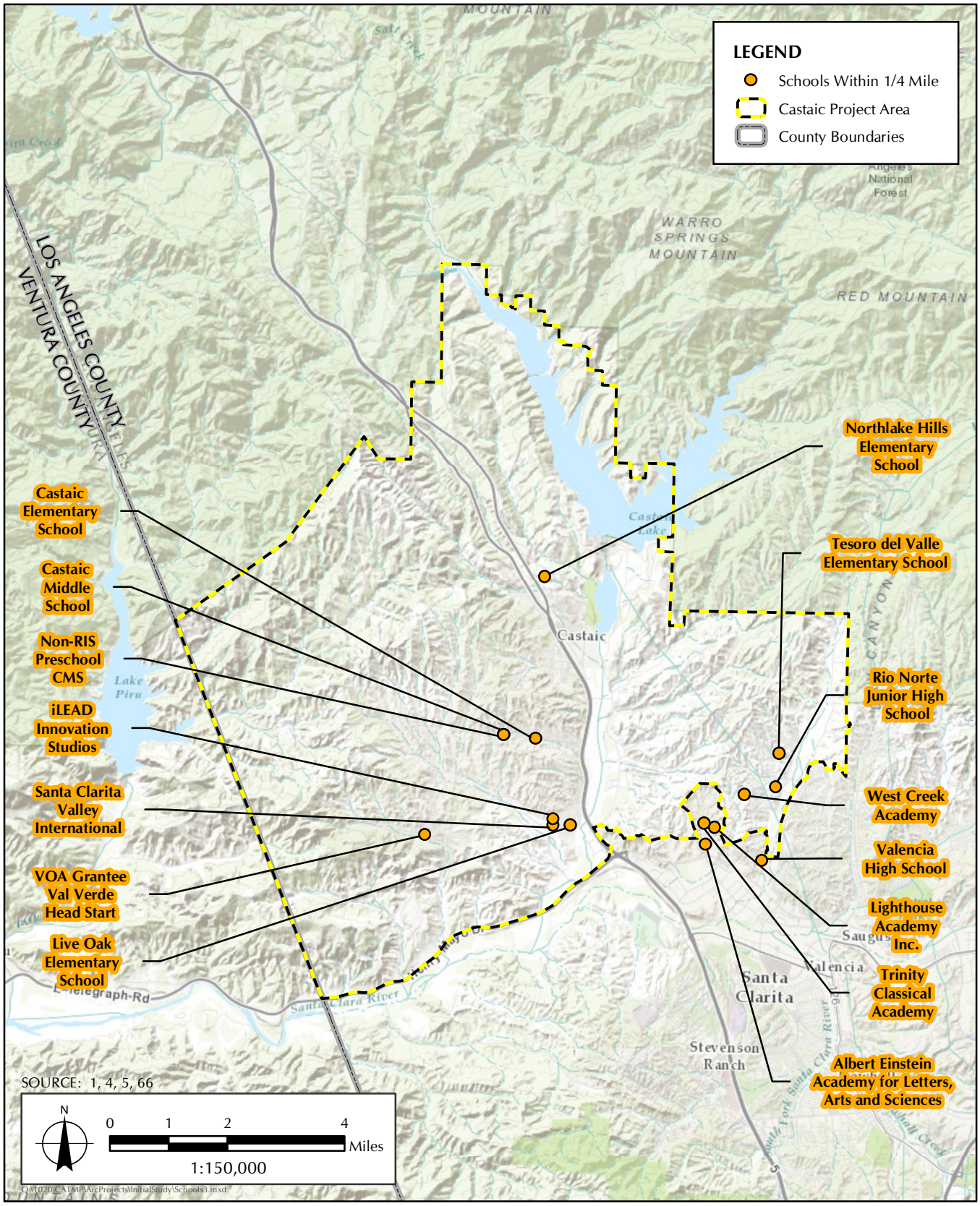

FIGURE 2.9-1

Schools within One-Quarter Mile of Castaic Project Area

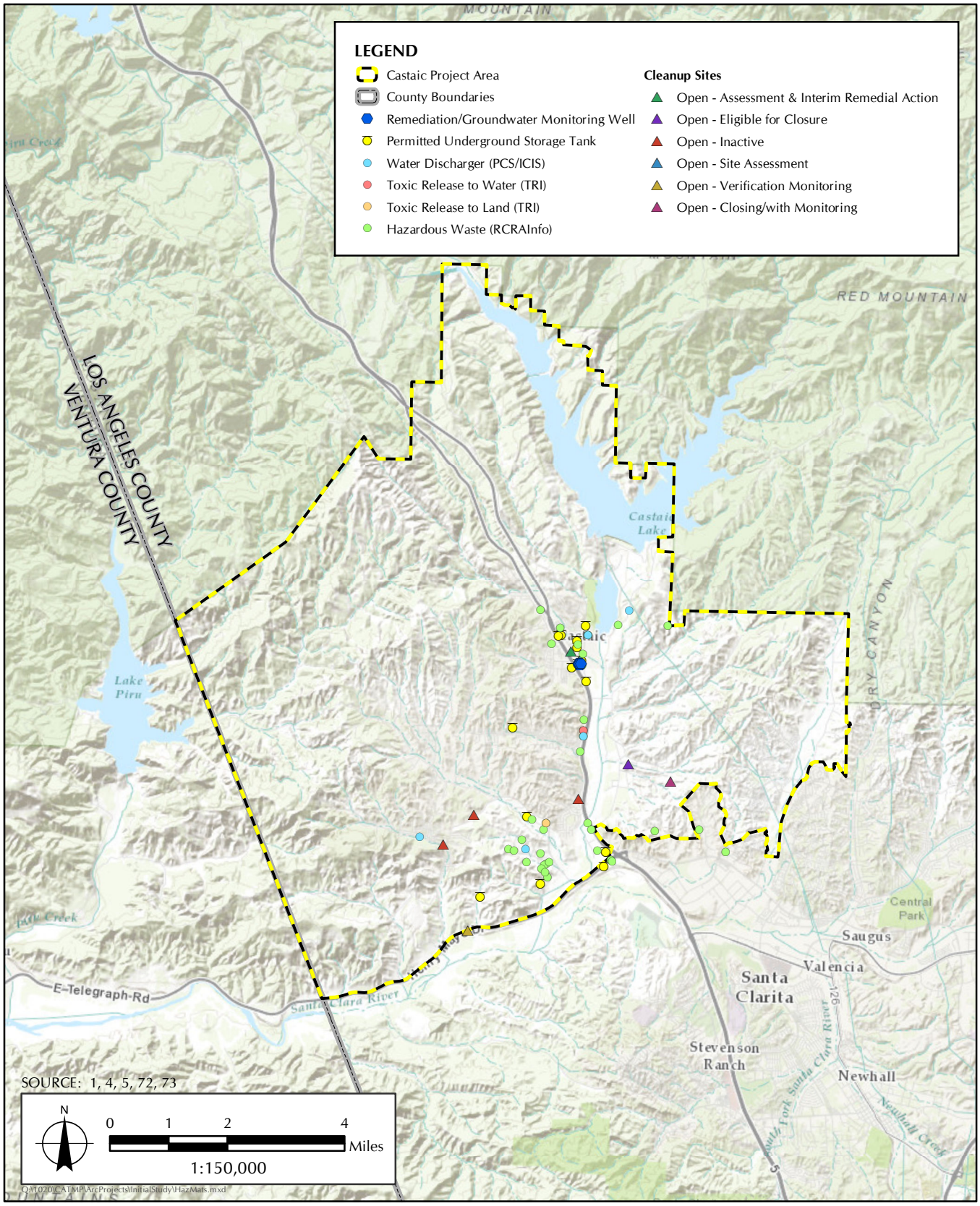

FIGURE 2.9-2

Hazardous Sites Within One-Eighth Mile of Castaic Project Area

TABLE 2.9-1
HAZARDOUS MATERIALS SITES

Business Name	Case Type	Status	Potential Hazardous Material	Potential Source Affected
CASTAIC OPERATIONS & MAINT CTR	LUST Cleanup Site	Completed - Case Closed	Gasoline	Soil
NEWHALL LAND & FARMING	LUST Cleanup Site	Completed - Case Closed	Gasoline	Soil
SCHWARTZ OIL CO.	LUST Cleanup Site	Completed - Case Closed	Gasoline	Aquifer used for drinking water supply
7-ELEVEN STORE #26945	LUST Cleanup Site	Completed - Case Closed	Gasoline	Aquifer used for drinking water supply
GIANT TRUCK STOP	LUST Cleanup Site	Completed - Case Closed	Diesel	Aquifer used for drinking water supply
UNOCAL - DEL VALLE	Cleanup Program Site	Open - Inactive		
PROPOSED SCHOOL BUS STOP	Cleanup Program Site	Completed - Case Closed		
NEWHALL LAND & FARMING	LUST Cleanup Site	Completed - Case Closed	Gasoline	Soil
Gallions Castaic Corner	LUST Cleanup Site	Open - Site Assessment	Gasoline	Soil
COUNTY OF LOS ANGELES - NEWHALL MOOSE LO	Cleanup Program Site	Completed - Case Closed		
MOBIL #11-FKA	LUST Cleanup Site	Completed - Case Closed	Aviation	Soil
CASTAIC BRICK	LUST Cleanup Site	Completed - Case Closed	Gasoline	Soil
GIANT TRUCK STOPS	LUST Cleanup Site	Completed - Case Closed	Diesel	Aquifer used for drinking water supply
LA CO FD FIRE STATION #077	LUST Cleanup Site	Completed - Case Closed	Aviation	Soil
Gilmour Mud Sump	Land Disposal Site	Open - Inactive		
PETER PITCHESS LANDFILL	Land Disposal Site	Open - Closing/with Monitoring		
UNOCAL #5970	LUST Cleanup Site	Completed - Case Closed	Waste Oil / Motor / Hydraulic / Lubricating	Soil
NEWHALL LAND & FARMING	LUST Cleanup Site	Completed - Case Closed	Diesel	Soil
EARL SCHMIDT TREATMENT PLANT	LUST Cleanup Site	Completed - Case Closed	Waste Oil / Motor / Hydraulic / Lubricating	Soil
SHELL SERVICE STATION	LUST Cleanup Site	Completed - Case Closed	Gasoline	Aquifer used for drinking water supply
CHIQUITA CANYON LANDFILL	Land Disposal Site	Open - Verification Monitoring		
UNION OIL COMPANY/ UNOCAL STATION	LUST Cleanup Site	Completed - Case Closed	Gasoline	Soil

VALENCIA WATER RECLAMATION PLN	LUST Cleanup Site	Completed - Case Closed	Diesel	Aquifer used for drinking water supply
FORMER SHELL STATION	LUST Cleanup Site	Completed - Case Closed	Other Solvent or Non-Petroleum Hydrocarbon, Benzene	Aquifer used for drinking water supply
Unocal Station #255970	LUST Cleanup Site	Completed - Case Closed	MTBE / TBA / Other Fuel Oxygenates	
VINTAGE PETROLEUM	LUST Cleanup Site	Open - Inactive		
UNOCAL - LINCOLN LEASE	Cleanup Program Site	Completed - Case Closed		
Former SADD Lease North and South Pads	Cleanup Program Site	Completed - Case Closed	Crude Oil	Soil
CHEVRON #9-1899 (FORMER)	LUST Cleanup Site	Completed - Case Closed	Waste Oil / Motor / Hydraulic / Lubricating	Aquifer used for drinking water supply
US POSTAL - SANTA CLARITA P & DC	LUST Cleanup Site	Completed - Case Closed	MTBE / TBA / Other Fuel Oxygenates	Aquifer used for drinking water supply
SCHWARTZ OIL CO.	LUST Cleanup Site	Completed - Case Closed	Other Solvent or Non-Petroleum Hydrocarbon	Aquifer used for drinking water supply
VILLAGE FUEL STOP	LUST Cleanup Site	Open - Assessment & Interim Remedial Action	Gasoline	Aquifer used for drinking water supply
LA CO SHERIFF PJP HONOR	LUST Cleanup Site	Open - Eligible for Closure	Other Solvent or Non-Petroleum Hydrocarbon	Soil
LA CO FIRE STATION #076	LUST Cleanup Site	Completed - Case Closed	Other Solvent or Non-Petroleum Hydrocarbon	Soil

e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

The proposed project would result in no impacts in regard to being located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Castaic project area. The distance to the nearest public airports are 12.7 miles for the Agua Dulce Airpark and 15.1 miles for the Whiteman Airport. The proposed project would not be located within the airport influence area of either airport. Therefore there would be no impacts, and no mitigation would be required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

The proposed project would result in no impacts in regard to being located within the vicinity of a private airstrip, or resulting in a safety hazard for people residing or working in the Castaic project area. The

distance to the nearest private airstrip is 13.0 miles for the Quail Lake Sky Park. Therefore there would be no impact, and no mitigation would be required.

g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to impairing implementation of, or physically interference with, an adopted emergency response plan or emergency evacuation plan. The proposed project would involve construction near public roadways that are used for emergency response and evacuation.

Based on the traffic and parking assessment prepared for the proposed project, it was determined that peak trail demand (weekends during mid-day) would not coincide with peak roadway demand and, thus, would have minimal impact on traffic conditions during the weekday AM and PM commuter peaks (Appendix G, *Castaic Area Multi-Use Trails Plan Traffic Assessment*). Emergency response to County trails would be provided by various agencies, depending on the location. In many cases, the closest public safety agency would respond, which may include County sheriffs, local police, or national forest personnel. Way-finding signs should also include emergency response information, such as emergency phone numbers and trail addresses if applicable. The proposed project would conform to the County Trails Manual. Therefore, there would be less than significant impacts in regard to the impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan, and no mitigation would be required.

h) Expose people or structures to a significant risk of loss, injury or death involving fires, because the project is located:

i) within a Very High Fire Hazard Severity Zones (Zone 4)?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to exposing people or structures to a significant risk of loss, injury or death involving fires. Based on the review of fire severity hazard zone maps developed by CAL FIRE,[42] portions of the proposed initiative are situated in a Very High Fire Hazard Severity Zone (Figure 2.9-3, *Fire Hazard Severity Zone*s). The proposed project would allow development of trails and trail related structures in areas that have been designated as High or Very High Fire Hazard Severity Zones, where there is the potential for exposure of people or structures to a significant risk of loss, injury or death involving wildland fires. However, the County building permit process reduces the potential exposure of people and structures to significant loss, injury, or death involving wildland fires to below the level of significance, through the requirement to use fire-resistant construction materials such as for roofs and design features such as enclosing eaves, and through the requirement for submittal and approval of a fuel modification plan, prior to issuance of a Certificate of Occupancy.[43] Furthermore, consistent with the *County Trails Manual*, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation.[44] In accordance with County Code, fires are only permitted in signed and designated

[42] California Department of Forestry and Fire Protection. Fire and Resources Assessment Program. Available at: http://www.fire.ca.gov/fire_prevention/fhsz_maps_losangeles.php

[43] County of Los Angeles Fire Department, Prevention Services Bureau, Forestry Division, Brush Clearance Section. 2011. Fuel Modification Plan Guidelines: A Firewise Landscape Guide for Creating and Maintaining Defensible Space.

[44] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

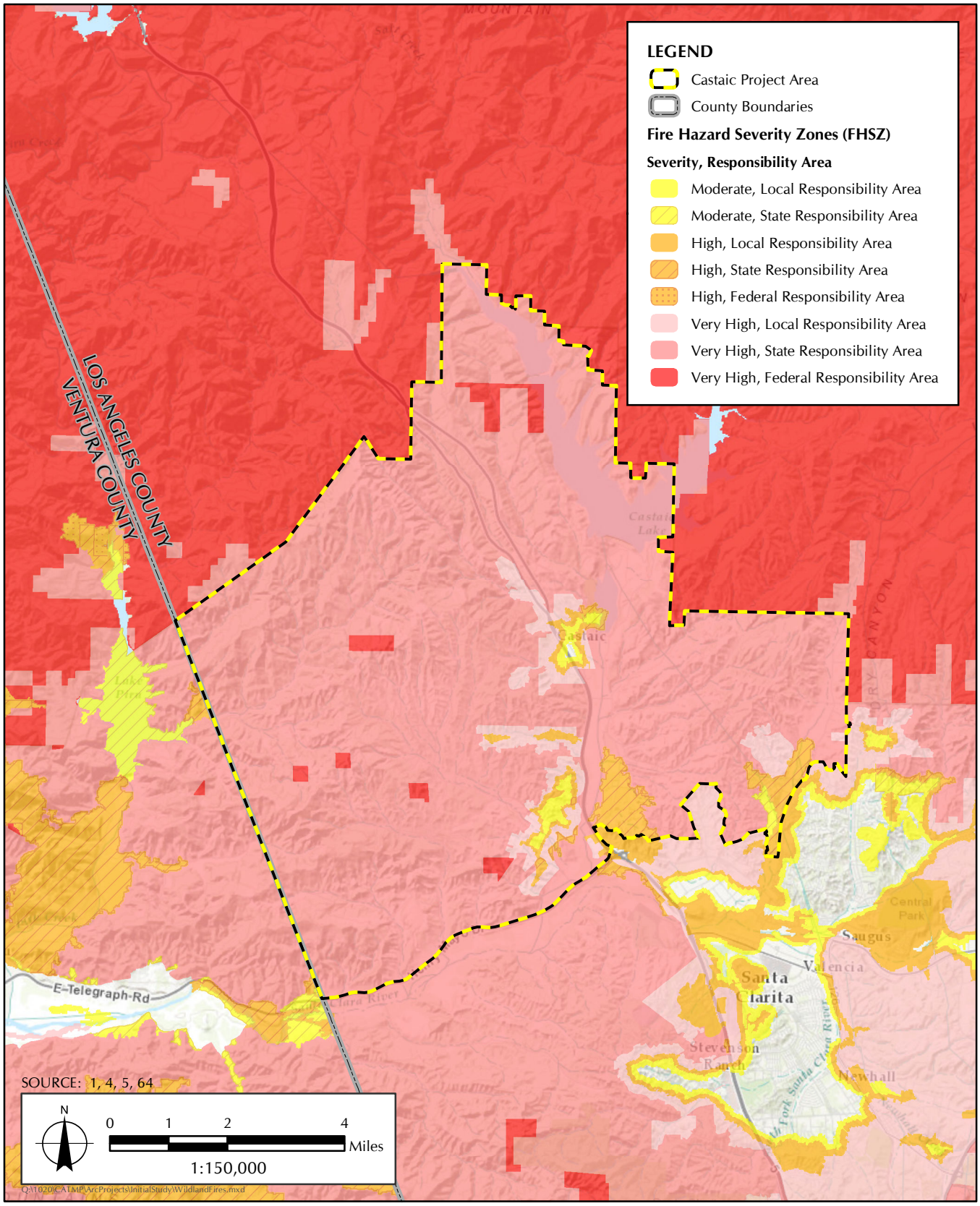

FIGURE 2.9-3

Fire Hazard Severity Zones

areas of County Parkland (County Code 17.04.590), fireworks or other combustible materials are not permitted along any trail (County Code 17.04.520 and 17.04.610), and firearms are not permitted on County trails except in designated areas (County Code 17.04.620 and 17.08.300). Structures and parking lots would be constructed in accordance with the requirements of the County of Los Angeles Fire Code (Title 32). Off-highway vehicle (OHV) use, which could have the potential to increase fire risk, would not be a permitted trail use. As reported by multiple parties during the scoping process, there is a tremendous amount of unsanctioned recreational use in the Castaic Area. The purpose of the proposed project is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use. Therefore, impacts would be less than significant, and no mitigation would be required.

ii) within a high fire hazard area with inadequate access?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to being located in a high fire hazard area with inadequate access. Mutual aid agreements are maintained with local, state, and federal agencies. As part of the Consolidated Fire Protection District, the entire Santa Clarita Valley Area Plan area, including the entire Castaic project area, receives urban and wildland fire protection services from the LACoFD.[45] LACoFD provides fire protection services, fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services. According to the Safety Element of the Santa Clarita Valley Area Plan, the Los Angeles County Fire Department (LACFD) has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes.[46] However, actual response times vary due to distances and road conditions. The Castaic project area is located within the service areas of LACoFD Station #149 (Castaic) and #76 (Valencia) (Figure 2.15.2, *Los Angeles County Fire Department Fire Station Services Areas*). Station #149, which also serves in Battalion 6 and is located in the community of Castaic at 31770 Ridge Route Road, Castaic, CA 91384, provides fire and rescue services and safe haven services for unincorporated Los Angeles County and for cities in the County which contract with it, including forest areas.[47] Station #76 is located at 27223 Henry Mayo Drive, Valencia, CA 91355. There is currently one fire station being proposed in the Santa Clarita Valley Area Plan, Fire Station 180, which will be located within the proposed Northlake development. Fire Station #143 is currently under development and anticipated to be operational in November 2016.[48] Fire Station #156 became operational in 2011. Four fire stations are proposed in the Santa Clarita Valley Area Plan that are located within the Castaic project area on Chiquito Canyon Road, along Hasley Canyon Road (#143), near Avenida Rancho Tesoro (#138), and on Copper Hill Drive (#156). The LACoFD has adopted the State Fire Code standards for new development in hazardous fire areas. Fire prevention requirements include provision of access roads, adequate road width, and clearance of brush around structures located in hillside areas. In addition, proof of adequate water supply for fire flow is required within a designated distance for new construction in fire hazard areas.

The LACoFD operates an approximately 0.25-mile training facility in the southwestern corner of the

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[45] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available at: http://planning.lacounty.gov/ovov. Chapter 5: Safety. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_05_safety.pdf

[46] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[47] County of Los Angeles Fire Department. Accessed 4 March 2016. Find Services in Los Angeles County. Available at: http://www.fire.lacounty.gov/fire-station-listings/

[48] Johnson, Kevin T. County of Los Angeles Fire Department. June 6, 2016. *Letter to Julia Yom re: Notice of Intent to Adopt a Mitigated Negative Declaration, "Castaic Area Multi-Use Trails and Related Staging Areas, Bike Skills Parks, Parking Areas, and Other Supporting Trail Facilities, Castaic (FFER 201600075).*

Castaic project area, near Chiquito Canyon Road. During coordination with LACoFD in the agency/community outreach planning phase for the proposed project, LACoFD asked that trails be designed to not interfere with training at LACoFD's Del Valle training center. LACoFD also asked about providing specific quarter-mile trail markers to be used and GIS shapefiles of trails to be provided to LACoFD upon development of trails with trail marker locations to facilitate emergency response and evacuation. This feedback has been integrated into the scope of the proposed project.

The proposed project involves planning for the construction and maintenance of approximately 100 miles of new trails, up to 45 acres of bike skills parks, and related facilities. Trails would be up to 12 feet wide to support bicyclists, equestrians, and hikers. The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project would be expected to serve as a regional recreation facility in the County of Los Angeles that would be expected to generate day use from local residents and from throughout the area, which has the potential to result in a very minor increase in emergency response, search and rescue, and other fire protection services if any injuries, missing persons, or fire incidents occur. Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include reassurance marker signs at every quarter (0.25) mile of trail that identify the name of the trail and quarter milepost number in order to orient search and rescue services in the case of an emergency. The County Department of Parks and Recreation would be responsible for providing updated data to the Los Angeles County Fire Department marking the location of each quarter milepost along the trail for emergency response purposes. Therefore, impacts would be less than significant, and no mitigation would be required.

iii) within an area with inadequate water and pressure to meet fire flow standards?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regards to being located within an area with inadequate water and pressure to meet fire flow standards. Mutual aid agreements are maintained with local, state, and federal agencies. As part of the Consolidated Fire Protection District, the entire Santa Clarita Valley Area Plan area, including the entire Castaic project area, receives urban and wildland fire protection services from the LACoFD.[49] LACoFD provides fire protection services, fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services. According to the Safety Element of the Santa Clarita Valley Area Plan, the Los Angeles County Fire Department (LACFD) has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes.[50] However, actual response times vary due to distances and road conditions. The Castaic project area is located within the service areas of LACoFD Station #149 (Castaic) and #76 (Valencia) (Figure 2.15.2, *Los Angeles County Fire Department Fire Station Services Areas*). Station #149, which also serves as Battalion 6 and is located in the community of Castaic at 31770 Ridge Route Road, Castaic, CA 91384, provides fire and rescue services and safe haven services for unincorporated Los Angeles County and for cities in the County which contract with it, including forest areas.[51] Station #76 is located at 27223 Henry Mayo Drive, Valencia, CA 91355. Four fire stations are proposed in the Santa Clarita Valley Area Plan that are

[49] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available at: http://planning.lacounty.gov/ovov. Chapter 5: Safety. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_05_safety.pdf

[50] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[51] County of Los Angeles Fire Department. Accessed 4 March 2016. Find Services in Los Angeles County. Available at: http://www.fire.lacounty.gov/fire-station-listings/

located within the Castaic project area on Chiquito Canyon Road, along Hasley Canyon Road (#143), near Avenida Rancho Tesoro (#138), and on Copper Hill Drive (#156).[52] The LACoFD has adopted the State Fire Code standards for new development in hazardous fire areas. Fire prevention requirements include provision of access roads, adequate road width, and clearance of brush around structures located in hillside areas. In addition, proof of adequate water supply for fire flow is required within a designated distance for new construction in fire hazard areas. Therefore, impacts would be less than significant, and no mitigation would be required.

iv) within proximity to land uses that have the potential for dangerous fire hazard?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to exposing people or structures to a significant risk of loss, injury or death involving fires. Based on the review of fire severity hazard zone maps developed by CAL FIRE,[53] portions of the proposed initiative are situated in a Very High Fire Hazard Severity Zone (Figure 2.9-3, *Fire Hazard Severity Zone*s). The proposed project would allow development of trails and trail related structures in areas that have been designated as High or Very High Fire Hazard Severity Zones, where there is the potential for exposure of people or structures to a significant risk of loss, injury or death involving wildland fires. However, the County building permit process reduces the potential exposure of people and structures to significant loss, injury, or death involving wildland fires to below the level of significance, through the requirement to use fire-resistant construction materials such as for roofs and design features such as enclosing eaves, and through the requirement for submittal and approval of a fuel modification plan, prior to issuance of a Certificate of Occupancy.[54] Furthermore, consistent with the County Trails Manual, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation.[55] In accordance with County Code, fires are only permitted in signed and designated areas of County Parkland (County Code 17.04.590), fireworks or other combustible materials are not permitted along any trail (County Code 17.04.520 and 17.04.610), and firearms are not permitted on County trails except in designated areas (County Code 17.04.620 and 17.08.300). Structures and parking lots would be constructed in accordance with the requirements of the County of Los Angeles Fire Code (Title 32). Off-highway vehicle (OHV) use, which could have the potential to increase fire risk, would not be a permitted trail use. As reported by multiple parties during the scoping process, there is a tremendous amount of unsanctioned recreational use in the Castaic Area. The purpose of the proposed project is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use. Therefore, impacts would be less than significant, and no mitigation would be required.

i) Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to constituting a potentially dangerous fire hazard. Consistent with the County Trails Manual, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation.[56] In

[52] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[53] California Department of Forestry and Fire Protection. Fire and Resources Assessment Program. Available at: http://www.fire.ca.gov/fire_prevention/fhsz_maps_losangeles.php

[54] County of Los Angeles Fire Department, Prevention Services Bureau, Forestry Division, Brush Clearance Section. 2011. Fuel Modification Plan Guidelines: A Firewise Landscape Guide for Creating and Maintaining Defensible Space.

[55] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[56] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

accordance with County Code, fires are only permitted in signed and designated areas of County Parkland (County Code 17.04.590), fireworks or other combustible materials are not permitted along any trail (County Code 17.04.520 and 17.04.610), and firearms are not permitted on County trails except in designated areas (County Code 17.04.620 and 17.08.300).[57] Structures and parking lots would be constructed in accordance with the requirements of the County of Los Angeles Fire Code (Title 32).[58] Therefore, the proposed project would result in less than significant impacts, and no mitigation would be required.

[57] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Part 3 – Park Rules and Regulations. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT17PABEOTPUAR_CH17.04PAREAR_PT3PARURE

[58] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Title 32 – Fire Code. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT32FICO

10. HYDROLOGY AND WATER QUALITY

This analysis is undertaken to determine if the proposed project would have a significant impact to hydrology and water quality, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the *Castaic Area Multi-Use Trails Plan Hydrology and Water Quality Assessment* (Appendix F), as well as on the *Castaic Area Multi-Use Trails Plan Biological Resources Assessment* (Appendix C).

	Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to violating any water quality standards or waste discharge requirements. The Castaic Lake is the only water body listed as in impaired within the Castaic project area (Figure 2.10-1, *Impaired Water Bodies*). The Castaic Lake is listed as impaired for mercury, and has a designated use of commercial and sport fishing. A Total Maximum Daily Load (TMDL) is required, but has not yet been developed for Castaic Lake Mercury. Construction activity associated with trail construction and operations is not anticipated to add additional mercury pollutants. Where grading is required to construct the trail improvements is in excess of one acre, it would be subject to General Construction Permit and require preparation of a Stormwater Pollution Prevention Plan (SWPPP). Additionally, grading that occurs in the vicinity of an SEA may be subject to storm water controls at the discretion of the County Building Department when disturbance is less than an acre.

Most of the main drainages are classified on USGS topographic maps as blue-line streams, indicating that under certain conditions the streams convey water flows. A blue-line stream would be classified as either a positive or negative control point for planning the path of a new trail. In some instances, blue-line streams can be identified as negative control points because the stream can pose a hazard to users or cause excessive damage to natural resources. However, blue-line streams can also provide access to water bodies where the Basin Plan identifies the water body as being suitable for body contact recreation or the water body provides an important visual or aesthetic experience and the blue-line stream would then be considered a positive control point.

Impacts in regard to violating any water quality standards or waste discharge would be less than significant through compliance with the County's LID ordinance, requiring the use of two best management practices (BMPs), and no mitigation would be required.

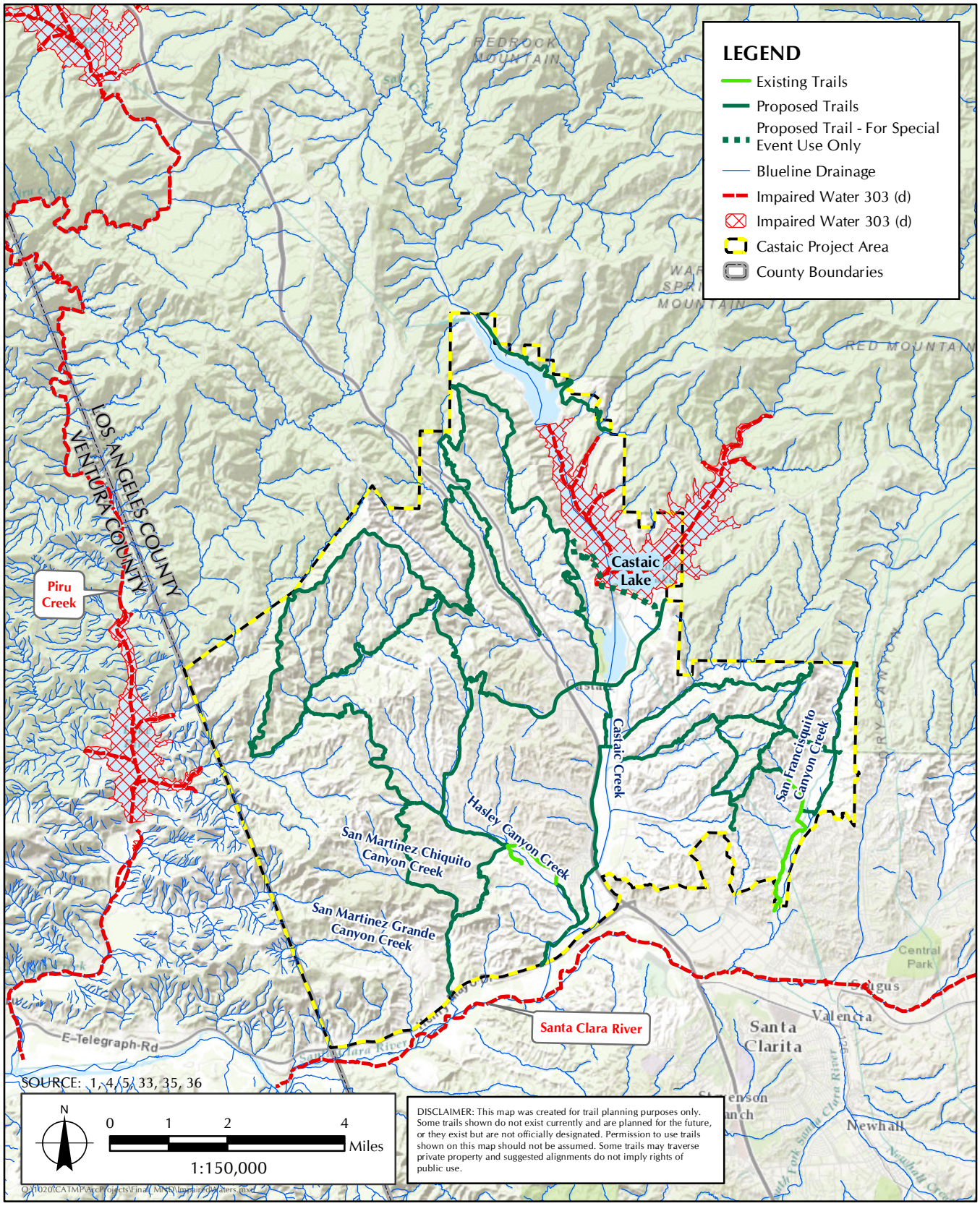

FIGURE 2.10-1

Impaired Water Bodies

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? ☐ ☐ ☐ ☒

The proposed project would result in no impacts in regard to substantially depleting groundwater supplies or interfering substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Depth to groundwater has reported at 10 to 100 feet below ground surface from the limited investigations that have been undertaken in the Castaic project area (Figure 2.10-2, *Water Resources*); therefore, there would be no impact as a result of near surface grading required to accommodate new trails and improvements to existing trails.[59] Additionally, near surface grading would not generate demand for groundwater supplies. Therefore, there would be no impacts in regards to depleting groundwater supplies, and mitigation would not be required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? ☐ ☒ ☐ ☐

The proposed project would have the potential to result in significant impacts to hydrology through the alteration of natural drainages where the trails cross such drainages, which in turn would have the potential to substantially increase the rate or amount of surface runoff in a manner which would result in substantial erosion or siltation on or off site during the construction of trails and associated structures. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

There are approximately 144 linear miles of features identified as blue-line drainages in the Castaic project area (see Figure 2.10-1). Proposed trail width in the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 35.7 miles of features identified as blue-line drainages that may include waters of the United States would be converted to trails and other recreation amenities or would be disturbed through associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. Additionally, proposed trail facilities such as the proposed bike parks are proposed to be developed near jurisdictional waterbodies, namely Castaic Creek. These construction activities have the potential to occur within and adjacent to state and federal waters of the United States on-site. Impacts would include disruption of streams as new trails are developed, and dredge and fill activities associated with trail development. Trail development projects would be subject to the provisions of Section 404 of the Federal Clean Water Act. Dredge or fill in Waters of the United States is subject to the regulatory authority of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act. Trail development projects would also be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement

[59] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

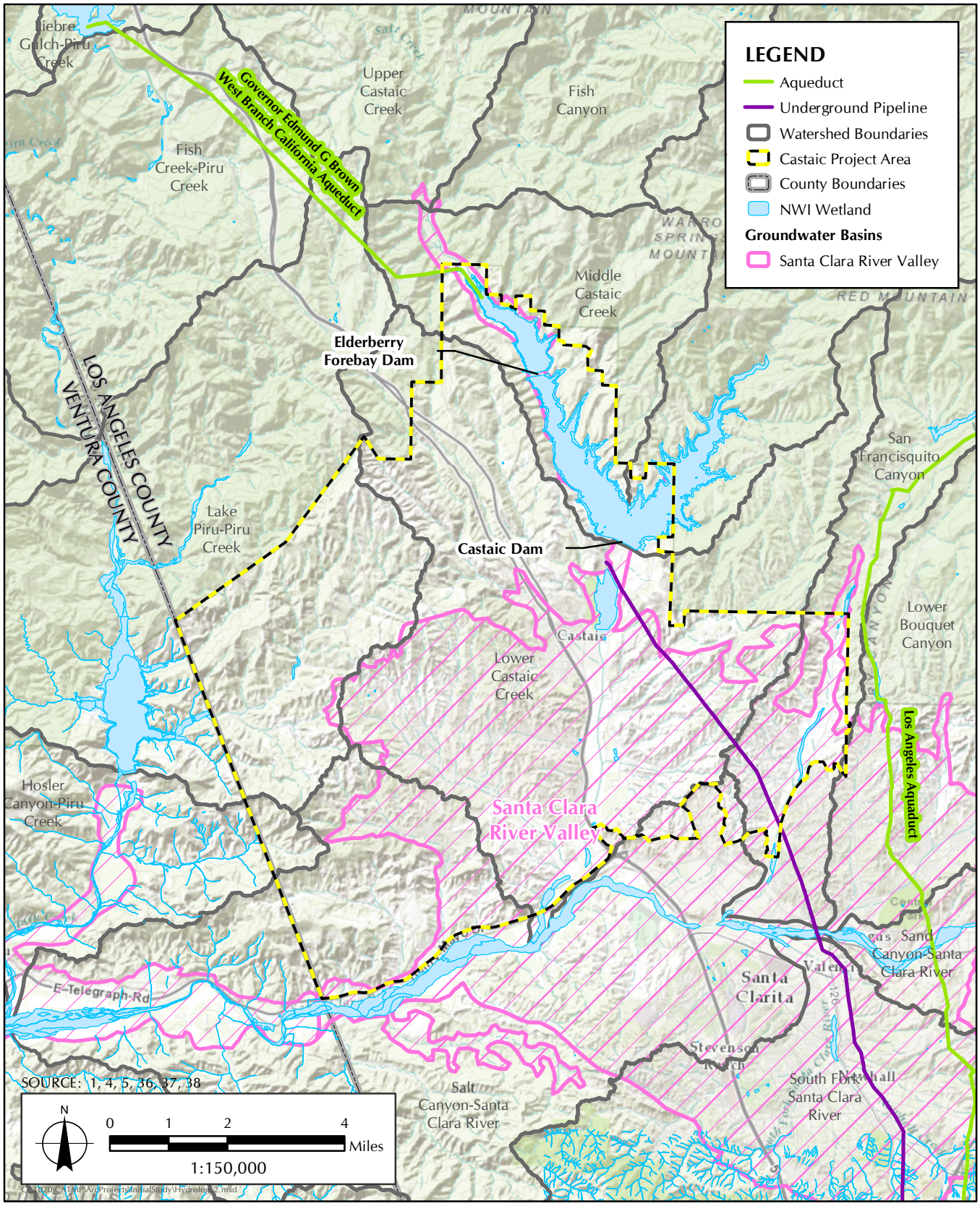

FIGURE 2.10-2

Water Resources

would need to be obtained prior to the alteration of a State jurisdictional area. The proposed trails plan will be in compliance with the County's LID ordinance, requiring the use of two BMPs.

Therefore, the proposed project would result in significant impacts to hydrology in regard to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in erosion or siltation on or off site. Implementation of Mitigation Measures BIO-2 would reduce impacts to below the level of significance.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐

The proposed project would result in significant impacts to hydrology in regard to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site. Incorporation of mitigation measures would reduce these impacts to below the level of significance.

There are approximately 144 linear miles of features identified as blue-line drainage in the Castaic project area (see Figure 2.10-1). Proposed trail width in the proposed project varies between 3 and 12 feet. Therefore, based on a worst-case analysis using a maximum trail width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint, approximately 35.7 miles of blue-line drainages that may include waters of the United States would be converted to trails and other recreation amenities or would be disturbed through associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within and adjacent to state and federal waters of the United States on-site. Impacts would include disruption of streams as new trails are developed and also dredge and fill activities associated with trail development. Trail development projects would be subject to the provisions of Section 404 of the Federal Clean Water Act. Dredge or fill in waters of the United States is subject to the regulatory authority of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act. Trail development projects would also be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area. Additionally, trail maintenance following flood events will be addressed in any permits pursuant to section 404 of the Federal Clean Water Act and Section 1600 of the State Fish and Game Code.

Therefore, the proposed project would result in significant impacts to hydrology in regard to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site. Implementation of Mitigation Measure BIO-2 would reduce impacts to below the level of significance.

e) Add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to hydrology in regard to adding water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use. Major water bodies in the Castaic project area include Castaic Lake and Castaic Lagoon, both of which are located within the Castaic Lake State Recreation Area. In the past four years, the Castaic Lake State Recreation Area has attracted an average of 206 visitor parties (individual vehicles) per day, ranging throughout the year from an average of 60 to 90 visitor parties per day between November and February to an average of 250 to 412 visitor parties between May and September (summer peak visitor season).[60] The Los Angeles County Vector Control District was contacted to inquire about reported cases in the Castaic Area.[61] Although mosquitoes are present in the Castaic Area, in 2015, there were no West Nile Virus samples of the mosquitoes tested by the Los Angeles County Vector Control District in the vicinity of Castaic Lake. The nearest West Nile Virus sample of mosquitoes was identified in November 2015 at Central Park (located approximately 2 miles southeast of Castaic project area) in the City of Santa Clarita. This was the only case in the vicinity of the Castaic project area all year. The proposed project would not add water features or create conditions in which standing water can accumulate. Additionally the proposed project would be required to be designed consistent with the recommendations of the County Trails Manual.[62] Therefore, the project would result in less than significant impacts to hydrology in regard to adding water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use, and no mitigation would be required.

f) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to hydrology in regard to creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Portions of the proposed trails plan will be in areas serviced by stormwater drainage systems (see Figure 2.18-1, *Storm Drain Network*, in Section 2.18, *Utilities/Services*). The proposed project would be required to be designed in accordance with the recommendations of the County Trails Plan. The plan requires the use of erosion control devices that would limit the amount of runoff entering existing or planned stormwater drainage systems. Additionally, the proposed project would result in a worst case scenario of direct impacts to approximately 267.5 acres as a result of construction and operations of the trails and trail related facilities. The project would be in compliance with the County's LID ordinance, requiring the use of two BMPs, and would not be expected to increase stormwater runoff. Therefore, the project would not create or contribute runoff water which would

[60] County of Los Angeles Department of Parks and Recreation. Provided March 1, 2016. Number of Tickets Sold by Month, Castaic Lake State Recreation Area, 2012-2015.

[61] Male, Laura. March 21, 2016. Telephone communication with Mr. Wesley Collins, Operations Supervisor at Sylmar Office, Greater Los Angeles County Vector Control District. 562-944-9656

[62] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and no mitigation would be required.

g) Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to hydrology in regard to generating construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality. Depth to groundwater has reported at 10 to 100 feet below the ground surface from the limited investigations that have been undertaken in the Castaic project area (see Figure 2.10-2); therefore, there would be no impacts as a result of near surface grading required to accommodate new trails and improvements to existing trails.[63] Additionally, near surface grading would not generate demand for groundwater supplies; thus, there would be no impacts in regards to depleting groundwater supplies. The proposed project would be required to be designed consistently with the recommendations of the County Trails Manual.[64] The plan requires the use of erosion control devices. Additionally, construction or maintenance of trails that require grading in excess of one acre have the potential to violate water quality standards, particularly in relation to total dissolved sediments and be subject to the General Construction permit. Procedures from the County's LID Standards Manual will be followed to determine the difference in the proposed initiative's pre- and post-development runoff volumes and potential pollutant loads. Therefore, the proposed project would result in less than significant impacts to hydrology in regard to generating construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality, and no mitigation would be required.

h) Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to hydrology in regard to conflicting with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84). The County's LID Standards Manual requires developments to manage stormwater runoff. The entire Castaic project area is subject to the Los Angeles County LID Ordinance. State lands are subject to the LID Ordinance because the County leases the lands and, thus, would require any activity to comply with the LID Ordinance, even though the state is not required to comply with the LID Ordinance. Developments are categorized as Designated or Non-Designated. The proposed project is considered new development located in or directly adjacent to or discharging directly to an SEA, as defined in Section 22.08.190 of Title 22 of the LID Development Standards, which will discharge stormwater runoff that is likely to impact a sensitive biological species or habitat and create 2,500 square feet or more of impervious surface area. The County's LID Ordinance does not require a specific reduction in pollutant discharges, but it does have requirements on the size of the BMPs in the manual. BMPs listed for Non-Designated Projects are not required to meet a specific pollutant load reduction or to retain a specified amount of runoff. They are only intended to reduce a development's pollutant load, but not necessarily to reduce all pollutant loads to a predevelopment condition; therefore, project development will result in an increase of pollutant discharges. Procedures from the County's LID Standards Manual will be followed to determine the difference in the

[63] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

[64] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

proposed project's pre- and post-development runoff volumes and potential pollutant loads. Therefore, the proposed project would result in less than significant impacts to Hydrology in regard to conflicting with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84), and no mitigation would be required.

i) Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?	☐	☐	☐	☒

The proposed project would result in no impacts in regard to regard to resulting in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance There are 34 special marine reserves called "Areas of Special Biological Significance" (ASBS).[65] ASBS are areas requiring protection of species or biological communities through maintaining high water quality. There are several ASBS in the County, the closest being approximately 30 miles from the Castaic project area and including the stretch of coast between Latigo Point up to Mugu Lagoon.[66] The proposed project is not located in the vicinity of any ASBSs. Therefore, the proposed project would result in no impacts in regard to resulting in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance, and no mitigation would be required.

j) Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to hydrology in regard to the use of onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course). Trail amenities such as restrooms that would add additional water or wastewater systems with in the Santa Clarita Valley Sanitation District are proposed to be constructed. Specifically, restrooms at the Sports Complex Bike Skills Park, three equestrian facilities (Tesoro Del Valle, Hasley Canyon Equestrian Center, and Tapia Canyon Road) and two general staging areas (Hasley Canyon and Old Road) are proposed to be constructed within the Santa Clarita Valley Sanitation District (see Figure 1.9-4, *Proposed Trail Related Facility Locations*).[67] The other two bike skills parks, one equestrian amenities area, and four general staging areas would include restroom facilities outside the jurisdiction of Sanitation Districts. The Castaic project area is located within the jurisdiction of the Los Angeles Regional Water Quality Control Board (RWQCB) and regulated by the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), which sets standards for development of septic tanks and fields, as well as the use of pit toilets. Santa Clarita Valley Sanitation District sets standards for a portions of the Castaic project area that is within their service area. The proposed project would follow procedures in the County Trails Manual, which says to incorporate restrooms into trailhead and parking locations where water lines and sewage conveyance is possible. In areas without available water, design restrooms to be pit toilets as per U.S. Forest Service guidelines. Restrooms would be designed to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation or the Los Angeles County Department of Public Health for OWTS, as applicable. Therefore, the proposed

[65] California Environmental Protection Agency, State Water Resources Control Board. Accessed 28 March 2016. State Water Quality Protection Areas of Special Biological Significance. Available at: http://www.waterboards.ca.gov/water_issues/programs/ocean/asbs_areas.shtml

[66] Los Angeles Waterkeeper. Accessed 28 March 2016. Areas of Special Biological Significance. Available at: https://lawaterkeeper.org/asbs/

[67] Sanitation Districts of Los Angeles County. Accessed 8 April 2016. Santa Clarita Valley Sanitation District. Available at: http://www.lacsd.org/wastewater/wastewater_services/connectionfee/scv.asp

project would result in less than significant impacts with regards to the use of onsite wastewater treatment systems in areas with known geological limitations or in close proximity to surface water, and no mitigation would be required.

k) Otherwise substantially degrade water quality? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts in regard to otherwise substantially degrading water quality. The Castaic Lake is listed as impaired for mercury, and has a designated use of commercial and sport fishing. A TMDL is required, but has not yet been developed for Castaic Lake Mercury. Construction activity associated with trail construction and operations is not anticipated to add additional mercury pollutants (see Figure 2.10-1). Where grading is required to construct the trail improvements is in excess of one acre, it would be subject to General Construction Permit and require preparation of a SWPPP. Additionally, grading that occurs in the vicinity of an SEA may be subject to storm water controls at the discretion of the County Building Department when disturbance is less than an acre.

Most of the main drainages are classified on USGS topographic maps as blue-line streams, indicating that under certain conditions the streams convey water flows. A blue-line stream would be classified as either a positive or negative control point for planning the path of a new trail. In some instances, blue-line streams can be identified as negative control points because the stream can pose a hazard to users or cause excessive damage to natural resources. However, blue-line streams can also provide access to water bodies where the Basin Plan identifies the water body as being suitable for body contact recreation or the water body provides an important visual or aesthetic experience and the blue-line stream would then be considered a positive control point.

Therefore, the proposed project would result in less than significant impacts in regards to violating any water quality standards or waste discharge through compliance with the County's LID ordinance, requiring the use of two BMPs, and no mitigation would be required.

l) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to hydrology in regard to placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain. The Federal Emergency Management Agency (FEMA) maps flood risk areas within the United States as part of the National Flood Insurance Program (NFIP). The NFIP is a federal program that allows property owners in areas of participating communities to purchase insurance against possible loss due to flooding. The majority of the Castaic project area falls within Flood Hazard Zone D; areas where there are possible but undetermined flood hazards (Figure 2.10-3, *100-Year Floodplain*). Castaic Lake falls within Flood Hazard Zone A; no base flood elevation determined.[68] However, the proposed project does not include the placement of housing. Therefore there would be no impact, and mitigation would not be required.

[68] FEMA Flood Insurance Rate Map Panel 600.

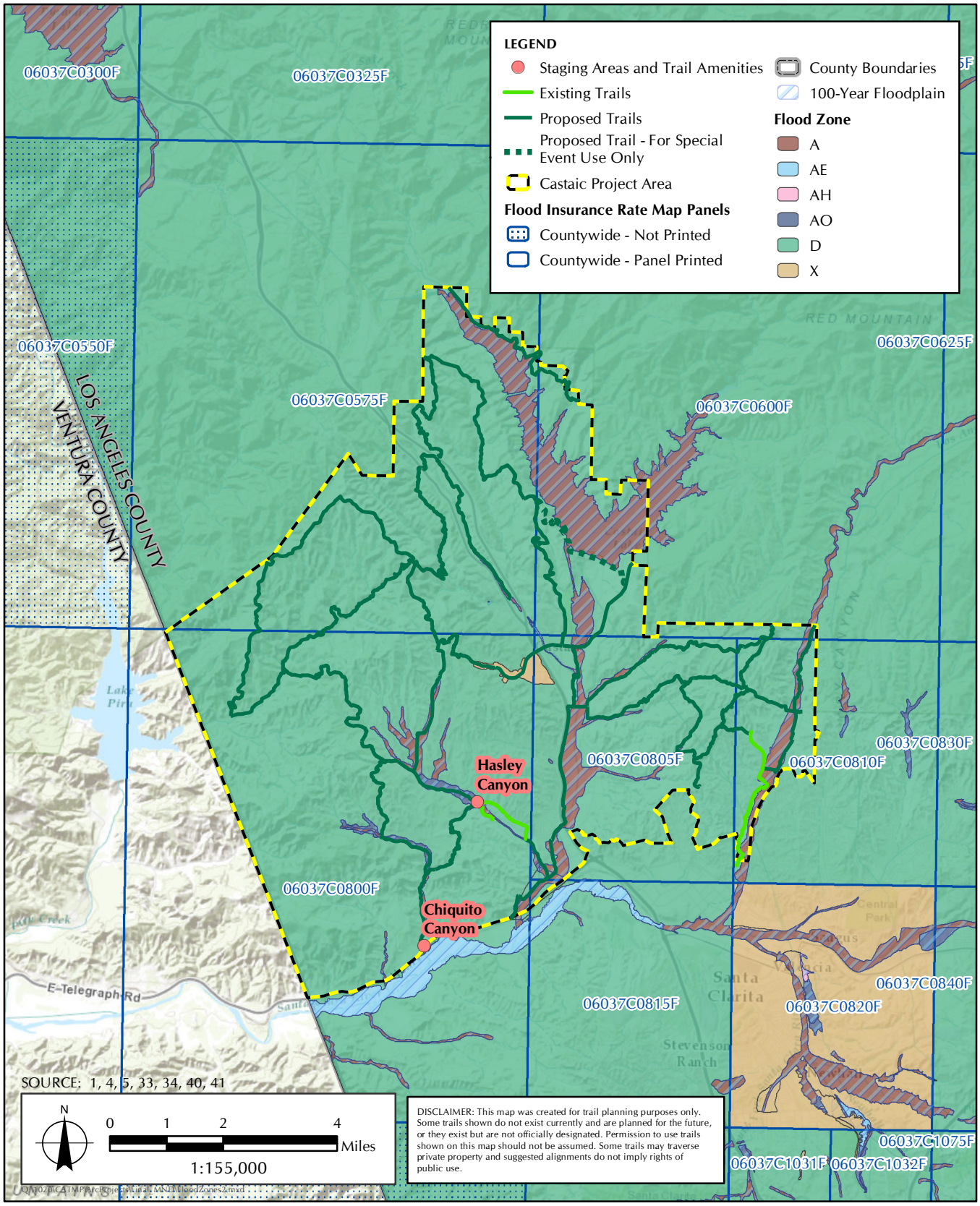

FIGURE 2.10-3

100-Year Floodplain

m) Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain? ☐ ☐ ☐ ☒

The proposed project would result in no impact to hydrology in regard to placing structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain. The FEMA) maps flood risk areas within the United States as part of the NFIP. The NFIP is a federal program that allows property owners in areas of participating communities to purchase insurance against possible loss due to flooding. The majority of the Castaic project area falls within Flood Hazard Zone D, areas where there are possible but undetermined flood hazards (see Figure 2.10-3). Castaic Lake falls within Flood Hazard Zone A; no base flood elevation determined.[69] However, the proposed project would not include the placing of structures within a 100-year flood hazard area, floodway, or floodplain. Therefore there would be no impact, and mitigation would not be required.

n) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to hydrology in regard to exposing people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. The Castaic Dam is an embankment dam in northern, California, near the city of Castaic, California. The dam was built by the California Department of Water Resources (DWR) and construction was completed in 1973. The lake has a capacity of 325,000 acre-feet (af) (401,000,000 cubic meters). Seismically induced ground acceleration or seiche could jeopardize the integrity of the Castaic Dam. Floods that could result from failure of the Castaic Dam could expose people or structures to a significant risk of loss, injury or death involving flooding. However, the proposed project would not substantially affect this risk. The Castaic Dam meets the Department of Water Resources requirement for design of such structures. Proposed trail segment CD2 (Castaic Dam Crossing) would be used as a trail for special use only, subject to coordination with the Department of Water Resources and preparation of a safety plan before special use authorization can be granted, as described in Section 1.9, *Project Description*. Therefore, the proposed project would result in less than significant impacts, and no mitigation would be required.

o) Place structures in areas subject to inundation by seiche, tsunami, or mudflow? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to hydrology in regard to placing structures in areas subject to inundation by seiche, tsunami, or mudflow. Seiche and tsunamis are the result of tectonic activity, such as an earthquake. A seiche is an oscillation of the surface of a landlocked body of water that can create a hazard to persons and structures on and in the vicinity of the water. A tsunami is a long-period, high-velocity tidal surge that can result in a series of very low (trough) and high (peak) sea levels, with the potential to inundate areas up to several miles from the coast, creating hazards to people or structures from loss, injury, or death. Most of the hazards created by a tsunami come when a trough follows the peak, resulting in a rush of sea water back into the ocean. A mudflow is a moving mass of soil-made fluid by a loss of shear strength, generally as a result of saturation from rain or melting snow.

A tsunami is a series of water waves caused by the displacement of a large volume of water in the ocean that have the potential to cause damage at shorelines. Earthquakes, volcanic eruptions, landslides, glacier carvings, meteorite impacts and other disturbances above or below water all have the potential to generate a

[69] FEMA Flood Insurance Rate Map Panel 600.

tsunami. Due to the distance and rise in elevation from the Pacific Ocean to the Castaic project area, the area is unlikely to be affected by tsunami.

The DWR, in a letter of comment provided to County Parks during scoping, requested that the following information be included in the environmental analysis:

> The Castaic Dam is an embankment dam located within the proposed Castaic project area. The dam was built by the California Department of Water Resources (DWR) and construction was completed in 1973. The lake has a capacity of 325,000 af (401,000,000 m^3). Seismically induced ground acceleration or seiche could jeopardize the integrity of the Castaic dam. Floods that could result from failure of the Castaic Dam could expose people or structures to a significant risk of loss, injury or death involving flooding. The Castaic Dam meets the DWR requirement for design of such structures.

The proposed project includes five trail related facilities along Castaic Lagoon and Castaic Creek below the dam that may include structures such as restrooms, shade structures, and horse arenas. As stated in Section 1.9, *Project Description,* the proposed trail segment CD2 (Castaic Dam Crossing) would be for special event use only, and use is subject to further coordination with State Department of Water Resources (DWR) to ensure that State Water Project critical infrastructure is protected if recreational trails are constructed at the dam crest road for Castaic Dam. The County of Los Angeles Department of Parks and Recreation shall:

- Coordinate with the California Department of Water Resources (DWR) to ensure that State Water Project critical infrastructure (water intake tower, spillway, and the Castaic Dam) is protected if recreational trails are constructed at the dam crest road for Castaic Dam.
- Coordinate with the DWR to ensure that the use of dam crest road for recreational trail use is according to design intent if recreational trails are constructed at the dam crest road for Castaic Dam.
- Install emergency call-boxes and first-responder emergency vehicle access if recreational trails are constructed at the dam crest road for Castaic Dam.
- Coordinate with the DWR to ensure DWR access roads at the base of the Castaic Dam are compatible with recreational use if recreational trails are constructed at the dam crest road for Castaic Dam.

Therefore, the proposed project would result in less than significant impacts, and no mitigation would be required.

11. LAND USE AND PLANNING

This analysis is undertaken to determine if the proposed project would have a significant impact to land use and planning, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. Land use and planning at the Castaic project area were evaluated with regard to the Northlake Specific Plan,[70] Newhall Ranch Specific Plan,[71] Santa Clarita Valley Area Plan: One Valley One Vision,[72] Los Angeles County Zoning Code,[73] and Los Angeles County Hillside Management Ordinance.[74] The analysis presented in this section is also based on the *Castaic Area Multi-Use Trails Plan Biological Resources Assessment Technical Memorandum* (Appendix C).

	Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

The proposed project would result in no impacts to land use related to the division of an established community. There are two County-designated communities within the Castaic project area: Castaic-Val Verde and Agua Dulce (Figure 2.11-1, *Los Angeles County Designated Communities*). The proposed project is intended to provide greater connectivity between existing trails and approved subdivision agreement trails in the Castaic project area (see Figure 1.9-1, *Proposed Trails Plan*). The Northlake Specific Plan is entirely within the Castaic project area, and the northern portion of the Newhall Ranch Specific Plan is also within the Castaic project area. Both of these specific plans propose trails within their respective planning areas (Figure 2.11-2, *Specific Plans in the Castaic Project Area*).[75,76] The entirety of the Castaic project area is located within the Santa Clarita Valley Area Plan (SCVAP) area. The SCVAP contains policies that support the development of trails in the plan area in both its Circulation and Conservation and Open Space elements.[77] Rather than dividing established communities, the CAMTP would result in greater connectivity through trails. Therefore, there would be no impacts with regard to the division of an established community, and no mitigation would be required.

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[70] Northlake Specific Plan. County of Los Angeles Department of Regional Planning. Available online at: http://planning.lacounty.gov/view/northlake_specific_plan/

[71] Newhall Ranch Specific Plan. County of Los Angeles Department of Regional Planning. May 27, 2003. Available online at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[72] Santa Clarita Valley Area Plan, One Valley One Vision. County of Los Angeles Department of Regional Planning. 2012. Available online at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

[73] Los Angeles County Zoning Code. Los Angeles County. Available online at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO_DIV1PLZO

[74] Los Angeles County. Los Angeles County Hillside Management Ordinance. November 5, 2015. Available online at: http://planning.lacounty.gov/assets/upl/project/hma_adopted-ordinance.pdf

[75] Northlake Specific Plan. County of Los Angeles Department of Regional Planning. Available online at: http://planning.lacounty.gov/view/northlake_specific_plan/

[76] Newhall Ranch Specific Plan. County of Los Angeles Department of Regional Planning. May 27, 2003. Available online at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[77] Santa Clarita Valley Area Plan, One Valley One Vision. County of Los Angeles Department of Regional Planning. 2012. Available online at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

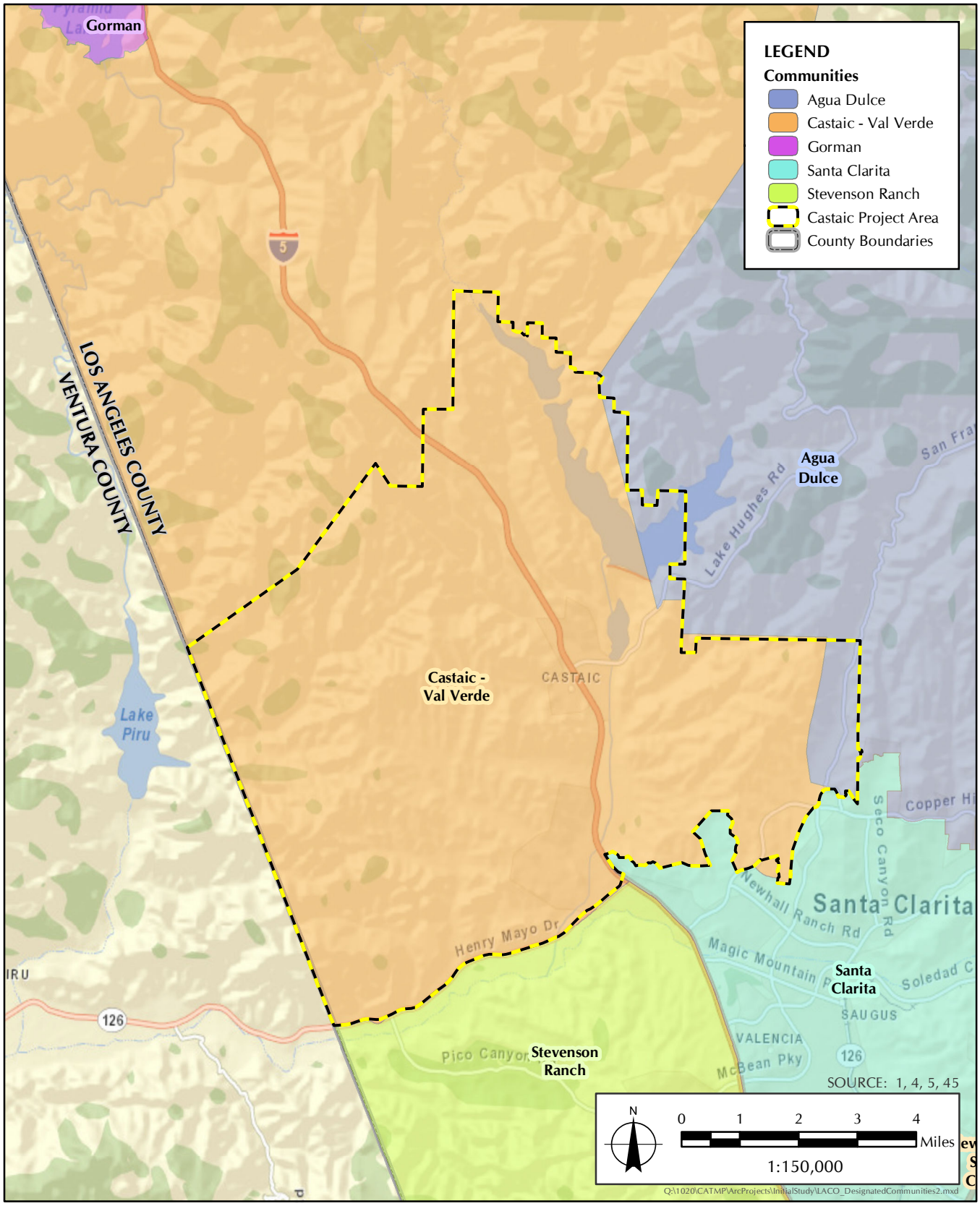

FIGURE 2.11-1

Los Angeles County Designated Communities

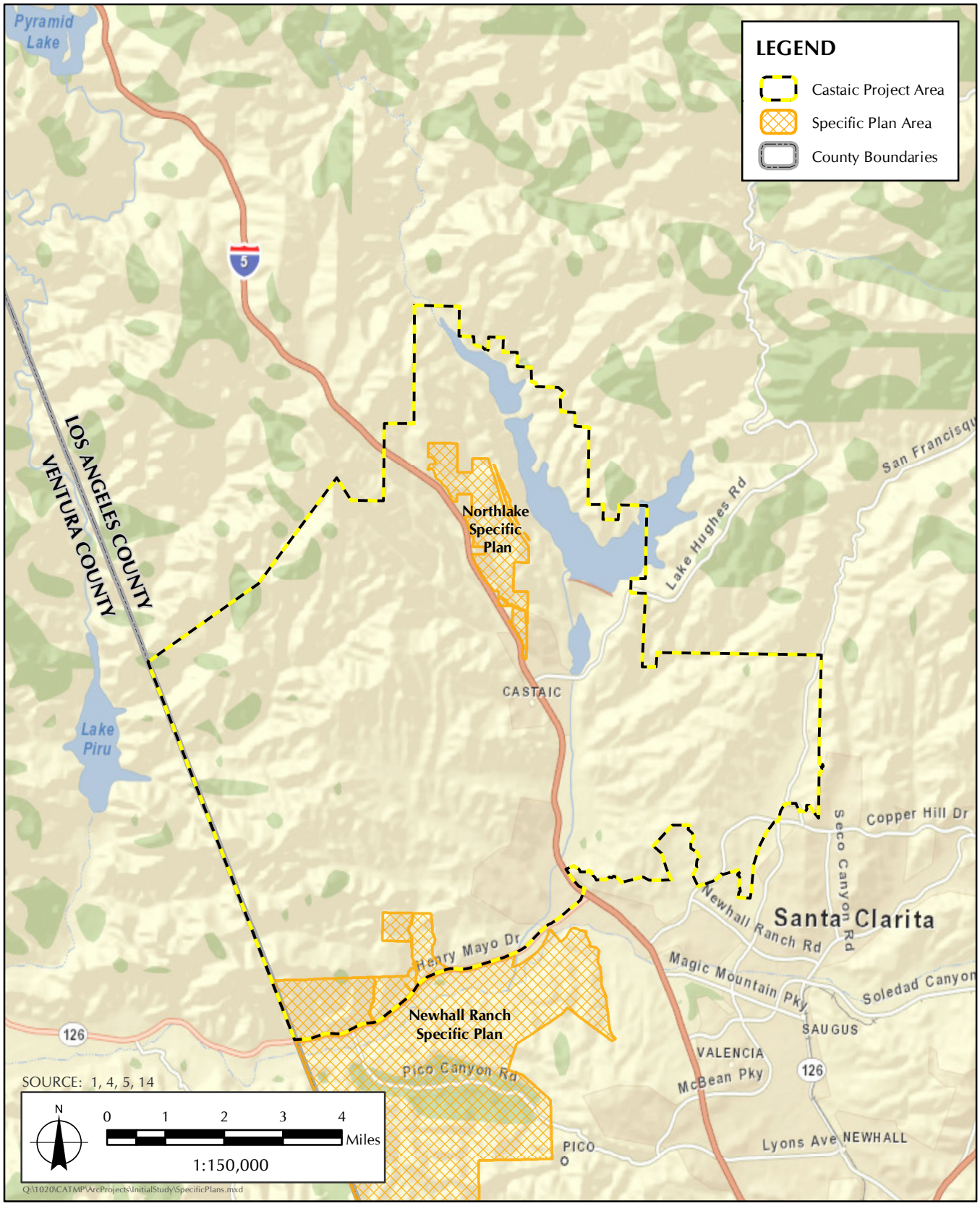

FIGURE 2.11-2

Specific Plans in the Castaic Project Area

b) Be inconsistent with the applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans? ☐ ☐ ☐ ☒

The proposed project would result in no impact to land use related to being inconsistent with applicable County plans for the subject property including, but not limited to, the General Plan, specific plans, local coastal plans, area plans, and community/neighborhood plans. The Northlake Specific Plan area is located entirely within the Castaic project area, and the northern portion of the Newhall Ranch Specific Plan area is also located within the Castaic project area. Both of these specific plans propose trails within their respective planning areas.[78,79] The entirety of the Castaic project area is within the SCVAP area (see Figure 1.6-2, *Los Angeles County 2015 Land Use Designations — Santa Clarita Valley Area Plan*). The SCVAP contains policies and plans that support the development of trails in the plan area in both its Circulation and Conservation and Open Space elements.[80] Therefore, there would be no impacts with regard to inconsistencies with applicable County plans for the subject property within the Castaic project area, and no mitigation would be required.

c) Be inconsistent with the County zoning ordinance as applicable to the subject property? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to land use in regard to inconsistencies with the County zoning ordinance. The trails proposed within the proposed project intersect with 12 County zoning designations (Figure 1.7-1, *Los Angeles County Zoning Designations*). Riding and hiking trails are an inherently permitted use in eight of these zones and a permitted use after hearing officer or planning director approval for the remaining four zones (Table 2.11-1, *Zoning Designations for Proposed Trail Routes*).

As shown in Table 2.11-1, the majority of proposed trails are located within the Heavy Agricultural and Open Space zones. Trails are an allowable use in all of the zones that intersect with the proposed trail routes. Therefore, the proposed project would be consistent with the County zoning ordinance as applicable to the subject property within the Castaic project area, and no mitigation would be required.

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[78] Northlake Specific Plan. County of Los Angeles Department of Regional Planning. Available online at: http://planning.lacounty.gov/view/northlake_specific_plan/

[79] Newhall Ranch Specific Plan. County of Los Angeles Department of Regional Planning. May 27, 2003. Available online at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[80] Santa Clarita Valley Area Plan, One Valley One Vision. County of Los Angeles Department of Regional Planning. 2012. Available online at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

TABLE 2.11-1
ZONING DESIGNATIONS FOR PROPOSED TRAIL ROUTES

Zone[1]	Trail Length (Miles)	Percentage	Riding and Hiking Trails Required Review
Heavy agricultural	52.21	58.21%	Permitted
Light agricultural	0.48	0.54%	Permitted
Light manufacturing	3.74	4.19%	Permitted
Limited multiple residence	0.01	0.01%	Permitted
Manufacturing-industrial planned	0.01	0.01%	Planning Director Approval
Open space	12.23	13.71%	Permitted
Residential planned development	0.64	0.72%	Hearing Officer Approval
Restricted heavy manufacturing	2.81	3.15%	Permitted
Single-family residence	5.86	6.57%	Planning Director Approval
Specific plan	3.41	3.82%	Planning Director Approval
Unlimited commercial	0.03	0.03%	Permitted
Watershed	0.01	0.01%	Permitted
ROW	8.04	9.01%	
Grand Total	**89.23**	**100%**	

SOURCE: [1] Los Angeles County Zoning Code. Los Angeles County. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO_DIV1PLZO

d) Conflict with Hillside Management criteria, Significant Ecological Areas conformance criteria, or other applicable land use criteria? ☐ ☐ ☒ ☐

The proposed project would have a less than significant impact on land use in regard to Hillside Management Criteria, Significant Ecological Areas, and HCPs and NCCPs. The nearest federally designated habitat conservation plans (HCPs) to the proposed project study are the Desert Renewable Energy Conservation Plan and the West Mojave Conservation Plan located approximately 12 miles to the northeast (see Figure 12, *HCPs and NCCPs Present in the Vicinity of the Trail Planning Castaic project area*, in Appendix C). Portions of two County-designated SEAs are located within the Castaic project area. These include the Santa Felicia SEA in the northwestern portion of the Castaic project area and the Santa Clara River SEA located to the southern and eastern portions of the Castaic project area (see Figure 11, *Significant Ecological Areas Present in the Trail Planning Castaic Project Area*, in Appendix C). The Los Angeles County Hillside Management Ordinance applies to areas greater than 25 percent slope.[81] Approximately 1,926 acres of the total Castaic project area consists of slopes greater than 25 percent (see Figure 1.11-1, *Castaic Project Area Slope*). Portions of proposed recreational trails cross through the areas greater than 25 percent slope. As a result, trails that cross through these areas would be subject to the requirements and design standards of the Hillside Management Ordinance and hillside design standards in the Conservation and Natural Resources Element of the General Plan. Specifically, sensitive hillside design measures (2.1 through 2.12) would be applied to the trail and facilities (e.g., restrooms). Further, the Hillside Management Ordinance requires that all new development in areas over 25 percent obtain a conditional use permit as part of the entitlement process.[82]

[81] County of Los Angeles. Los Angeles County Hillside Management Ordinance. November 5, 2015. Available online at: http://planning.lacounty.gov/assets/upl/project/hma_adopted-ordinance.pdf

[82] County of Los Angeles. Los Angeles County Hillside Management Ordinance. November 5, 2015. Available online at: http://planning.lacounty.gov/assets/upl/project/hma_adopted-ordinance.pdf

Trails will also be designed to standards of the County Trails Manual. Of the approximately 100 miles of trails planned in the proposed project, approximately 19.2 miles would be located within County SEAs. These trails would be subject to the conformance criteria for the specific SEA. Therefore, the proposed project would result in less than significant impacts in regard to conflicts with the Hillside Management Area Ordinance, Significant Ecological Areas conformance criteria, or other applicable land use criteria, and no mitigation would be required.

12. MINERAL RESOURCES

This analysis is undertaken to determine if the proposed project would have a significant impact to mineral resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[83] Mineral resources at the Castaic project area were evaluated with regard to the Surface Mining and Reclamation Act of 1975,[84] Mineral Land Classification of the Greater Los Angeles Area: Classification of Sand and Gravel Resource Areas,[85] the Santa Clarita Valley Area Plan: One Valley One Vision,[86] the County of Los Angeles Trails Manual,[87] the Newhall Ranch Specific Plan,[88] and the Northlake Specific Plan.[89] The analysis presented in this section is also based on the *Results of the Geology and Soils Analysis for the Castaic Area Multi-Use Trails Plan* (Appendix E).

Would the project:	***Potentially Significant Impact***	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to mineral resources in regard to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. The proposed project includes approximately 100 miles of proposed multi-use trails in the Castaic Area of the Santa Clarita Valley Planning Area. The Castaic project area contains mineral resources that are classified and subject to regulation under the Surface Mining and Reclamation Act (SMARA) of 1975. SMARA requires adoption of state policy for the reclamation of mined lands and conservation of natural resource, regulates mining activities, and direct classification and mapping of mineral resources by State Geologists to show the occurrence or likely occurrence of economically significant mineral deposits. Mineral Resource Zones (MRZ) are classified according to the existence or nonexistence of significant mineral deposits. The Castaic project area is within a designated MRZ-2 region as classified by geologically surveyed data to contain significant mineral deposits or areas where geologic information indicates the possible presents of resources.[90] The Castaic Multi-Use Trails Plan area is within the Saugus-Newhall P-C Region, which establishes MRZs by assessment of active sand and gravel mining operations, geologic

[83] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[84] California Public Resources Code, Section 2710, "Surface Mining and Reclamation Act of 1975."

[85] Part V: Mineral Land Classification of the Greater Los Angeles Area: Classification of Sand and Gravel Resource Areas, Saugus-Newhall Production-Consumption Region, Stephen E. Joseph, Russell V. Miller, Siang S. Tan, and Roy W. Goodman 1987 available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_143/PartV/

[86] County of Los Angeles. 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

[87] County of Los Angeles Department of Parks and Recreation Planning and Development Agency. June 2013, County of Los Angeles Trails Manual. Accessed February 28, 2016 Available at: http://file.lacounty.gov/dpr/cms1_208899.pdf

[88] County of Los Angeles Department of Regional Planning. Adopted 27 May 2003. Newhall Ranch Specific Plan.

Available at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[89] County of Los Angeles Department of Regional Planning. June 1992. Northlake Specific Plan. Available at:

http://planning.lacounty.gov/view/northlake_specific_plan/

[90] California Public Resources Code, Section 2710, "Surface Mining and Reclamation Act of 1975."

reports and maps, and field investigations.[91] Designated sand, gravel, and rock (MRZ-2) resources are primarily concentrated along waterways within the Trails Plan area includes portions of the Santa Clara River Valley floodplain, which incorporates, Castaic Creek, Castaic Junction, State Route 126, and Sand Canyon Road (Figure 2.12-1, *Mineral Resources*).

Historically extracted minerals such as gold, natural gas, and oil are also identified within the Castaic project area and encompass abandoned mines and oil wells as well as several oil and natural gas wells still in production (see Figure 2.7-5, *Oil Wells in the Castaic Project Area*). Portions of the Castaic project area overlie state-designated oil fields, although no known substantial effects have been recorded in the Castaic project area or its proximity, and future effects from oil extraction in the area are considered very low. It is advisable to avoid oil field areas and to provide signage warning of the dangers within the areas of proximity.[92]

SMARA requires that significant mineral resources be protected from encroachment by incompatible development, as they provide a needed resource to support construction and areas containing significant mineral aggregate resources are designated by an MRZ zoning overlay district that permits extraction along with other compatible uses. The Santa Clarita Valley Area Plan contains policies to protect significant state-designated mineral resource from incompatible development in conformance with SMARA regulation and also work to ensuring that extraction and reclamation activities are compatible with other development activities and adverse environmental impacts are mitigated.[93]

The County Trails Manual requires compliance in the elements of all project trails design in the County. The proper trail development and maintenance will be determined by site-specific conditions and will differ depending on the location. Trail requirements include avoidance of environmentally sensitive features by evaluating feasible alternative routes and minimizing potential impacts to the maximum extent possible and design alignments located in areas where grade and obstacles would not pose a problem for accessible trails requiring. In areas with site-specific environmental constraints, trails should adhere to the guidelines to reduce impacts to the surrounding environmental.[94]

Therefore, the proposed project would result in less than significant impacts to mineral resources in regard to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, and no mitigation would be required.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

The proposed project would result in no impacts to mineral resources in regard to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The Castaic project area is subject to the provisions County of Los Angeles General Plan,

[91] Part V: Mineral Land Classification of the Greater Los Angeles Area: Classification of Sand and Gravel Resource Areas, Saugus-Newhall Production-Consumption Region, Stephen E. Joseph, Russell V. Miller, Siang S. Tan, and Roy W. Goodman 1987 available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_143/PartV/

[92] Memorandum for the Record – Results of the Geology and Soils Analysis for the Castaic Area Multi-Use Trails Plan. Wilson Geosciences Inc., Sapphos Environmental, Inc. March 1, 2016.

[93] City of Santa Clarita, 2012. Santa Clarita Valley Area Plan: One Valley One Vision, "Conservation and Open Space Element." Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

[94] County of Los Angeles Department of Parks and Recreation Planning and Development Agency. June 2013, County of Los Angeles Trails Manual. Accessed February 28, 2016 Available at: http://file.lacounty.gov/dpr/cms1_208899.pdf

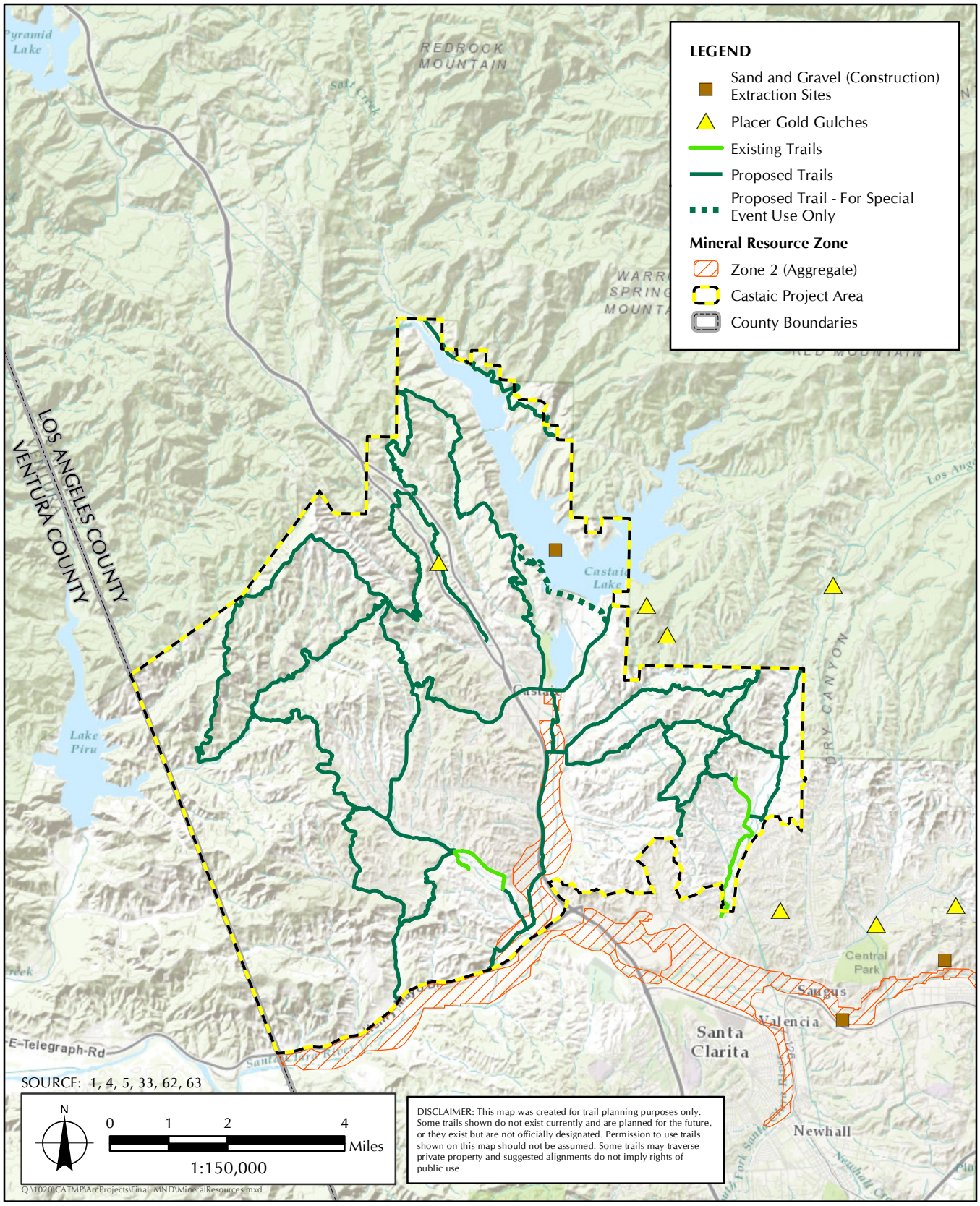

FIGURE 2.12-1

Mineral Resources

Santa Clarita Valley Area Plan, Newhall Ranch Specific Plan and Northlake Specific Plan. The County of Los Angeles General Plan 2035, Santa Clarita Valley Area Plan, Newhall Ranch Specific Plan, and Northlake Specific Plan do not identify any locally important mineral resources that will be crossed by proposed trails within the proposed project. Furthermore, the proposed trails do not cross any lands designated as locally extractive by the County of Los Angeles General Plan 2035 or Santa Clarita Valley Area Plan, Newhall Ranch Specific Plan, and Northlake Specific Plan and will not result in a loss of a locally important mineral resource.[95,96,97]

Therefore, the proposed project would result in no impacts to mineral resources in regard to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan, and no mitigation would be required.

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[95] County of Los Angeles Department of Regional Planning. June 1992. Northlake Specific Plan. Available at: http://planning.lacounty.gov/view/northlake_specific_plan/

[96] County of Los Angeles Department of Regional Planning. Adopted 27 May 2003. Newhall Ranch Specific Plan. Available at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

[97] City of Santa Clarita, 2012. Santa Clarita Valley Area Plan: One Valley One Vision, "Conservation and Open Space Element." Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

13. NOISE

This analysis is undertaken to determine if the proposed project would have a significant impact to noise, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the *Castaic Area Multi-Use Trails Plan Noise Assessment* (Appendix G).

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project result in:				
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?	☐	☒	☐	☐

The proposed project would result in significant impacts to noise in regard to exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The baseline conditions for ambient noise levels in the Castaic project area were characterized based on noise monitoring conducted at four locations near potential sensitive receptors within the Castaic project area. Ambient noise levels were established by continuously recording noise measurements in 15-minute intervals with a Larson Davis Spark 706 Noise Dosimeters on January 20, 2016, from 10:40 am through 1:35 p.m., as described in Appendix G. The average of the A-weighted ambient noise level for all four monitoring sites at the Castaic project area is 62.7 dBA (Table 2.13-1, *Ambient Noise Levels*; Figure 2.13-1, *Noise Monitoring Sites*). The highest L50 measurement was recorded at 64 dBA at Site B. L_{eq} data can be used as representatives of the minimum threshold because "if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1" pursuant to the noise control ordinance of the County of Los Angeles, Section 12.08.390, exterior noise standards (Table 2.13-2, *Ambient Noise Level L Statistics*).

TABLE 2.13-1
AMBIENT NOISE LEVELS

Monitoring Site (Sensitive Receptor)	Average L_{eq} (dBA)	Maximum L_{eq} (dBA)	Minimum L_{eq} (dBA)
A	63.3	79.1	58.8
B	64.0	74.9	60.5
C	61.1	79.4	56.7
D	62.3	67.0	59.8

KEY: L_{eq}: The equivalent-continuous sound (L_{eq}) is the level of a constant sound, expressed in decibels (dB), which in a given time period ($T=T_2 – T_1$) has the same energy as a time varying sound. For the Spark dosimeters, a L_{eq} value is recorded for 2 different time intervals. First, a L_{eq} is recorded for the entire record's run time. Second, a L_{eq} is recorded for each individual time history sample.
dBA: A-weighted decibels (dBA) are an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced compared with unweighted decibels, in which no correction is made for audio frequency.

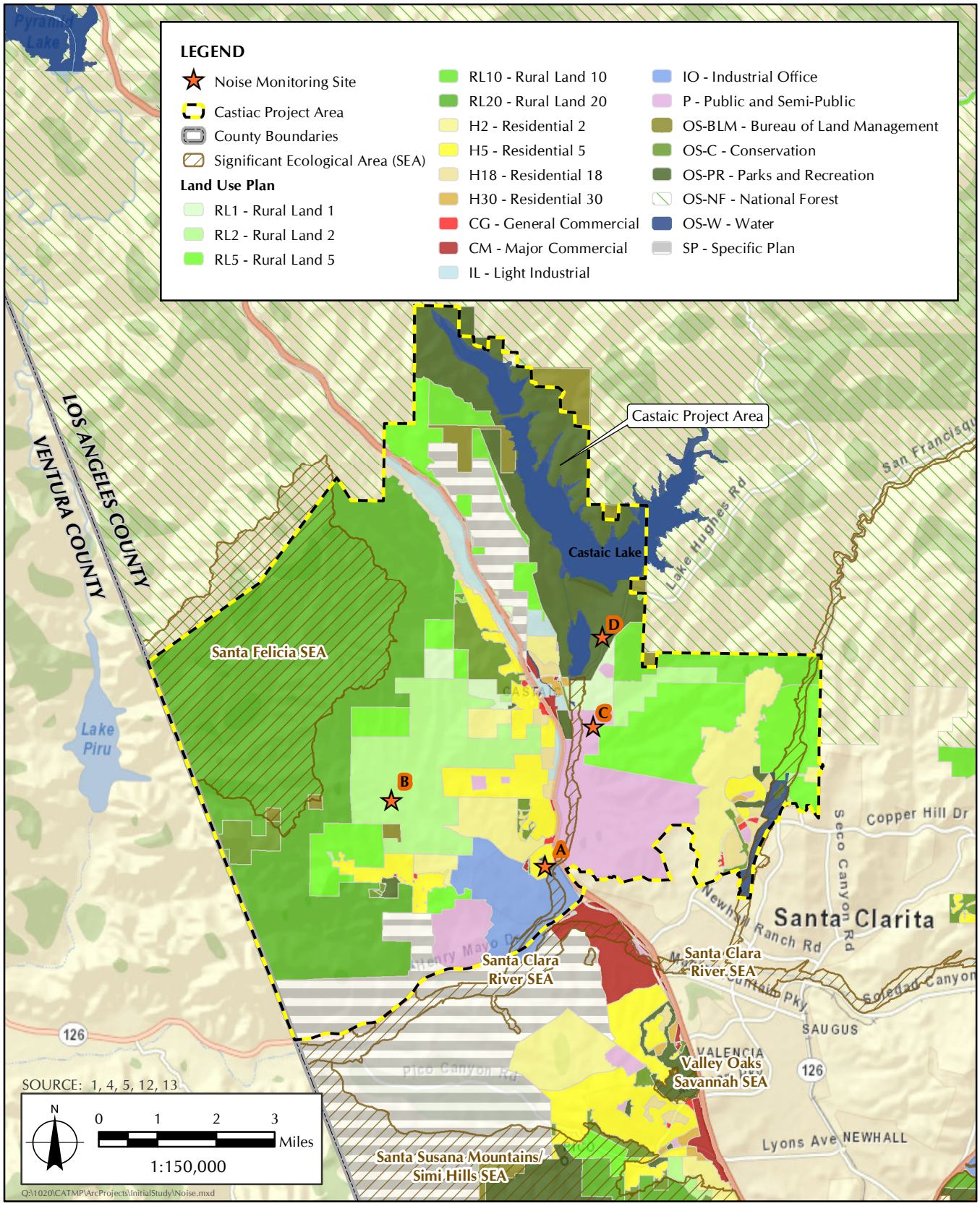

FIGURE 2.13-1

Noise Monitoring Sites

TABLE 2.13-2
AMBIENT NOISE LEVELS L STATISTICS

Monitoring Site (Sensitive Receptor Site)	L10	L30	L50	L70	L90
A	64	63.5	63	62.5	62
B	64.5	64	64	63	62
C	61	60	59.5	59.5	59.5
D	63	62.5	62	61.5	60.5

According to the County of Los Angeles Municipal Codes, mobile equipment shall not generate noise levels above 75 dBA for single-family residences and stationary equipment shall not generate noise levels above 60 dBA for single-family residences during weekdays from 7:00 a.m. to 8:00 p.m. Furthermore, daily construction activities would be subject to County noise regulations, which state that construction equipment may not operate between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or holidays. Construction activities are not expected to occur outside of the time frame from 7:00 a.m. to 7:00 p.m. The analysis described in Appendix G predicted distance at which noise impacts would be below the level of significance for the four construction phases (ground clearing, excavations, erection of structures) indicates that construction impacts would be below the level of significance when activities occur at a minimum of 251 feet away from a sensitive receptor. The noise monitoring and modelling conducted by Sapphos Environmental, Inc. in March 2016 identified 1,260 parcels with potentially sensitive receptors (primarily residential land uses) within 251 feet of the project impact area (proposed trail routes and related trail facilities) in the southern portion of the Castaic project area, south of Castaic, California, and adjacent to the Castaic Junction and in the southwestern portion of the Castaic project area in Val Verde, California. Impacts related to noise from construction, operation, and maintenance of trails for sensitive receptor located within 251 feet would be avoided by complying with the County Noise Ordinance by limiting construction and maintenance activities to 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays, and prohibiting work on federal holidays and Sundays, along with limiting noise levels to below 75 dBA for mobile equipment and 60 dBA for stationary equipment at sensitive receptor locations through the use of noise-attenuating barriers, baffles, or blankets. Therefore, the proposed project would result in significant impacts to noise in regard to exposure of persons to, or generation of, noise levels in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies. Implementation of mitigation measure NOISE-1 would reduce impacts to below the level of significance.

Mitigation Measure NOISE-1: Noise-attenuating barriers, baffles, or blankets shall be installed to reduce noise levels to a maximum of 75 dBA for mobile construction equipment and 60 dBA for stationary construction equipment for potential sensitive receptors within 251 feet. Furthermore, construction equipment shall not operate between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or holidays.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to noise in regard to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Existing conditions for ground-borne vibration in the vicinity of the Castaic project area are limited to recreational uses of current trails including, but not limited to, motorized dirt bikes and all-terrain vehicles (ATVs). There are no current construction projects, oil fields, mining operations, blasting, or other activities resulting in ground-borne vibrations in the vicinity of the proposed project. Construction, operation, and maintenance of the proposed project would not require blasting, drilling, or other activities that would result in excessive ground-borne vibrations on the

Castaic project area. The proposed project would not result in exposure of sensitive receptors or generation of excessive ground-borne vibration or ground-borne noise levels. Therefore, the proposed project would result in no impact in regard to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, and no mitigation would be required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to noise in regard to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The average of the A-weighted ambient noise level for all four monitoring sites at the Castaic project area is 62.7 dBA (Table 2.13-1). The highest L50 measurement was recorded at 64 dBA at Site B. L_{eq} data can be used as representatives of the minimum threshold because "if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1" pursuant to the noise control ordinance of the County of Los Angeles, Section 12.08.390, exterior noise standards (Table 2.13-2). The proposed project would result in a less than significant impact in regard to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas. The primary sources of noise within the Castaic project area can be attributed to conversational noise from recreational uses such as hiking, bike riding, and equestrian riding along with other environmental factors such as wind. A normal conversation at 5 to 10 feet would typically measure 60 dBA, which would not exceed the measured existing ambient noise level (62.7 dBA). As a result, the operation of the proposed project would not result in substantial permanent increases in ambient noise levels in the vicinity above levels existing without the proposed project. Therefore, the proposed project would result in a less than significant impact in regard to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas, and no mitigation would be required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems?	☐	☒	☐	☐

The proposed project would result in significant impacts to noise in regard to a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems. Incorporation of mitigation measures would reduce these impacts to below the level of significance. The average of the A-weighted ambient noise level for all four monitoring sites at the Multi-Use Trails Plan Area is 62.7 dBA (Table 2.13-1). The highest L50 measurement was recorded at 64 dBA at Site B. L_{eq} data can be used as representatives of the minimum threshold because "if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1" pursuant to the noise control ordinance of the County of Los Angeles, Section 12.08.390, exterior noise standards (Table 2.13-2). Noise impacts associated with the construction of the proposed project are expected to occur in three phases: ground clearing, excavations, and erections of poles and amenities. The average noise levels associated with these construction phases where all pertinent equipment is present and operating at a reference distance of 50 feet are presented in Table 2.13-3, *Construction Activity Noise Levels at 50 Feet*. By assigning the highest potential noise level during construction at 89 dBA during excavations (L_1) at a distance of 50 feet (d_1), the distance at which construction activities would reach a maximum of 75 dBA (L_2) and still be in compliance with Title 12, Chapter 8 of the Los Angeles County Municipal Codes for construction noise restrictions, is approximately 251 feet (d_2). This distance, along with

the other predicted distances at which the noise impacts would be below 75 dBA for each construction phase, are presented in Table 2.13-4, *Predicted Distance at Which Noise Impact Would Be below Level of Significance.*

TABLE 2.13-3
CONSTRUCTION ACTIVITY NOISE LEVELS AT 50 FEET

Activity	Noise Level at 50 Feet (dBA)
Ground clearing	84 ± 6 dBA
Excavations	89 ± 6 dBA
Erection of structures	85 ± 5 dBA

SOURCE: VSA & Associates. 7 January 2008. *Altadena Crest Trail Improvement Noise Impact Analysis.* Whittier, CA.

TABLE 2.13-4
PREDICTED DISTANCE AT WHICH NOISE IMPACT WOULD BE BELOW LEVEL OF SIGNIFICANCE

Construction Phase	Distance at Which Noise Impact Would Be below 75 dBA*	Number of Sensitive Receptors within this Distance
Ground clearing	141 feet	896
Excavations	251 feet	1,260
Erection of structures	158 feet	972

NOTE: * According to Title 12, Chapter 8 of the Los Angeles County Municipal Codes, construction activities for mobile equipment may not exceed 75 dBA during weekly daytime hours from 7:00 a.m. to 8:00 p.m. for single-family residential. Construction activities are not expected to occur during nighttime hours from 8 p.m. to 7:00 a.m.

The distance at which noise impacts would be below the threshold of significance for the different construction phases ranges from 141 to 251 feet. Any impacts to sensitive receptors within the referenced distances would be avoided by limiting construction and maintenance activities to 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays, and prohibiting work on federal holidays and Sundays, along with limiting noise levels to below 75 dBA for mobile equipment and 60 dBA for stationary equipment at sensitive receptor locations through the use of noise-attenuating barriers, baffles, or blankets. Furthermore, exposure to potential noise impacts would vary from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed. Due to the short-term nature of project construction, sensitive receptors would not be expected to be significantly affected by the proposed project. Construction activities may result in temporary or periodic increases in ambient noise levels. Therefore, the proposed project would result in a significant impact to noise in regard to a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from amplified sound systems. Implementation of Mitigation Measure NOISE-1 would reduce impacts to below the level of significance.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ☐ ☐ ☐ ☒

The proposed project would result in no impacts in regard to exposing people residing or working in the project area to excessive noise levels, for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The Castaic project area is not within an airport land use plan, or within 2 miles of a public airport. The distance to the nearest public airports are 12.7 miles for the Agua Dulce Airpark and 15.1 miles for the Whiteman Airport. The project area is sufficiently removed from public airports to protect workers engaged in construction or

maintenance of the trails from exposure to excessive noise levels. Similarly, recreational users would not be exposed to excessive noise levels from an airport. Therefore there would be no impact, and mitigation would not be required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

The proposed project would result in no impacts in regard to exposing people residing or working in the project area to excessive noise levels, for a project within the vicinity of a private airstrip. The Castaic project area is not within the vicinity of a private airstrip. The distance to the nearest private airstrip is 13.0 miles for the Quail Lake Sky Park. The project area is sufficiently removed from private airstrips to protect workers engaged in construction or maintenance of the trails from exposure to excessive noise levels. Similarly, recreational users would not be exposed to excessive noise levels from a private airstrip. Therefore there would be no impact, and mitigation would not be required.

14. POPULATION AND HOUSING

This analysis is undertaken to determine if the proposed project would have a significant impact to population and housing, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[98] Population and housing at the Castaic project area was evaluated with regard to the Housing Element of the County General Plan.[99]

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

The proposed project would result in no impacts to population and housing in regard to inducing substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). The Housing Element of the County General Plan has assigned a Regional Housing Needs Assessment (RHNA) allocation of 30,145 housing units for the 2014–2021 Housing Element planning period within the vicinity of the Castaic project area, including 21,308 housing units in the Newhall Ranch Specific Plan and 3,623 housing units in the Northlake Specific Plan (Table 2.14-1, *Unincorporated Los Angeles County RHNA Allocation, 2014–2021*).[100]

TABLE 2.14-1
UNINCORPORATED LOS ANGELES COUNTY RHNA ALLOCATION, 2014–2021

Source of Residential Sites	Affordability				Total
	Very Low	Lower	Moderate	Above Moderate	
RHNA	7,854	4,650	5,060	12,581	30,145
Newhall Ranch Specific Plan	440	550	1,210	19,108	21,308
Marina Del Rey Specific Plan	51	94	82	1,484	1,711
Northlake Specific Plan	—	—	—	3,623	3,623
2013 vacant and underutilized sites	5,445		2,295		7,740
2008 vacant and underutilized sites	10,587		3,574		14,161
Total adequate sites	17,167		7,161	24,215	48,543

SOURCE: County of Los Angeles. Adopted by Board of Supervisors February 4, 2014. Certified by State April 30, 2014. *Los Angeles County Housing Element, 2014-2021, Text Only Version.* Available at: http://planning.lacounty.gov/assets/upl/project/housing_element.pdf

The proposed project would not directly induce population growth because it involves no new homes or businesses. Although some of the trail segments considered under the proposed project would be designed and constructed concurrently with residential development that may require the extension of roads or other

[98] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[99] County of Los Angeles. Adopted by Board of Supervisors February 4, 2014. Certified by State April 30, 2014. Los Angeles County Housing Element, 2014-2021, Text Only Version. Available at: http://planning.lacounty.gov/assets/upl/project/housing_element.pdf

[100] County of Los Angeles. Adopted by Board of Supervisors February 4, 2014. Certified by State April 30, 2014. Los Angeles County Housing Element, 2014-2021, Text Only Version. Available at: http://planning.lacounty.gov/assets/upl/project/housing_element.pdf

infrastructure, the proposed project does not propose the extension of roads or other infrastructure to support new trails and related facilities. Therefore, the proposed project would not result in impacts in regard to substantial population growth in an area, and no mitigation would be required.

b) Displace substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

The proposed project would result in no impacts to population and housing in regard to displacing substantial numbers of existing housing, especially affordable housing, necessitating the construction of replacement housing elsewhere. The proposed project involves proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities that would be designed and constructed per trail easements or open space dedications that accommodate trails, including developer trail and recreation obligations. The Castaic Area is generally rural. The proposed project would not require the demolition of existing residential structures. The proposed project would be designed and constructed concurrently with residential development projects, including affordable housing projects, or would involve easements on undeveloped portions of private properties. Therefore, the proposed project would result in no impacts to population and housing in regard to displacing substantial numbers of existing housing, especially affordable housing, and no mitigation would be required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

The proposed project would result in no impacts to population and housing in regard to displacing substantial numbers of people, necessitating the construction of replacement housing elsewhere. The proposed project involves proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities that would be designed and constructed per trail easements or open space dedications that accommodate trails, including developer trail and recreation obligations. The Castaic Area is generally rural, with large parcels. The proposed project would not require the demolition of existing housing. The proposed project would be designed and constructed concurrently with incremental residential development projects, or would involve easements on undeveloped portions of private properties. Therefore, the proposed project would result in no impacts to population and housing in regard to displacing substantial numbers of people, and no mitigation would be required.

d) Cumulatively exceed official regional or local population projections?	☐	☐	☐	☒

The proposed project would result in no impacts to population and housing in regard to cumulatively exceeding official regional or local population projections. The proposed project involves proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities that would be designed and constructed per trail easements or open space dedications that accommodate trails, including developer trail and recreation obligations. As the proposed project would not induce population growth, it would not affect regional or local population projections. Therefore, the proposed project would result in no impacts in regard to cumulatively exceeding regional or local population projections, and no mitigation would be required.

15. PUBLIC SERVICES

This analysis is undertaken to determine if the proposed project would have a significant impact to public services, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. Public services at the Castaic project area were evaluated with regard to the Santa Clarita Valley Area Plan One Valley One Vision,[101] the Los Angeles County Fire Department website,[102] the County Trails Manual,[103] the County of Los Angeles Fire Code (Title 32),[104] the Safety Element of the County General Plan,[105] the Parks and Recreation Element of the County General Plan,[106] and the County of Los Angeles Public Library website.[107] Coordination was undertaken with the Los Angeles County Fire Department and the Los Angeles County Sheriff Department during the agency outreach planning phase.

	Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services. As described in Section 9, *Hazards/Hazardous Materials*, the majority of the Castaic project area (approximately 95.9 percent) is located within a Very High Fire Hazard Severity Zone (VHFHSZ). Approximately 93.1 percent of the Castaic project area is a State Responsibility Area (SRA) that is the responsibility of CAL FIRE, with fire protection services on federal-owned Very High Fire Hazard Severity Zone land (approximately 1.4 percent of Castaic project area) the responsibility of BLM and other federal agencies, and approximately 5.5 percent of the Castaic project area is a Local Responsibility Area, provided by Los Angeles County Fire Department

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[101] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[102] County of Los Angeles Fire Department. Accessed 4 March 2016. Find Services in Los Angeles County. Available at: http://www.fire.lacounty.gov/fire-station-listings/

[103] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[104] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Title 32 – Fire Code. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT32FICO

[105] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 12: Safety Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf

[106] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[107] County of Los Angeles Public Library. 30 June 2015. County of Los Angeles Public Library: Statistics. Available online at: http://www.colapublib.org/aboutus/info.html

(LACoFD).[108] High Fire Hazard Severity Zone areas are concentrated in the southern portion of the Castaic project area and near I-5, with Moderate Fire Hazard Severity Zone areas in the vicinity of the communities of Val Verde and Castaic (Figure 2.15-1, *Federal, State, and Local Fire Responsibility Areas*; see Figure 2.9-3, *Fire Hazard Severity Zones*).

Mutual aid agreements are maintained with local, state, and federal agencies. As part of the Consolidated Fire Protection District, the entire Santa Clarita Valley Area Plan area, including the entire Castaic project area, receives urban and wildland fire protection services from the LACoFD.[109] LACoFD provides fire protection services, fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services. According to the Safety Element of the Santa Clarita Valley Area Plan, LACoFD has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes.[110] However, actual response times vary due to distances and road conditions. The Castaic project area is located within the service areas of LACoFD Station #149 (Castaic) and #76 (Valencia) (Figure 2.15.2, *Los Angeles County Fire Department Fire Station Services Areas*). Station #149, which also serves in Battalion 6 and is located in the community of Castaic at 31770 Ridge Route Road, Castaic, CA 91384, provides fire and rescue services and safe haven services for unincorporated Los Angeles County and for cities in the County which contract with it, including forest areas.[111] Station #76 is located at 27223 Henry Mayo Drive, Valencia, CA 91355. There is currently one fire station being proposed in the Santa Clarita Valley Area Plan, Fire Station 180, which will be located within the proposed Northlake development. Fire Station #143 is currently under development and anticipated to be operational in November 2016.[112] Fire Station #156 became operational in 2011. The LACoFD has adopted the State Fire Code standards for new development in hazardous fire areas. Fire prevention requirements include provision of access roads, adequate road width, and clearance of brush around structures located in hillside areas. In addition, proof of adequate water supply for fire flow is required within a designated distance for new construction in fire hazard areas.

The LACoFD operates an approximately 0.25-mile training facility in the southwestern corner of the Castaic project area, near Chiquito Canyon Road. During coordination with LACoFD in the agency/community outreach planning phase for the proposed project, LACoFD asked that trails be designed to not interfere with training at LACoFD's Del Valle training center. LACoFD also asked about providing specific quarter-mile trail markers to be used and GIS shapefiles of trails to be provided to LACoFD upon development of trails with trail marker locations to facilitate emergency response and evacuation. This feedback has been integrated into the scope of the proposed project.

The proposed project involves planning for the construction and maintenance of approximately 100 miles of new trails, up to 45 acres of bike skills parks, and related facilities. Trails would be up to 12 feet wide to support bicyclists, equestrians, and hikers. The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project

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[108] CAL FIRE. 2007-2012. Accessed 5 January 2016. Los Angeles County & Ventura County Fire Hazard Severity Map. Available at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps

[109] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available at: http://planning.lacounty.gov/ovov. Chapter 5: Safety. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_05_safety.pdf

[110] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[111] County of Los Angeles Fire Department. Accessed 4 March 2016. Find Services in Los Angeles County. Available at: http://www.fire.lacounty.gov/fire-station-listings/

[112] Johnson, Kevin T. County of Los Angeles Fire Department. June 6, 2016. *Letter to Julia Yom re: Notice of Intent to Adopt a Mitigated Negative Declaration, "Castaic Area Multi-Use Trails and Related Staging Areas, Bike Skills Parks, Parking Areas, and Other Supporting Trail Facilities, Castaic (FFER 201600075).*

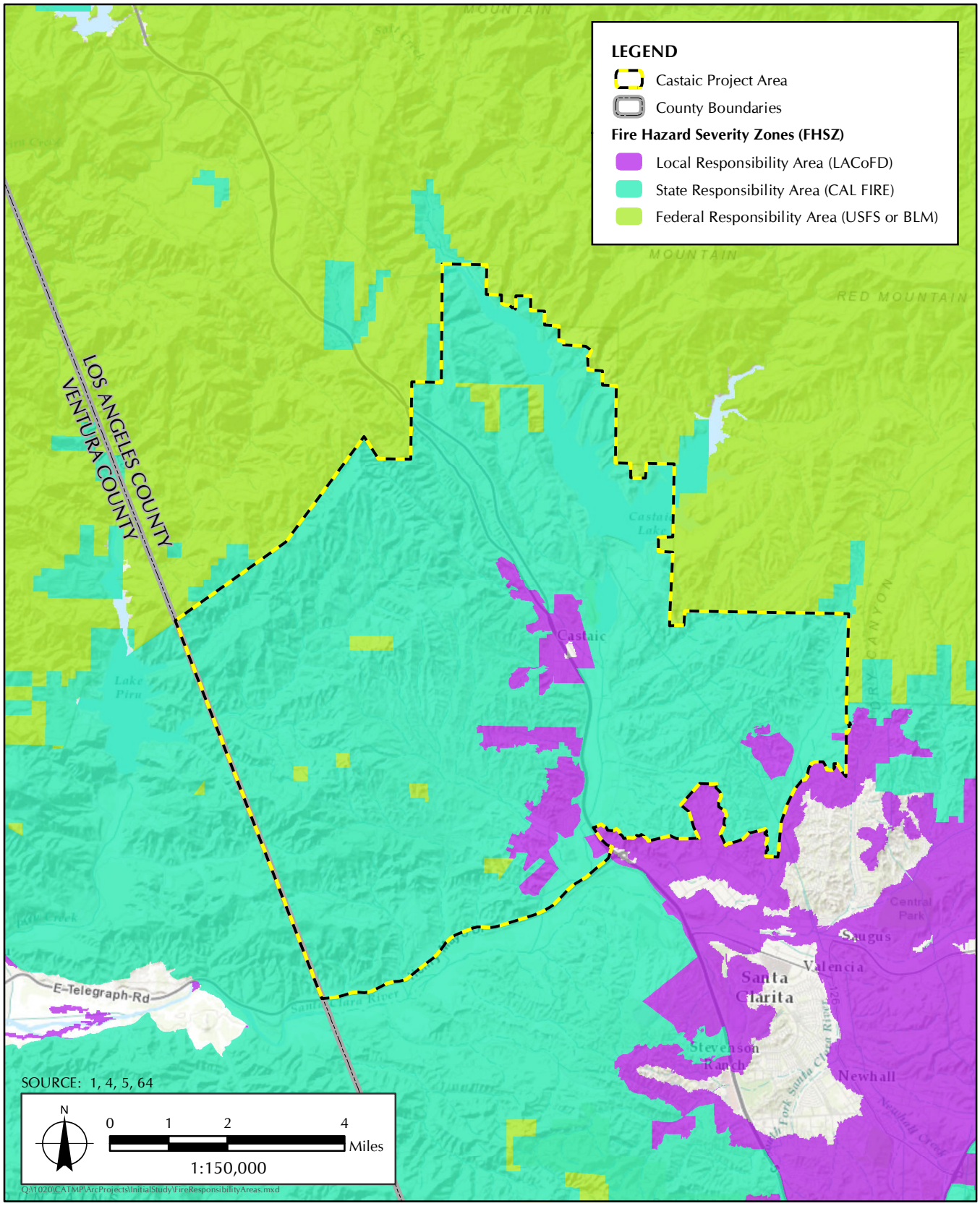

FIGURE 2.15-1

Federal, State, and Local Fire Responsibility Areas

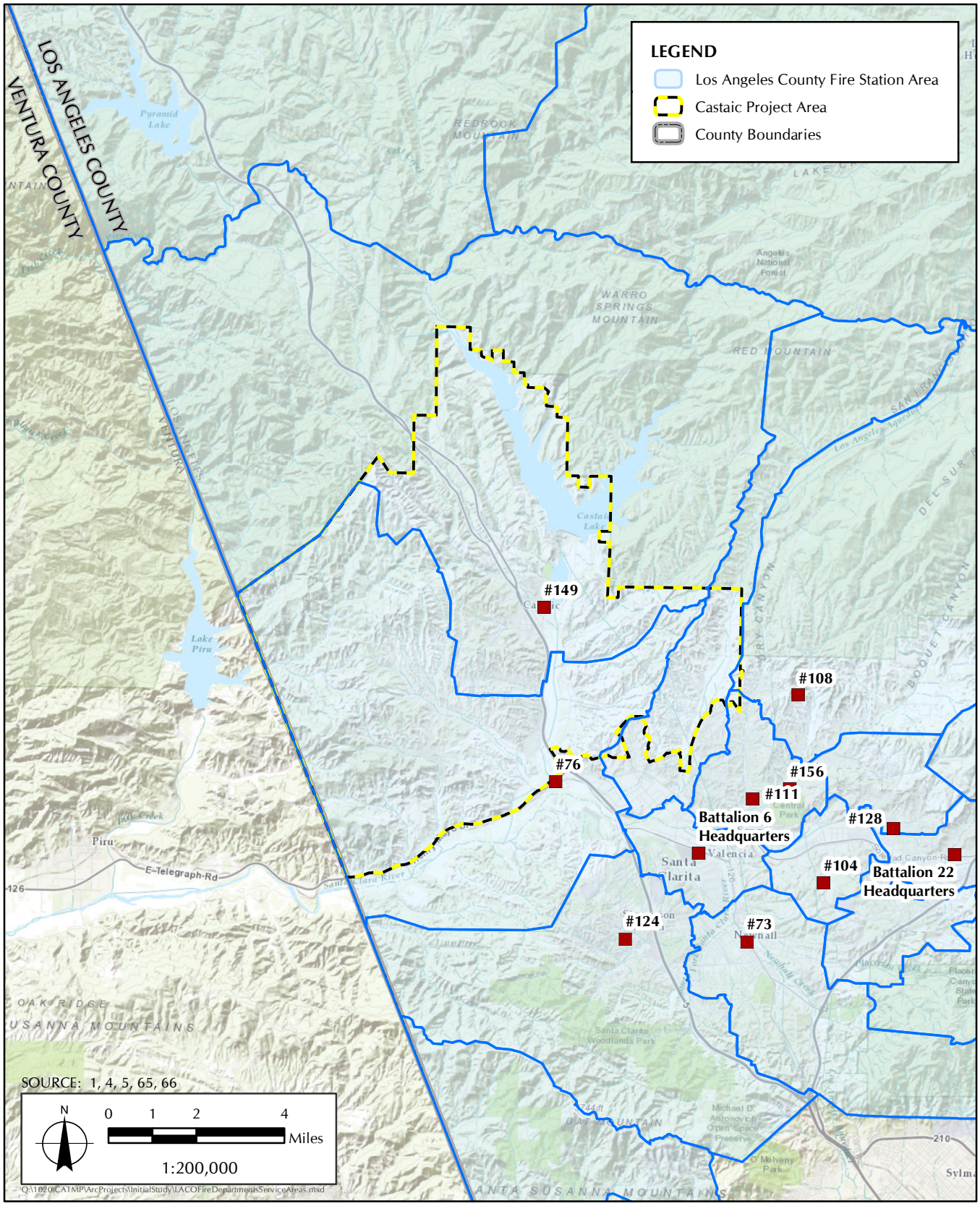

FIGURE 2.15-2

Los Angeles County Fire Department Fire Station Service Areas

would be expected to serve as a regional recreation facility in the County of Los Angeles that would be expected to generate day use from local residents and from throughout the area, which has the potential to result in a very minor increase in emergency response, search and rescue, and other fire protection services if any injuries, missing persons, or fire incidents occur. Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include reassurance marker signs at every quarter (0.25) mile of trail that identify the name of the trail and quarter milepost number in order to orient search and rescue services in the case of an emergency. The County Department of Parks and Recreation would be responsible for providing updated data to LACoFD marking the location of each quarter milepost along the trail for emergency response purposes. Consistent with the County Trails Manual, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation.[113] In accordance with County Code, fires are only permitted in signed and designated areas of County Parkland (County Code 17.04.590), fireworks or other combustible materials are not permitted along any trail (County Code 17.04.520 and 17.04.610), and firearms are not permitted on County trails except in designated areas (County Code 17.04.620 and 17.08.300).[114] Structures and parking lots would be constructed in accordance with the requirements of the County of Los Angeles Fire Code (Title 32).[115] Therefore, the proposed project would result in less than significant impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services, and no mitigation would be required.

Sheriff protection? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for sheriff protection services. Sheriff protection services in unincorporated Los Angeles County are provided by the Los Angeles County Sheriff's Department. According to the Santa Clarita Valley Area Plan, the Santa Clarita Valley Station of the Sheriff's Department oversees general law and traffic enforcement within the City of Santa Clarita, while the California Highway Patrol (CHP) has jurisdiction over traffic on State highways and in unincorporated County areas. According to the 2012 Santa Clarita Valley Area Plan, the Santa Clarita Sheriff's Station has insufficient space to meet current staffing and future needs.[116] The Sheriff's Department also operates two storefront substations, one in Newhall and the other in Canyon Country. The Department provides helicopter air support, search and rescue coordination, and the Career Offenders Burglary Robbery (COBRA) unit, which handles juvenile and gang-related crimes. The Sheriff's Department is planning for the expansion of the main station, and is also planning to expand staffing levels to meet the needs of the Santa Clarita Valley's growing population. The Castaic project area is located within the service area of the Santa Clarita Valley Sheriff Station, an approximately 648-square mile service area that includes portions of the Angeles National Forest. The Santa Clarita Valley Sheriff Station is located approximately 2.0 miles southeast of the Castaic project area, at 23740 Magic Mountain Parkway, Santa Clarita, CA 91355 (Figure 2.15-3, *Los Angeles County Sheriff Stations*).

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[113] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[114] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Part 3 – Park Rules and Regulations. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT17PABEOTPUAR_CH17.04PAREAR_PT3PARURE

[115] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Title 32 – Fire Code. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT32FICO

[116] County of Los Angeles Department of Regional Planning. 2012. Santa Clarita Valley Area Plan. Available online at: http://planning.lacounty.gov/ovov

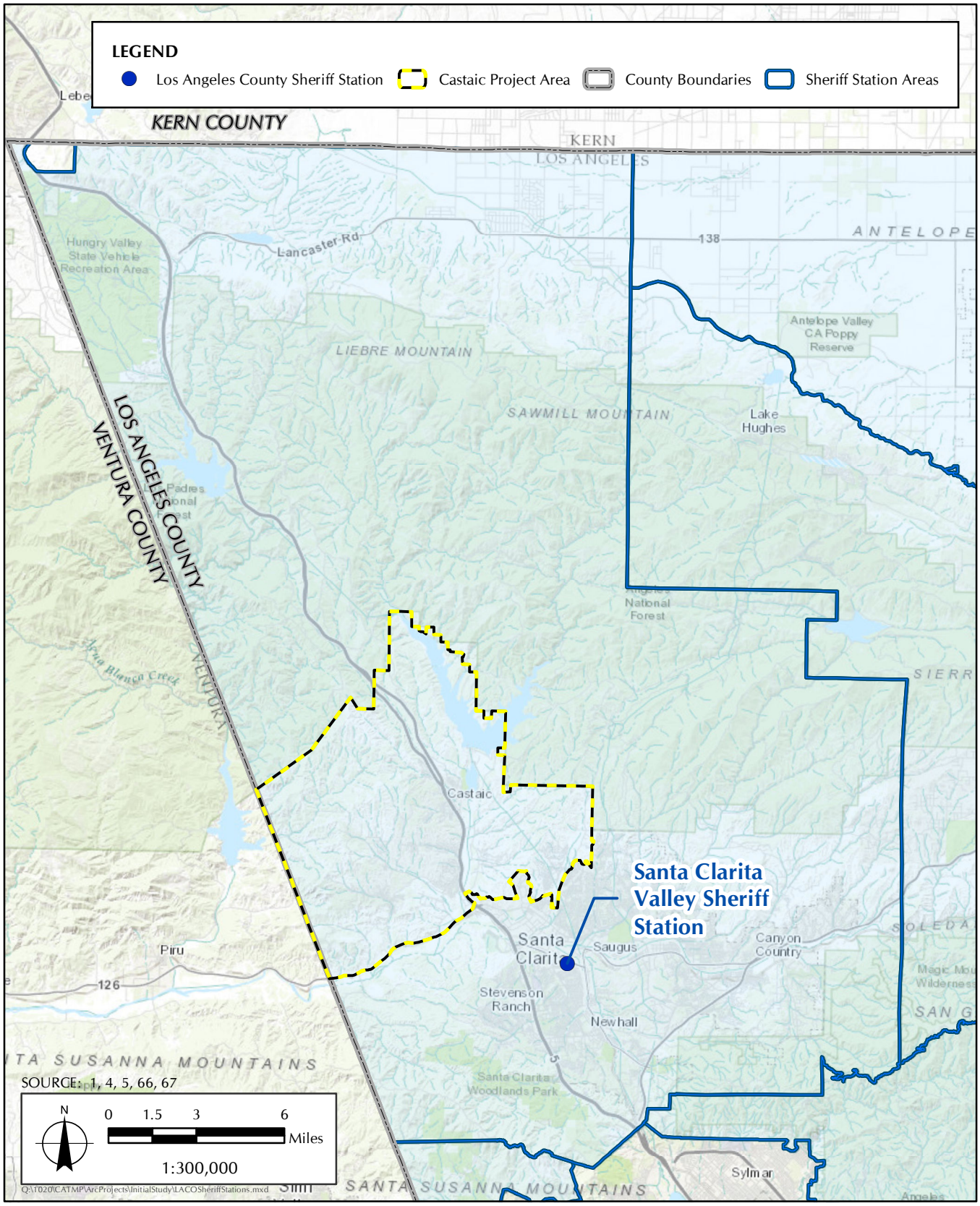

FIGURE 2.15-3

Los Angeles County Sheriff Stations

The Safety Element of the Los Angeles County General Plan 2035 establishes that the Los Angeles County Sheriff's Department (LASD) requires a staff level of one deputy sheriff per each 1,000 population to effectively and efficiently fulfill all of its functions.[117] The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project would be expected to serve as a regional recreation facility that would be expected to generate day use from throughout the area, which has the potential to result in a very minor increase in emergency response, search and rescue, and other sheriff services if any injuries or crime incidents occur as a result of local recreational users and additional one-day recreation users from the region. Multiple studies have shown that adopted trails tend to result in a negligible increase, neutral effect, or reduction in crimes including vandalism, theft, and trespassing, in the area through regular use and high visibility of users.[118,119,120] The proposed project avoids Pitchess Detention Center, which is located in the southern portion of the Castaic project area. During coordination with LASD in the agency/community outreach planning phase for the proposed project, LASD asked that trails be designed to not interfere with operations at Pitchess Detention Center. LASD also asked about providing specific quarter-mile trail markers to be used and GIS shapefiles of trails to be provided to LASD upon development of trails with trail marker locations to facilitate emergency response and evacuation. This feedback has been integrated into the scope of the proposed project. The proposed project was designed to ensure that trails are not located within the vicinity of correctional facilities within Pitchess Detention Center to maintain safety and security for recreation users and residents.

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include reassurance marker signs at every quarter (0.25) mile of trail that identify the name of the trail and quarter milepost number in order to orient search and rescue services in the case of an emergency. The County Department of Parks and Recreation would be responsible for providing updated data to LASD marking the location of each quarter milepost along the trail to facilitate emergency search and rescue efforts. Therefore, the proposed project would result in less than significant impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for sheriff protection services, and no mitigation would be required.

Schools? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for school services. The Castaic project area is served by one existing public high school, two existing public middle schools, five existing public elementary schools, and five private schools located within a quarter-mile radius of the Castaic project area (Figure 2.15-4, *Public Schools*). The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new

[117] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 12: Safety Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf

[118] Donald L. Greer, Ph.D., University of Nebraska at Omaha. October 2001. Nebraska Rural Trails: Three Studies of Trail Impact. Available at http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_5-nebraska-rural-trails.pdf

[119] Seattle Engineering Department. May 1987. Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime. Available at: http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_82-burke-gilman-trail-property-values.pdf

[120] National Park Service. January 2008. Benefits of Trails & Greenways. Available at: http://www.cdlandtrust.org/sites/default/files/publications/Benefits%20of%20Trails-NPS.pdf

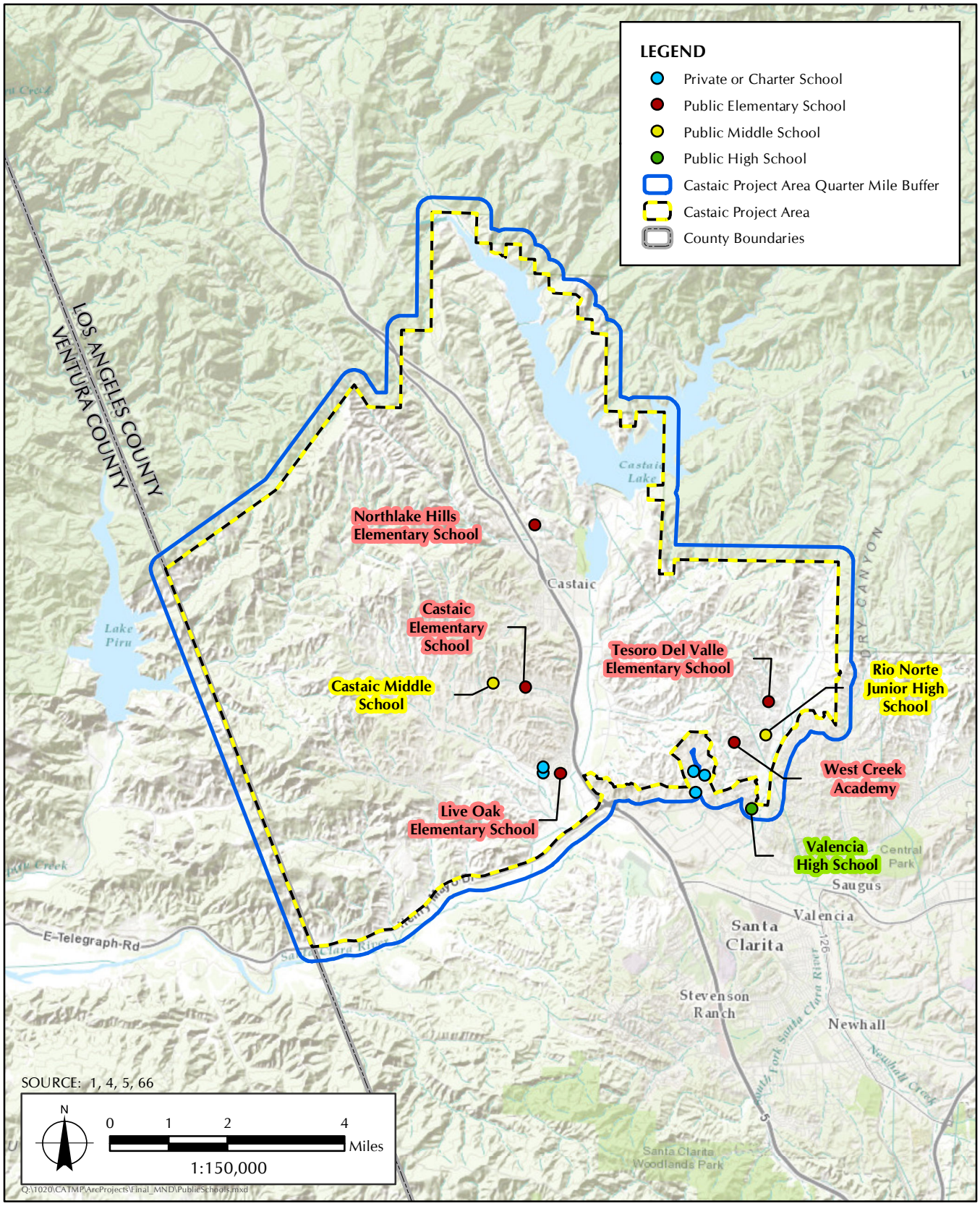

FIGURE 2.15-4

Public Schools

trails and related facilities. Therefore, the proposed project would result in no impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios for school services, and no mitigation would be required.

Parks? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for park services. As established by the Parks and Recreation Element of the County General Plan, the standard for parklands is four acres of local parkland and six acres of regional parkland per 1,000 County residents in unincorporated areas.[121] Based on the standards established by the County General Plan, the Parks and Recreation Element determined that, although the Santa Clarita Valley Plan Area had a surplus of approximately 12,798 acres in regional parkland to support its population in 2010, the demand for local parkland (neighborhood and community parks) in unincorporated Los Angeles County exceeds the supply, including the Castaic project area. The Santa Clarita Valley Planning Area had a local parkland deficit of approximately 308 acres to support its population in 2010, with approximately 0.7 acres of local parkland per 1,000 persons.[122] There are no park nodes or pocket parks within a quarter-mile radius of the Castaic project area. Existing local recreation resources are concentrated in the southeastern portion of the Castaic project area, consisting of four neighborhood parks (approximately 20.8 acres) within a half-mile service area radius of the Castaic project area and five 嗜
(see Section 2.16*, Recreation*).

The proposed project would provide approximately 100 miles of new trails and over 45 acres of recreational facilities, including up to 45 acres of bike skills parks, five simple trailheads, four equestrian amenities, and six general staging areas and trail amenities. Based on the County's goals of providing 1 mile of trails per population of 1,000, and providing approximately 4 acres of local parkland per population of 1,000, the proposed project would serve 107,250 persons, thus reducing the demand for parkland in the Castaic project area.[123,124] Therefore, the proposed project would result in less than significant impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios for park services, and no mitigation would be required.

Libraries? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for library services. The Los Angeles County Public Library (County Library) provides library services to over 3.5 million residents living in unincorporated Los Angeles County and

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[121] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[122] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[123] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[124] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

within 50 of the 88 incorporated cities of the County within a service area of 3,032 square miles.[125,126] The County's Castaic Library and two bookmobile stops are located within the Castaic project area (Figure 2.15-5*, Public Libraries*). The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. Therefore, the proposed project would result in no impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios for library services, and no mitigation would be required.

Other public facilities? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to public services in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities. The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project would be expected to serve as a regional recreation facility in the County of Los Angeles that would be expected to generate day use from throughout the area, which has the potential to result in a very minor increase in emergency response service facilities beyond the local population if any injuries occur to one-day recreation users from the region. The proposed project involves planning for the construction and maintenance of approximately 100 miles of new trails, up to 45 acres of bike skills parks, and related facilities. As at the existing Valmont Bike Park in Boulder, Colorado, the potential for bodily injury exists when engaging in off-road cycling even when riders do take personal responsibility for their own safety and actions at the parks.[127] According to the City of Boulder Parks and Recreation Department, who tracked accidents at the park immediately after it opened on June 11, 2011, through reports from staff, volunteers, and emergency calls, Valmont Bike Park accidents including scrapes, bruises, cuts, and a few broken collarbones and broken wrists dramatically dropped after the first month since the park opened.[128] Thus, there would be expected to be some increase in emergency response calls.

The Castaic project area is served by the Henry Mayo Newhall Memorial Hospital, which is located at 23845 McBean Parkway, Valencia, CA 91355, approximately 3.3 miles southeast of the Castaic project area (Figure 2.15-6, *Hospitals*). This hospital is a 238-bed acute care hospital in need of expansion, with a long-term plan for up to 120 new beds.[129] The Safety Element of the Santa Clarita Valley Area Plan establishes that Henry Mayo Newhall Memorial Hospital (HMNMH) is one of the 13 designated Disaster Resource Centers (DRCs) in Los Angeles County.[130] As the designated DRC site, HMNMH is the lead for 11 other hospitals. DRCs are hospitals that address surge capacity in a disaster through procurement, storage, maintenance, and security of extra medical equipment, supplies, and pharmaceuticals. As with Valmont Bike Park and skate

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[125] County of Los Angeles Public Library. 2015. County of Los Angeles Public Library: About Us. Available online at: http://www.colapublib.org/aboutus/

[126] County of Los Angeles Public Library. 30 June 2015. County of Los Angeles Public Library: Statistics. Available online at: http://www.colapublib.org/aboutus/info.html

[127] City of Boulder, CO. 2016. Inquire Boulder: Valmont Bike Park Frequently Asked Questions. Available at: http://user.govoutreach.com/boulder/faq.php?cid=23426

[128] Fields, Jenn. Daily Camera News. 19 July 2011. Official: Boulder's Valmont Bike Park Accidents are Down. Available at: http://www.dailycamera.com/news/ci_18510137

[129] Henry Mayo Newhall Memorial Hospital. 2013. Community Health Needs Assessment 2013. PDF available online at: http://henrymayo.com/sites/henrymayo.com/files/uploaded_files/community-health-needs-assessment-and-plan-fy-14-16.pdf

[130] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

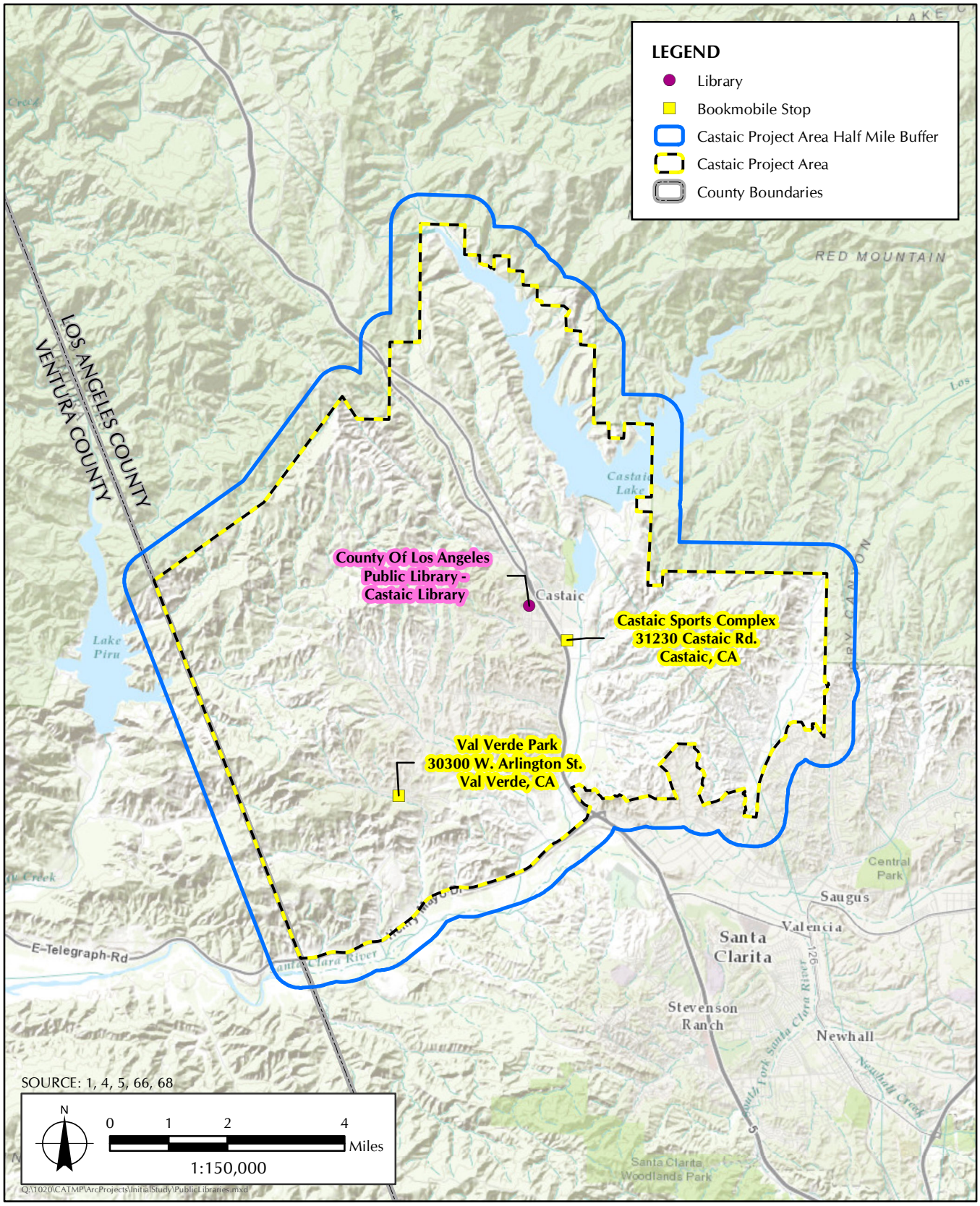

FIGURE 2.15-5

Public Libraries

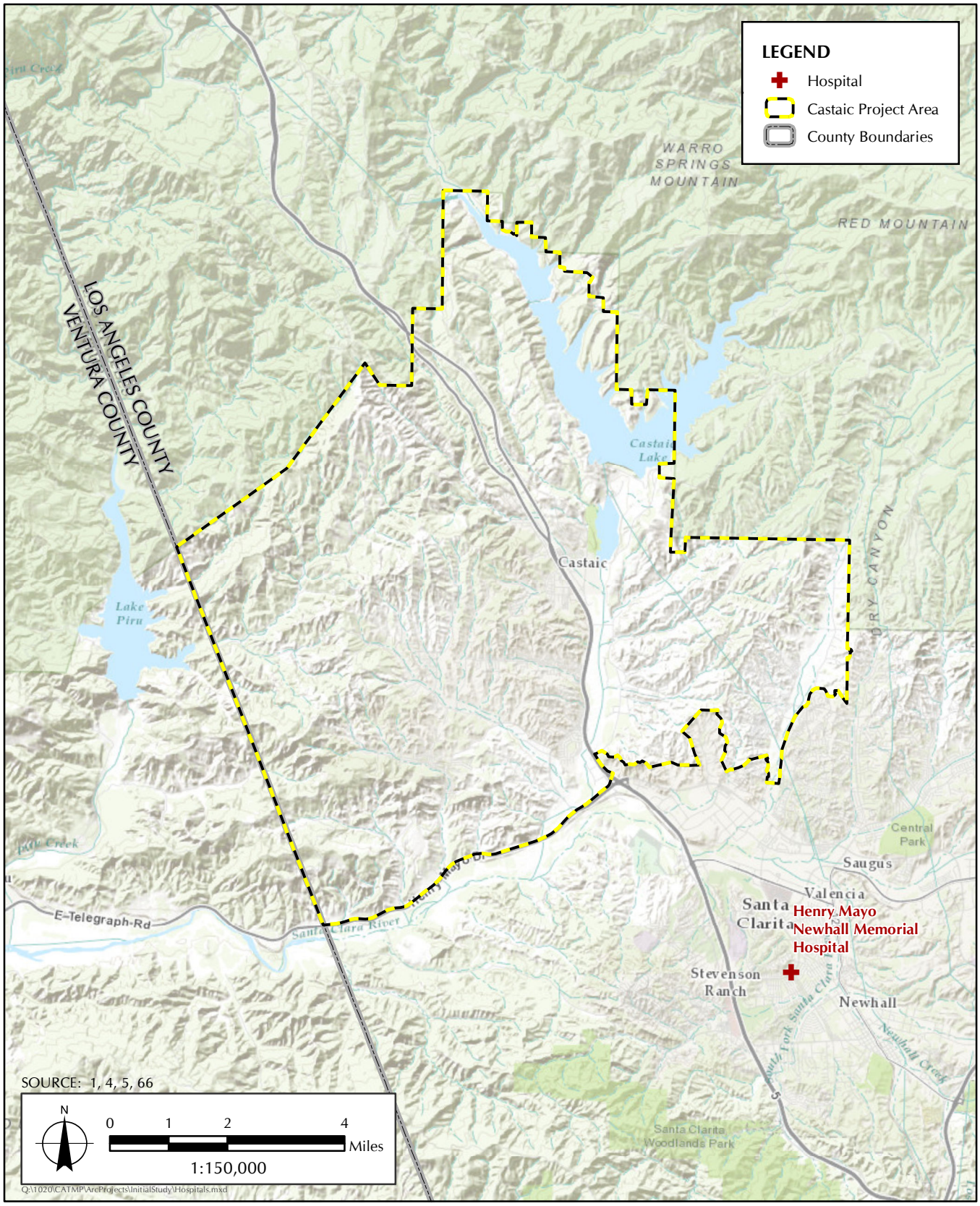

FIGURE 2.15-6

Hospitals

parks, it is anticipated that the proposed project would result in a few broken collarbones and broken wrists immediately after the opening of the bike skills parks, a temporary increase in the need for emergency response services is anticipated until users are familiar with their skill levels. Therefore, the proposed project would result in less than significant impacts in regard to creating capacity or service level problems, or resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities, and no mitigation would be required.

16. RECREATION

This analysis is undertaken to determine if the proposed project would have a significant impact to recreation, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. Recreation at the Castaic project area was evaluated with regard to the Santa Clarita Valley Area Plan One Valley One Vision,[131] the County Trails Manual,[132] and the Parks and Recreation Element of the County General Plan.[133,134] The analysis presented in this section is also based on the Castaic Area Multi-Use Trails Plan Aesthetics Assessment (Appendix B).

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to recreation in regard to increasing the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Although the proposed project would facilitate increased access to existing local parkland in an area that lacks adequate access to local parkland, it would also provide additional local recreation opportunities, including bike skills parks, that would be expected to divert a substantial portion of the additional recreation use in the area from existing local parkland. Additionally, the proposed project, through the provision of trails, would increase access to regional parkland in an area that has a surplus of regional parkland and a deficit of local parkland access. As the Castaic project area is located in unincorporated Los Angeles County, this analysis uses the park terminology for neighborhood, community, and regional parks pursuant to the Parks and Recreation Element of the Los Angeles County General Plan 2035 (Table 2.16-1, *Los Angeles County Park Service Area Definitions*).[135] Los Angeles County also treats trails as linear parks that provide community access to increased health and fitness activities in the increasingly urbanized region. The Castaic project area is located within the Santa Clarita Valley Planning Area.[136]

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[131] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available online at: http://planning.lacounty.gov/ovov

[132] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[133] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[134] County of Los Angeles Public Library. 30 June 2015. County of Los Angeles Public Library: Statistics. Available online at: http://www.colapublib.org/aboutus/info.html

[135] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[136] County of Los Angeles Department of Regional Planning. Adopted November 27, 2012. Santa Clarita Valley Area Plan: One Valley One Vision. Available at: http://planning.lacounty.gov/ovov. Chapter 4: Conservation and Open Space Element. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_04_os.pdf

TABLE 2.16-1
LOS ANGELES COUNTY PARK SERVICE AREA DEFINITIONS

Regional/Local	Service Standards	Recreational Facility	Suggested Park Size	Service Area
Regional	6 acres per 1,000 County residents	Regional Park	Greater than 100 acres	25+ miles
		Community Regional Park	20 to 100 acres	Up to 20 miles
		Special Use Facility	No size criteria	None
Local	4 acres per 1,000 County residents	Community Park	10 to 20 acres	1 to 2 miles
		Neighborhood Park	3 to 10 acres	1/2 mile
		Pocket Park	1/4 to 3 acres	1/4 mile
		Park Node	0 to 1/4 acre	None

SOURCE: Los Angeles County Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

In regard to regional recreation, the Santa Clarita Valley Planning Area had a surplus of approximately 12,798 acres to support its population in 2010, with approximately 53 acres of regional parkland per 1,000 persons.[137] A total of 784,983.5 acres of regional parkland facilities are located within the regional service area vicinity of the Castaic project area. Val Verde Community Regional Park and Castaic Sports Complex are the two community regional parks within the Castaic project area (Figure 2.16-1, *Regional Recreational Resources*). Within the Castaic project area, special use facilities include Tesoro Adobe Historic Park and BLM lands. Castaic Lake State Recreation Area is the only regional park in the Castaic project area; other nearby regional parks include the Los Padres National Forest and Angeles National Forest to the north, Central Park in the City of Santa Clarita to the southeast, Santa Clarita Woodlands Park to the south, and Lake Piru to the west. The Pacific Crest National Scenic Trail (PCT) is located approximately 8.5 miles northwest of the Castaic project area. The proposed project would increase recreational access to Val Verde Community Regional Park by providing the Val Verde Trail that would transverse the northern edge of the park. The proposed project would facilitate recreational access to Castaic Sports Complex by providing the Castaic Creek Trail that would transverse the southern and eastern portions of the complex property. Castaic Lake State Recreation Area would become more accessible by trail users through the proposed Sloan Canyon Trail, Castaic Dam Trail, Lake West Trail, and Elderberry Forebay Trail; however, several of these proposed routes are already used as de facto trails or maintained as trail segments within the Castaic Lake State Recreation Area (see Appendix B).[138] The existing Cliffie Stone Trail is adjacent to the southern edge of Tesoro Adobe Historic Park, which would experience additional use as a result of new trails at the northwestern side of the existing trail. The proposed project would provide trail access to the Angeles National Forest through the Cliffie Stone East Trail, San Francisquito Trail, Elderberry Forebay Trail, and Santa Felicia Trail.

In regard to local recreation, the Santa Clarita Valley Planning Area had a deficit of approximately 308 acres to support its population in 2010, with approximately 0.7 acres of local parkland per 1,000 persons.[139] A total of 93 acres of local parkland facilities are located within the local park service area of the Castaic project area. There are no park nodes or pocket parks within a quarter-mile radius of the Castaic project area. Existing local recreation resources are concentrated in the southeastern portion of the Castaic project area. There are four neighborhood parks (approximately 20.8 acres) within a half-mile service area radius of the Castaic project area and five community parks (approximately 72.2 acres) within a two-mile service area

[137] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

[138] Friends of Castaic. Accessed 4 March 2016. Castaic Lake – Trail Map. Available at: http://castaiclake.com/map_trails.html Black and white hard copy of trail map available upon request at Castaic Lake State Recreation Area entrance kiosks.

[139] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

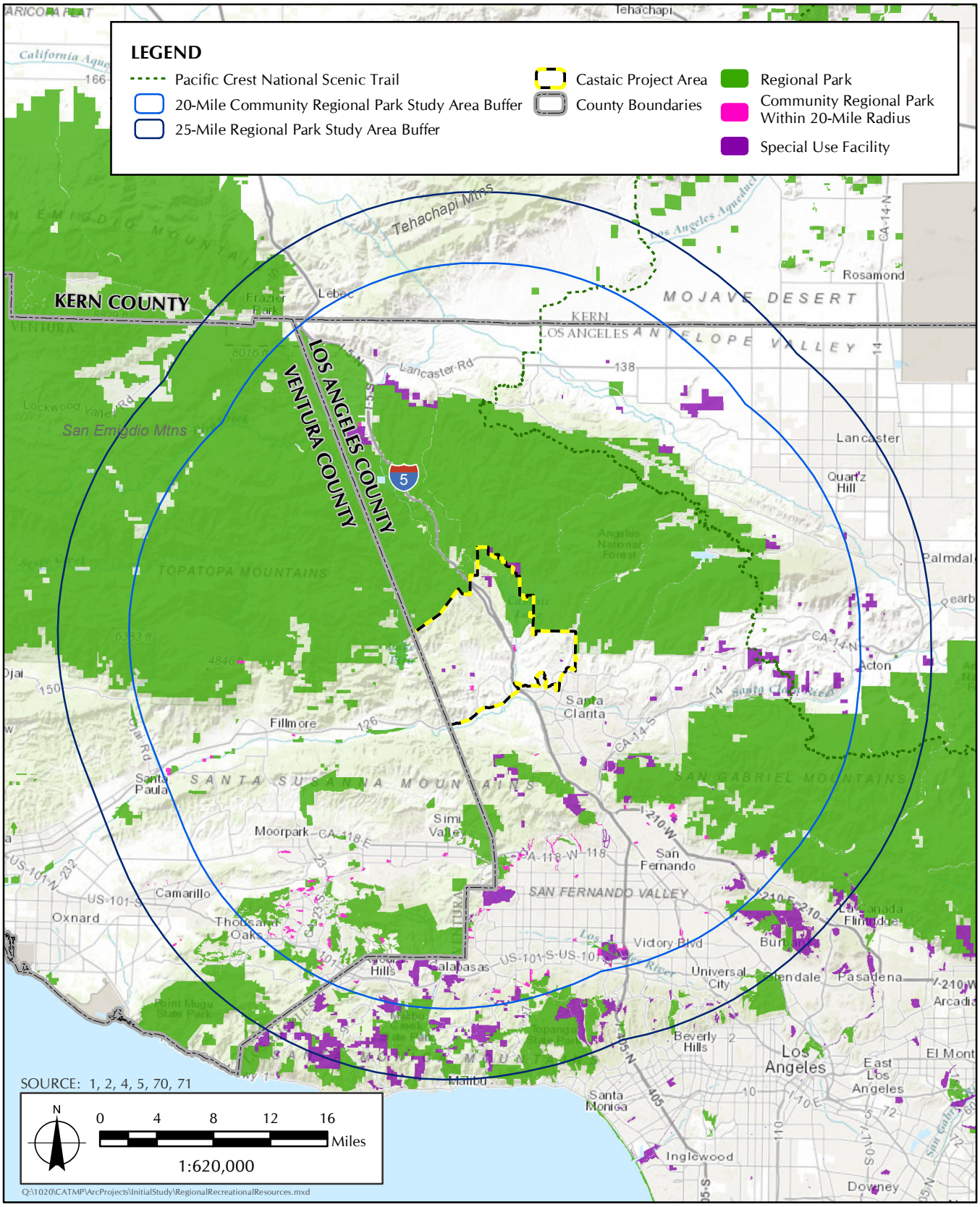

FIGURE 2.16-1

Regional Recreational Resources

radius of the Castaic project area (Table 2.16-2, *Existing Local Parks and Trails*; Figure 2.16-2, *Local Recreational Resources*).

TABLE 2.16-2
EXISTING LOCAL PARKS AND TRAILS

Type of Local Recreation Facility	Name of Facility	Distance from Castaic Project Area	Facility Size (Area/Length)	Management Agency
Neighborhood Park	Del Valle Park[1]	Within Castaic project area	5.5 acres	County of Los Angeles
Neighborhood Park	Hasley Canyon Park[1]	Within Castaic project area	5.4 acres	County of Los Angeles
Neighborhood Park	Chesebrough Park[2]	0.3 mile southeast	6.0 acres	City of Santa Clarita
Neighborhood Park	Northbridge Park (County-managed portion)[2]	0.4 mile southeast	3.9 acres	County of Los Angeles
Community Park	West Creek Park[1]	Within Castaic project area	17.7 acres	County of Los Angeles
Community Park	Valencia Heritage Park[2]	0.5 miles south	15.6 acres	City of Santa Clarita
Community Park	Northbridge Park (City of Santa Clarita-managed portion)[2]	0.4 mile southeast	13.6 acres	City of Santa Clarita
Community Park	Bridgeport Park[2]	1.2 miles south	14.7 acres	City of Santa Clarita
Community Park	Bouquet Canyon Park[2]	1.9 miles southeast	10.6 acres	City of Santa Clarita
Total Local Park Area within 2 Miles of Castaic project area			**93 acres**	
Multi-Use Trail	Cliffie Stone Trail[3]	Within Castaic project area	2.9 miles	County of Los Angeles
Multi-Use Trail	Hasley Canyon Trail[3]	Within Castaic project area	1.7 miles	County of Los Angeles
Multi-Use Trail	North Park Trail[3]	Within Castaic project area	0.3 miles	County of Los Angeles
Multi-Purpose Trail	Santa Clara River Trail[4]	1.2 miles south	1.5 miles	City of Santa Clarita
Multi-Purpose Trail	South Fork River Trail[4]	1.2 miles south	1.9 miles	City of Santa Clarita
Multi-Purpose Trail	Bouquet Creek Trail[4]	1.4 miles south-southeast	0.3 miles	City of Santa Clarita
Multi-Purpose Trail	San Francisquito Creek Trail[4]	Adjacent to southern portion	1.3 miles	City of Santa Clarita
Multi-Purpose Trail	Unnamed[4]	1.5 mile east	3.5 miles within 2-mile radius of Castaic project area	City of Santa Clarita
Cross Country Trail	Cross Country Trail[4]	1.9 miles southeast	0.8 miles within 2-mile radius of Castaic project area	City of Santa Clarita
Total Trail Length within 2 Miles of Castaic project area			**14.2 miles**	

SOURCES:
[1] Email from Mr. John Diaz, Planning Division – Trails Section. Los Angeles County Department of Parks and Recreation. November 16, 2015. Los Angeles County Parks. GIS layer file. Also available at: http://parks.lacounty.gov/wps/portal/dpr
[2] GreenInfo Network. Accessed 1 April 2016. *California Protected Areas Data Portal*. Available at: http://www.calands.org/ Also available at: http://www.santa-clarita.com/index.aspx?page=186
[3] Email from Mr. John Diaz, Planning Division – Trails Section. Los Angeles County Department of Parks and Recreation. November 12, 2015. Los Angeles County Regional Trail System. GIS layer file. Also available at: https://trails.lacounty.gov/
[4] City of Santa Clarita. Accessed 1 April 2016. *City of Santa Clarita Trails: Trails/Paseo Maps*. Available at: http://www.santa-clarita.com/city-hall/departments/parks-recreation-and-community-services/parks-division/trails

Section 2.2.3 of the County Trails Manual establishes (through the 2004–2020 Strategic Asset Management Plan) the goal of providing 1 mile per population of 1,000 (approximately 50 feet of trail for each trail user), with an assumption that approximately 11 percent of the population will engage in trail use, as specified by

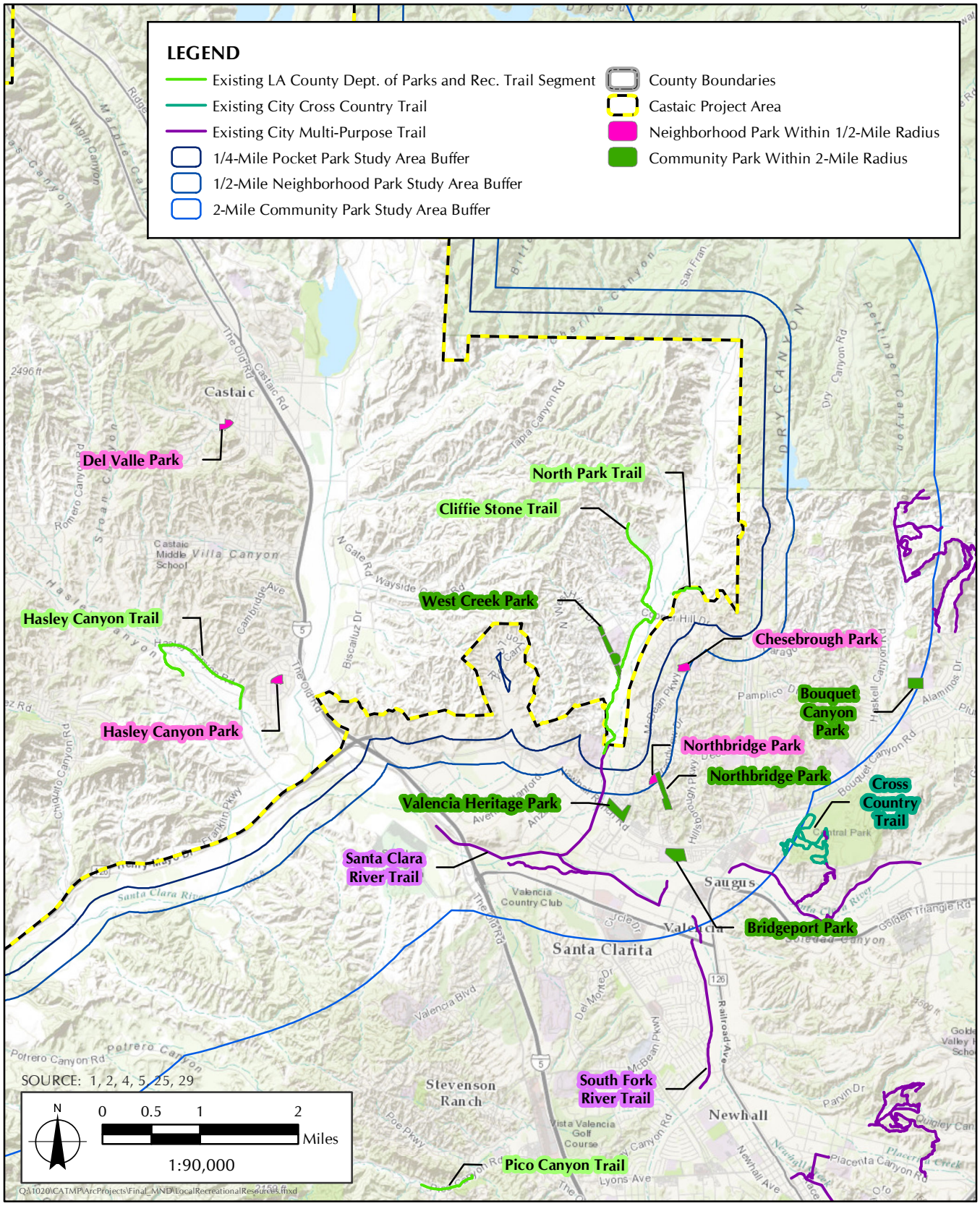

FIGURE 2.16-2

Local Recreational Resources

the National Recreation and Park Association.[140] Based on this goal and approximately 14.2 miles of existing trails within a two-mile radius of the Castaic project area, existing trails provide local recreation opportunities to serve (and decrease the local parkland deficit) 13,632 persons (see Table 2.16-2). There are three existing County multi-use trails, four named and a small network of unnamed existing City multi-purpose trails, and the existing City Cross Country trail within a two-mile radius of the Castaic project area. According to the 2012 Survey on Public Opinions and Attitudes on Outdoor Recreation in California:

- 60.2% respondents utilized unpaved multi-use trails during their last park visit
- 34.7% respondents reported utilizing an unpaved trail for hiking, biking, or horseback riding at least once or twice a month during the last 12 months. At the same time, 31% of respondents reported never using an unpaved trail.141

The proposed project would increase recreational access to Del Valle Park by providing the Sloan Canyon Trail that would transverse the southern edge of the park. The proposed project would not directly facilitate recreational access to Hasley Canyon Park, as it would be located approximately 0.1 mile from the nearest trail (Castaic Creek). The existing Cliffie Stone Trail transverses West Creek Park, which would experience additional use as a result of new trails at the northern side of the existing trail providing connections through Cliffie Stone Trail to the existing San Francisquito Creek Trail in the City of Santa Clarita. However, the proposed project would also provide additional trailheads, resting areas, bike skills parks, and related facilities that would be expected to accommodate a substantial amount of increased recreational use in the area as a result of the proposed project. The proposed project would provide approximately 100 miles of new trails and over 45 acres of recreational facilities, including up to 45 acres of bike skills parks, five (5) simple trailheads, four (4) equestrian amenities, and six (6) general staging areas and trail amenities. Based on the County's goals of providing 1 mile of trails per population of 1,000 (approximately 50 feet of trail for each trail user) and providing approximately 4 acres of local parkland per population of 1,000, the proposed project would serve 107,250 persons (96,000 through proposed trails and 11,250 through other proposed recreational facilities). Therefore, impacts to recreation in regard to increasing the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated would be less than significant, and no mitigation would be required.

b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to recreation in regard to including neighborhood and regional parks or other recreational facilities or requiring the construction or expansion of such facilities which might have an adverse physical effect on the environment. that would be reduced to below the level of significance with mitigation measures. The proposed project includes trails and related recreational facilities that would through the southern edge of Del Valle Park (proposed trail segment SC3 and Sloan Canyon trailhead) and through the Castaic Lake State Recreation Area (proposed Castaic Dam, Elderberry Forebay, Lake West and Sloan Canyon trail routes). The proposed project involves planning for the construction and maintenance of approximately 100 miles of new trails, up to 45 acres of bike skills parks, and related facilities which have the potential to result in adverse physical effects on the environment

[140] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

141 California State Parks, Natural Resources Agency. January 2014. Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012: Complete Findings. Available at: http://www.parks.ca.gov/pages/795/files/2012%20spoa.pdf

as a result of extensive grading for the bike skills parks and potential impacts to biological resources, cultural resources, and geology and soils. During the construction of trails, small portions of Del Valle Park, Castaic Lake State Recreation Area, and public right-of-ways would not be available for public use; trail obstructions would be temporary and only constrain trail use along finite segments of the trail during short-term construction on each segment. This is not considered a significant impact to recreation. In the long term, the proposed project would provide improved trail access and encourage greater use of existing trails and adjacent parks, recreational facilities, and open space. The proposed project would have beneficial impacts on recreation, while short-term impacts of project construction in regard to biological resources, cultural resources, geology and soils, as analyzed in this Initial Study, would be less than significant after mitigation. The proposed project would not require the construction or expansion of recreational facilities because it would not directly result in population growth. Therefore, the proposed project would result in less than significant impacts in regard to having adverse physical effects on the environment as a result of construction or expansion of recreational facilities, and no mitigation would be required.

c) Would the project interfere with regional open space connectivity?	☐	☐	☐	☒

The proposed project would result in no impacts to recreation in regard to interfering with regional open space connectivity (Figure 2.16-3, *Regional Open Space*). The Castaic project area is predominantly rural, with National Forest open space to the north of the Castaic project area, generally rural land in unincorporated Ventura County to the west of the Castaic project area, the predominantly undeveloped Newhall Ranch Specific Plan Area to the south-southwest, and the developed City of Santa Clarita to the south-southeast. Two community regional parks (Val Verde Community Regional Park and Castaic Sports Complex), two regional special use facilities (Tesoro Adobe Historic Park and BLM lands), and one regional park (Castaic Lake State Recreation Area) are located within the Castaic project area (see Figure 2.16-1). Additionally, the Los Padres National Forest and Angeles National Forest are adjacent to the northern boundary of the Castaic project area, Central Park in the City of Santa Clarita is located approximately 2.0 miles to the southeast, Santa Clarita Woodlands Park is located approximately 6.0 miles to the south, and Lake Piru is located approximately 0.9 mile to the west of the Castaic project area. The PCT is located approximately 8.5 miles northwest of the Castaic project area, within the Angeles National Forest. As the proposed project is a Trails Plan for providing a more extensive regional trail system and supporting facilities, it would increase regional open space connectivity as the Castaic Area is being developed. The proposed project would increase recreational access to Val Verde Community Regional Park by providing the Val Verde Trail that would transverse the northern edge of the park. The proposed project would facilitate recreational access to Castaic Sports Complex by providing the Castaic Creek Trail that would transverse the southern and eastern portions of the complex property. Castaic Lake State Recreation Area would become more accessible by trail users through the proposed Sloan Canyon Trail, Castaic Dam Trail, Lake West Trail, and Elderberry Forebay Trail. The existing Cliffie Stone Trail is adjacent to the southern edge of Tesoro Adobe Historic Park, which would experience additional use as a result of new trails providing recreational access at the northwestern side of the existing trail. The proposed project would provide trail access to the Angeles National Forest through the Cliffie Stone East Trail, San Francisquito Trail, Elderberry Forebay Trail, and Santa Felicia Trail. The proposed project would improve regional open space connectivity by increasing recreational access, through a trail system, to regional recreation resources, including Val Verde Community Regional Park, Castaic Sports Complex, Castaic Lake State Recreation Area, Tesoro Adobe Historic Park, and the Angeles National Forest. The proposed project would increase the amount of linear open space within the Castaic project area by up to 0.2 square miles and would not inhibit existing open space connectivity because it would not involve the planning of any large structures or barriers to open spaces. Therefore, the proposed project result in no impacts to recreation in regard to interfering with regional open space connectivity, and no mitigation would be required.

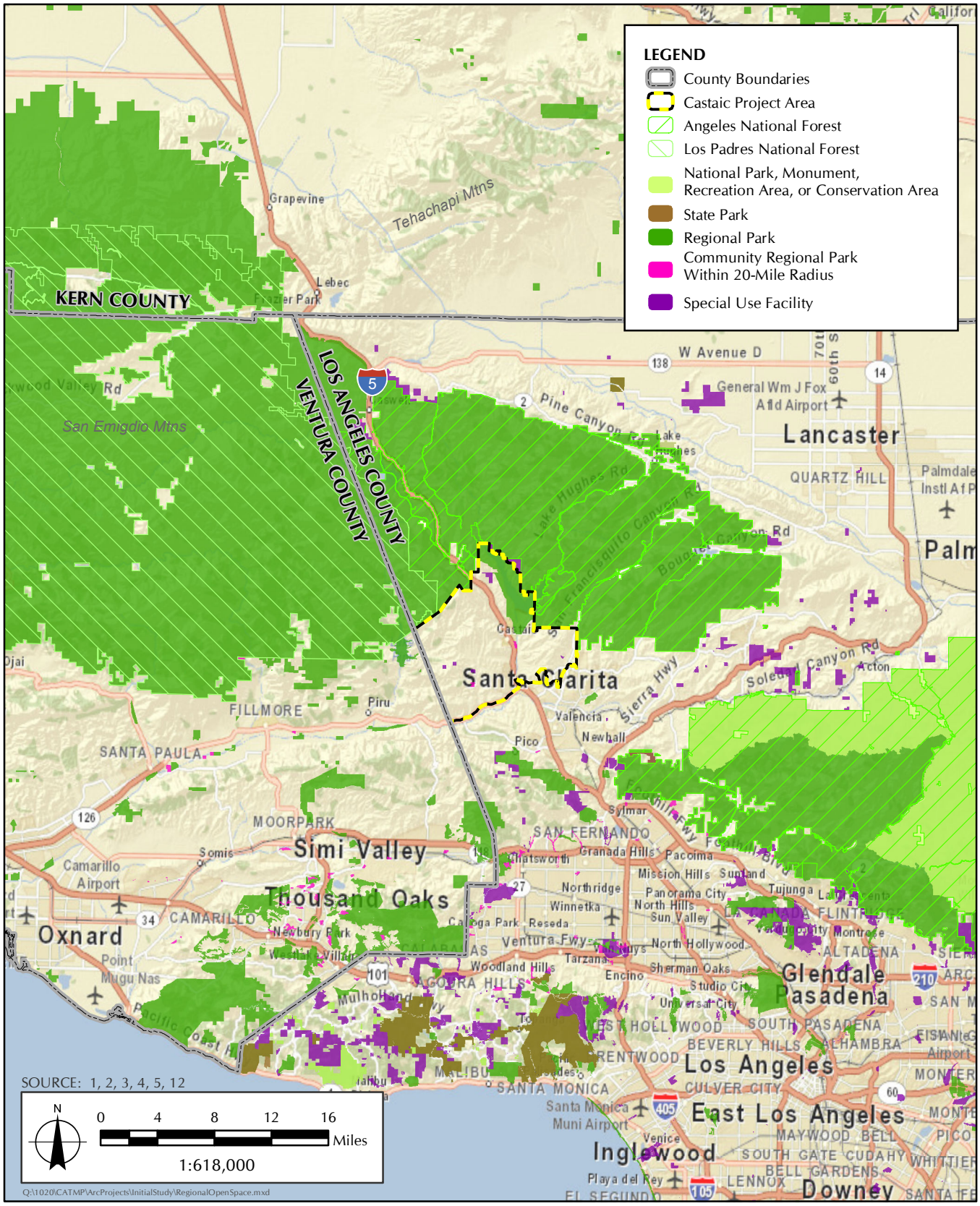

FIGURE 2.16-3

Regional Open Space

17. TRANSPORTATION/TRAFFIC

This analysis is undertaken to determine if the proposed project would have a significant impact to transportation/traffic, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines. The analysis presented in this section is based on the *Castaic Area Multi-Use Trails Plan Traffic Assessment* (Appendix H).

	Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒

The proposed project would result in no impacts to transportation/traffic in regards to conflicting with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The proposed project would be in conformance with the Transportation Element of the County General Plan and the 2016 SCAG Regional Transportation Plan. Therefore, there would be no impact, and no mitigation would be required.

The proposed project proposes 100 miles of unpaved trails and 21 new trail access sites. Proposed changes to improve convenience and safety for bicyclists, pedestrians and equestrians to access proposed trails and facilities do not conflict with multi-modal plans and policies. These changes fall into the following general categories:

- Multi-use trails identify locations for unpaved trails.
- Trail access points identify locations for major and minor access points.
- Intersection and Crossing Improvements may include focused improvements such as curb ramps, curb extensions, crosswalks, and other pedestrian related improvements.
- Bike skills parks and equestrian facilities identify potential locations for facilities for consideration and further analysis

Intersection and crossing improvements may include curb ramps, curb extensions, high visibility crosswalks, pedestrian refuge island design standards, audible signals at roadway crossings (to guide visually impaired pedestrians), advance stop bars, advance yield lines, regulatory signage, in-pavement flashers, traffic signal timing modification, and crossing beacons. The intersection and crossing improvements would improve biking, pedestrian, and equestrian conditions by improving safety and convenience at intersections and crossings. With the possible exception of traffic signal timing modifications, the recommended

improvements would not affect vehicular circulation. Traffic signal timing changes for bicycles and pedestrian improvements are exempt from CEQA per Assembly Bill 417. Therefore there would be no impact, and no mitigation would be required.

b) Conflict with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways?	☐	☐	☒	☐

The proposed project would result in less than significant impacts transportation/traffic in regards to conflicting with an applicable congestion management program (CMP), including, but not limited to, level of service standards and travel demand measures, or other standards established by the CMP for designated roads or highways. The proposed trails are located off-street and would not change the capacity of any street for automobiles or trucks. Temporary impacts during trail construction will be mitigated following established temporary traffic control methods. Therefore, there would be less than significant impacts to traffic operations.

The existing and proposed level of service was evaluated at the proposed trail access points (see Table 6, *Existing Traffic Counts and Level of Service (LOS) Results for Proposed Trailhead Access Roads*, Table 7, *Trip Generation by Trailhead*, and Table 8, *Projected Traffic Volumes Counts Based on Assumed Trip Generation Rate and Allocation per Trailhead*, in Appendix H). Using a conservative trip generation rate, the amount of trips generated to each proposed location, derived as a percentage of total proposed trail mileage, was calculated. The resulting projected Average Daily Traffic (ADT) volumes are well under the Los Angeles County LOS D threshold. Furthermore, peak trail demand (weekends during mid-day) will not coincide with peak roadway demand, and so will have minimal impact on traffic conditions during the weekday AM and PM commuter peaks. Increases in roadway demand during construction of access points will be temporary and established traffic control methods shall be followed. As a result, less than impacts to traffic level of service is anticipated.

During construction, the proposed project would generate short-term vehicle trips due to worker commutes, construction equipment, and other transport of soils, resulting in minor traffic impact. During operation, maintenance of the trails would be provided by the County, generating a very small amount of additional maintenance trips from the existing amount. Therefore, impacts would be less than significant, and mitigation would not be required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

The proposed project would result in no impacts to transportation/traffic in regards to a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed project is not located within two miles of a public or private airport. The proposed project would not alter air traffic patterns in any way. Therefore there would be no impact, and no mitigation would be required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts transportation/traffic in regards to substantially increasing hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). All facilities would be designed in conformance with the County Trails Plan to maximize safety by adhering to established design and engineering standards. There are no roadway changes envisioned. The proposed project would designate trails with appropriate signage to protect private properties and recreation enthusiasts. During construction, contractors will provision traffic warning signs, flag persons, and other measures to maintain access for all properties and to facilitate traffic flow during construction of trails. Construction would occur in conformance with County building codes. Therefore, impacts would be less than significant, and no mitigation would be required.

e) Result in inadequate emergency access? ☐ ☐ ☒ ☐

The proposed project would result in no impacts to transportation/traffic in regards to resulting in inadequate emergency access. Existing County trail facilities in the area have no mile markers or trail maps, which can create difficulty with respect to timely response and rescue. Proposed trail system components would improve trail markers and therefore augment response in remote areas, taking into consideration access for emergency vehicles, as appropriate. The proposed plan would not impact existing roadways and would not impede existing emergency access. The appropriate agencies that provide emergency services would be given an opportunity to review site plans during the environmental review process for specific projects. The proposed project would conform to the County Trails Manual. Therefore, impacts would be less than significant, and no mitigation would be required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? ☐ ☐ ☐ ☒

The proposed project would result in no impacts to transportation/traffic in regards to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The proposed project would support policies, plans, and programs related to bicycle, pedestrian, and equestrian facilities by encouraging the use of alternative transportation. The County General Plan directs the implementation of regional transportation policies to support increase use of active transportation strategies, including biking, pedestrian activities, and use of public transit. The proposed project would have a beneficial impact with regards to active transportation because it encourages recreation opportunities consistent with the County General Plan and Sustainable Communities Strategy. Therefore there would be no impact, and no mitigation would be required.

18. UTILITIES AND SERVICE SYSTEMS

This analysis is undertaken to determine if the proposed project would have a significant impact to utilities and service systems, thus requiring the consideration of mitigation measures or alternatives in accordance with the State CEQA Guidelines. Utilities and service systems at the Castaic project area were evaluated with regard to the County Trails Manual.[142]

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Exceed wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards?	☐	☐	☒	☐

The proposed project would result in less than significant impacts to water quality in regard to exceeding wastewater treatment requirements of the Los Angeles Regional Water Quality Control Boards. Trail amenities, such as restrooms at Bike Skills Parks, equestrian facilities, and general staging areas, that would add additional water or wastewater systems with in the Santa Clarita Valley Sanitation District are proposed to be constructed (see Figure 1.9-4, *Proposed Trail Related Facility Locations*). The Castaic project area is located in the jurisdiction of the Los Angeles RWQCB and regulated by the County of Los Angeles Department of Public Health for OWTS, which sets standards for development of septic tanks and fields, as well as the use of pit toilets. Santa Clarita Valley Sanitation District sets standards for a portion of the Castaic project area that is within their service area. The proposed project would follow procedures in the County Trails Manual, by incorporating restrooms into trailhead and parking locations where water lines and sewage conveyance is possible. In areas without available water, restrooms would be designed to be pit toilets as per U.S. Forest Service guidelines.[143] Restrooms would be designed to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation or the Count of Los Angeles Department of Public Health for OWTS, as applicable.

The Santa Clarita Valley Sanitation District operates the Saugus and Valencia Water Reclamation Plants (WRPs). The Saugus WRP provides primary, secondary and tertiary treatment for 6.5 million gallons of wastewater per day. The Saugus WRP operates with the Valencia WRP as part of the Santa Clarita Valley Sanitation District. No facilities for solids processing are located at the Saugus WRP. Instead, all wastewater solids are conveyed by trunk sewers to the Valencia WRP for treatment.

The Valencia WRP is a tertiary treatment plant with solids processing facilities. The plant provides primary, secondary, and tertiary treatment for 21.6 million gallons of wastewater per day. The Valencia WRP processes all wastewater solids generated in the Santa Clarita Valley Sanitation District (i.e. from the Saugus and Valencia WRPs). The wastewater solids are anaerobically digested, stored, and then dewatered using plate and frame filter presses. The dewatered cake, or biosolids, is hauled away for composting. Methane gas is produced during the digestion process and is utilized to generate steam to heat the digesters.

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[142] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[143] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

Of the up to 16 restroom facilities that would likely be developed in conjunction with the proposed project at the three bike skills parks, four equestrian amenity facilities, and six general staging areas proposed in the Castaic Area Multi-Use Trails Plan, five restroom facilities would be located within sanitation districts (Table 2.18-1, *Proposed Trail Related Restroom Facilities*). The increase in sewage generation associated with the proposed five restroom facilities within the Santa Clarita Valley Sanitation district would not exceed the capacity of the wastewater treatment facilities.

TABLE 2.18-1
PROPOSED TRAIL RELATED RESTROOM FACILITIES

Sewer or OWTS	Related Facility Type with Restroom	Number of Restrooms
Sewer – Santa Clarita Valley Sanitation District	Bike Skills Park	1
	Equestrian Amenities	3
	General Staging Areas	0
Sewer – NR District	Bike Skills Park	0
	Equestrian Amenities	0
	General Staging Areas	1
	TOTAL SEWER	**5**
OWTS – Outside County Sanitation District	Bike Skills Park	2
	Equestrian Amenities	1
	General Staging Areas	5
	TOTAL OWTS	**8**

SOURCE: Wilt, Peter. County Sanitation Districts of Los Angeles County. Accessed 16 March 2016. *Sanitation Districts Boundaries.* Available at: http://www.lacsd.org/aboutus/gis/default.asp

The increase in sewage generation due to increased trail use is anticipated to be minimal. Therefore, impacts in regard to exceeding wastewater treatment requirements of either the Los Angeles or Lahontan Regional Water Quality Control Boards would be less than significant, and no mitigation would be required.

b) Create water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts in regard to creating water or wastewater system capacity problems, or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The project area is not currently served by public restrooms. Trail amenities such as restrooms that would add additional water or wastewater systems with in the Santa Clarita Valley Sanitation District are proposed to be constructed (see Figure 1.9-4). The Castaic project area is located in the jurisdiction of the Los Angeles RWQCB and regulated by the Los Angeles County Department of Public Health (DPH) for OWTS, which sets standards for development of septic tanks and fields, as well as the use of pit toilets. The Santa Clarita Valley Sanitation District sets standards for the portion of the Castaic project area that is within their service area. The proposed project would follow procedures in the County Trails Manual by incorporating restrooms into trailhead and parking locations where water lines and sewage conveyance is possible. In areas without available water, restrooms would be designed to be pit toilets as per U.S. Forest Service guidelines. Restrooms would be designed to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation or DPH for OWTS, as applicable."[144] The increase in sewage generation due to increased trail use

[144] County of Los Angeles. Adopted May 17, 2011; Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

is anticipated to be minimal. Therefore, impacts would be less than significant, and no mitigation would be required.

c) Create drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to creating drainage system capacity problems, or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. There are existing drainage systems within the proposed trails plan area (Figure 2.18-1, *Storm Drain Network*). Proposed drainage systems and erosion control best management practices would be required to be designed in accordance with the recommendations of the County Trails Plan. The plan requires the use of erosion control devices. The proposed project would consist of primarily natural pervious surfaces and would not be expected to increase stormwater runoff. As part of the review of grading permits, the Los Angeles County Department of Public Works requires documentation of the provisions for storm water flows to prevent erosion and sediment transport onto adjacent properties, adjacent roadways, storm drain systems and natural drainage courses during the rainy season. These provisions must be shown on a local Erosion and Sediment Control Plan (ESCP). In addition, for projects which are one acre or larger a State Storm Water Pollution Prevention Plan (SWPPP) is required to be filed with the RWQCB. Thus, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and no mitigation would be required.

d) Have sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses?	☐	☐	☒	☐

The proposed project would result in less than significant impacts in regard to having sufficient reliable water supplies available to serve the project demands from existing entitlements and resources, considering existing and projected water demands from other land uses. The proposed project is proposed to construct a maximum of 16 restrooms. The Castaic project area is serviced by the following water districts within Los Angeles County: Los Angeles County Water District 36 Val Verde, Newhall, Peter Pitchess Honor Rancho, and Valencia Water Company, and the Castaic Lake Water Agency (Figure 2.18-2, *Los Angeles County Water Districts*). The proposed project would need water for dust control and cleaning during the construction phase and for irrigation of trees and other landscaping in the long term. Water use for dust control and incidental cleaning during the construction phase would be limited and temporary. Long-term water demand for plant irrigation would be minimal as the project would utilize native and drought-tolerant plants. Water demand for restroom faucets, urinals, and toilets would be adequately serviced by the Los Angeles County Water District, and the Castaic Lake Water Agency. Therefore, impacts would be less than significant, and no mitigation would be required.

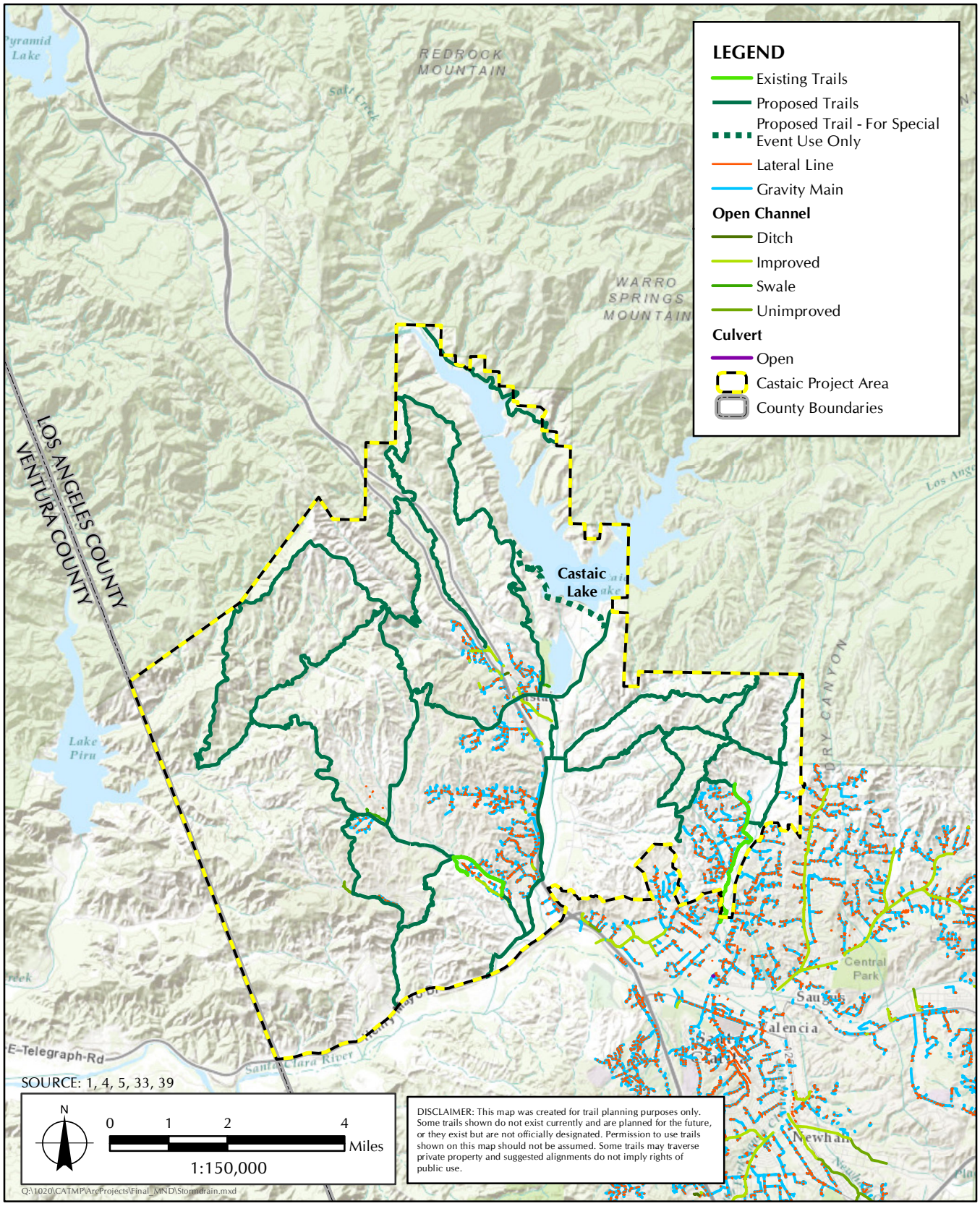

FIGURE 2.18-1

Storm Drain Network

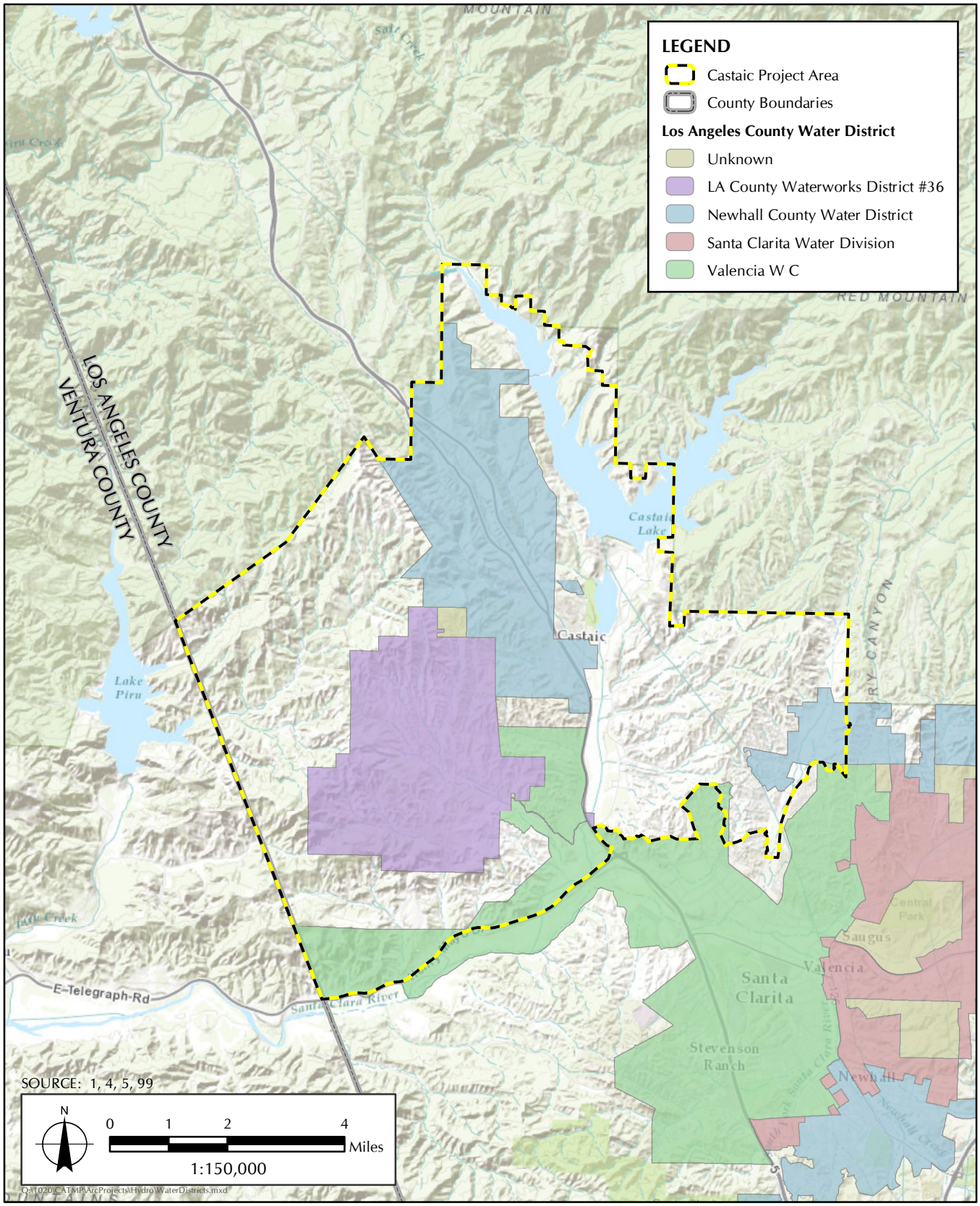

FIGURE 2.18-2

Los Angeles County Water Districts

e) Create energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts to creating energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The Southern California Gas Company (SoCalGas) and Southern California Edison provide natural gas and electrical service for the Castaic project area. The proposed project would utilize minimal energy in the operations of the up to 16 anticipated restroom facilities. The facilities would serve existing and proposed residents; therefore, there would be no anticipated significant increase in per capita Vehicle Miles Traveled (VMT). Thus, there would be less than significant impacts to creating energy utility (electricity, natural gas, propane) system capacity problems, or result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and mitigation would not be required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts in regard to being served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs (Figure 2.18-3, *Landfills*). The Chiquita Canyon Landfill is located within the Castaic project area. The Chiquita Canyon Landfill is a 639-acre landfill which has been in continuous operation for more than 40 years and is owned and operated by Waste Connections, an integrated solid waste services company. The permitted maximum daily disposal tonnage is currently 6,000 tons as specified in the current conditional use permit (CUP), the "disposal" tonnage refers to the waste disposed only and does not include materials that are diverted from disposal or beneficially re-used. The permitted maximum weekly disposal tonnage is 30,000 tons.

Construction and maintenance activities for the proposed project would generate solid wastes requiring disposal to the Chiquita Canyon Landfill. The construction and maintenance waste that would be generated by the project would be limited to vegetation debris from site clearing; soil export from excavation and grading; construction wastes from construction of amenities. The County of Los Angeles Construction and Demolition Debris Recycling and Reuse Ordinance (Chapter 20.87 of the Los Angeles County Code) requires that a least 50 percent of all construction and demolition (C&D) debris, soil, rock, and gravel removed from a project site be recycled or reused unless a lower percentage is approved by the County of Los Angeles Director of Public Works. The County's Green Building Standards Code (Title 31 of the Los Angeles County Code) was amended in 2013 to require at least 65 percent of non-hazardous construction and demolition debris be recycled or salvaged.

Trail related facilities, such as bike skills parks and general staging areas, would be equipped with trash and recycling receptacles to collect waste during the operations phase of the proposed project. By adhering to the County of Los Angeles Construction and Demolition Debris Recycling and Reuse Ordinance, the proposed project would result in less than significant impacts in regard to being served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and no mitigation would be required.

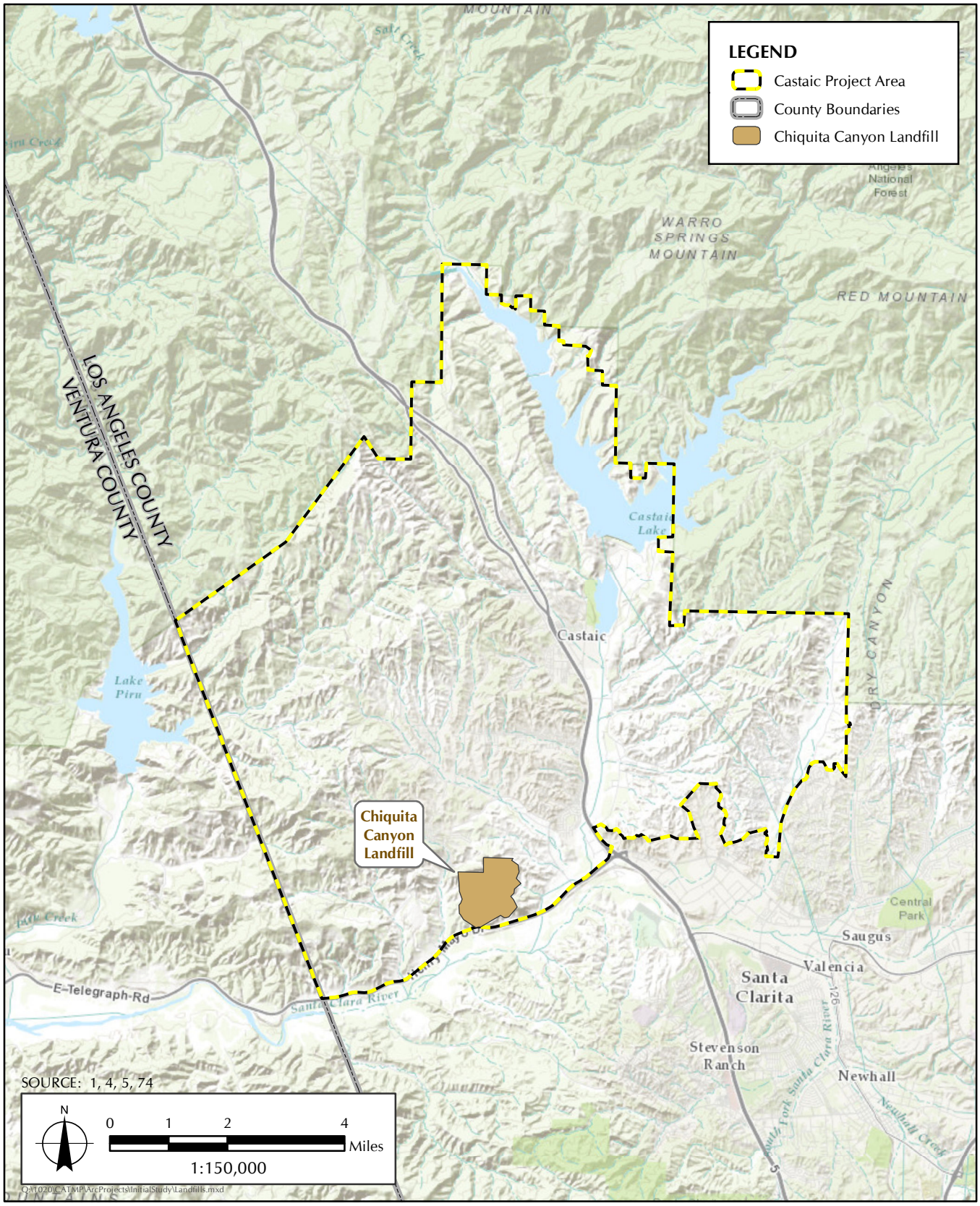

FIGURE 2.18-3

Landfills

g) Comply with federal, state, and local statutes and regulations related to solid waste? ☐ ☐ ☒ ☐

The proposed project would result in less than significant impacts in regard to complying with federal, state, and local statutes and regulations related to solid waste. Construction and maintenance activities for the proposed trails plan would generate solid waste requiring disposal to the Chiquita Canyon Landfill. The construction and maintenance waste that would be generated by the project would be limited to vegetation debris from site clearing; soil export from excavation and grading; construction wastes from construction of amenities. The County of Los Angeles Construction and Demolition Debris Recycling and Reuse Ordinance (Chapter 20.87 of the Los Angeles County Code) requires that a least 50 percent of all construction and demolition (C&D) debris, soil, rock, and gravel removed from a project site be recycled or reused unless a lower percentage is approved by the Director of the Los Angeles County Department of Public Works. The County's Green Building Standards Code (Title 31 of the Los Angeles County Code) was amended in 2013 to require at least 65 percent of non-hazardous construction and demolition debris be recycled or salvaged.

Trail related facilities, such as bike skills parks and general staging areas, would be equipped with trash and recycling receptacles to collect waste during the operations phase of the proposed project. By adhering to the County of Los Angeles Construction and Demolition Debris Recycling and Reuse Ordinance, the proposed project would result in less than significant impacts in regard to complying with federal, state, and local statutes and regulations related to solid waste, and no mitigation would be required.

19. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

The proposed project would have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory, but mitigation has been provided to reduce these impacts to less than significant levels.

As stated in Section 2.1, *Aesthetics*, the proposed project would have the potential to result in significant impacts to the quality of the environment in regard to substantially damaging scenic resources within a state scenic highway. The proposed project would be located within the scenic highway corridor of the nearest eligible state scenic highways, Henry Mayo Drive (State Route 126) and the Golden State Highway (Interstate 5). Implementation of Mitigation Measures AES-1 and AES-2 would reduce impacts to below the level of significance.

As stated in Sections 2.7, *Geology and Soils*, 2.10, *Hydrology and Water Quality*, and 2.13, *Noise*, the proposed project would have the potential to result in significant impacts to the quality of the environment in regard to exposure of people or structures to potential substantial adverse effects involving seismic and landslide risks, being located on expansive soil, having soils incapable of adequately supporting the use of onsite wastewater treatment systems, substantially altering the existing drainage pattern of the area, exposing people or structures to significant risk involving the failure of a dam, exposing persons to excessive noise levels, and creating a substantial temporary or periodic increase in ambient noise levels. Implementation of Mitigation Measures BIO-1, GEO-1, and NOISE-1 would reduce impacts to below the level of significance.

As stated in Section 2.4, *Biological Resources*, the proposed project would have the potential to result in significant impacts in regard to degrading the quality of the environment, substantially reducing the habitat of a fish or wildlife species, and substantially reducing the number or restrict the range of a rare or endangered plant or animal, or threatening to eliminate a plant or animal community. The Castaic project area contains USFWS designated critical habitat for the federally endangered Arroyo toad *(Anaxyrus californicus*), the federally and state endangered southwestern willow flycatcher (*Empidonax traillii extimus*), and the federally and state endangered least Bell's vireo (*Vireo bellii pusillus*), and it is assumed that these species are present within the Castaic project area (see Figure 6, *Critical Habitat Present within the Castaic project area*, in Appendix C). In addition, there are 15 federally and/or state-listed threatened, endangered, or candidate species listed under protection of the federal Endangered Species Act (ESA) or California ESA that are

known from the region and have a moderate to very high likelihood to be present in the Castaic project area (see Figure 5, *Listed Plant and Wildlife Species with the Potential to Occur in the Castaic project area,* in Appendix C). There are 35 other sensitive wildlife species and 33 rare and locally important plant species with a moderate to very high likelihood to occur within the Castaic project area based on CNDDB records, California Native Plant Society (CNPS) records, and an evaluation of suitable habitat (see Figure 7, *Sensitive Wildlife Species with the Potential to Occur in the Castaic project area*, and Figure 8, *California Natural Diversity Database Rare and Locally Important Plant Species with the Potential to Occur in the Castaic project area*, in Appendix C). There are CNDDB records and suitable habitat for the federally and state-listed endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), the CNPS rare plant slender mariposa lily (*Calochortus clavatus* var. *gracilis*), and sensitive wildlife species including western spadefoot (*Spea hammondii*), coast horned lizard (*Phrynosoma blainvillii*), loggerhead shrike (*Lanius ludovicianus*) and burrowing owl (*Athene cunicularia*) within 250 feet of the planned trail activities that may be disturbed through trail development and associated construction activities.

Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within areas of potentially suitable and occupied habitat for listed and special-status species. Direct impacts would occur during trail construction and would include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Additionally, direct impacts may occur through the direct habitat loss and fragmentation during construction of the trails and associated structures; introduction of non-native plants; and introduction of lighting, dust, and noise during construction. Indirect impacts resulting from the development of trails projects in the proposed project could occur as a result of increased human interaction with sensitive plants and wildlife. This analysis of impacts of trails projects included in the proposed project to sensitive plant and wildlife species and their habitats and designated critical habitat presented here is programmatic, and conservatively assumes that all species with critical habitat and/or CNDDB records in the Castaic project area are present. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of the Federal and State Endangered Species Acts, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code. Therefore, the proposed project would result in significant impacts to biological resources in regard to degrading the quality of the environment, substantially reducing the habitat of a fish or wildlife species, substantially reducing the number or restrict the range of a rare or endangered plant or animal, or threatening to eliminate a plant or animal community, and implementation of Mitigation Measure BIO-1 would be required.

As stated in Section 2.5, *Cultural Resources*, the proposed project would have the potential to eliminate important examples of the major periods of California history or prehistory. As approximately 42 percent of the Castaic project area has been previously surveyed, the majority of the Castaic project area has not been subject to a Phase I pedestrian survey (see Table 2.5-1, *Previously Recorded Cultural Resources within the Immediate Impact Area*). The proposed Elderberry Forebay trail route (EF1) would pass through the Angeles National Forest, which is State Historical Landmark No. 717. As State Historical Landmark No. 717 was designated prior to January 1998, it needs to be reevaluated using current standards. The general vicinity of the trail alignment has a moderate to high sensitivity to contain historical resources as defined pursuant to Section 15064.5 of the State CEQA Guidelines. Eligible resources would be avoided to the greatest extent feasible. Although previous development in the area may have disturbed historical resources, undeveloped areas could still support resources. Therefore, the potential to encounter resources identified in either the Phase I pedestrian surveys and/or later activities during construction, operation, and maintenance of trails, the three bike skills areas, and related appurtenant facilities exists.

While the NAHC Search of the Sacred Lands File did not identify the presence of Native American cultural resources along the Castaic project area, consultation with local Native American groups and individuals was conducted. The Fernandeño Tataviam Band of Mission Indians stated that the project area to be of extreme risk to cultural and tribal resources and that they would like to consult with the Lead Agency regarding project mitigation. The County of Los Angeles Department of Parks and Recreation (County Parks) met with representatives of the Fernandeño Tataviam Band of Mission Indians to discuss the characterization of baseline conditions, potential impacts, and mitigation measures. Although previous development in the area may have disturbed archaeological resources, undeveloped areas could still support resources. Field surveys should be undertaken first to assess the presence or likelihood of archaeological or tribal resources, followed by an evaluation of those resources and data recovery if avoidance is not possible. Since there haven't been any surveys and a Native American group has recommended monitoring, a pedestrian survey and a mitigation measure (MM CULTURAL-1 and MM CULTURAL-2) have been proposed to mitigate the potential substantial adverse change to archaeological resources. MM CULTURAL-1 has been developed to describe the procedures for monitoring and the protocols to be followed during construction and in the event that cultural resources are discovered during grading, excavation, and ground disturbance. Implementation of MM CULTURAL-1 and MM CULTURAL-2 would reduce potentially significant adverse impacts to less than significant levels.

The proposed project would have the potential to result in significant impacts to unique paleontological resources or unique geologic features that would be mitigated to a less than significant level with the consideration of mitigation measures. As a result of the records search with the Natural History Museum of Los Angeles County, the surficial geology of Castaic Lake and surrounding areas revealed that the following rock formations have the potential to yield significant paleontological resources based on previous collections and/or age and lithology and are given high paleontological sensitivity: the Saugus Formation (non-marine Pliocene and Pleistocene); Pico Formation (marine Pliocene); Towsley Formation (marine late Miocene to early Pliocene); the Sisquoc Formation (marine late Miocene); the Castaic Formation (marine late Miocene); the Monterey Formation; the Mint Canyon Formation (non-marine Miocene); and the San Francisquito Formation (marine Paleocene). Igneous and metamorphic rocks have a low potential for yielding significant paleontological resources, and are therefore assigned low paleontological sensitivity within the Castaic project area. The Castaic project area would have the potential to result in impacts to paleontological resources related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. As most of the Castaic project area has geological units that could contain significant paleontological resources, the potential for the Castaic project area to impact paleontological resources (known and unknown) does exist, and constitutes a significant impact requiring implementation of Mitigation Measures CULTURAL-1, CULTURAL-2, CULTURAL-3, and CULTURAL-4 to avoid or reduce impacts to below the level of significance.

The proposed project would have the potential to result in significant impacts to human remains that would be mitigated to a less than significant level with the implementation of Mitigation Measure CULTURAL-4. As a result of the records search at the South Central Coastal Information Center and the Sacred Lands File with the NAHC, and a review of historic topographic maps revealed known areas with historic and prehistoric burials (see Table 5.2), burial grounds are not located in the immediate impact area; however, they are located within the quarter-mile buffer zone along the trails. One of the burial grounds (P-19-000324) is a prehistoric cemetery; however, it was inundated during the construction of the Castaic reservoir. The other one (P-19-001448H) is an early-twentieth-cemetery for victims of the 1928 St. Francis Dam Disaster. In addition, not all areas of the proposed trail alignment and areas proposed for the three bike skills areas and appurtenant recreational facilities have been subject to a Phase I pedestrian survey for cultural resources. Therefore, there is a possibility to encounter human remains during the construction, operation, and maintenance phases of the proposed project. As such the potential for the Castaic project area to impact human remains (known and unknown) does exist, and constitutes a significant impact

requiring the consideration of mitigation measures and alternatives to avoid or reduce impacts to below the level of significance. However, should grading and excavation for construction of the trails and other trail elements unearth unknown human remains or unknown burials, compliance with existing regulatory requirements under the California Health and Safety Code and the California Public Resources Code would ensure that potential impacts to human remains would be less than significant.

Therefore, the proposed project would result in significant impacts in regard to degrading the quality of the environment, substantially reducing the habitat of a fish or wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, substantially reducing the number or restrict the range of a rare or endangered plant or animal or eliminating important examples of the major periods of California history or prehistory, requiring implementation of Mitigation Measures AES-1, AES-2, BIO-1, BIO-2, BIO-3, BIO-4, CULTURAL-1, CULTURAL-2, CULTURAL-3, CULTURAL-4, GEO-1, and NOISE-1 to reduce impacts to below the level of significance.

b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☐	☒

The proposed project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. The proposed project would ensure that trails and other recreational facilities are developed in the Castaic Area concurrently with the development of the Castaic project area. Therefore, the proposed project would result in no impacts in regard to potentially achieving short-term environmental goals to the disadvantage of long-term environmental goals, and no mitigation would be required.

c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

The proposed project would result in less than significant impacts that are individually limited but cumulatively considerable. Aside from the project, 15 related private and public projects are proposed or planned in the Castaic project area. The proposed project involves the planned development of recreational trails and trail related facilities as trail easements and open space properties are acquired by County Parks, in some instances in combination with the related projects listed in Table 1.12-1, *List of Related Projects*, of Section 1, *Project Description*. Of the 15 related projects listed in Table 1.12-1, 11 projects (Projects B, C, D, E, F, H, K, L, O, and P) would include proposed trail alignments. The environmental impacts of these projects would add to the impacts of the proposed project on a cumulative basis. However, the impacts of the proposed project would be limited in scope and intensity due to the scattered locations, small scale, extended time frame for construction of all segments, and type of trail improvements proposed. As project impacts would be less than significant after mitigation, impacts associated with the proposed project are not expected to be cumulatively considerable when added to the impacts of related projects in the vicinity of the Castaic project area.

The County is responsible for review of all projects within the Castaic Area through the CEQA process to ensure that these related projects would reduce impacts to below the level of significance through best management practices, project design features, and mitigation measures, where feasible. As stated in Section

2.3, *Air Quality*, the proposed project would result in less than significant impacts in regard to resulting in cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. The County portion of the South Coast Air Basin is a Federal and State nonattainment area for 1-hour ozone, 8-hour ozone, $PM_{2.5}$, PM_{10} (state), and lead (federal) for near-source monitors. The project would generate these pollutants during the construction of trail improvements. It is not expected for the operations and maintenance phases of the project to cause a cumulatively considerable net increase of any criteria pollutant as the proposed project is a recreational trail generating minimal new vehicle trips and requiring minimal equipment for trail maintenance. Short-term cumulative impacts related to air quality could occur if project construction and nearby construction activities were to occur simultaneously. In particular, with respect to local impacts, cumulative construction particulate matter (i.e., fugitive dust) impacts are considered when projects are located within a few hundred yards of each other. Many of the related projects located within the Castaic project area are residential subdivisions with the potential to create significant air quality impacts cumulatively during the construction phase. However, the proposed project is a trails plan, which provides recreational opportunities close to areas where people live and work. This is consistent with the strategies in the 2016 RTP/SCS for reducing VMT and enhancing public health. Therefore, the proposed project's emissions would not be cumulatively considerable.

As stated in Section 2.14, *Population and Housing*, the proposed project would result in no impacts in regard to cumulatively exceeding official regional or local population projections. The proposed project involves proposed multi-use trails and related facilities that would be designed and constructed per trail easements or open space dedications that accommodate trails, including developer trail and recreation obligations. As the proposed project would not induce population growth, it would not affect regional or local population projections. Therefore, the proposed project would result in no impacts in regard to cumulatively exceeding regional or local population projections.

Therefore, the proposed project would result in less than significant impacts in regard to having impacts that are individually limited, but cumulatively considerable, and no mitigation would be required.

d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

The proposed project would not have environmental effects which will cause substantial adverse effects which will cause substantial adverse effects on human beings, either directly or indirectly. Potential environmental impacts associated with the proposed project in regard to human health and safety during construction, operations, and maintenance would be less than significant through consistency with the Best Management Practices and guidelines of the County Trails Manual. Therefore, the proposed project would result in no impacts in regard to having environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly, and no mitigation would be required.

Section 3

Mitigation Measures

Based on the findings and associated environmental discussion and analysis provided in Section 2.0, *Environmental Checklist*, it has been determined that the proposed project has the potential to result in significant impacts to Aesthetics, Biological Resources, Cultural Resources, and Noise.

Implementation of the specified mitigation measures would reduce all impacts to below the level of significance.

AESTHETICS

Mitigation Measure AES-1: Trails and supporting facilities within a one-mile radius of officially designated and eligible state scenic highways shall be designed, constructed, and maintained (where construction equipment is involved) to avoid damaging or removal of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor.

Mitigation Measure AES-2: Trails and supporting facilities shall be designed, constructed, and maintained to avoid the drip line of any coast live oak trees and other protected trees that are located along the proposed trail alignments, in order to maintain the visual character of the area. Best Management Practices shall be used during construction and trails maintenance activities to protect the root structures of protected trees:

- A Worker Education and Awareness Program shall inform all construction workers of County Ordinances protecting oak trees and the sensitivity of roots to damage from compaction or excessive water.
- Drip line of oak trees shall be designated as off-limits during construction on all construction drawings and diagrams.
- Fencing and/or flagging shall be used to delineate the drip line of the trees as off-limits during trail construction.
- On-site monitors shall be utilized for periods when trail construction will be undertaken within 100 feet of the drip line of the oak trees.
- If a protected tree must be removed, the same species shall be replaced at a minimum of a 1:1 ratio.

BIOLOGICAL RESOURCES

Mitigation Measure BIO-1: To mitigate potential impacts on listed, sensitive, and locally important species and their habitats, the County of Los Angeles Department of Parks and Recreation shall require that a habitat assessment by a qualified biologist take place using approved U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) protocols to identify suitable habitat for any listed, sensitive, and locally important species on-site. Where suitable and/or occupied habitat is determined to be present, mitigation shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of the federal and state Endangered Species Acts (ESAs), may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any occupied habitat, potentially suitable habitat, and designated critical habitat for any listed, sensitive, or locally

important species and to minimize impacts to native plant communities, wherever practicable and feasible.

- Consultation with USFWS and CDFW with regards to trail building activities within critical habitat and suitable habitat.
- Implementation of pre-construction habitat surveys to delineate occupied or suitable sensitive species' habitat to facilitate avoidance.
- Formal consultation with the USFWS will be required if a species afforded protection pursuant to the federal ESA is determined to be present as a result of focused protocol surveys. Formal consultation with the CDFW will be required if a species afforded protection pursuant to the state ESA is determined to be present as a result of focused protocol surveys.
- Altering the timing of construction to avoid seasons when sensitive species may be present (i.e., nesting bird season).
- Worker Education and Awareness Program to inform all construction workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- Designation of suitable habitat as off-limits during construction on all construction drawings and diagrams.
- Use of fencing and/or flagging to delineate environmentally sensitive areas as off-limits during trail construction.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of environmentally sensitive areas.
- Where temporary impacts to critical habitat may occur, the development and implementation of a habitat restoration plan shall be required.
- Where permanent impacts to critical habitat may occur, compensatory mitigation such as purchasing credits at a mitigation bank, purchasing off-site lands, or similar shall be required.

Mitigation Measure BIO-2: To mitigate potential impacts on riparian, state-sensitive plant communities, state protected wetlands, and federally protected wetlands and waters of the United States, the County of Los Angeles Department of Parks and Recreation shall require that plant community mapping be conducted by a qualified biologist with experience classifying plant communities in Southern California and/or a formal jurisdictional delineation be conducted by a certified wetland delineator to identify any state or federally protected wetlands, riparian areas, and state-sensitive plant communities on-site. Where state designated sensitive plant communities, riparian habitat, state or federally protected wetlands, or waters of the United States are determined to be present, mitigation measures shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of Section 1600 of the State Fish and Game Code and Section 404 of the Federal Clean Water Act, may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any state-sensitive plant communities or riparian habitat, or any state or federally protected wetlands or waters of the United States wherever practicable and feasible.

- Conduct pre-construction habitat surveys to delineate sensitive plant communities and riparian habitats to facilitate avoidance.
- Consult with CDFW with regards to trail building activities within state-sensitive plant communities.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of oak woodlands, native woodlands, and 100 feet of the dripline of native trees.
- Where temporary impacts may occur to sensitive plant communities, the development and implementation of a habitat enhancement and restoration plan shall be required.
- Where permanent impacts may occur to sensitive plant communities, compensatory mitigation such as purchasing credits at mitigation bank, purchasing off-site lands, or similar shall be required.
- Where impacts are located in areas subject to the jurisdiction of the CDFW pursuant to Section 1600 of the State Fish and Game Code, obtain a Streambed Alteration Agreement prior to commencing ground-disturbing activities or any other alternation of a lake or stream.
- Where impacts are located in areas subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act, obtain authorization to complete the required work pursuant to a Nationwide or individual permit.
- Where impacts are subject to the jurisdiction of the Regional Water Quality Control Board, obtain a Waiver of Water Quality Certification or Notice of Applicability of Waste Discharge Requirement permit.

Mitigation Measure BIO-3: To avoid impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA), trail construction should take place outside of the nesting bird season, which generally occurs between February 15 and September 1. If trail construction activities cannot avoid the nesting bird season, pre-construction nesting bird surveys shall be conducted by a qualified biologist a maximum of three days prior to the start of construction. Should nesting birds be discovered within or adjacent to the construction footprint during these surveys, a non-disturbance buffer shall be placed on the active nest as determined by the biologist to prevent impacts to nesting birds. Construction shall be halted within the non-disturbance buffer of 250 feet of songbirds and 500 feet for raptors until the biologist has determined that the young have fledged and are flying well enough to avoid the proposed construction activities.

Mitigation Measure BIO-4: To mitigate potential impacts on oak and other native woodlands, the County of Los Angeles Department of Parks and Recreation (County Parks) shall require that for every protected tree that must be removed, the same species shall be replaced at a minimum of a 1:1 ratio. Compensatory mitigation for protected trees in the jurisdiction of County Parks may include replacement at a 3:1 ratio for trees with a diameter at breast height (DBH) of eight inches or more at an appropriate mitigation site, and replacement at a 10:1 ratio for heritage oaks. Monitoring for at least one year would be required to meet success criteria.

CULTURAL RESOURCES

Mitigation Measure CULTURAL-1: *Archaeological and Historic Resources – Avoidance and Monitoring.* Completion of a Worker Education and Awareness Program for all personnel who will be engaged in ground-disturbing activities shall be required prior to the start of ground-disturbing activities. This shall include training that provides an overview of cultural resources that might potentially be found and the appropriate procedures to follow if cultural resources are identified. This requirement extends to any new staff prior to engaging in ground disturbing activities.

Prior to the initiation of ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall review the construction plans to ensure that any known cultural resources sites that are required to be avoided have been marked as "off-limits" areas for construction and construction staging. In addition, County Parks shall require monitoring of all ground disturbing activities by a qualified archaeologist within 100 feet of a known extant unique archaeological resources, significant historical resources, or tribal cultural resource. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

In the event that previously unknown unique archaeological resources, significant historical resources, or tribal cultural resources are encountered during construction, the resources shall either be left in situ and avoided through realignment of the trail, or the resources shall be salvaged, recorded, and reposited consistent with the provisions of a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. Data recovery is not required by law or regulation. It is, though, the most commonly agreed-upon measure to mitigate adverse effects to archaeological sites eligible or listed under Section 106 Criterion D, as it preserves important information that will otherwise be lost.

Mitigation Measure CULTURAL-2: *Pre-Construction Surveys* At the time that any new segment of trail is proposed for development that would require ground-disturbing activities in soils that have been predominantly *in situ* during the past 50 years, records and archival information shall be reviewed to determine if there are any recorded unique archaeological resources, significant historical resources as defined in Section 15064.5 of the State CEQA Guidelines, or tribal cultural resources as defined in AB52 in the Area of Potential Effects. At a minimum, the records and archival review will include a search of the South Central Coastal Information Center, a request for Sacred Lands File from the Native American Heritage Commission, and a request for information regarding tribal cultural resources from the Most Likely Descendants designated by Native American Heritage Commission. The appropriate course of action will be undertaken in light of the results of the records search:

(A) Where the Area of Potential Effect has been subject to a Phase I Walkover Survey within two years of the proposed activity and no unique archaeological resources, significant cultural resources, or tribal cultural resources are known from the Area of Potential Effect, work shall proceed per the provision of Mitigation Measure CULTURAL-1.

(B) Where all or a portion of the Area of Potential Effect has not been surveyed for cultural resources within two years of a proposed ground-disturbing activity, a qualified archaeologist who meets the Secretary of the Interior's professional qualification standards for archaeology

and shall conduct a Phase I Walkover Survey to ascertain the presence or absence of unique archaeological and/or significant historic resources, as defined in Section 15064.5 of the State CEQA Guidelines.

a. If the survey determines no unique archaeological resources or significant historical resources, including potential tribal cultural, then the work shall proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

b. If the survey determines potential unique archaeological resources or significant historical resources, including potential tribal cultural resources, then one of two courses of action shall be employed:

   i. Where avoidance is feasible, the trail alignments shall be realigned to avoid the potentially significant resource, and the work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1. The new alignment will be surveyed by a qualified archaeologist. An archaeological monitor shall be present during ground-disturbing activities. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

   ii. Where avoidance is not feasible, a Phase II evaluation of the cultural resources shall be undertaken to determine the significance of the cultural resource. If the Phase II investigation identifies a unique/eligible cultural resource within the area proposed for ground-disturbing work, the County shall determine whether to avoid the resource through redesign or to proceed with a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. The work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

Mitigation Measure CULTURAL-3: *Paleontological Resources – Paleontological Monitoring.* Impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource from the proposed project shall be reduced to below the level of significance by monitoring, salvage, and curation of unanticipated paleontological resources discovered during ground-disturbing activities in previously undisturbed native soils located five or more feet below the ground surface that would have the potential to contact geologic units with a high to moderate potential to yield unique paleontological resources. Ground-disturbing activities include, but are not limited to, drilling, excavation, trenching, and grading. If paleontological resources are encountered during ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall require and be responsible for salvage and recovery of those resources consistent with standards for such recovery established by the Society of Vertebrate Paleontology (available at: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx).

Paleontological Resources Sensitivity Training shall be required for all project personnel prior to the start of ground-disturbing activities in geologic units with a moderate to high potential to yield unique paleontological resources. This shall include a brief field training that provides an overview

of fossils that might potentially be found, and the appropriate procedures to follow if fossils are identified. This requirement extends to any new staff that joins the project.

Construction monitoring by a qualified monitor (archaeologist cross-trained in paleontology or paleontologist) shall be implemented during all ground-disturbing activities that affect previously undisturbed geologic units 12 or more inches below the ground surface and have the potential to encounter geologic units with a moderate to high potential to yield unique paleontological resources. In the event that a paleontological resource is encountered during construction, all ground-disturbing activity within 100 feet of the find shall be halted until a qualified paleontologist can evaluate the significance of the discovery. Additional monitoring recommendations may be required. If the resource is found to be significant, the paleontologist shall determine the most appropriate treatment and method for removing and stabilizing the specimen. Curation of the any significant paleontological finds shall be required with a qualified repository, such as the Natural History Museum of Los Angeles County (LACM).

Within 90 days of the completion of any salvage operation or monitoring activities, a mitigation report shall be submitted to County Parks with an appended, itemized inventory of specimens. The report and inventory, when submitted to County Parks, shall signify the completion of the program to mitigate impacts to paleontological resources. A copy of the report/inventory shall be filed with the County of Los Angeles Planning and Development Agency.

Mitigation Measure CULTURAL-4: *Regulatory Requirements – Human Remains*. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are encountered during excavation activities, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains.

If the County Coroner determines that the remains are or are believed to be Native American, s/he shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with Section 5097.98 of the California Public Resources Code, the NAHC shall immediately notify the person(s) it believes to be the most likely descendant (MLD) of the deceased Native American. The descendants shall complete their inspection and make a recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the County of Los Angeles Department of Parks and Recreation (County Parks), the disposition of the human remains. The MLD's recommendation shall be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials. If County Parks rejects the MLD's recommendations, the agency shall rebury the remains with appropriate dignity in a location that will not be subject to further subsurface disturbance (14 California Code of Regulations §15064.5(e)), consistent with the provisions of applicable federal, state, and County statutes and regulations.

GEOLOGY AND SOILS

Mitigation Measure GEO-1: A geotechnical and engineering geology investigation shall be conducted for the Proposed Project, based on preliminary design plans (showing trail and restroom locations), by a licensed geotechnical engineer and a licensed engineering geologist in the State of

California. The resulting Geotechnical and Engineering Geology Report and Erosion Control Plan shall summarize the results of field investigations, laboratory testing, and geotechnical/geologic analysis regarding: (1) active and potentially active faults, (2) seismic ground shaking, (3) seismic related ground failure, (4) landslides, (5) soil erosion, (6) unstable geologic and soil units, (7) expansive soils, (8) wastewater disposal characteristics, and (9) the effects of hillside ground slope on trail/restroom design and construction. The technical data, analyses, conclusions, and recommendations shall be considered and adopted in the design and construction of the project facilities based on the review and approval by the County of Los Angeles Department of Public Works and County of Los Angeles Department of Parks and Recreation. Adherence to the approved design and construction recommendations shall be verified by review and approval of the final design. Construction site inspections shall be conducted by, and in coordination with, the project geotechnical engineer and engineering geologist. All activities shall be consistent with the County of Los Angeles Trails Manual, and shall adhere to the standards and requirements in the California Building Code (California Code of Regulations, Title 24), Los Angeles County Building Code, Title 26, and/or professional engineering standards appropriate for such construction within the County. The County of Los Angeles Department of Public Works, Building and Safety Division, shall enforce conformance with these design standards through plan review and approval, prior to the issuance of building permits for any facility.

NOISE

Mitigation Measure NOISE-1: Noise-attenuating barriers, baffles, or blankets shall be installed to reduce noise levels to a maximum of 75 dBA for mobile construction equipment and 60 dBA for stationary construction equipment for potential sensitive receptors within 251 feet. Furthermore, construction equipment shall not operate between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or holidays.

Section 4

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Section 5

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CASTAIC AREA MULTI-USE TRAILS PLAN

FINAL MITIGATED NEGATIVE DECLARATION

Volume II
Appendices A–C

Prepared for:

County of Los Angeles Department of Parks and Recreation
510 S. Vermont Ave.
Los Angeles, CA 90020

Prepared by:

Sapphos Environmental, Inc.
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August 12, 2016

Appendix A

Aesthetics Assessment

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan

MEMORANDUM FOR THE RECORD
2.6 1020-085.M09

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, and Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc.
(Ms. Laura Male)

SUBJECT: Castaic Area Multi-Use Trails Plan Aesthetics Assessment

FIGURES:
1. Regional Vicinity Map
2. Local Vicinity Map
3. Castaic Project Area Location, Existing Trails, and Adopted Proposed Trails
4. Topographic Maps
5. Proposed Trails Plan
6. Significant Ecological Areas (SEAs) in Castaic Project Area
7. Special Districts
8. Caltrans Designated Scenic Vista Points
9. Existing Regional Trails
10. Designated and Eligible California Scenic Highways
11. Key Observation Points Map
12. Scenic Resources
13. Existing Light Levels at Night
14. Viewshed Map – Pacific Crest National Scenic Trail
15. Viewshed Map – Eligible State Scenic Highways
16. Viewshed Map – County Designated Town and Country Scenic Drives

APPENDIX: A. Key Observation Points

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the evaluation of aesthetics that was undertaken in support of the proposed Castaic Area Multi-Use Trails Plan (proposed project). The MFR will inform the County of Los Angeles, serving in the capacity of a Lead Agency, pursuant to the California Environmental Quality Act (CEQA). Based on the results of a site visit, viewshed analysis, and map review conducted by Sapphos Environmental, Inc., the construction, recreational use, and maintenance activities associated with the proposed project would have the potential to result in impacts to aesthetics that would be mitigated to below the level of significance with mitigation measures. The analysis includes characterization of the existing conditions for aesthetics in relation to scenic vistas, scenic resources, visual character and quality, and light and glare. The analysis considered potential for the designation, construction, use, and maintenance of trails within the Castaic project area to impact aesthetics in relation to scenic vistas, scenic resources, visual character and quality of the site and its surroundings, and light and glare. The characterization of the baseline conditions for aesthetics and consideration of applicable federal, state, and local statutes and regulations resulted in a determination that the designation, construction, operation, and maintenance of the proposed project (at the programmatic level of analysis) would be expected to result in impacts to aesthetics that are below the level of significance.

Scenic Vistas

The proposed project would not result in impacts to aesthetics in regard to a substantial adverse effect on a scenic vista because there are no designated scenic vista points within the Castaic project area; nor is the Castaic project area visible from scenic vista points designated within the Los Angeles County General Plan 2035 or by Caltrans.[1,2]

Regional Riding and Hiking Trails

The proposed project would result in less than significant impacts to aesthetics in regard to visibility from a regional riding or hiking trail because although the proposed project would potentially be barely visible from the nearby Pacific Crest National Scenic Trail (PCT), which is located approximately 8.5 miles north of the Castaic project area, it would not be expected to obstruct views due to intervening topography, trees, and shrubs, as well as the small scale of the proposed facilities. A viewshed analysis was conducted that determined that, based on topography, up to 17 percent of the Castaic project area would potentially be visible from the PCT with clear atmospheric conditions and no intervening trees or shrubs.

Scenic Resources within State Scenic Highway Corridors

The proposed project would result in significant impacts to aesthetics in regard to substantial damage to scenic resources within a state scenic highway corridor. Although the proposed project would not be visible from Officially Designated State Scenic Highways, the proposed project

[1] The County has designated scenic vistas in the Santa Monica Mountains land use plans, which are located more than 15 miles south of the Castaic project area. As the study area is not located in the vicinity of these scenic vistas, they have not been included in the analysis. Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

[2] Male, Laura, Sapphos Environmental, Inc. Pasadena, CA. 3 July 2015. Communication with Daniel Kitowski, Transportation Manager (GIS), California Department of Transportation.

would be located within the nearest Eligible State Scenic Highway corridors – Henry Mayo Drive (State Route 126) and the Golden State Highway (Interstate 5). Implementation of Mitigation Measure AES-1 is required to reduce impacts to scenic resources within the state scenic highway corridors to less than significant.

Visual Character and Quality

The proposed project would result in less than significant impacts to aesthetics in regard to substantial degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features. Trails and related supporting facilities would generally not be expected to substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, or character because they would be low to the ground, spaced and designed in a pattern that follows the natural topography and existing paved and dirt roads, and be consistent with the scale and character of the rural Castaic project area that already contains several dirt access roads and fire roads throughout the mountainous and hilly terrain.

Shadows, Light, and Glare

The proposed project would result in less than significant impacts to aesthetics in relation to the creation of a new source of substantial shadows, light or glare. Although the hours of operation for Los Angeles County trails are typically from dawn to dusk (County Code 17.04.330). Where lighting features are provided for safety and wayfinding reasons, lighting would be installed in a manner to be nonintrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general, in accordance with the guidelines of the County Trails Manual.[3]

[3] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

INTRODUCTION

This MFR provides the County of Los Angeles Department of Parks and Recreation (County) with the substantial evidence used to make a determination that there would be no significant and unavoidable impacts in regard to scenic vistas regional trails, state scenic highways, visual character or quality, and shadows/light and glare related to the designation, construction, operation and maintenance of trails from the proposed project. The Castaic Area Multi-Use Trails Plan constitutes a project pursuant to Section 21065 of the CEQA Statute because it would be an activity directly undertaken by a public agency that may cause a reasonably foreseeable indirect physical change in the environment. This MFR provides the requisite information related to aesthetics to support the County's decision-making process in relation to the proposed project: regulatory framework; existing conditions; thresholds of significance; and the consideration of the potential for direct, indirect, and cumulative impacts in accordance with the County of Los Angeles Department of Parks and Recreation's Environmental Checklist Form and Appendix G of the State CEQA Guidelines.[4] The scope of analysis considered the potential for impacts on aesthetics from the proposed project in relation to scenic vistas; views from existing regional trails; scenic resources within a scenic highway corridor; visual character and quality of the site and its surroundings; and shadows, light, and glare. The County of Los Angeles Trails Manual was consulted for ability of the proposed project to meet the County's objectives related to the visual and aesthetic experience of recreation users and adjacent land uses. As the proposed project is a plan, the analysis was conducted a programmatic level of detail, consistent with the provisions of the State CEQA Guidelines.

Purpose

The purpose of this MFR is to support the County in the development of a multi-use trail plan that would minimize the aesthetics impacts on the surrounding community. It is understood that the County expects to move forward with the proposed project and seek funding for construction, operation, and maintenance of the proposed project. The evaluation of the proposed project to result in significant impacts to aesthetics was undertaken in accordance with Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines, the County of Los Angeles Trails Manual, and the Los Angeles County General Plan.

LOCATION

The Castaic project area, which encompasses approximately 78 square miles (approximately 50,000 acres) in the Castaic area of the Santa Clarita Valley, is located in the northwestern portion of the unincorporated area of the County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Castaic project area is bound by the Angeles National Forest to the north, the City of Santa Clarita to the southeast, Highway 126 to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area includes three existing County trails (approximately 4.9 miles) and approximately 74.7 miles of adopted County Trail System proposed trails (Figure 3, *Castaic Project Area Location, Existing Trails, and Adopted Proposed Trails*).

[4] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

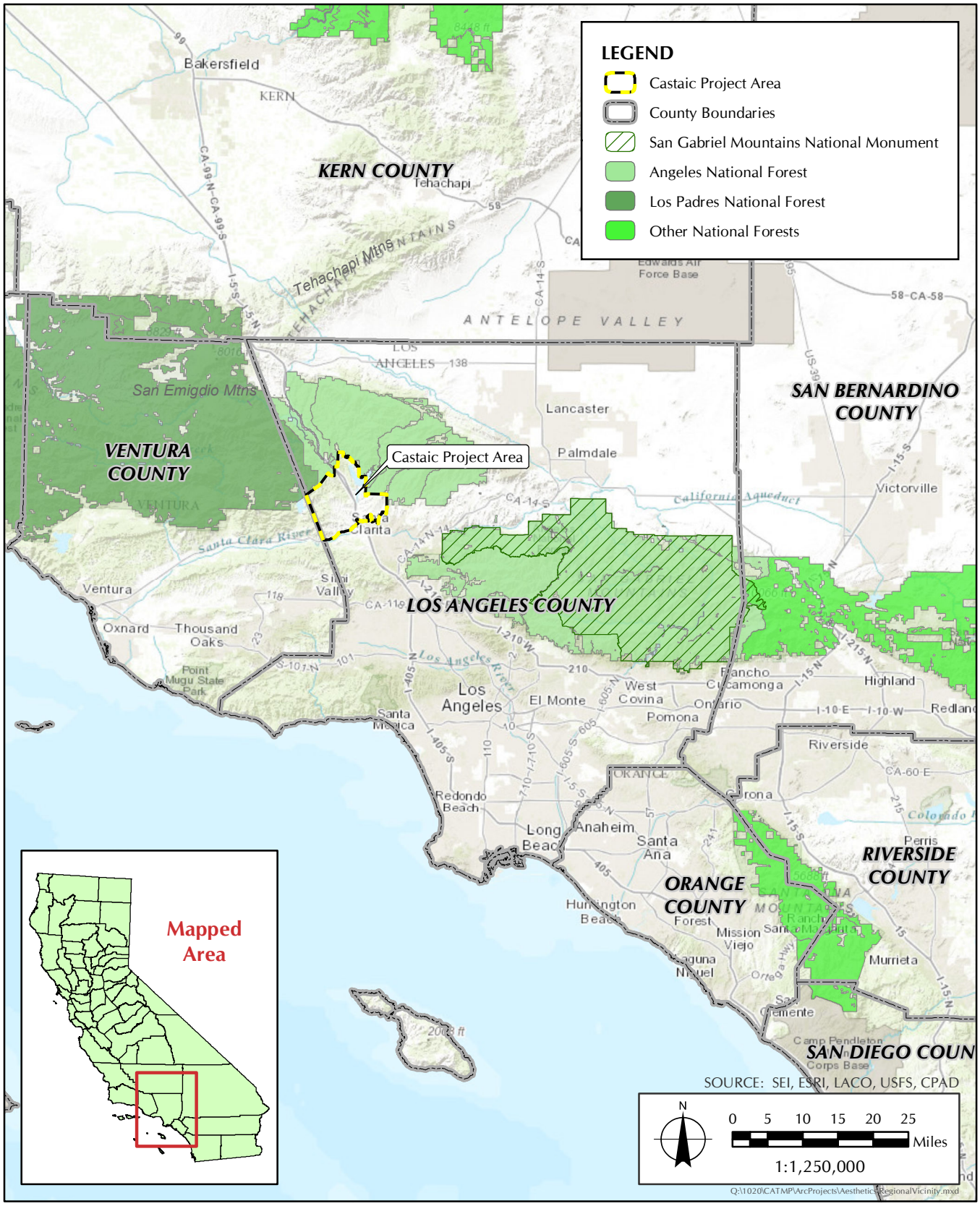

FIGURE 1

Regional Vicinity Map

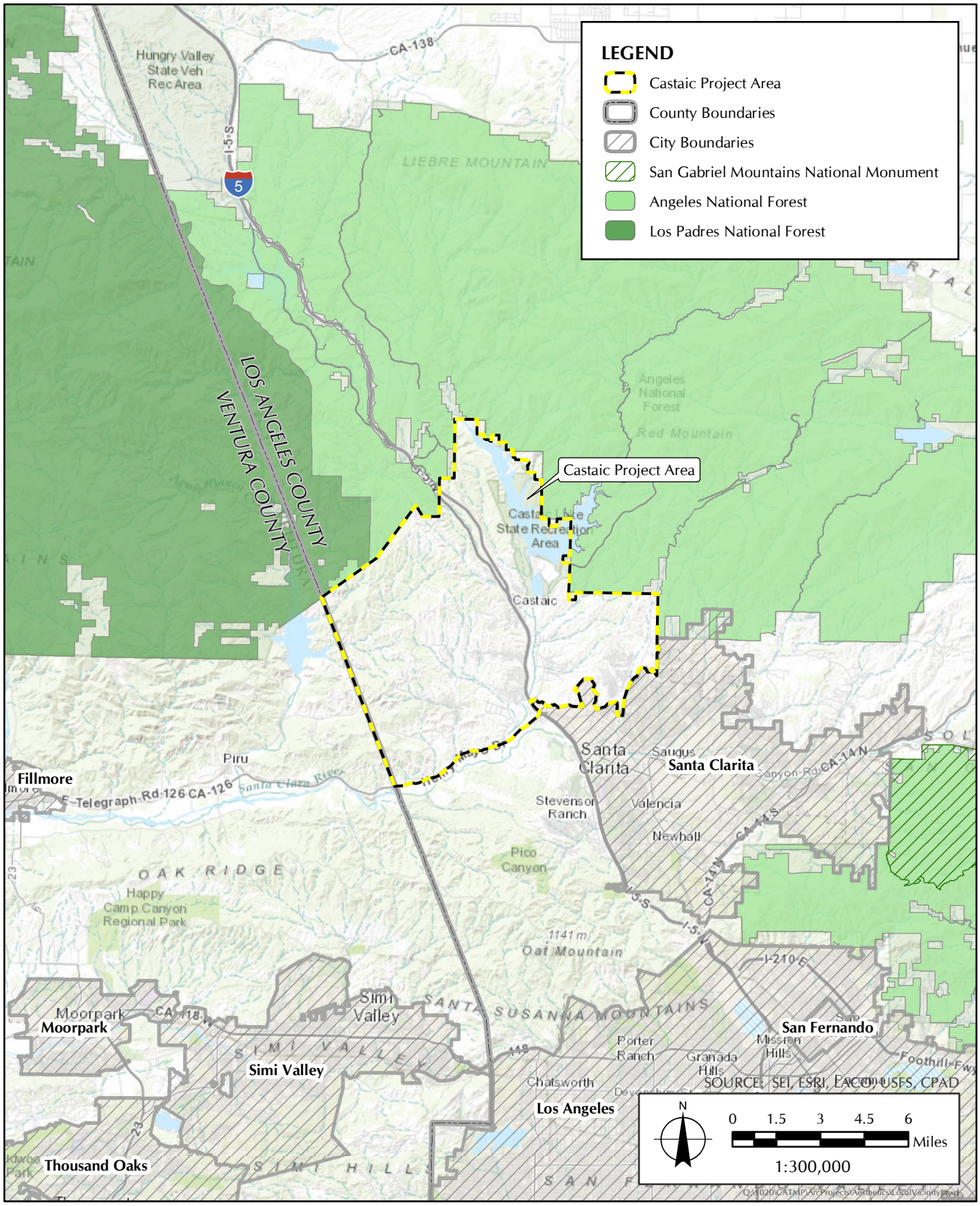

FIGURE 2

Local Vicinity Map

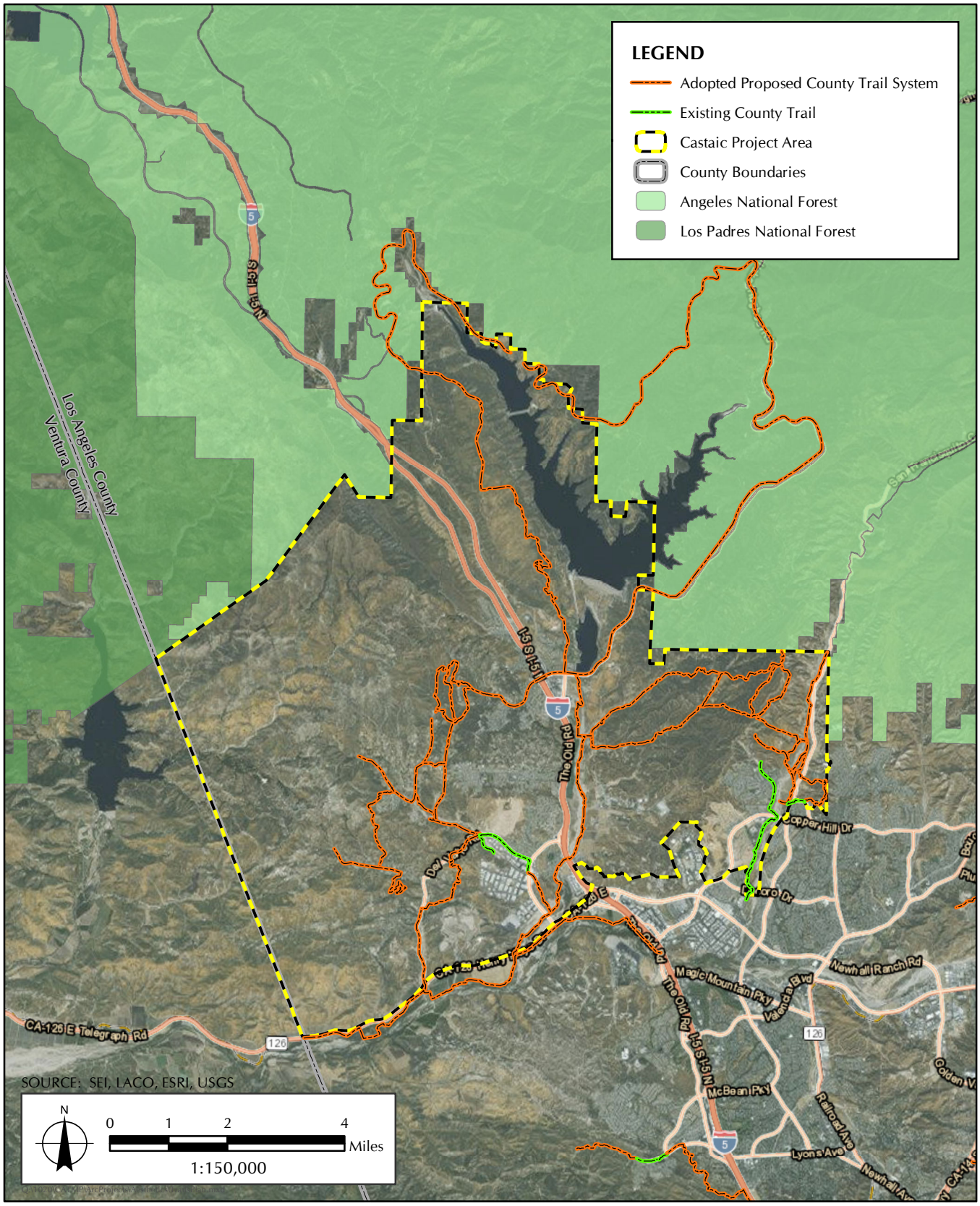

FIGURE 3

Trail Planning Study Area Location, Existing Trails, and Adopted Proposed Trails

The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties.[5] The Castaic project area is located on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Val Verde, and Newhall topographic quadrangles (Figure 4, *Topographic Maps*). The elevation of the Castaic project area ranges from approximately 863 feet above mean sea level (MSL) in the Santa Clara River bed at the southern edge of the Castaic project area to approximately 2,756 feet above MSL along the northern edge of the Trail Planning Area, approximately 0.7 mile southwest of Interstate 5. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area (Figure 5, *Proposed Trail Plan*). The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

[5] U.S. Geological Survey. Accessed 10 August 2015. TopoView. Available at: http://ngmdb.usgs.gov/maps/TopoView/viewer/#11/34.5626/-118.5353

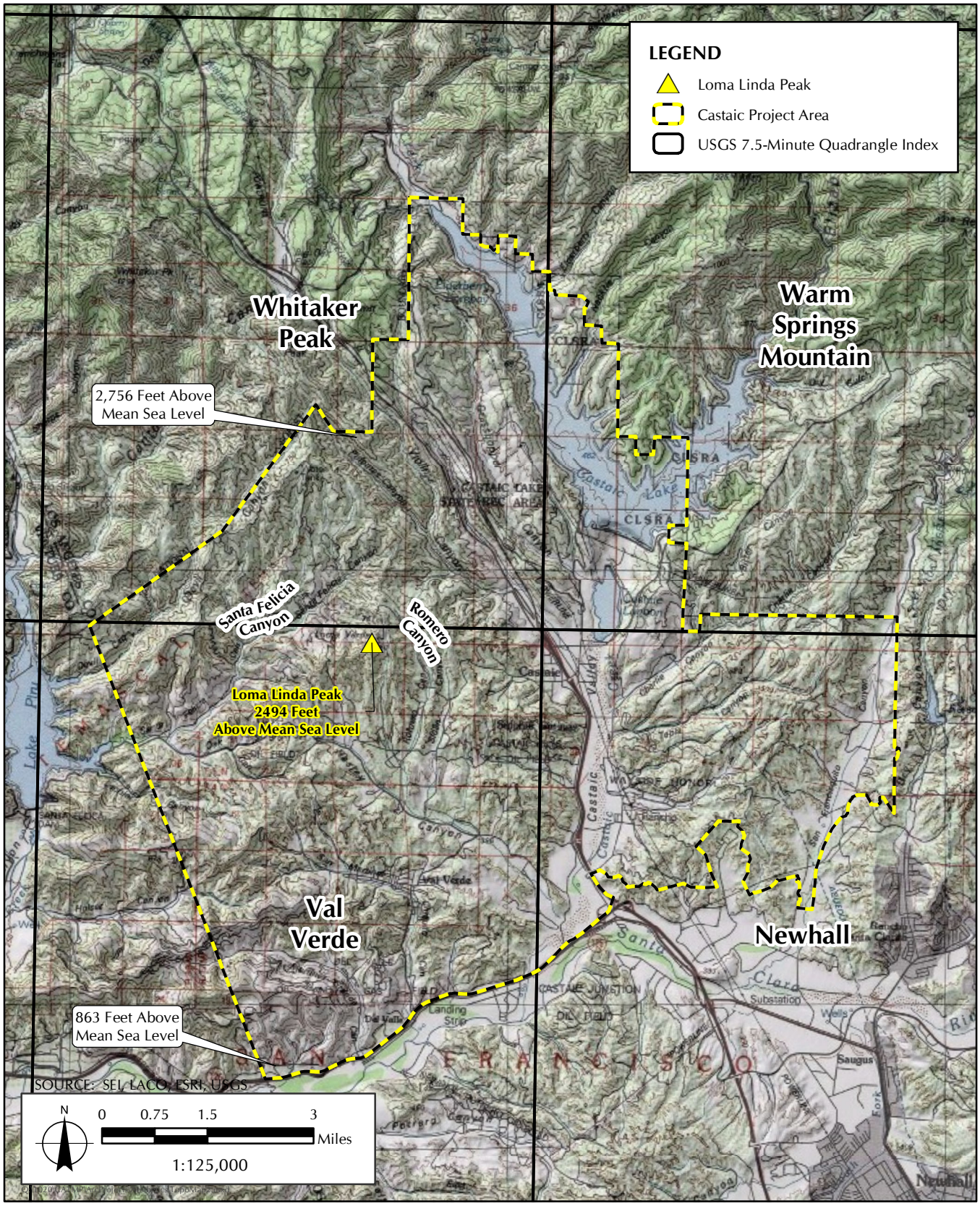

FIGURE 4

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

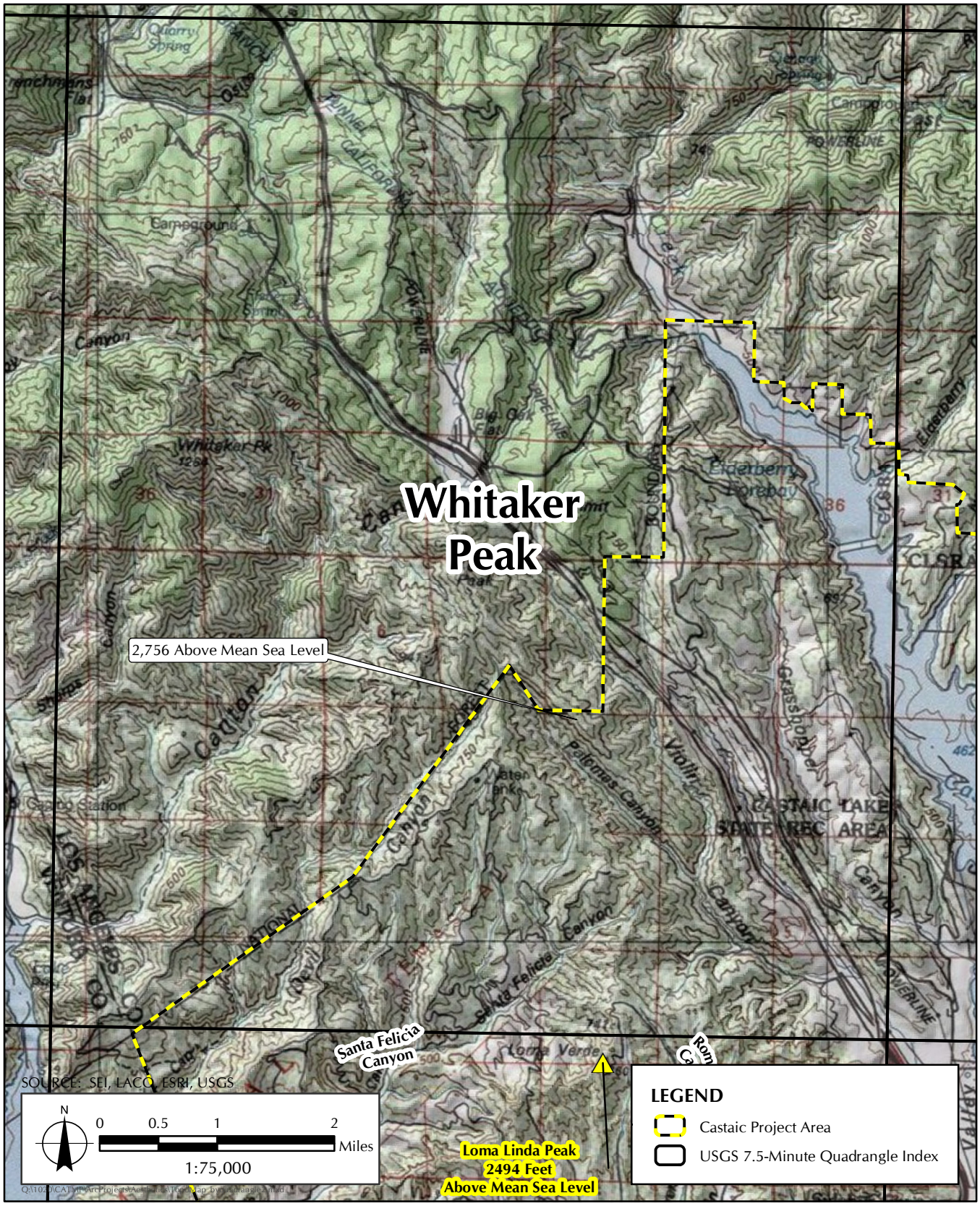

FIGURE 4A

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

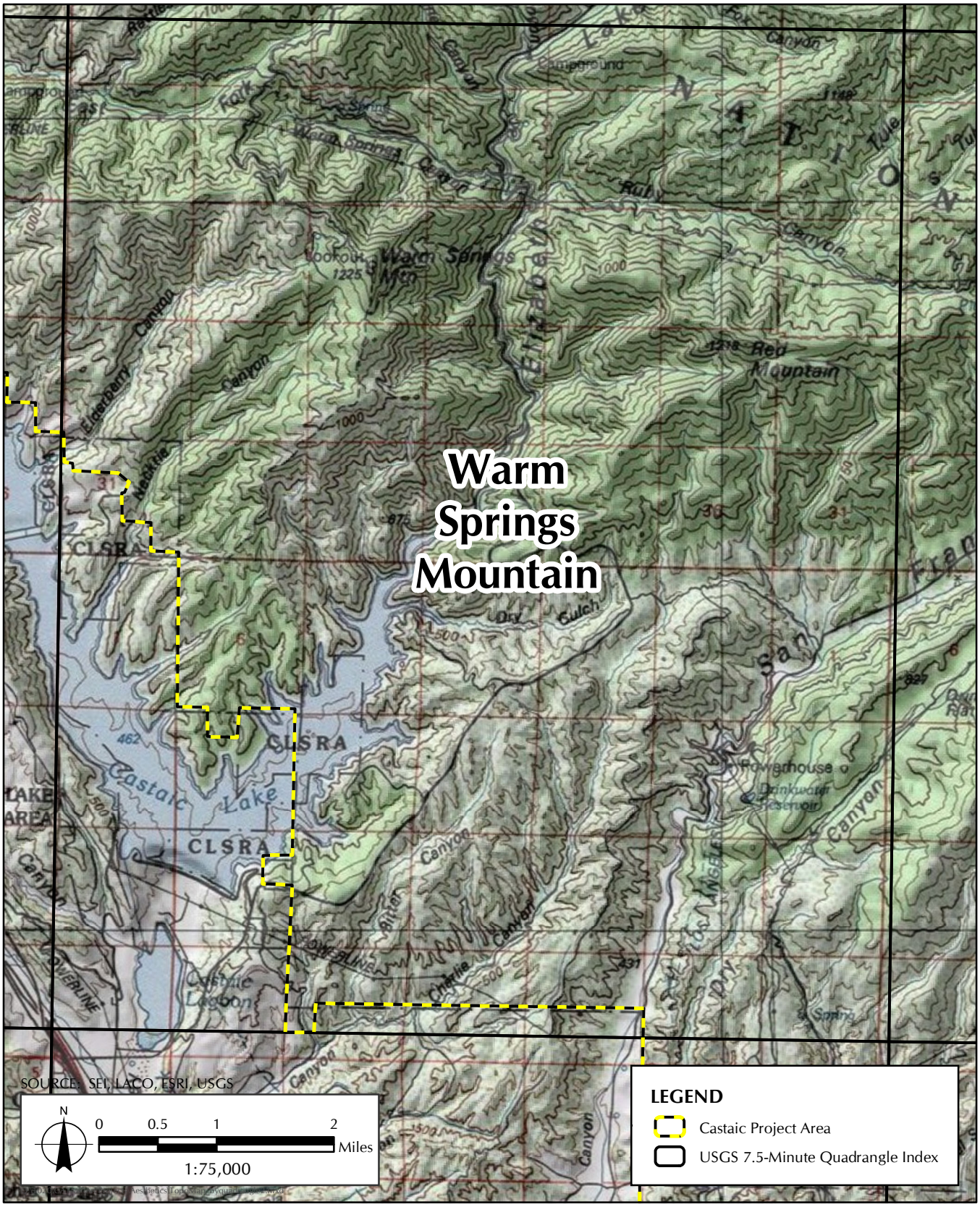

FIGURE 4B

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

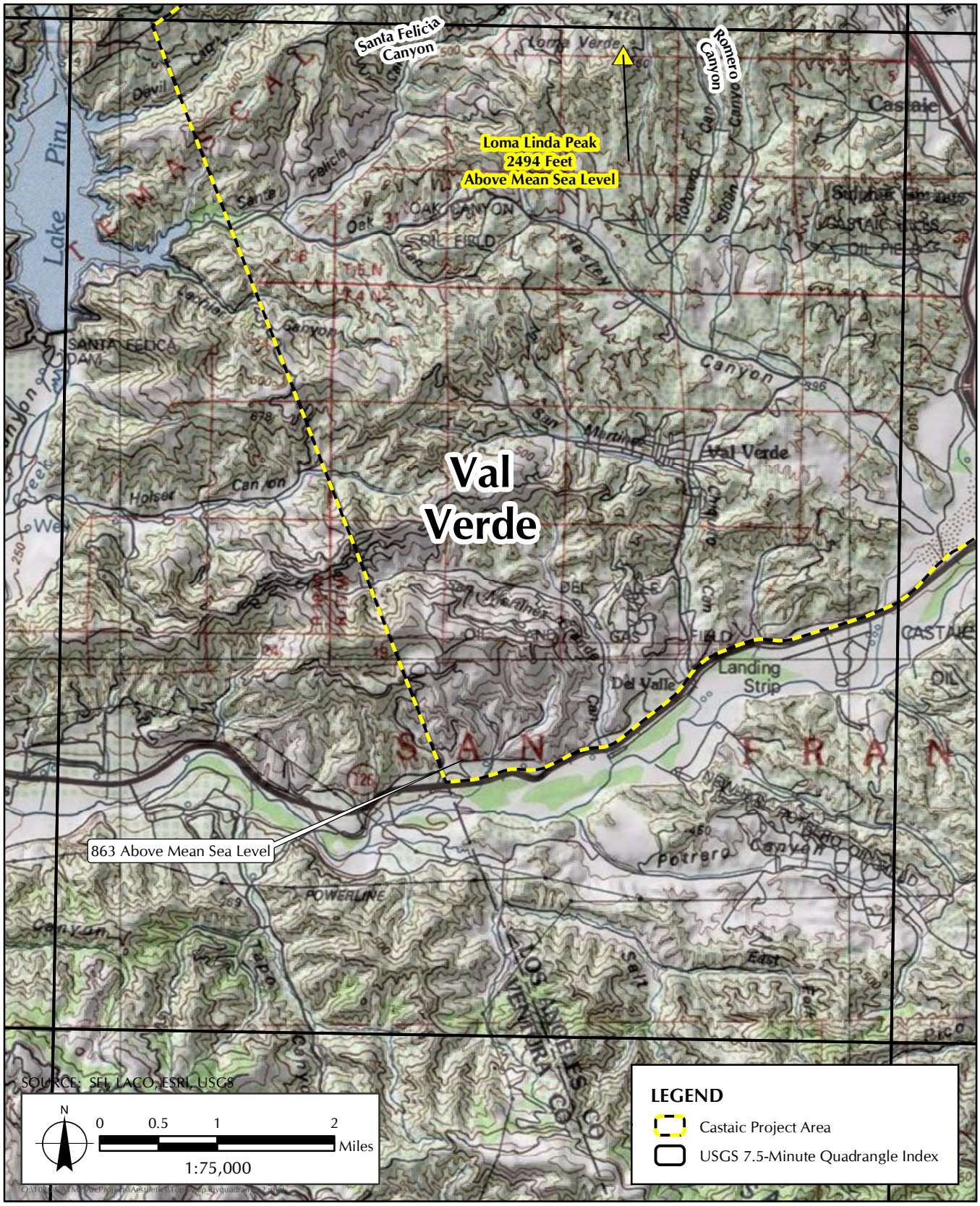

FIGURE 4C

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

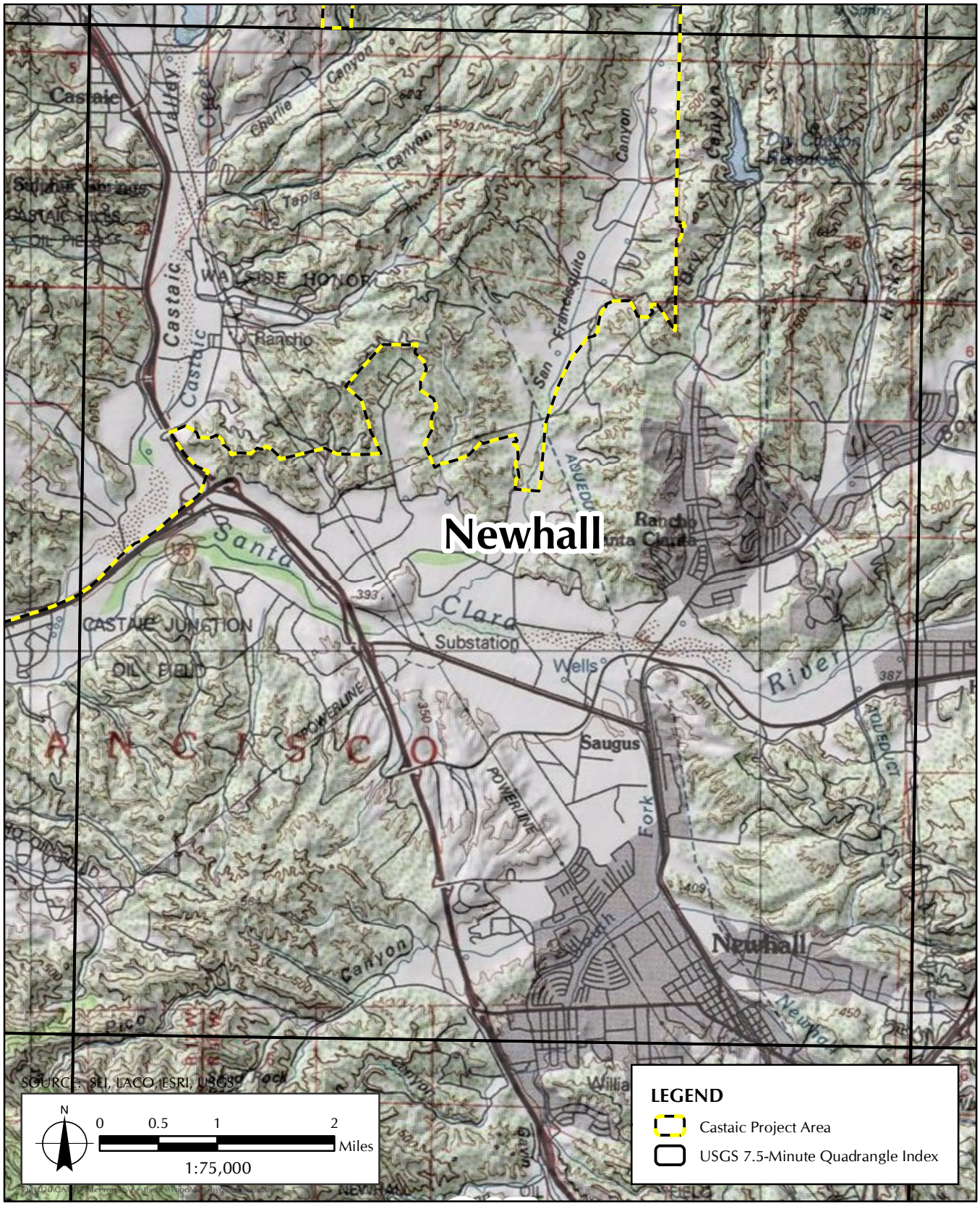

FIGURE 4D

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

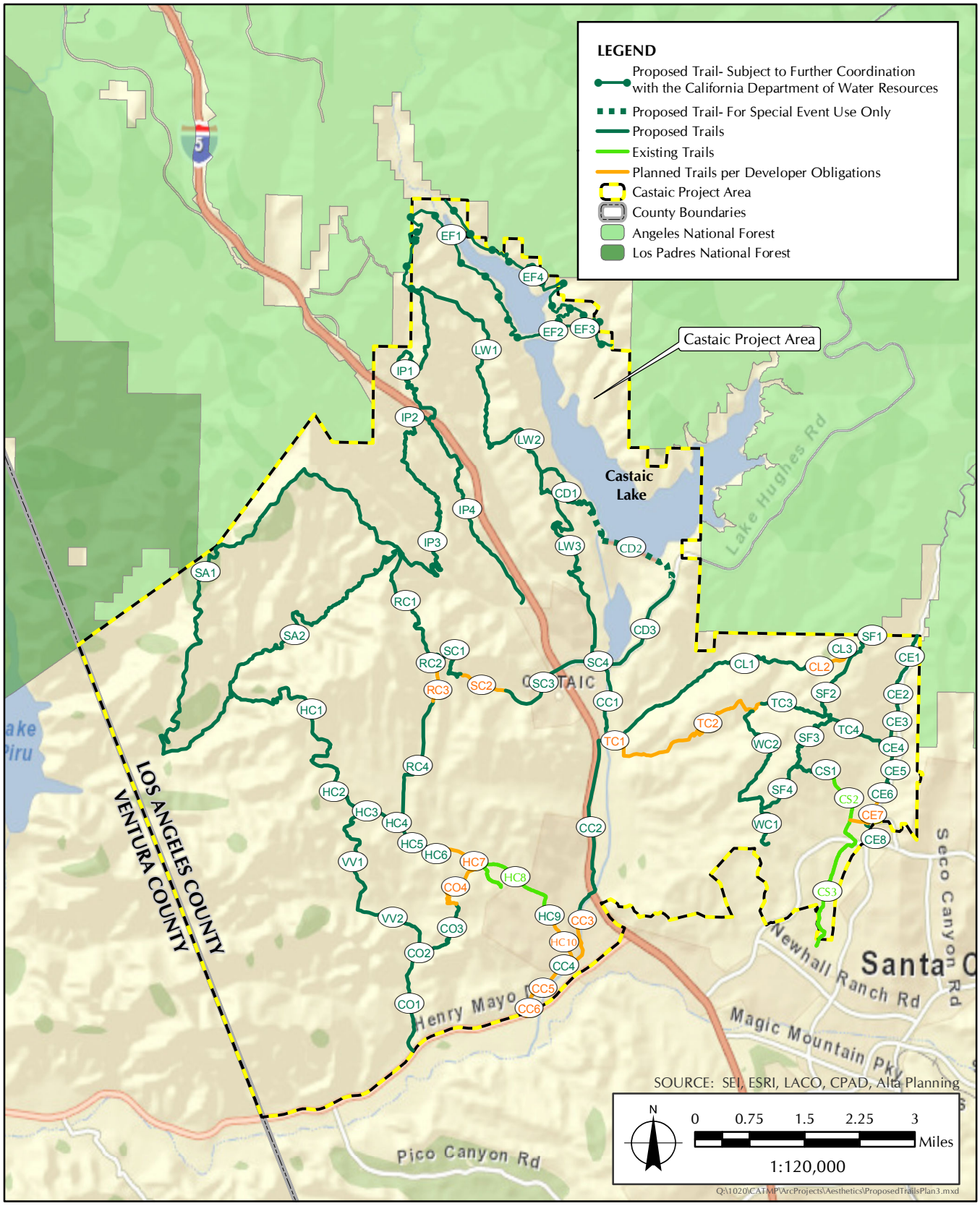

FIGURE 5

Proposed Trails Plan

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[6] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

[6] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[7]

TECHNICAL TERMINOLOGY

Contrast: The opposition or unlikeness of different forms, lines, colors, or textures in a landscape.

Glare: Perceived glare is the unwanted and potentially objectionable sensation as observed by a person looking directly into the light source (e.g., the sun, the sun's reflection, automobile headlights, or other light fixtures). Reflective surfaces on existing buildings, car windshields, etc., can expose people and property to varying levels of glare.

Key Observation Point (KOP): One or a series of points on a travel route or at a use area or potential use area where the view of a management activity (action) would be the most revealing.

Scenic Resources: Significant visual resources identified by local planning documents that can be maintained and enhanced to promote a positive image in the community, such as natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. Natural landforms and landscapes are often established as scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. However, scenic resources can also include man-made open spaces and the built environment, such as parks, trails, nature preserves, sculpture gardens, and similar features.

Shadow Sensitive Uses: Shadow sensitive uses are land uses that are considered sensitive to the effects of new light-blocking structures casting shadows because sunlight is important to the function, physical comfort, or commerce of the land use. Facilities and operations that are considered sensitive to the effects of shadows include: routinely useable outdoor spaces associated with residential, recreational, or institutional (e.g., schools, convalescent homes) land uses;

[7] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; nurseries; and existing solar collectors.[8]

Viewshed: The landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint or along a transportation corridor.

STUDY METHODS

The evaluation of the potential for the proposed project to result in impacts to aesthetics was undertaken in accordance with the County of Los Angeles Department of Parks and Recreation's Environmental Checklist Form and Appendix G of the State CEQA Guidelines, thus considering five key variables: scenic vistas; views from existing regional trails; scenic resources within a scenic highway corridor; visual character and quality of the site and its surroundings; and shadows, light, and glare.

Literature and Map Review

The Los Angeles County General Plan 2035 (County General Plan)[9] and County of Los Angeles zoning designations[10,11] were reviewed to characterize allowable land uses within the Castaic project area. The County General Plan was also reviewed for descriptions of Significant Ecological Areas (SEAs) and associated allowable land uses. The County General Plan, including the Santa Clarita Valley Area Plan, was reviewed to determine if there were any designated scenic vistas within the Castaic project area. The California Department of Transportation (Caltrans) website[12] was reviewed to determine the location of the nearest proposed and designated scenic highways. USGS 7.5-minute series topographic quadrangles and aerial photograph imagery available through Google Earth maps were reviewed to delineate existing potential sensitive visual receptor locations where the proposed trail alignments and other facilities might be visible within and adjacent to the Castaic project area. The County Manual was referenced for trail planning and construction standards and recommendations.[13]

Survey

A survey was conducted on January 20, 2016, to evaluate and document the visual character of publicly accessible portions of the Castaic project area, with a focus on views from designated and

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[8] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide*. Chapter A, Aesthetics and Visual Resources. Available at: http://environmentla.com/programs/Thresholds/A-Aesthetics%20and%20Visual%20Resources.pdf

[9] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/generalplan/generalplan

[10] County of Los Angeles Department of Regional Planning. Accessed 16 February 2016. *GIS-NET3 Public*. Planning & Zoning Information for Unincorporated LA County. Available at: http://gis.planning.lacounty.gov/GIS-NET3_Public/Viewer.html

[11] County of Los Angeles. Accessed 16 February 2016. Los Angeles County, California Code of Ordinances. Title 22 – Planning and Zoning, Division 1 – Planning and Zoning, Chapter 22.12 Zones and Districts. Available at: http://library.municode.com/HTML/16274/level3/TIT22PLZO_DIV1PLZO_CH22.12ZODI.html

[12] California Department of Transportation. Accessed 16 February 2016. Officially Designated State Scenic Highways. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm

[13] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

eligible scenic resources. Sixteen KOPs were established to document the visual character of the existing Castaic project area. The KOPs were selected to characterize a range of public vantage points: Eligible State Scenic Highways, County-designated Town & Country Scenic Drives, existing trail segment, designated scenic canyons, and views from Castaic Lake State Recreation Area. Data was recorded for each KOP: location, direction, visual character, and photographic documentation. Several roads provided limited public access to the Castaic project area; the publicly accessible portions of the Castaic project area were photographically documented and spatially analyzed for possible views of the trail using Google Earth Street View.

Spatial and Viewshed Analysis

A viewshed analysis was conducted using ArcGIS to evaluate the visibility level of the proposed trail alignments and other related facilities based on terrain analysis from Eligible and Officially Designated State Scenic Highways, County-designated Scenic Drives, City-Designated Scenic Highways, and the PCT within a 15-mile (visible) radius of the Castaic project area. Caltrans' visual impact assessment training module for visual character was used to define the viewshed analysis criteria.[14] As for a traveler on a highway, viewsheds are directional (the viewshed for a traveler moving in one direction can be quite different than a traveler moving in the opposite direction on the same highway, and the viewshed for a driver is more constrained by direction than it is for a passenger who has more discretion to look to the side or even backward), a traditional viewshed is static and is defined as what can be seen in 360 degrees from a single view point. What a person can see from a single spot is limited by objects—such as hills, trees, buildings—that obscure what he or she can see. A five-foot viewer elevation was established to identify the visibility level of trail alignments and related facilities from scenic resources by both pedestrians and vehicle occupants, and a 15-mile buffer was established around each scenic resource to define the atmospheric visual limits of the viewshed. Station points were established at every 1,000 feet along the designated scenic routes located within a 15-mile radius of the Castaic project area. No Caltrans- or County-designated scenic vista points are located within a 15-mile radius of the Castaic project area. The viewshed was then established from each station point, based on a 10-foot digital elevation model (DEM). Particular emphasis of the spatial analysis was placed on the proximity of the project elements to designated significant ridgelines (analysis based on proposed elements within a 50-foot radius of significant ridgelines) and within the viewshed of scenic highway corridors, scenic resources identified in the Santa Clarita Valley Area Plan, and the PCT. As the viewshed is defined as if the earth had a lunar landscape and only addresses landform, Google Earth was then used to verify the visibility level of the subject parcels using Street View and Ground View to identify major vegetative or development visual obstructions and identify potential visibility between the station points.

[14] California Department of Transportation. Accessed 16 February 2015. Visual Impact Assessment Training: Module 2: Visual Character. Lesson 8: Labeling the Landscape. Available at: http://www.dot.ca.gov/hq/LandArch/via_training/mod_2/mod_02_less_08.htm

REGULATORY FRAMEWORK

Federal

Federal Land Policy and Management Act of 1976

The Castaic project area encompasses four properties within the Castaic project area administered by the U.S. Department of the Interior Bureau of Land Management (BLM).[15] Under the Federal Land Policy and Management Act of 1976, public lands administered by the BLM shall be managed in a manner that will protect the quality of resources including scenic values,[16] and the Secretary of the Interior shall prepare and maintain an inventory of all public lands and their resources and other values, including outdoor recreation and scenic values,[17] to reflect changes in conditions. The BLM utilizes the Visual Resource Management (VRM) system to classify the visual value (quality) of visual resources to determine the appropriate level of management for BLM-administered lands.[18] The contrast rating process (Manual Section 8431) provides BLM managers with a systematic means to evaluate proposed projects for conformance with VRM objectives and identify mitigating measures to minimize adverse visual impacts, and the visual resource inventory (VRI) process (Manual Section 8410) provides BLM managers with a means for determining visual values. The VRI process consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones for classification into four VRI classes based on management objectives: Class I and II (most valued; preserve or retain existing character of the landscape), Class III (moderate value; partially retain existing character), and Class IV (least value; modify the existing character).[19]

National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires measures to be taken to assure aesthetically pleasing surroundings and the integration of Environmental Design Arts in the planning and decision-making for federal agency projects.[20] The proposed project is a conceptual

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[15] County of Los Angeles. 2012. *Santa Clarita Valley Area Plan, 2012*. Figure CO-8: Recreation and Open Space. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf Appendix II, Page 281.

[16] U.S. Department of the Interior Bureau of Land Management and Office of the Solicitor. October 2001. The Federal Land Policy and Management Act of 1976 As Amended. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/legislation.Par.3647.File.dat/FLPMA.pdf, Section 102 (a)(8), Section 103(c).

[17] U.S. Department of the Interior Bureau of Land Management and Office of the Solicitor. October 2001. The Federal Land Policy and Management Act of 1976 As Amended. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/legislation.Par.3647.File.dat/FLPMA.pdf, Section 201(a).

[18] U.S. Department of the Interior Bureau of Land Management. 5 April 1984. *Manual 8400 – Visual Resource Management*. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.34032.File.dat/8400.pdf

[19] U.S. Department of the Interior Bureau of Land Management. 17 January 1986. *Manual H-8410-1 - Visual Resource Inventory*. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/nm/field_offices/farmington/farmington_planning/ffo_vrm_docs.Par.89974.File.dat/H-8410.pdf

[20] U.S. Department of the Interior Bureau of Land Management. 5 April 1984. *Manual 8400 – Visual Resource Management*. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.34032.File.dat/8400.pdf

document that proposes trail alignments that may traverse BLM-administered lands. Final trail alignments within BLM-administered lands will involve the BLM and may be subject to the NEPA process in addition to the factors specified for further site analysis before the alignment and construction of trails under the guidance of the County Trails Manual.

State

California Department of Transportation (Caltrans) California Scenic Highways Program

The California Scenic Highways Program was created in 1963 under Senate Bill 1467, which added Sections 260 through 263 to the Streets and Highways Code, to preserve and protect scenic highway corridors from change that would reduce the aesthetic value of lands adjacent to highways.[21] According to Caltrans' Scenic Highway Guidelines, scenic highway corridors consist of land that is visible from, adjacent to, and outside the highway right-of-way, and is composed primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries.[22] To be included in the state program, the highways proposed for designation must meet Caltrans' eligibility requirements and have visual merit. County highways and roads that meet the Caltrans Scenic Highways Program standards may also be officially designated. The state laws governing the Scenic Highway Program are provided in the California Streets and Highways Code, Sections 260 through 263. The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code.

A scenic corridor is the land generally adjacent to and visible from the highway and is identified by using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection (Section 261 of the Streets and Highways Code): (1) regulation of land use and intensity (density) of development, (2) detailed land and site planning, (3) control of outdoor advertising, (4) careful attention to and control of earthmoving and landscaping, and (5) the design and appearance of structures and equipment. Caltrans defines noncompliance for a Corridor Protection Program as a program that: (1) no longer complies with the five legislatively required elements under Section 261 of the Street and Highways Code, (2) no longer affords protection because required elements have been amended or changed, or (3) no longer is being enforced by the local governing body.

Local

County of Los Angeles General Plan

The entire Castaic project area is located within the County of Los Angeles and subject to the provisions of the Los Angeles County General Plan 2035.

[21] California Department of Transportation. Accessed 25 January 2016. Frequently Asked Questions. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/faq.htm

[22] California Department of Transportation. October 2008. *Scenic Highway Guidelines*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

Land Use Element

The Land Use Element of the Los Angeles County General Plan 2035 provides strategies and planning tools to facilitate and guide future development and revitalization efforts.[23] The County recognizes that scenic features in the region, such as the coastline and mountain vistas, are significant natural resources for the County. The Land Use Element includes land use policies that protect the visual quality of scenic resources, including Hillside Management Areas (HMAs), ridgelines, scenic viewsheds, and areas along scenic highways. The purpose of the Conservation (OS-C) land use category is to preserve open space and scenic resources in perpetuity.

Conservation and Natural Resources Element

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 serves as the policy guide for conservation of scenic resources in Los Angeles County.[24] The Conservation and Natural Resources Element identifies the three official State Scenic Highways in the County, describes scenic viewsheds, and identifies significant ridgelines that need to be protected and preserved. According to County Policy C/NR 13.10, significant ridgelines are identified by the following criteria:

- "Topographic complexity;
- Uniqueness of character and location;
- Presence of cultural or historic landmarks;
- Visual dominance on the skyline or viewshed, such as the height and elevation of a ridgeline; and,
- Environmental significance to natural ecosystems, parks, and trail systems."

The Conservation and Natural Resources Element has established one goal and eight additional policies relevant to aesthetics in consideration of the proposed project:

- **Goal C/NR 13: Protected visual and scenic resources.**
    - **Policy C/NR 13.1:** Protect scenic resources through land use regulations that mitigate development impacts.
    - **Policy C/NR 13.2:** Protect ridgelines from incompatible development that diminishes their scenic value.
    - **Policy C/NR 13.3:** Reduce light trespass, light pollution, and other threats to scenic resources.
    - **Policy C/NR 13.4:** Encourage developments to be designed to create a consistent visual relationship with the natural terrain and vegetation.
    - Policy C/NR 13.5: Encourage required grading to be compatible with the existing terrain.
    - **Policy C/NR 13.6:** Prohibit outdoor advertising and billboards along scenic routes, corridors, waterways, and other scenic areas.

[23] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Chapter 6: Land Use Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch6.pdf

[24] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

- **Policy C/NR 13.7:** Encourage the incorporation of roadside rest stops, vista points, and interpretive displaces into projects in scenic areas.
- **Policy C/NR 13.8:** Manage development in HMAs to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.
- **Policy C/NR 13.9:** Consider the following in the design of a project that is located within an HMA, to the greatest extent feasible:
    - Public safety and the protection of hillside resources through the application of safety and conservation design standards;
    - Maintenance of large contiguous open areas that limit exposure to landslide, liquefaction and fire hazard and protect natural features, such as significant ridgelines, watercourses, and SEAs [Significant Ecological Areas].

Significant Ecological Areas

The Conservation and Natural Resources Element contains a planning overlay component called the SEA Program that designates ecologically important land and water systems to preserve valuable habitat for rare, threatened, or endangered plant and animal species and conserve biological diversity in Los Angeles County and limits development in unincorporated regions of the County through requirement of a SEA Conditional Use permit for project review by biologists on the SEA Technical Advisory Committee (SEATAC).[25] According to the SEA Program, SEA designations provide an informational basis for review of private projects subject to CEQA requirements, which means that public trails do not fall under SEATAC review.[26]

Two adopted SEAs are located within the Castaic project area: the Santa Clara River SEA (#20), which is located along Castaic Creek, the San Francisco Canyon wash, and the Santa Clara River; and the Santa Felicia SEA (#21), which is located in the northwestern portion of the Castaic project area (Figure 6, *Significant Ecological Areas (SEAs) in Castaic Project Area*).

[25] County of Los Department of Regional Planning. 11 February 2016. SEA Program. Available at: http://planning.lacounty.gov/sea

[26] Male, Laura, Sapphos Environmental, Inc., Pasadena, CA. 9 July 2013. Telephone conversation with Emma Howard, Los Angeles County, CA. Subject: SEA Program Exemptions.

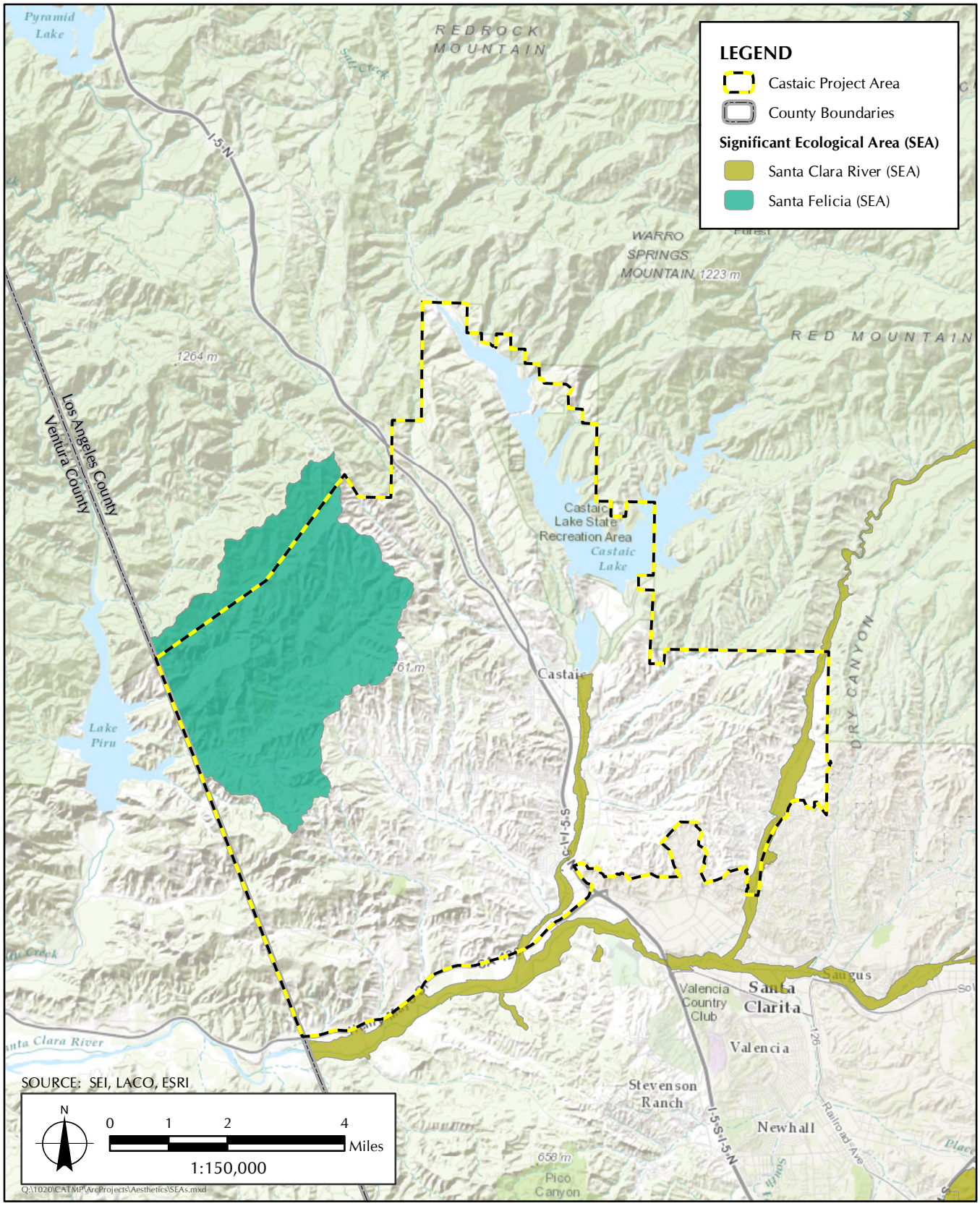

FIGURE 6

Significant Ecological Areas (SEAs) in Castaic Project Area

Santa Clarita Valley Area Plan (One Valley One Vision)

The entire Castaic project area is located within the Planning Area of the Santa Clarita Valley Area Plan, which comprises the entire Santa Clarita Valley and provides goals, policies, and maps to establish zoning regulations and guide new development proposals.[27] The Area Plan has designated Significant Ridgelines as valuable scenic resources to be protected during development and trail planning and construction.[28] Relevant guiding principles stated in the Santa Clarita Valley Area Plan include:

- **Environmental Resources**
  - **5.** The natural buffer area surrounding the entire Valley, which includes the Angeles National Forest, Santa Susana, San Gabriel, Sierra Pelona, and Del Sur mountains, shall be preserved as a regional recreational, ecological, and aesthetic resource.
  - **7.** The Santa Clarita Valley's prominent ridgelines shall be preserved and hillside development shall be limited to protect their valuable aesthetic and visual qualities intrinsic to the Valley landscape.

The Land Use Element of the Santa Clarita Valley Area Plan has established the following goals, objectives, and policies relevant to aesthetics in consideration of the proposed project:

- **Goal LU-1:** Urban Form - An interconnected Valley of Villages providing diverse lifestyles, surrounded by a greenbelt of natural open space.
  - **Objective LU-1.1:** Maintain an urban form for the Santa Clarita Valley that preserves an open space greenbelt around the developed portions of the Valley, protects significant resources from development, and directs growth to urbanized areas served with infrastructure.
    - **Policy LU-1.1.4:** Preserve community character by maintaining natural features that act as natural boundaries between developed areas, including significant ridgelines, canyons, rivers and drainage courses, riparian areas, topographical features, habitat preserves, or other similar features, where appropriate.
  - **Objective LU-1.2:** Maintain the distinctive community character of villages and neighborhoods throughout the planning area by establishing uses, densities, and design guidelines appropriate to the particular needs and goals of each area, including, but not limited to the following:
    - **Policy LU-1.2.1:** In Newhall, provide opportunities for new business and housing by implementing the Downtown Newhall Specific Plan, provide incentives to promote infill development and re-use of underutilized sites, and continue to plan for the future development of North Newhall.
    - **Policy LU-1.2.8:** In Castaic, promote expansion of neighborhood commercial uses to serve local residents; address traffic congestion; ensure compatibility between highway-oriented commercial uses

[27] County of Los Angeles. 2012. *Santa Clarita Valley Area Plan: One Valley One Vision*. Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

[28] County of Los Angeles. 2012. *Santa Clarita Valley Area Plan: One Valley One Vision*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf, Appendix II, Page 280. "Figure CO-7: Santa Clarita Valley Area Plan: Scenic Resources."

and nearby residential uses; and maintain community character in accordance with the County's Castaic Area Community Standards District.

- **Policy LU-1.2.9:** In Val Verde, protect the existing rural lifestyle and small town community character while providing residents with additional access to needed services; ensure compatibility between existing residential areas and the nearby landfill; and maintain community character in accordance with the County's Castaic Area Community Standards District.

  - **Objective LU 1.3:** Plan for density and intensity of development that respects and is reflective of the natural terrain.
    - **Policy LU-1.3.2:** Substantially retain the integrity and natural grade elevations of significant natural ridgelines and prominent landforms that form the Valley's skyline backdrop.

- **Goal LU-6:** Community Appearance - A scenic and beautiful urban environment that builds on the community's history and natural setting.
  - **Objective LU-6.1:** Maintain the natural beauty of the Santa Clarita Valley's hillsides, significant ridgelines, canyons, oak woodlands, rivers, and streams.
    - **Policy LU-6.1.1:** Designate ridgelines throughout the planning area, and preserve these ridgelines from development by encouraging a minimum distance for grading and development from these ridgelines of 50 feet, or more if determined preferable by the reviewing authority based on site conditions.
    - **Policy LU-6.1.3:** Ensure that new development in hillside areas is designed to protect the scenic backdrop of foothills and canyons enjoyed by Santa Clarita Valley communities, through requiring compatible hillside management techniques that may include but are not limited to density-controlled development (clustering) subject to the limitations in Policy LU-1.3.5; contouring and landform grading; revegetation with native plants; limited site disturbance; avoidance of tall retaining and build-up walls; use of stepped pads; and other techniques as deemed appropriate.
  - **Objective LU-6.2:** Provide attractive public and open spaces in places visited by residents and visitors, where feasible and appropriate.
    - **Policy LU-6.2.2:** Provide and enhance trail heads where appropriate with landscaping, seating, trash receptacles, and information kiosks.

- **Goal LU-7:** Environmentally Responsible Development - Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.
  - **Objective LU-7.6:** Protect natural habitats through site design where reasonable and feasible.
    - **Policy LU-7.6.1:** Limit outdoor lighting levels to the minimum needed for safety and security, and encourage lower lighting levels when businesses are closed.

The Conservation Element provides the following goals, objectives, and policies relevant to aesthetics in consideration of the proposed project:

- **Goal CO-2:** Geologic Resources - Conserve the Santa Clarita Valley's hillsides, canyons, ridgelines, soils, and minerals, which provide the physical setting for the natural and built environments.
    - **Objective CO-2.2:** Preserve the Santa Clarita Valley's prominent ridgelines and limit hillside development to protect the valuable aesthetic and visual qualities intrinsic to the Santa Clarita Valley landscape. (Guiding Principle #7)
        - **Policy CO-2.2.2:** Ensure that graded slopes in hillside areas are revegetated with native drought tolerant plants or other approved vegetation to blend manufactured slopes with adjacent natural hillsides, in consideration of fi re safety and slope stability requirements.
        - **Policy CO-2.2.3:** Preserve designated natural ridgelines from development by ensuring a minimum distance for grading and development from these ridgelines of 50 feet, or more if determined appropriate by the reviewing authority based on site conditions, to maintain the Santa Clarita Valley's distinctive community character and preserve the scenic setting.
        - **Policy CO-2.2.6:** Encourage building and grading designs that conform to the natural grade, avoiding the use of large retaining walls and build-up walls that are visible from off site, to the extent feasible and practicable.
- **Goal CO-3:** Biological Resources - Conservation of biological resources and ecosystems, including sensitive habitats and species.
    - **Objective CO-3.6:** Minimize impacts of human activity and the built environment on natural plant and wildlife communities.
        - **Policy CO-3.6.1:** Minimize light trespass, sky-glow, glare, and other adverse impacts on the nocturnal ecosystem by limiting exterior lighting to the level needed for safety and comfort; reduce unnecessary lighting for landscaping and architectural purposes, and encourage reduction of lighting levels during non-business nighttime hours.
        - **Policy CO-3.6.5:** Ensure revegetation of graded areas and slopes adjacent to natural open space areas with native plants (consistent with fire prevention requirements).
- **Goal CO-6:** Scenic Resources - Preservation of scenic features that keep the Santa Clarita Valley beautiful and enhance quality of life, community identity, and property values.
    - **Objective CO-6.1:** Protect the scenic character of local topographic features.
        - **Policy CO-6.1.1:** Protect scenic canyons from overdevelopment and environmental degradation.
        - **Policy CO-6.1.2:** Preserve significant ridgelines as a scenic backdrop throughout the community by maintaining natural grades and vegetation.
        - **Policy CO-6.1.3:** Protect the scenic quality of unique geologic features throughout the planning area, such as Vasquez Rocks, by including these features within park and open space land where possible.
    - **Objective CO-6.2:** Protect the scenic character of view corridors.
    - **Objective CO-6.3:** Protect the scenic character of major water bodies.

        - **Policy CO-6.3.2:** Protect the banks of the Santa Clara River and its major tributaries through open space designations and property acquisitions, where feasible, to protect and enhance the scenic character of the river valley.
    - **Objective CO-6.4:** Protect the scenic character of oak woodlands, coastal sage, and other habitats unique to the Santa Clarita Valley.
        - **Policy 6.4.1:** Preserve scenic habitat areas within designated open space or parkland, wherever possible.
    - **Objective CO-6.5:** Maintain the scenic character of designated routes, gateways, and vista points along roadways.
    - **Objective CO-6.6:** Limit adverse impacts by humans on the scenic environment.
        - **Policy CO-6.6.1:** Enhance views of the night sky by reducing light pollution through use of light screens, downward directed lights, minimized reflective paving surfaces, and reduced lighting levels, as deemed appropriate by the reviewing authority.
- **Goal CO-10:** Open Space - Preservation of open space to meet the community's multiple objectives for resource preservation.
    - **Objective CO-10.1:** Identify areas throughout the Santa Clarita Valley which should be preserved as open space in order to conserve significant resources for long-term community benefit.
        - **Policy CO-10.1.1:** Provide and protect a natural greenbelt buffer area surrounding the entire Santa Clarita Valley, which includes the Angeles National Forest, Santa Susana, San Gabriel, and Sierra Pelona Mountains, as a regional recreational, ecological, and aesthetic resource. (Guiding Principle #5)
        - **Policy CO-10.1.2:** The Santa Clara River corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species, as follows: (Guiding Principle #6)
            - Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state.
        - **Policy CO-10.1.5:** Maintain open space corridors along canyons and ridgelines as a way of delineating and defining communities and neighborhoods, providing residents with access to natural areas, and preserving scenic beauty."

Rural Outdoor Lighting District Ordinance

Approximately 62 percent of the Castaic project area is located within the County's Rural Outdoor Lighting District and subject to restrictions in terms of light and glare at night (Figure 7, *Special Districts*).[29]

[29] County of Los Angeles Department of Regional Planning. Accessed 16 February 2016. *GIS-NET3 Public*. Planning & Zoning Information for Unincorporated LA County. Available at: http://gis.planning.lacounty.gov/GIS-NET3_Public/Viewer.html

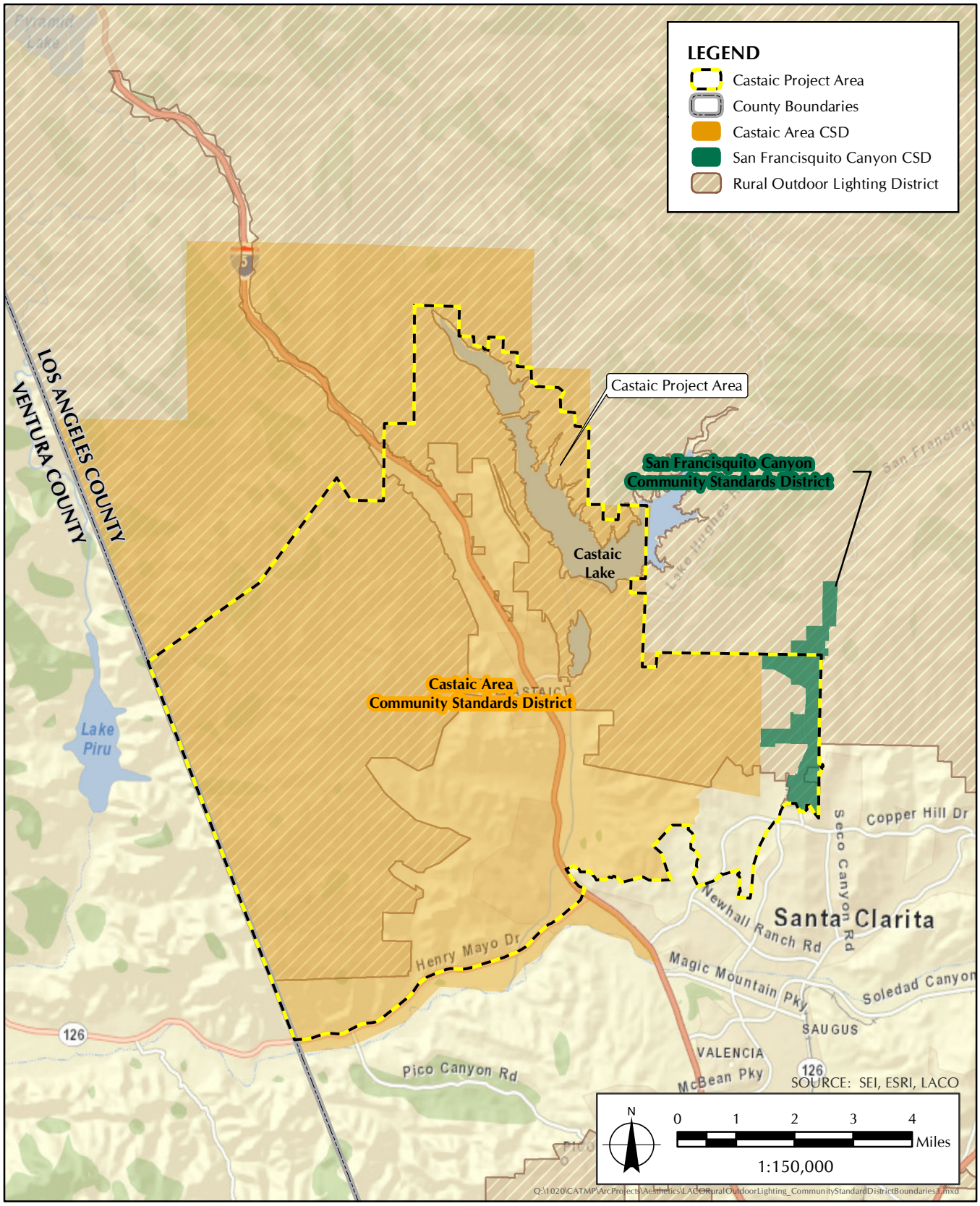

FIGURE 7

Special Districts

The Rural Outdoor Lighting District Ordinance, adopted in November 2012, is an amendment to Title 22 – Planning and Zoning of the Los Angeles County Code that established a rural outdoor lighting district, a supplemental district for the rural areas of the County within which outdoor lighting is regulated to maintain dark skies at night for the residents and wildlife in the district.[30] The ordinance also modified the community standards districts located within the district to be consistent with the dark skies ordinance. Under the ordinance, outdoor lighting shall be fully shielded on properties located in residential, agricultural, open space, or watershed zones. Drop-down lenses, mercury vapor light, ultraviolet lights, searchlights, laser lights, and other lighting that flashes, blinks, alternates, or moves are prohibited within the rural outdoor lighting district.

Castaic and San Francisquito Canyon Community Standards District (CSD) Ordinances

CSDs are supplemental districts that are established to provide a means of implementing special development standards for neighborhoods and communities within the unincorporated areas of Los Angeles County or to provide a means of addressing special problems which are unique to certain geographic areas within the County (Ord. 93-0047 § 1, 1993: Ord. 87-0130 § 1, 1987: Ord. 83-0065 § 5, 1983: Ord. 1494 Ch. 9 Art. 5 § 905.1, 1927.).[31] CSD regulations supplement the Countywide zoning and subdivision regulations.[32] The Castaic project area is located within two CSDs: San Francisquito Canyon CSD and Castaic Area CSD (see Figure 7).

LACMC 22.44.144 – San Francisquito Canyon Community Standards District, 200918

The purpose of the San Francisquito Canyon CSD is to protect and enhance the community's secluded rural, equestrian, and agricultural character as well as its natural features, including ridgelines, significant ecological areas, and flood plains. The San Francisquito Canyon CSD requires that outdoor lighting shall be provided in accordance with the applicable provisions of the Rural Outdoor Lighting District; establishes street light standards (street lights must be compatible in style and material with the poles on which they are mounted); and establishes the following significant ridgeline protection standards:[33]

> The highest point of a structure shall be located at fifty (50) vertical feet and fifty (50) horizontal feet from a significant ridgeline, excluding chimneys, rooftop antennas, amateur radio antennas, and wind energy conversion systems.

[30] County of Los Angeles Department of Regional Planning. 28 September 2012. Ordinance No. 2012-0047. Available at: http://planning.lacounty.gov/assets/upl/data/ord_outdoor-lighting.pdf Main website: http://planning.lacounty.gov/view/rural_outdoor_lighting_district_ordinance/

[31] County of Los Angeles Department of Regional Planning. Accessed 12 January 2016. Community Standards Districts. Available at: http://planning.lacounty.gov/view/community_standards_districts

[32] County of Los Angeles. n.d. Los Angeles County, California, Code of Ordinances: Title 22 – Planning and Zoning: Division 1 – Planning and Zoning: Chapter 22.44 – Supplemental Districts: Part 2 Community Standards Districts. Website. Available at: https://library.municode.com/HTML/16274/level4/TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI.html#TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI_22.44.126ACCOSTDI

[33] Municode. Accessed 12 February 2016. Los Angeles County, California, Code of Ordinances >> Title 22 – Planning and Zoning >> Division 1 – Planning and Zoning >> Chapter 22.44 – Supplemental Districts >> Part 2 Community Standards Districts. Available at: https://library.municode.com/HTML/16274/level4/TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI.html#TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI_22.44.127ALCOSTDI

Any modification to the requirements shall require a minor conditional use permit, as provided in Section 22.56.085. In approving such permit, the Director, Hearing Officer, or Commission shall make the following findings in addition to those required by Section 22.56.090.

i. Alternative sites within the project have been considered and eliminated from consideration due to their physical infeasibility or their potential for substantial habitat damage or destruction; and
ii. The project maintains the maximum view of the applicable significant ridgeline through design features, including, but not limited to, minimized grading; reduced structural height; use of shapes, materials, and colors that blend with the surrounding environment; and/or use of native drought-tolerant landscaping for concealment.

LACMC 22.44.137 – Castaic Area Community Standards District, 200419

The purpose of the Castaic Area CSD is to protect rural character, unique appearance, and natural resources of the Castaic Area communities. The Castaic Area CSD requires that outdoor lighting shall be provided in accordance with the applicable provisions of the Rural Outdoor Lighting District and establishes the following significant ridgeline protection standards:[34]

For purposes of this CSD, significant ridgelines shall consist of primary and secondary ridgelines. Except as provided below, no development, grading, construction, or improvements shall be allowed on a significant ridgeline within a 50-foot radius from every point on the crest of a primary ridgeline or within a 25-foot radius from every point on the crest of a secondary ridgeline.

Significant Ridgeline Exemptions
Provided an approval is obtained for an exemption as described below, the following structures or uses may be permitted on significant ridgelines, or within the respective 50-foot and 25-foot restricted areas surrounding such significant ridgelines:

i. Accessory buildings or structures;
ii. Additions and/or modifications to an existing single-family residence;
iii. New single-family residences where not more than one such residence is proposed to be built by the same person on contiguous parcels of land;
iv. Open spaces, conservation areas, parks, recreation areas, and/or trails;
v. Water tanks or transmission facilities;
vi. Architecturally superior structures, other than new single-family residences, which maximize the aesthetic appeal of the hillsides and significant ridgelines, and minimize the disturbance of the natural setting; and
vii. Roads providing access to any of the structures or uses described above.

[34] Municode. Accessed 12 February 2016. Los Angeles County, California, Code of Ordinances >> Title 22 – Planning and Zoning >> Division 1 – Planning and Zoning >> Chapter 22.44 – Supplemental Districts >> Part 2 Community Standards Districts. Available at: https://library.municode.com/HTML/16274/level4/TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI.html#TIT22PLZO_DIV1PLZO_CH22.44SUDI_PT2COSTDI_22.44.127ALCOSTDI

Significant Ridgeline Exemption Approval
No exemption shall be allowed unless the applicant obtains:

(A) A director's review and approval pursuant to subsection G, below, for structures or uses described in subsection i, ii, and iii; or
(B) A conditional use permit, as provided in Part 1, Chapter 22.56, for structures or uses described in subsections iv, v, or vi. The application for the conditional use permit must contain the information either required by or described in Sections 22.56.030, 22.56.040 and, where applicable, subsections D and E of Section 22.56.215.

ii. In addition to any information required for the director's approval and the conditional use permit, an application for a significant ridgeline exemption approval shall also demonstrate that the proposed use:

(A) Is compatible with adjacent uses, the character of the neighboring community, and the goals and policies of the general plan;
(B) Will leave the crest of the significant ridgeline in its natural state;
(C) Is designed to minimize the amount of grading necessary and will use landscaping to minimize the visual impact of the project;
(D) Will not be materially detrimental to the visual character of the neighborhood or the Castaic communities;
(E) Will not impede the normal and orderly development of surrounding properties and will not promote encroachments on significant ridgelines; and
(F) Will not degrade the visual integrity of the significant ridgeline, as verified through submission of a precise illustration and depiction."

Within the San Francisquito Canyon CSD, the Creek Area (San Francisquito Canyon Creek) has been established as a protected area.

EXISTING CONDITIONS

The information is organized consistent with the aesthetics sections of the County of Los Angeles Department of Parks and Recreation's Environmental Checklist Form and Appendix G to the State CEQA Guidelines.

Scenic Vistas

State Designated Scenic Vistas

Caltrans has designated one scenic vista within Los Angeles County, Lamont Odett Vista Point, which is located at Post Mile 57.8 along the northbound side of State Route 14 and overlooks the Aerospace Valley, Lake Palmdale, and the California Aqueduct toward the north and northeast from the Vista Point (Figure 8, *Caltrans Designated Scenic Vista Points*).[35,36] This vista point is located approximately 23.8 miles east of the Castaic project area, on the opposite side of the San Gabriel Mountains. The Castaic project area is not visible from this vista point due to distance, an intended directional vista towards the north, and intervening topography.

County Designated Scenic Vistas

There are no officially designated County scenic vistas in the northern one-third of the County in the Los Angeles County General Plan 2035.[37] The General Plan programs include Program No. C/NR-6 for the preparation of a Scenic Resources Ordinance that creates a scenic corridor, scenic viewshed, and significant ridgeline program and/or ordinance to protect remaining scenic resources, that may include scenic resources from the County's 1965 Regional Recreation Areas Plan.[38] However, there is no time commitment or timeframe for an actual project at this time.

Regional Riding and Hiking Trails

Pacific Crest National Scenic Trail

The PCT, a trail approximately 2,650 miles long (2,350 miles in 1967) extending from the Mexican-California border northward along the mountain ranges of the West Coast states to the Canadian-Washington border, was designated as a national scenic trail with the original establishment of the National Trails System Act. The PCT is located approximately 8.5 miles north of the Castaic project area (Figure 9, *Existing Regional Trails*).

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[35] Male, Laura, Sapphos Environmental, Inc. Pasadena, CA. 3 July 2015. Communication with Daniel Kitowski, Transportation Manager (GIS), California Department of Transportation.

[36] California Department of Transportation. 2014. *2014 Named Freeways, Highways, Structures and Other Appurtenances in California*. Available at: http://www.dot.ca.gov/hq/tsip/hseb/products/Named_Freeways_Final.pdf

[37] The County has designated scenic vistas in the Santa Monica Mountains land use plans, which are located more than 15 miles south of the Castaic project area. As the study area is not located in the vicinity of these scenic vistas, they have not been included in the analysis. Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

[38] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *County of Los Angeles General Plan – Chapter 16: General Plan Implementation Programs*. Program, C/NR-6. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch16.pdf

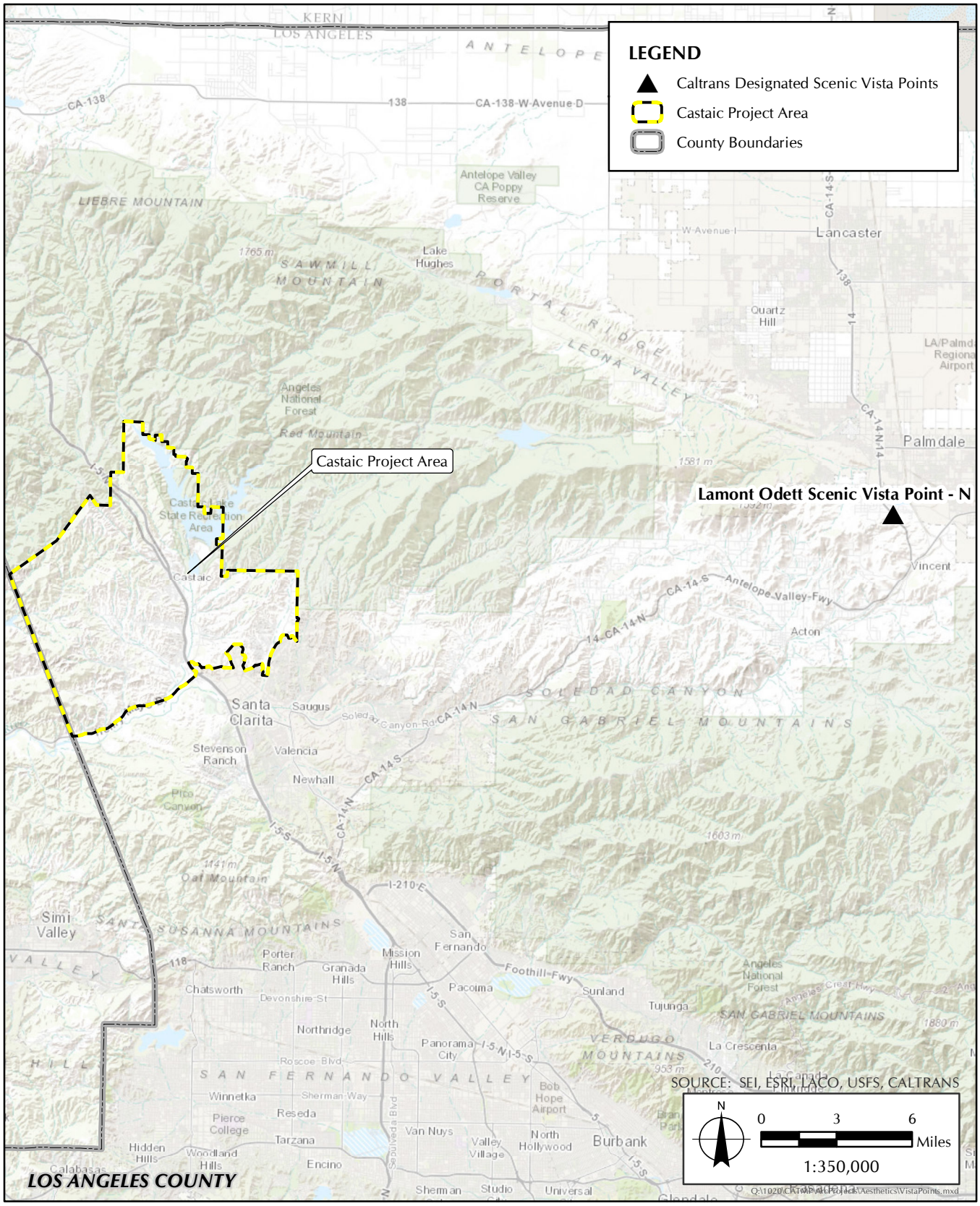

FIGURE 8

Caltrans Designated Scenic Vista Points

FIGURE 9

Existing Regional Trails

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from the PCT.[39] It was determined that only approximately 17 percent of the northeastern slopes and the southern portion of Castaic Valley of Castaic project area would be visible from the PCT, due to the intervening topography of the San Gabriel Mountains between the PCT and the study area. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between the PCT and the study area would be expected to reduce the potential visibility level further than this estimate.

County Regional Trail System

The study area contains approximately 74.7 miles of adopted proposed trails in the County General Plan's Regional Trail System and approximately 4.9 miles of existing trail segments (see Figure 9):

- Cliffie Stone Trail (approximately 2.9 miles, in two segments)
- Hasley Canyon Trail (approximately 1.7 miles, in three segments)
- North Park Trail (approximately 0.3 miles)

Scenic Resources within State Scenic Highway Corridors

Officially Designated State Scenic Highways

The two nearest officially designated state scenic highways to the Castaic project area are State Route 2 in Los Angeles County and State Route 33 in Ventura County (Figure 10, *Designated and Eligible California Scenic Highways*):[40]

- **State Route 2,** from 2.7 miles north of SR 210 at the National Forest Boundary in Los Angeles County east to the San Bernardino County Line (located approximately 24.2 miles southeast of the Castaic project area)
- **State Route 33,** from 6.4 miles north of State Route 150 north to the Santa Barbara County Line (located approximately 28.5 miles west of Castaic project area)

Due to distance (over 15 miles) and intervening topography, the Castaic project area is not visible from these two officially designated State scenic highways.

[39] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

[40] California Department of Transportation. Accessed 16 February 2016. *List of Eligible and Officially Designated State Scenic Highways*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm

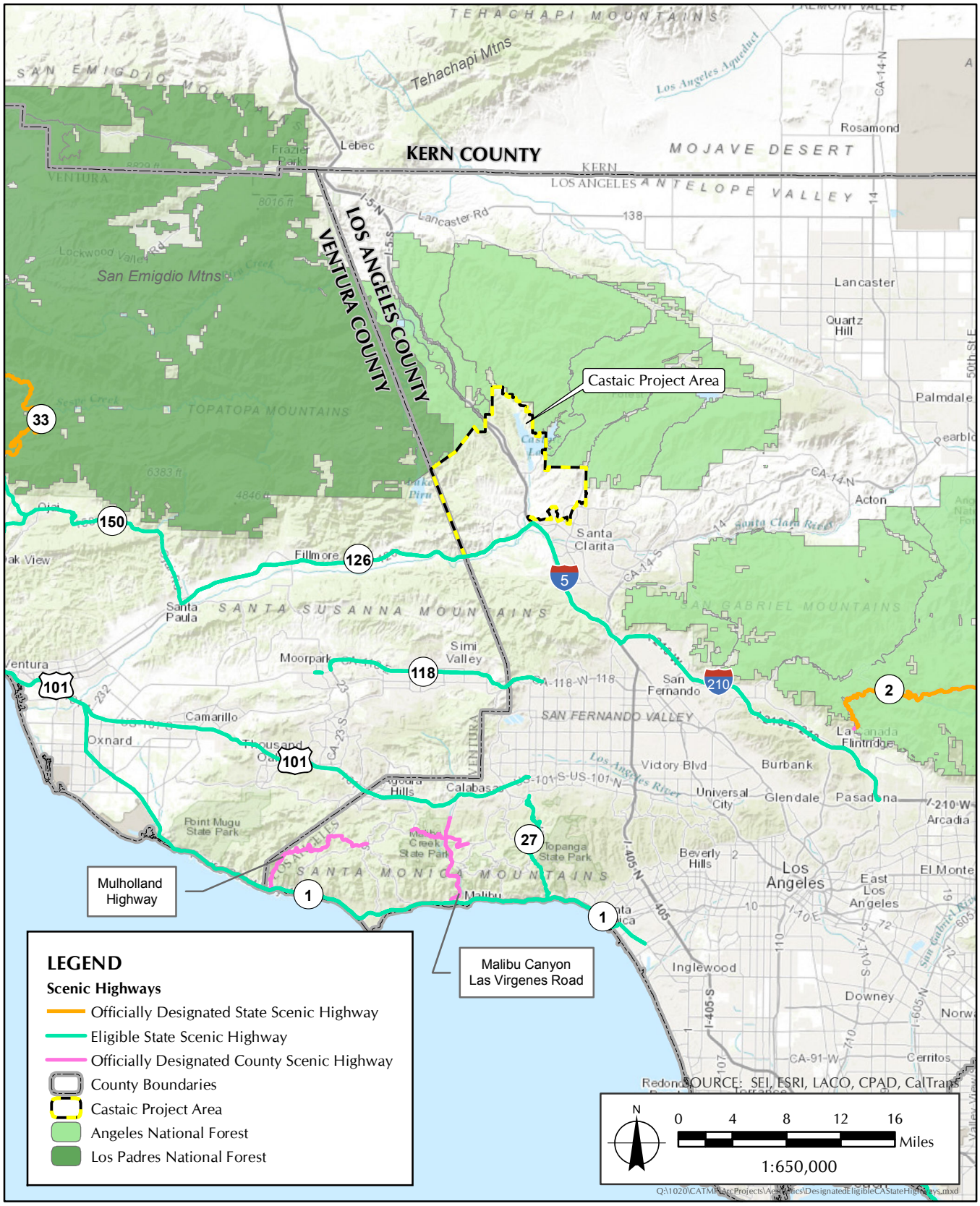

FIGURE 10

Designated and Eligible California Scenic Highways

Eligible State Scenic Highways

There are four eligible state scenic highways within a 15-mile visible radius of the Castaic project area (see Figure 10):[41]

- **Interstate 5** from the Interstate 210 North Tunnel Station in Pasadena east to State Route 126 near Castaic (located within the Castaic project area)
- **State Route 126** (located adjacent to the southern edge of the Castaic project area)
- **State Highway 118** (located approximately 8.6 miles south of the Castaic project area)
- **Interstate 210** (located approximately 9.4 miles southeast of southeastern edge of the Castaic project area)

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from these four eligible state scenic highways.[42] It was determined that only approximately 17.9 percent of the southern slopes and the southern portion of Castaic Valley of Castaic project area (including Hasley Canyon, the Santa Clara River corridor, and San Francisquito Canyon) would be visible from eligible state scenic highways, due to the intervening topography of the ridges and canyons within the study area. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between these highways and the study area would be expected to reduce the potential visibility level further than this estimate. These highway corridors contain trees, rock outcroppings, and have a potential to have historic structures.

Officially Designated County Scenic Highways

There are two officially designated County scenic highways within Southern California:[43]

- **Malibu Canyon-Las Virgenes Road,** from State Route 1 to Lost Hills Road (19.3 miles south of the Castaic project area)
- **Mulholland Highway,** from SR 1 to S. Kanan Dume Road and from Malibu Lake to 0.5 mile west of Cold Canyon Road (20.8 miles south of the Castaic project area)

Due to distance (over 15 miles) and intervening topography, the Castaic project area is not visible from these two officially designated County scenic highways.

Visual Character and Quality

The Castaic project area is characterized by rugged topography, steep ridges, deep canyons with wide creek beds that are tributaries to the Santa Clara River, and several ridgeline and canyon trails and fire roads. The study area is generally considered rural and includes the existing communities of Castaic, Castaic Junction, Val Verde, Hasley Canyon, Hillcrest, and Paradise Ranch. The study area contains several ridges and canyons and approximately 4.9 miles of existing County trails.

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[41] California Department of Transportation. Accessed 16 February 2016. *Officially Designated State Scenic Highways*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwy.htm

[42] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

[43] California Department of Transportation. 2015. Accessed 16 February 2016. *Officially Designated County Scenic Highways*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/lists/OD_County_Scenic_Hwys_2015.pdf

Land Use Designation

According to its Generalized Land Use Plan, the Castaic project area has been designated as predominantly Rural Land use (approximately 54 percent), with portions of the study area also designated for Residential (approximately 11 percent), Parks and Recreation (approximately 9 percent), Public and Semi-Public (approximately 7 percent), Specific Plan (approximately 6 percent), Water (approximately 5 percent), Industrial (approximately 5 percent), and Conservation uses (approximately 2 percent).[44] Approximately 1 percent of the land is designated for Open Space use on land owned by the BLM. Although the Santa Clarita Valley Area Plan only directly mentions trails within the Parks and Recreation land use designation, the land use policy defers to the specific allowable uses and development standards determined by underlying zoning designations and adopted Specific Plans. The northwestern portion of the Castaic project area is located within the Santa Felicia SEA, and the Santa Clara River SEA crosses through the study area.

Zoning

The County zoning designations for the project study area are predominantly heavy agricultural (approximately 63 percent) and open space (approximately 17 percent), with two specific plan areas (approximately 6 percent—Northlake Specific Plan and Newhall Specific Plan) and land designated with single-family residence (approximately 5 percent), residential planned development (approximately 4 percent), and restricted heavy manufacturing zones (approximately 3 percent) also comprising portions of the approximately 78-square-mile study area.[45] The Heavy Agricultural Zone, Specific Plan Zone, manufacturing zones, Unlimited Commercial Zone, Neighborhood Business Zone, and Watershed Zone permit riding and hiking trails; the Open Space, Light Agricultural Zone, Manufacturing Industrial Planned Development Zone, Commercial Planned Development Zone, and residential zones in the study area allow for riding and hiking trails if they have been approved by the Planning Director of the County of Los Angeles Department of Regional Planning (Director); and riding and hiking trails may be allowed in the Institutional Zone upon approval of a Conditional Use Permit (CUP). The proposed project study area is enclosed on the north by County-designated Watershed Zone; on the southeast by the City of Santa Clarita; on the south by Specific Plan Zone, Manufacturing Industrial Planned Development Zone, and Neighborhood Business Zone; and on the southwest by the County of Ventura.

Key Observation Points

The existing visual character of the Castaic project area was documented in the vicinity of scenic resources and existing trail segments for each of the 16 established Key Observation Points (Figure 11, *Key Observation Points Map*; see Appendix A: *Key Observation Points*).

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[44] County of Los Angeles. 2012. *Santa Clarita Valley Area Plan, 2012*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf Appendix II, Page 268. "Figure L-2: Santa Clarita Valley Area Plan: Generalized Land Use and Limited H5 Districts."

[45] Municode. Accessed 12 February 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO

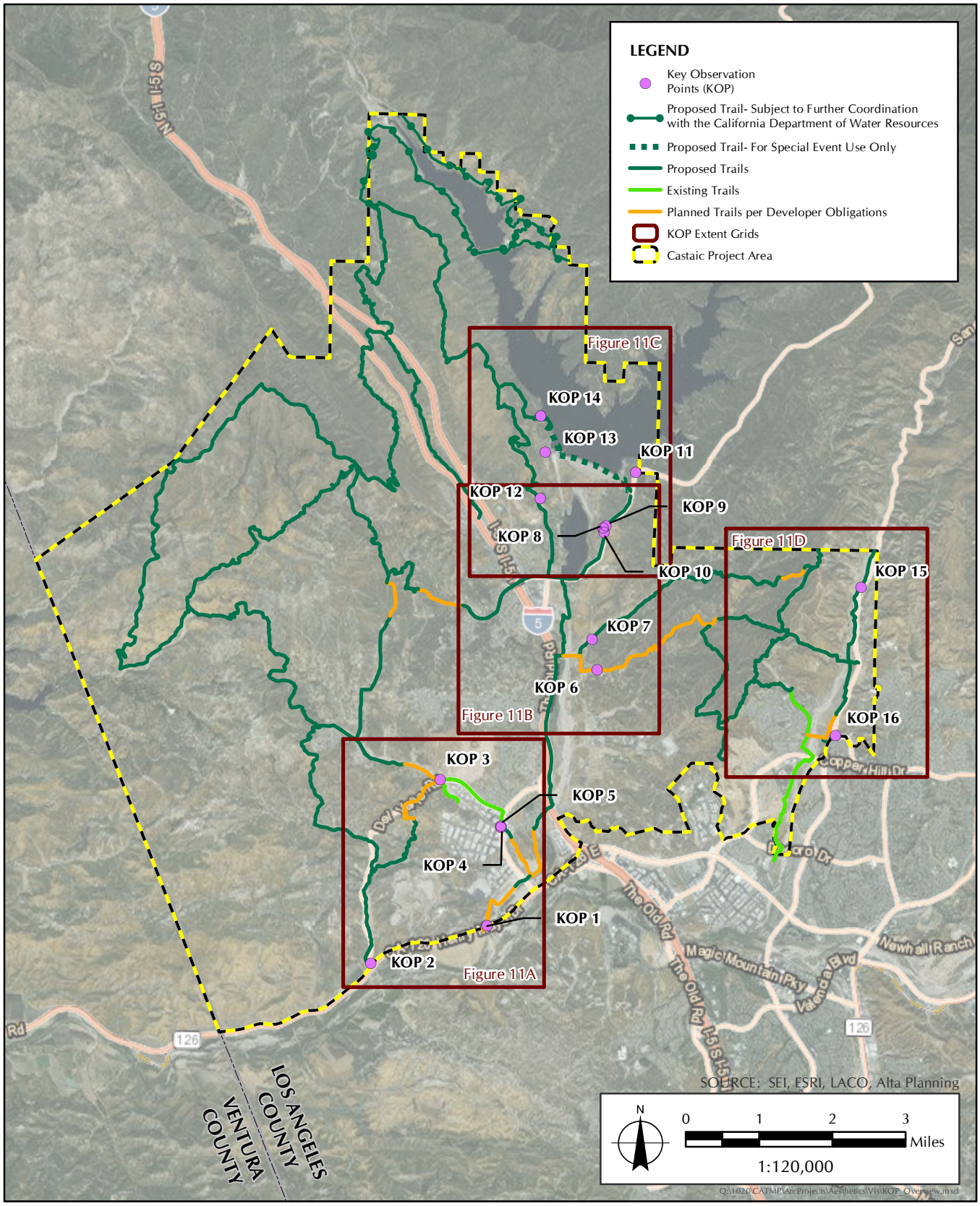

FIGURE 11

Key Observation Points Overview Map

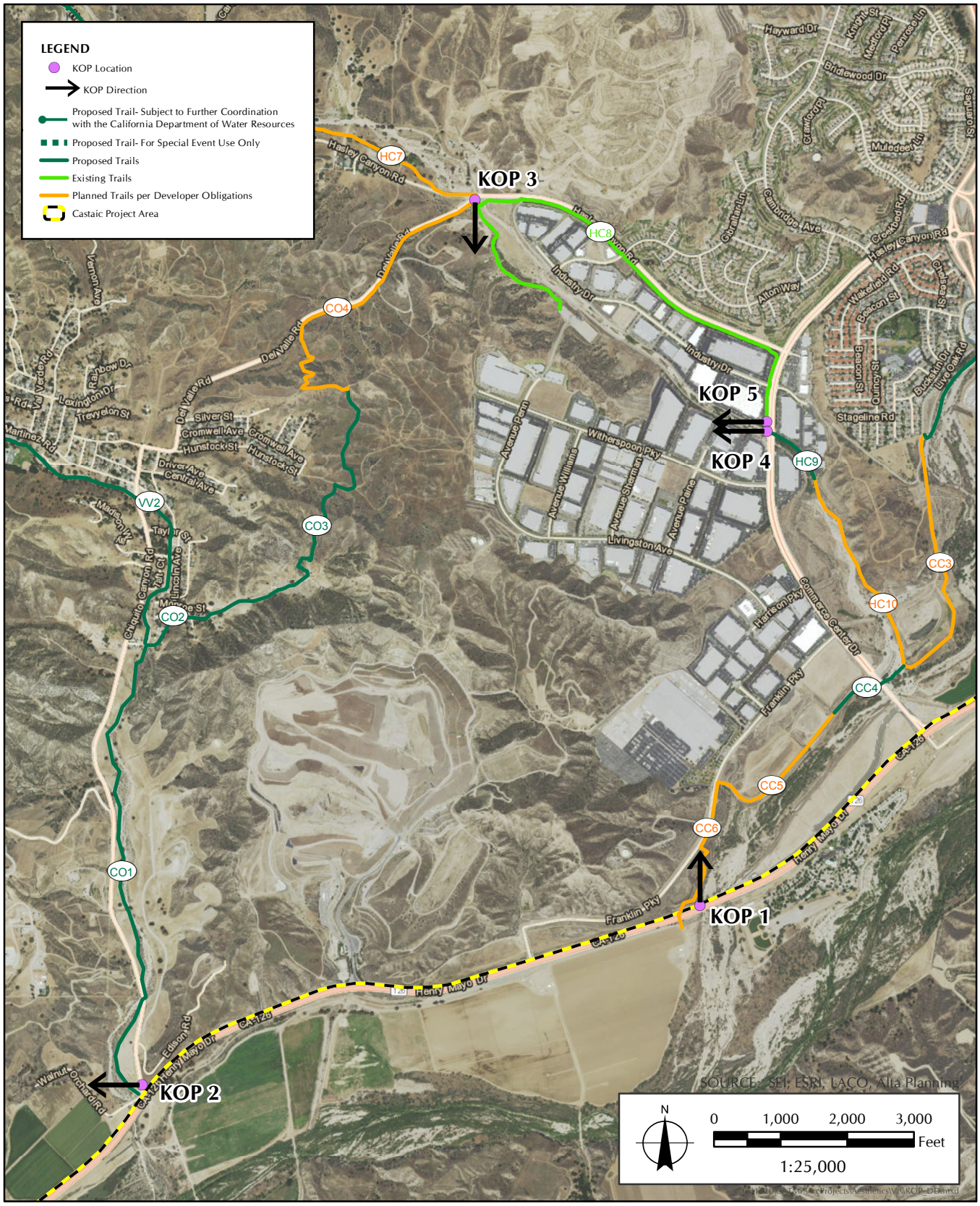

FIGURE 11A

Key Observation Points Map

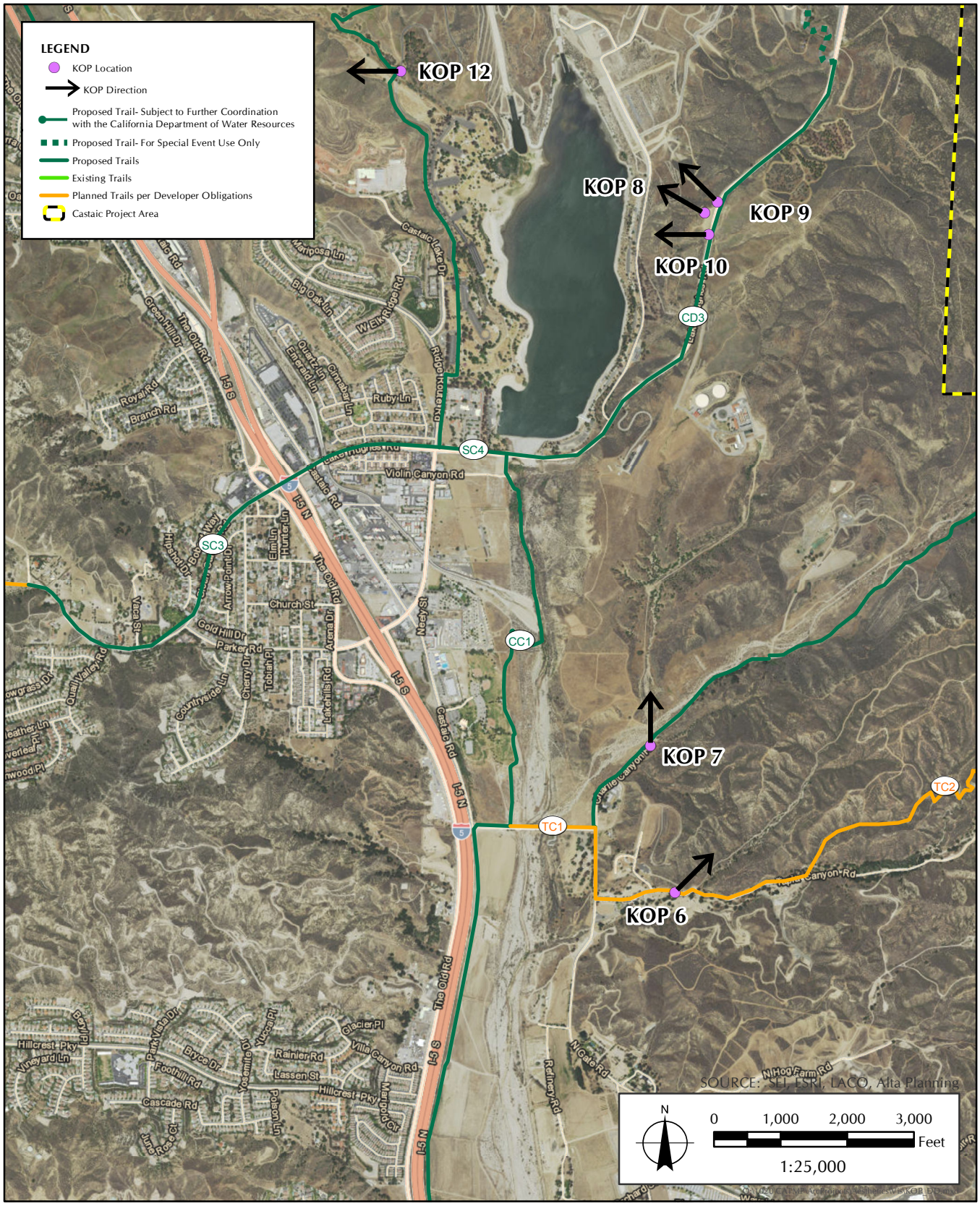

FIGURE 11B

Key Observation Points Map

FIGURE 11C

Key Observation Points Map

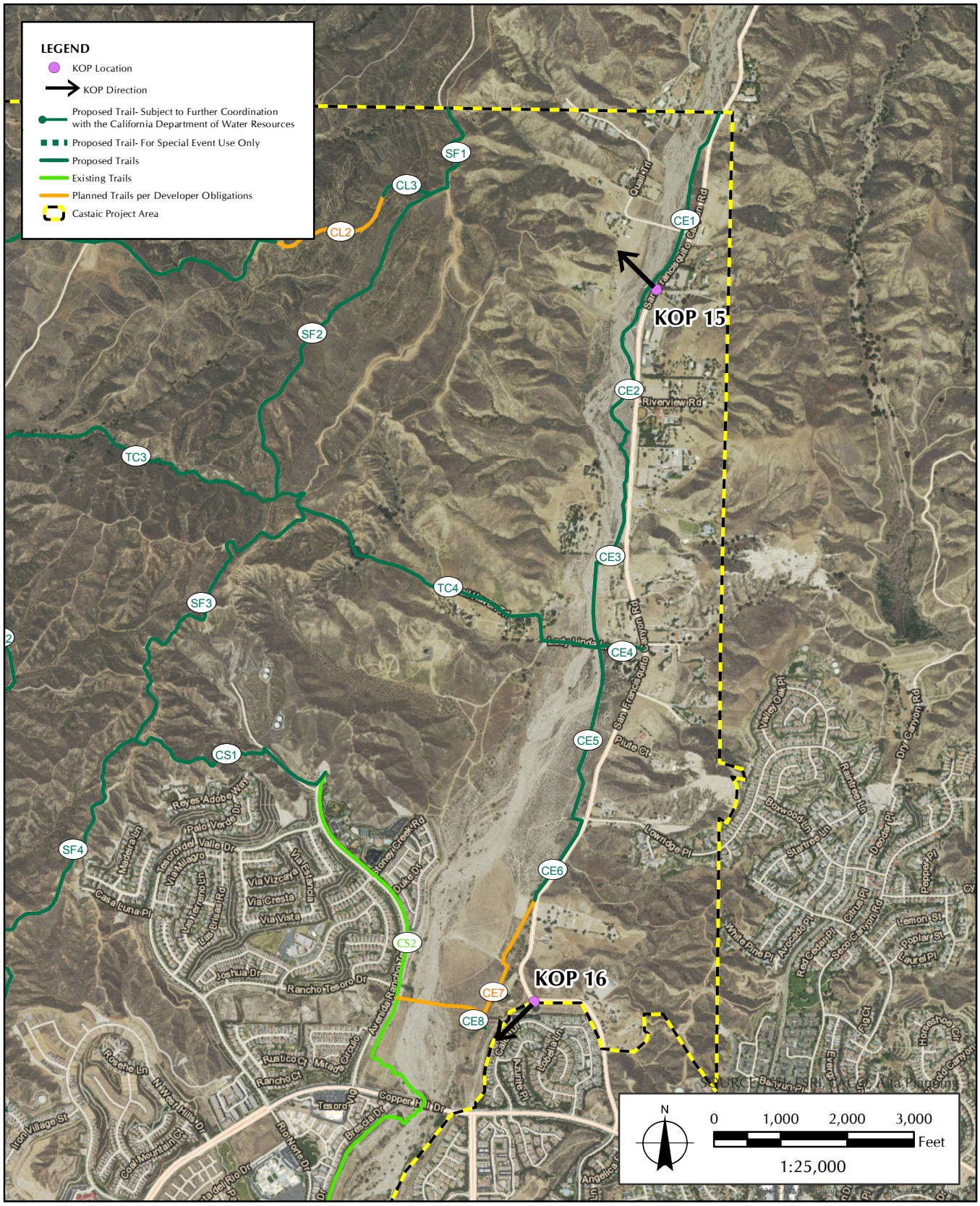

FIGURE 11D

Key Observation Points Map

KOP 1: State Route 126 at Castaic Creek, Facing North – View of Castaic Creek bed from eligible State scenic highway, characterized by native and non-native riparian and scrub vegetation, contrasting off-white sand in the wash and red-orange soils on the hillside, and electrical transmission lines. An approved subdivision agreement trail segment (CC6) is proposed along this hillside, which would follow Franklin Parkway then cross SR-126 to the west (left) of the tree (see Appendix A).

KOP 2: Chiquito Canyon Road at Val Verde Sign, Facing West – View from edge of Chiquito Canyon Road facing SR-126 and rural area with agricultural use and electrical transmission lines; blue "Welcome to Val Verde" sign towards the north. A proposed trail segment (CO1) under the proposed project would parallel the western side of Chiquito Canyon Road.

KOP 3: Existing Hasley Canyon Trail Segment at Del Valle Road, Facing South – View of heavily graded areas between two portions of a well-defined trail segment (with white picket fence borders), surrounded by active oil drilling, industrial development near existing trail. At this point, two proposed trail segments (CO1 and HC3) would intersect with two existing trail segments (HC4 and HC5) to provide connections towards the western side of the study area, along Del Valley Road and Hasley Canyon Road.

KOP 4: End of Existing Hasley Canyon Trail Along Commerce Center Drive, Facing West – View of channelized wash with existing riparian vegetation that marks the end of this existing decomposed granite trail (to the right of the paved utility corridor). Near this point, proposed trail segment HC7 would connect to the existing trail segment HC6.

KOP 5: Existing Hasley Canyon Trail Along Commerce Center Drive Near Castaic Creek, Facing West – View of existing decomposed granite trail segment with white picket fence and rosemary groundcover provides a more rural experience amidst industrial and commercial buildings and streets.

KOP 6: Tapia Canyon Road at End of County Maintained Road, Facing Northeast – A substantial part of the canyon is privately owned, and the publicly accessible portion of the canyon contains several warning signs "Do Not Enter Jail Facility" and electrical transmission lines. An approved subdivision agreement trail segment (TC2) is proposed along Tapia Canyon Road, which would initially follow the road then extend into the canyon.

KOP 7: Charlie Canyon Road at Entrance to California Paintball Park, Facing North – View of a canyon characterized by native and non-native vegetation with graded areas to facilitate access to utilities that cross through the canyon; gated entrance at California Paintball Park and periodic warning signs "Do Not Enter Jail Facility"; "No Trespassing" signs on northern side of road. A proposed trail segment (CL1) would parallel Charlie Canyon Road.

KOP 8: View From Lake Hughes Road Scenic Overlook, Facing West-Northwest – View of Castaic Lagoon and Castaic Lake Dam from scenic overlook on Lake Hughes Road, a County-designated Town & Country Scenic Drive, characterized by native vegetation and infrastructure/grading to support the dam in the foreground, and development concentrated in the foothills of the middleground and background, with steeper slopes and ridgelines in the background not affected by development. In the middleground, construction involving extensive grading is visible (and audible) within the Northlake Specific Plan Area. Trees along Castaic Lagoon, major roads, and residential roads soften the contrasting effects of the development on the valley. To the east of Castaic Lagoon, the topography is characterized by plateaus; to the south,

west, and north, the topography is characterized by steep slopes with prominent ridgelines. A proposed trail segment (CD3) would parallel Lake Hughes Road and provide an opportunity for trail users to pause at this scenic overlook.

KOP 9: Northern Edge of Lake Hughes Road Scenic Overlook, Facing West – View of Castaic Lagoon, Castaic Lake dam, and the natural surface Lake Hughes Road (a County-designated Town & Country Scenic Drive) right-of-way. The view is characterized by Castaic Lagoon, native and non-native vegetation, two sets of electrical transmission lines, and infrastructure/grading to support the dam in the foreground; residential development and construction in the middleground; and ridgelines in the background. Trees along Castaic Lagoon, major roads, and residential roads soften the contrasting effects of the development on the valley. A proposed trail segment (CD3) would parallel Lake Hughes Road.

KOP 10: Southern Edge of Lake Hughes Road Scenic Overlook, Facing Northwest – View of Castaic Lagoon and the natural surface Lake Hughes Road (a County-designated Town & Country Scenic Drive) right-of-way. The view is characterized by Castaic Lagoon, native and non-native vegetation, and a peripheral view of electrical transmission lines in the foreground; residential development and construction in the middleground; and ridgelines in the background. Trees along Castaic Lagoon, major roads, and residential roads soften the contrasting effects of the development on the valley. A proposed trail segment (CD3) would parallel Lake Hughes Road.

KOP 11: Lake Hughes Road Overlooking Castaic Lake Dam, Facing Northwest – View of Castaic Lake, Castaic Lake Dam, utilities along Lake Hughes Road (a County-designated Town & Country Scenic Drive), and the natural surface Lake Hughes Road right-of-way. The view is characterized by native and non-native vegetation, graded areas with utilities, Castaic Lake, and Castaic Lake Dam in the foreground; and development concentrated in the foothills of the middleground and background to the southwest (left), with steeper slopes and ridgelines in the background not affected by development.

KOP 12: West Ramp Road at West Ridge Trail, Castaic Lake State Recreation Area, Facing West – View of existing West Ridge Trail sign and grading along West Ramp Road that has been named as defacto Castaic Brick Trail and defacto Grasshopper Canyon Trail. The area is characterized by native and non-native vegetation, ornamental pine trees, and an unclear existing trail route at West Ridge Trail, due to winter maintenance activities. There is a County trail sign for the "Castaic Lake Trail" that parallels the West Ridge Trail. A proposed trail segment (LW3) would parallel portions of West Ramp Road and follow existing trail and fire road routes (including defacto Castaic Brick Trail, defacto Grasshopper Canyon Trail, and Cutler Canyon Fire Road) within Castaic Lake State Recreation Area.

KOP 13: Point 21 West Ridge Trail and Pine Ridge Fire Road Connection, Castaic Lake State Recreation Area, Facing Southwest – View of existing West Ridge Trail and Pine Ridge Fire Road that have been mapped by Friends of Castaic.[46] Characterized by trees on the ridgelines, with existing Cutler Canyon Fire Road slightly below the ridgeline to the west (right) clearly visible.

KOP 14: Switchbacks Overlooking Castaic Lake, Castaic Lake State Recreation Area, Facing North – View of existing defacto Switchbacks trail and Fisherman Trail that has been mapped by Friends of Castaic.[47] This portion of the area appears to have been recently affected by fire, and is

[46] Friends of Castaic Lake. N.d. *Castaic Lake – Trail Map*. Available at: http://www.castaiclake.com/map_trails.html

[47] Friends of Castaic Lake. N.d. *Castaic Lake – Trail Map*. Available at: http://www.castaiclake.com/map_trails.html

characterized by ruderal native and non-native vegetation, scattered trees along the ridgelines and within the canyons, and a view of Castaic Lake. There is a County trail sign at the start of the Fisherman Trail labeled "Castaic Lake Trail." A proposed trail segment (CD1) would follow existing trail routes (including a defacto Switchbacks trail segment and the open Fisherman Trail) and parallel Pine Ridge Fire Road within Castaic Lake State Recreation Area.

KOP 15: San Francisquito Canyon Road, Facing Northwest – View of the designated scenic San Francisquito Canyon and designated scenic ridgelines, characterized by rural/scattered equestrian residential uses with native vegetation in the wash and non-native ornamental vegetation near the residences. Electrical transmission lines and other utilities are located within the canyon, but residences are isolated to areas immediately adjacent to San Francisquito Canyon Road and Quail Trail (right side), and trailers/motorhomes are parked below the electrical transmission lines. A proposed trail segment (CE1) would parallel San Francisquito Canyon Road within the wash of San Francisquito Canyon.

KOP 16: San Francisquito Canyon Road at Existing North Park Trail, Facing Southwest – View of the existing North Park Trail segment, which is characterized by a curved natural surface trail with a white picket fence limiting the access points and defining the trail, with native riparian vegetation on the opposite side of the fence and non-native vegetation in disturbed areas. There are several sandbags set up temporarily for an El Niño California winter, and the trail provides a recreation opportunity to support occupants of the single-family residences located a short distance beyond the trail from San Francisquito Canyon Road. The trail appears to be located within an electrical utility corridor due to the presence of electrical transmission lines over and parallel to the trail.

County Designated Significant Ridgelines

The 2012 Santa Clarita Valley Area Plan has designated 16 (23 segments) ridgelines in the Castaic project area as Significant Ridgelines to be preserved, all of which are concentrated in San Francisquito Canyon (Figure 12, *Scenic Resources*).[48] These ridgelines should be carefully considered during the planning, designation, and construction of trails in the Multi-Use Trails Plan.

[48] These have been incorporated into the County General Plan 2035 inventory of significant ridgelines.

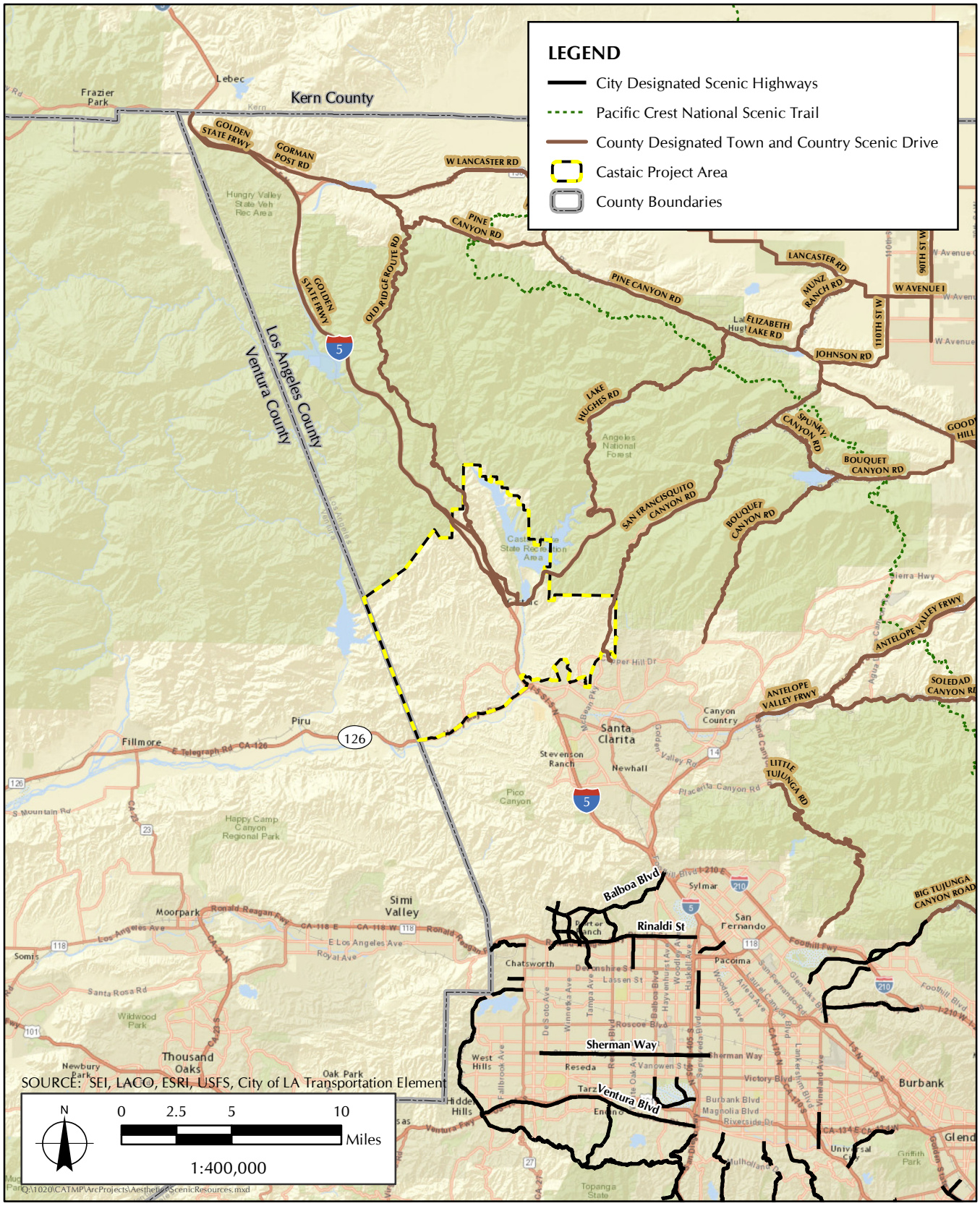

FIGURE 12A

Scenic Resources - Local Designated Scenic Drives and Highways

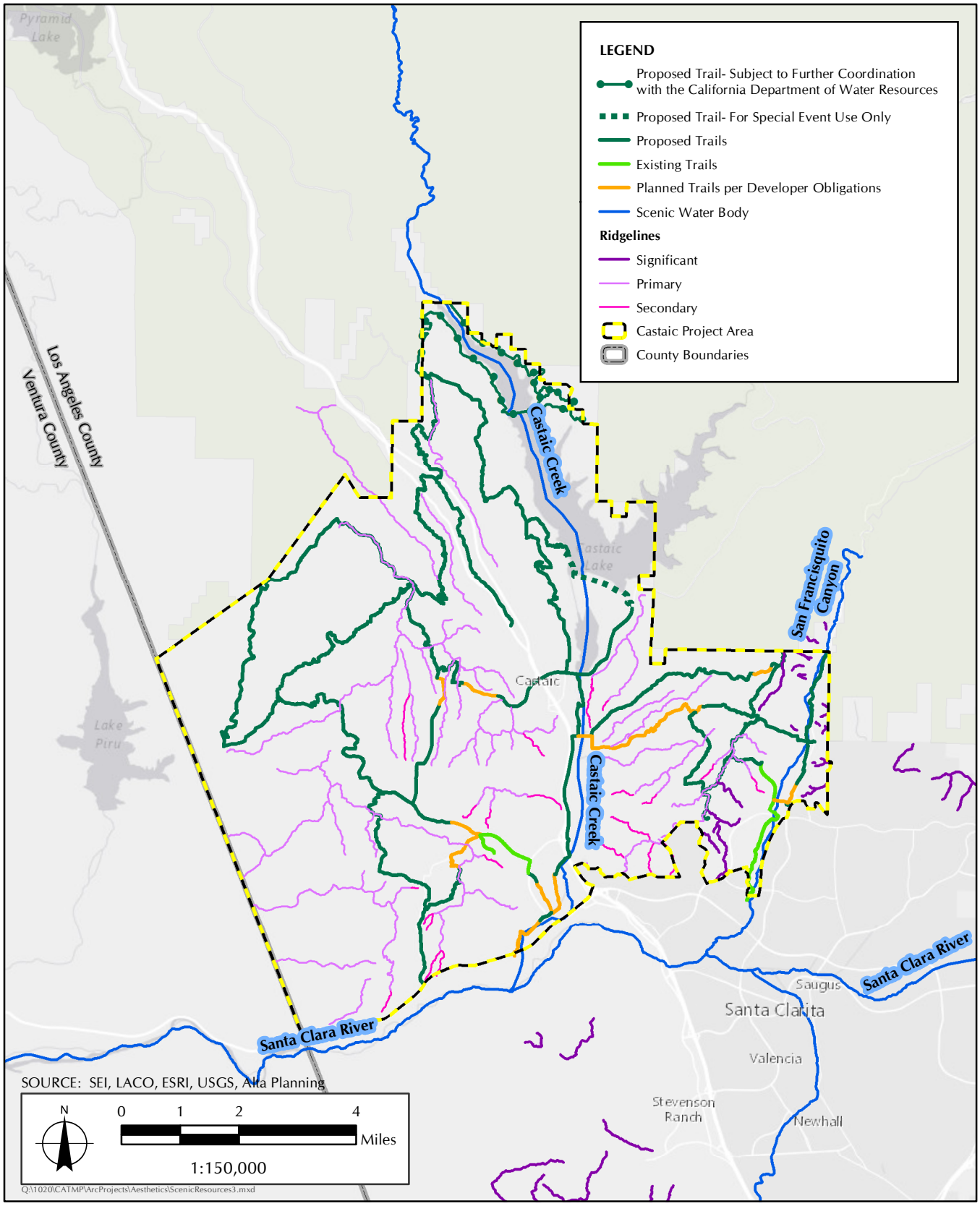

FIGURE 12B

Scenic Resources - Santa Clarita Valley Area Plan Designated Scenic Resources

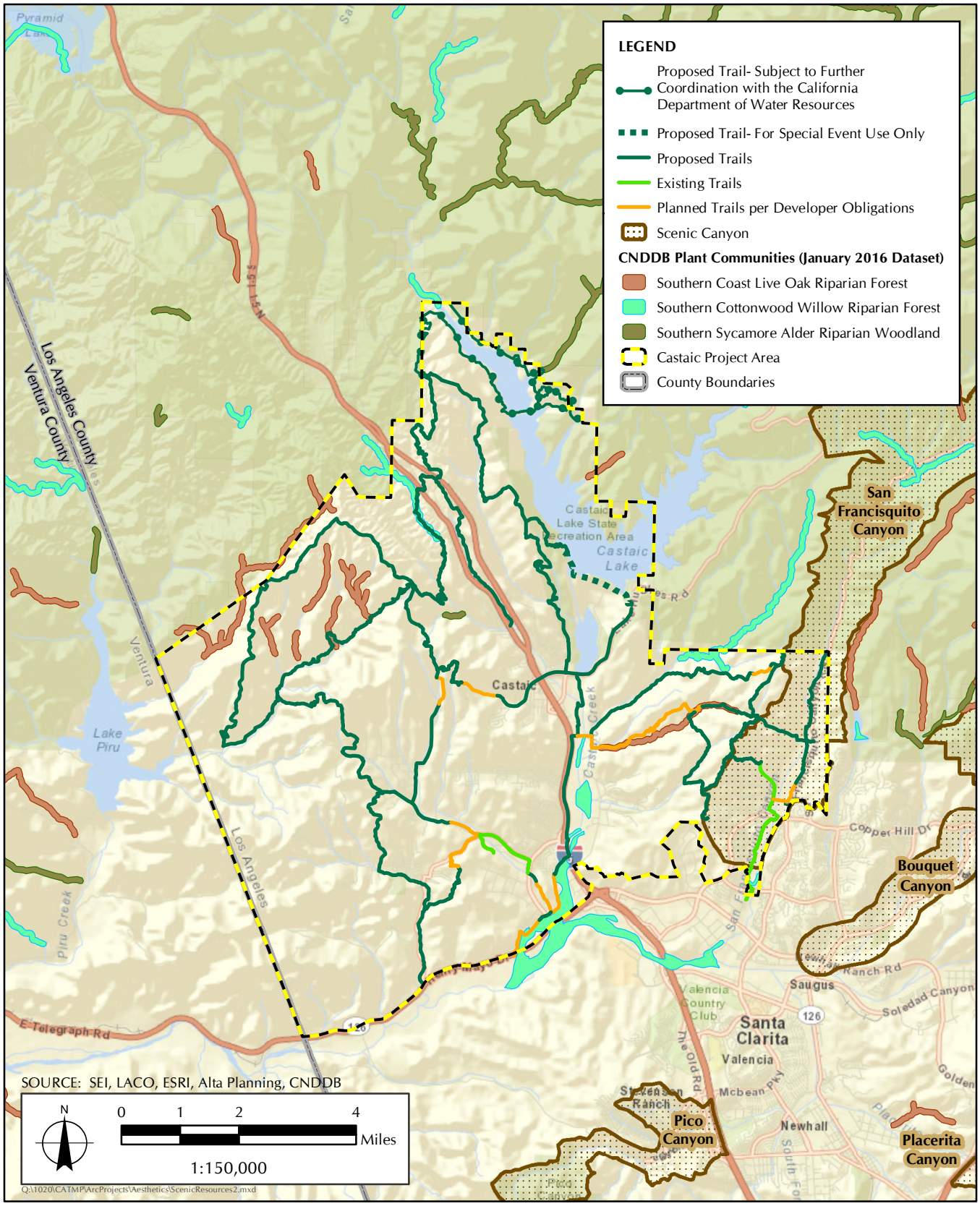

FIGURE 12C

Scenic Resources - Santa Clarita Valley Area Plan Designated Scenic Resources

County Designated Town and Country Scenic Drives

There are 16 County-designated Town and Country Scenic Drives located within a 15-mile radius of the Castaic project area, including a portion of the I-5 freeway, Old Ridge Route Road, and Lake Hughes Road within the Castaic project area (see Figure 12):

1) Northern segment of Golden State Freeway/I-5 (within study area)
2) Old Ridge Route Road (within study area)
3) Lake Hughes Road (within study area)
4) Pine Canyon Road (north of study area)
5) Three Points Road (north of study area)
6) San Francisquito Canyon Road
7) Bouquet Canyon Road (east of study area)
8) Spunky Canyon Road (northeast of study area)
9) Antelope Valley Freeway (east of study area)
10) Soledad Canyon Road (east of study area)
11) Little Tujunga Road (southeast of study area)
12) West Lancaster Road/Lancaster Road (north of study area)
13) Gorman Post Road (north of study area)
14) Munz Ranch Road (north of study area)
15) Johnson Road (north of study area)
16) Elizabeth Lake Road (north of study area)

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from these 16 designated Town and Country Scenic Drives.[49] It was determined that approximately 44.2 percent of the Castaic project area (including Castaic Lake, Grasshopper Canyon, Marple Canyon, the community of Castaic, Castaic Valley, Hasley Canyon, portions of the Santa Felicia SEA, Villa Canyon, ridgelines between Tapia Canyon and Wayside Canyon, ridgelines between Tapia Canyon and Charlie Canyon, and San Francisquito Canyon) would be visible from designated Town and Country Scenic Drives, due to the intervening topography of the ridges and canyons within the study area. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between these designated Town and Country Scenic Drives and the study area would be expected to reduce the potential visibility level further than this estimate.

Santa Clarita Valley Area Plan Scenic Resources

The Conservation Element of the Santa Clarita Valley Area Plan has identified the following relevant scenic resources within the Santa Clarita Valley planning area as significant resources to be maintained to preserve the visual character of the valley (see Figure 12):[50]

[49] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

[50] County of Los Angeles. 2012. *Santa Clarita Valley Area Plan, 2012*. Available at: http://planning.lacounty.gov/view/santa_clarita_valley_area_plan/

- **Scenic Canyons,** which have remained undeveloped and support a variety of natural habitats: One of the seven scenic canyons identified by the Santa Clarita Valley Area Plan is located within the study area:
  - San Francisquito Canyon

- **Scenic Woodlands,** which contribute to rural and scenic character: The Santa Clarita Valley Area Plan strives to protect existing oak woodland and cottonwood-willow riparian forest areas, several areas of which have been adopted by the County as Significant Ecological Areas. These woodlands include:
  - **Southern Coast Live Oak Riparian Forest**
    - Santa Felicia Significant Ecological Area
    - North of Castaic Lake
    - Tapia Canyon
  - **Southern Cottonwood Willow Riparian Forest**
    - Violin Canyon northeast of Palomas Canyon
    - Charlie Canyon east of Castaic Lagoon
    - Castaic Valley from Charlie Canyon south to Santa Clara River
  - **Southern Sycamore Alder Riparian Woodland**
    - Elderberry Canyon near Castaic Lake
    - Violin Canyon south of Palomas Canyon

- **Scenic Water Bodies,** which provide scenic visual relief from urbanization as well as habitat for wildlife. Three of the 11 scenic water bodies identified by the Santa Clarita Valley Area Plan are located within the study area:
  - Santa Clara River and its major tributaries:
    - Castaic Creek
    - San Francisquito Canyon
    - South Fork of the Santa Clara River

- **Significant Ridgelines,** which create a sense of place for each neighborhood:
  - 84 Primary Ridgelines
  - 22 Secondary Ridgelines
  - 23 Significant Ridgelines (all near/within scenic San Francisquito Canyon)

City of Los Angeles Designated Scenic Highways

There are 17 City of Los Angeles–designated scenic highways within a 15-mile radius of the Castaic project area (see Figure 12):

1) Balboa Blvd.
2) Brand Blvd.
3) Corbin Ave.
4) Lassen St.
5) Lurline Ave.
6) Mason Ave.
7) Mason St.
8) Plummer St.
9) Porter Ranch Dr.
10) Reseda Blvd.
11) Rinaldi St.

12) Santa Susana Pass Rd.
13) Sepulveda Blvd.
14) Sesnon Blvd.
15) Tampa Ave.
16) Valley Circle Blvd.
17) White Oak Ave.

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from these City-designated scenic highways.[51] It was determined that the entire Castaic project area would not be visible from any of the City-designated scenic highways due to the intervening topography of the Santa Susana Mountains between these highways and the study area.

Shadows, Light, and Glare

The Castaic project area is generally rural, with suburban areas typically containing single-story to two-story residences. Commercial and industrial buildings within the study area, which are generally surrounded by parking lots and landscaping that provide a buffer between the buildings and potential shadow sensitive land uses.

Within Los Angeles County, the major sources of nighttime sky glow are cities, transportation corridors, and established communities. According to Earth at Night 2012 data, a composite of city light data acquired by the SuomiNPP satellite over nine days in April 2012 and 13 days in October 2012, within the vicinity of the Castaic project area, as with the nearby City of Santa Clarita, the communities of Castaic (near Castaic Lake) and Valencia (near the City of Santa Clarita), San Francisquito Canyon, and the industrial Castaic Junction area in the southeastern portion of the Castaic project area experience a high level of existing nighttime sky glow (Figure 13, *Existing Light Levels at Night*).[52] Between 2012 and 2016, residential development in the community of Valencia has expanded the existing light levels at night, which is not located within a CSD or the Los Angeles County Rural Outdoor Lighting District (see Figure 7).

Additionally, existing facilities such as Chiquita Canyon Landfill near State Route 126, Pitchess Detention Center, and the two freeways within the study area have street lights that contribute to isolated sources of nighttime light and glare. The community of Val Verde experiences a moderate level of existing nighttime sky glow, and the community of Hasley Canyon experiences a low to moderate level of nighttime light. Towards the Los Padres National Forest, the Angeles National Forest, and the Ventura County line (to the north and west), nighttime light levels are low to very low due to the rural character of the area and lighting restrictions within the Los Angeles County Rural Outdoor Lighting District. Within Los Angeles County, the major sources of daytime glare are paved roads, reflective building and infrastructure surfaces (e.g., glass curtain walls), the reflections from motor vehicles, and reflective water bodies. The Castaic project area ranges from a low daytime glare level toward the Santa Felicia SEA where there are fewer paved roads with low traffic levels and few structures, to a moderate to high daytime glare level towards the City of Santa Clarita, Castaic Lake, and the Interstate 5 freeway, due to the presence of paved roads; commercial, industrial, and residential development and infrastructure; low to moderate vehicle traffic levels on major roads and freeways; and the presence of reflective water bodies.

[51] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

[52] NASA Earth Observatory/NOAA NGDC. April and October 2012. Earth at Night 2012. Available from Google Earth.

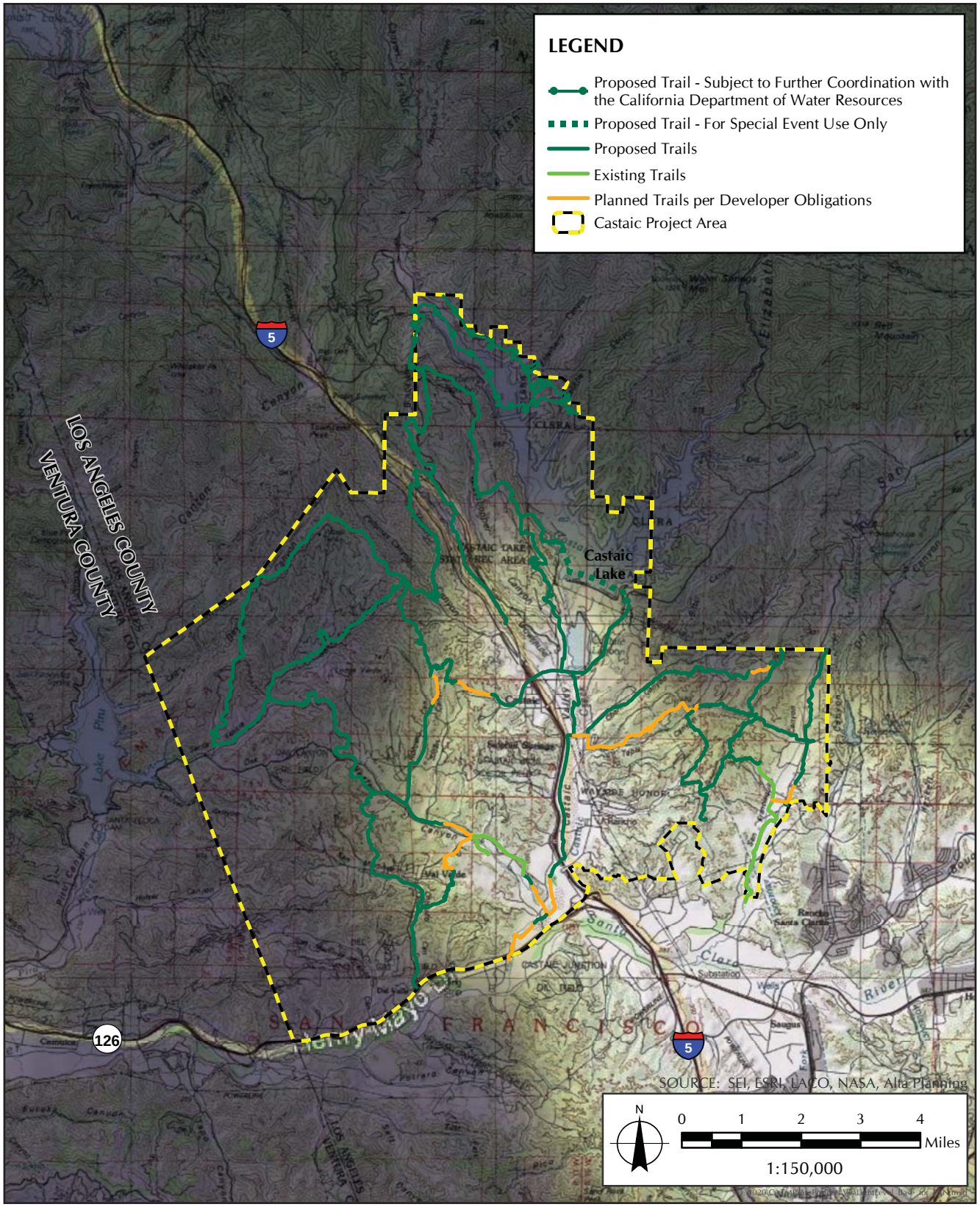

FIGURE 13
Existing Light Levels at Night

SIGNIFICANCE THRESHOLDS

The potential for trails constructed within the Castaic project area, including related facilities, to result in impacts related to aesthetics was analyzed in relation to the questions in the County of Los Angeles Department of Parks and Recreation's Environmental Checklist Form and Appendix G of the State CEQA Guidelines.[53] Trails and related facilities constructed within the Castaic project area would be considered to have a significant impact to aesthetics when the potential for any one of the following five thresholds occurs:

Would the project:

a) Have a substantial adverse effect on a scenic vista?
b) Be visible from or obstruct views from a regional riding or hiking trail?
c) Substantially damages scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?
d) Substantially degrades the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?
e) Create a new source of substantial shadows, light or glare that would adversely affect day or nighttime views in the area?

CONCLUSIONS, RECOMMENDATIONS, AND CONSIDERATIONS FOR TRAIL PLANNING

Scenic Vistas

The proposed project would result in no impacts to aesthetics in regard to a substantial adverse effect on a scenic vista. There are no designated scenic vista points within the Castaic project area; nor is the Castaic project area visible from scenic vista points designated within the Los Angeles County General Plan 2035 or by Caltrans.[54,55] Therefore, there would be no impacts to scenic vistas as a result of the proposed project, and no mitigation would be required.

Views from a Regional Riding or Hiking Trail

The proposed project would result in less than significant impacts to aesthetics in regard to visibility or obstructing views from a regional riding or hiking trail. The proposed project has the potential to be barely visible from the PCT, which is approximately 8.5 miles north of the Castaic project area. A viewshed analysis was conducted which determined that approximately 17.0 percent of the Castaic project area (including proposed trails on northeastern aspects near the Elderberry Forebay, the western edge of Castaic Lake, within Santa Felicia SEA, Castaic Valley, and Hasley Canyon) would potentially be visible from the PCT (Figure 14, *Viewshed Map – Pacific Crest National Scenic Trail*).

[53] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[54] The County has designated scenic vistas in the Santa Monica Mountains land use plans, which are located more than 15 miles south of the Castaic project area. As the study area is not located in the vicinity of these scenic vistas, they have not been included in the analysis. Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

[55] Male, Laura, Sapphos Environmental, Inc. Pasadena, CA. 3 July 2015. Communication with Daniel Kitowski, Transportation Manager (GIS), California Department of Transportation.

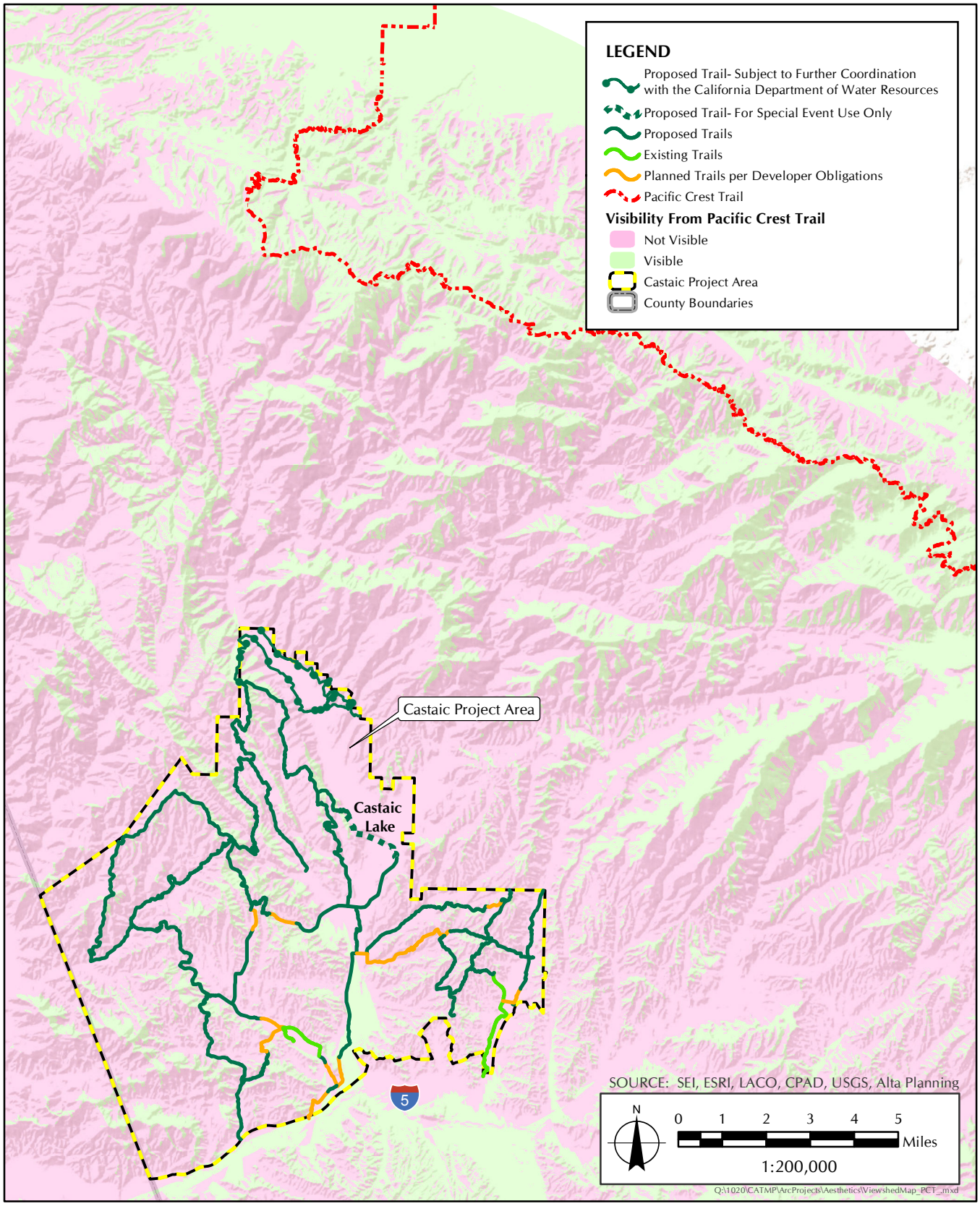

FIGURE 14

Viewshed Map - Pacific Crest National Scenic Trail

According to the viewshed analysis based on topography, none of the existing trail segments are visible from the PCT due to distance and intervening topography; approximately 16.2 percent (approximately 1.1 miles) of the approved subdivision trail segments have the potential to be visible from the PCT with clear atmospheric conditions and no intervening trees or shrubs; and approximately 17.8 percent (16.0 miles) of the proposed trails in the proposed project have the potential to be visible from the PCT with clear atmospheric conditions and no intervening trees or shrubs. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between the PCT and the study area would be expected to reduce the potential visibility level further than this estimate. Furthermore, trails and supporting facility structures would not be expected to dramatically alter the form of ridgelines within the study area and would therefore not be likely to be visible from, or obstruct views from, the PCT.

There are three existing trail segments within the Castaic project area that are part of the County's Regional Trail System, which have a maximum length of approximately 140 feet of consecutive County trail. Although the proposed project would be visible from these existing regional trail segments because new trail segments would be located adjacent to the existing segments, it would enhance the existing recreational experience and trail system by providing connections between the existing trail segments that would be visible from these trails. The proposed project, which would involve new trails, staging areas, bike skills parks, restrooms, parking lots, and other related trail facilities, would be designed to enhance views from recreational trails and would not be expected to obstruct views from existing County trails or the PCT. Therefore, there would be less than significant impacts to regional riding or hiking trails as a result of the proposed project, and no mitigation would be required.

Scenic Resources within a State Scenic Highway

The proposed project would result in significant impacts to aesthetics in regard to substantial damage to scenic resources within a state scenic highway corridor. The proposed project would not be visible from the nearest officially designated state scenic highways—Angeles Crest Highway (State Route 2) and Maricopa Highway (State Route 33)—due to distance and intervening topography. Angeles Crest Highway is located over 24 miles east of the Castaic project area, and Maricopa Highway is located over 28 miles west of the study area.

The proposed project would be located within the scenic highway corridor of the nearest eligible state scenic highways—Henry Mayo Drive (State Route 126) and the Golden State Highway (Interstate 5)—because the proposed trails would cross over Henry Mayo Drive to connect to the Santa Clara River Trail and cross under the Golden State Highway to connect recreational trails from the Castaic Lake area to the western portion of the study area. A viewshed analysis was conducted that determined that only approximately 17.9 percent of the Castaic project area (including proposed trails on southern and southwestern aspects near San Martinez Canyon, Hasley Canyon, Castaic Valley, and San Francisquito Canyon) would be visible from these four eligible state scenic highways (Figure 15, *Viewshed Map – Eligible State Scenic Highways*).

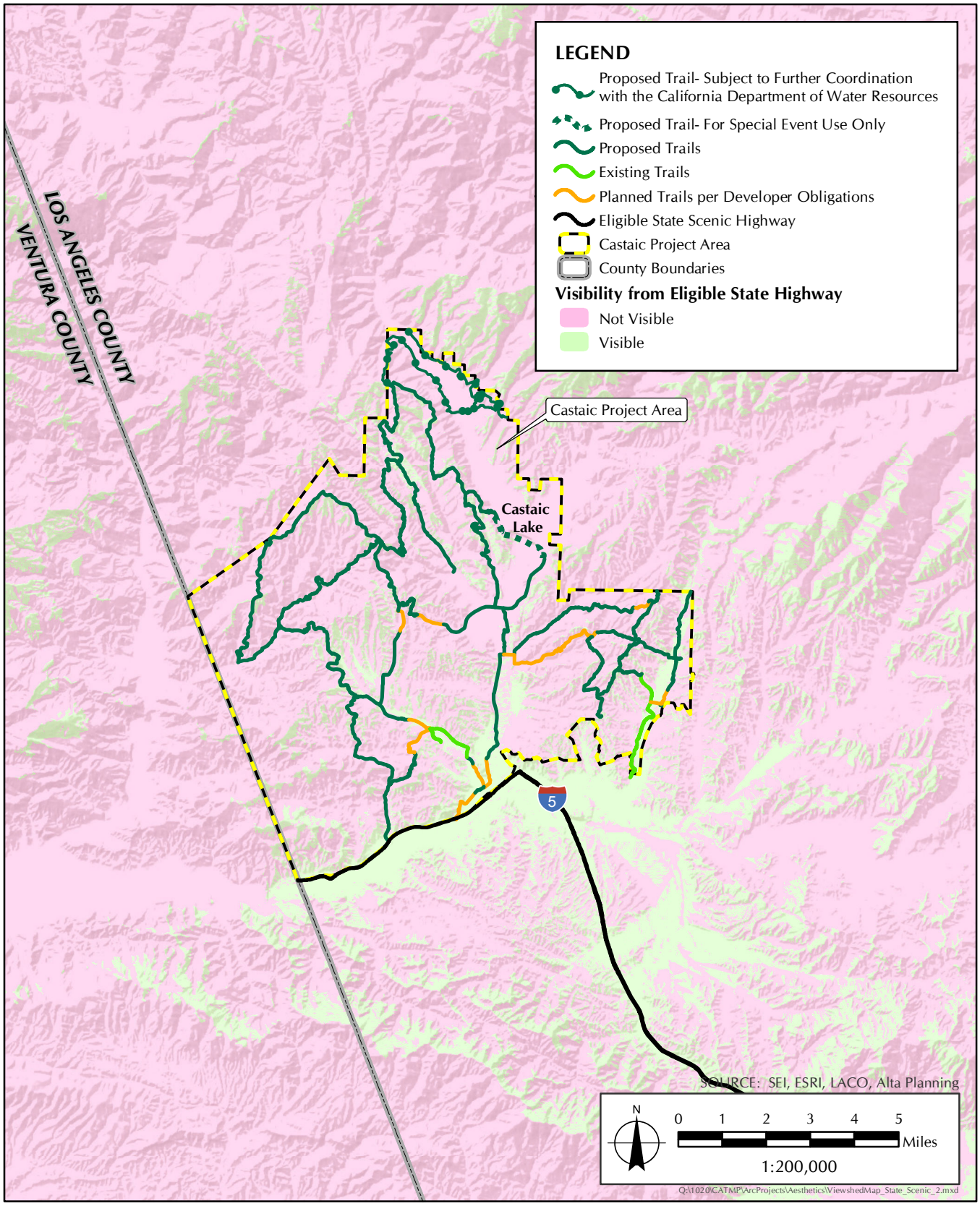

FIGURE 15

Viewshed Map - Eligible State Scenic Highways

According to the viewshed analysis based on topography, approximately 57.4 percent (approximately 2.6 miles) of the existing trail segments are visible from eligible state scenic highways; approximately 34.5 percent (approximately 2.2 miles) of the approved subdivision trail segments have the potential to be visible from eligible state scenic highways; and approximately 17.5 percent (15.7 miles) of the proposed trails in the proposed project have the potential to be visible from eligible state scenic highways. As shown at KOP 1 and KOP 2, the landscape along the Henry Mayo Drive visual corridor contains trees and rock outcroppings that could be affected by the proposed project (see Appendix A). There is a potential for the proposed project to affect the health of existing coast live oak trees and other protected trees that are located along the proposed trail alignments and supporting facilities that are important to the character of the scenic highway corridors. The proposed project involves trail segments within scenic San Francisquito Canyon (within the wash), along scenic water bodies including Castaic Creek and San Francisquito Canyon), and through protected forests/woodlands: two Southern Cottonwood Willow Riparian Forest areas (segments IP2, IP3, CC2, CC3, CC4, CC5, and CC6), one Southern Sycamore Alder Riparian Woodland area (EF4), and three Southern Coast Live Oak Riparian Forest areas (SA2, TC2, and TC3). Although the construction of trails within these scenic resource areas and sensitive woodland areas would not result in significant impacts to visual character because trail construction can be conducted in a low-impact manner in accordance with the County Trails Manual, there is a potential for significant impacts to occur if scenic trees are removed. Therefore, there would be a potential for significant impacts to scenic resources within a state scenic highway as a result of the proposed project, and mitigation would be required.

Mitigation Measures

Mitigation Measure AES-1: Trails and supporting facilities within a one-mile radius of officially designated and eligible state scenic highways shall be designed, constructed, and maintained (where construction equipment is involved) to avoid damaging or removal of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor.

Mitigation Measure AES-2: Trails and supporting facilities shall be designed, constructed, and maintained to avoid the drip line of any coast live oak trees and other protected trees that are located along the proposed trail alignments, in order to maintain the visual character of the area. Best Management Practices shall be used during construction and trails maintenance activities to protect the root structures of protected trees:

- A Worker Education and Awareness Program shall inform all construction workers of County Ordinances protecting oak trees and the sensitivity of roots to damage from compaction or excessive water.
- Drip line of oak trees shall be designated as off-limits during construction on all construction drawings and diagrams.
- Fencing and/or flagging shall be used to delineate the drip line of the trees as off-limits during trail construction.
- On-site monitors shall be utilized for periods when trail construction will be undertaken within 100 feet of the drip line of the oak trees.
- If a protected tree must be removed, the same species shall be replaced at a minimum of a 1:1 ratio.

Level of Significance after Mitigation

Impacts to aesthetics in regard to scenic resources within a state scenic highway corridor would be less than significant after implementation of mitigation measures.

Visual Character and Quality

The proposed project would result in less than significant impacts to aesthetics in regard to substantial degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features. The Castaic project area is characterized by rugged topography, steep ridges, deep canyons with wide creek beds that are tributaries to the Santa Clara River, and several ridgeline and canyon trails and fire roads. The Castaic project area is generally rural and includes the existing communities of Castaic, Castaic Junction, Val Verde, Hasley Canyon, Hillcrest, and Paradise Ranch. The Castaic project area contains several ridges and canyons and approximately 4.9 miles of existing County trails. Trails and related supporting facilities would generally not be expected to substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, or character because they would be low to the ground, spaced and designed in a pattern that follows the natural topography and existing paved and dirt roads, and be consistent with the scale and character of the rural Castaic project area that already contains several dirt access roads and fire roads throughout the mountainous and hilly terrain.

Trails and related supporting facilities are generally consistent with the existing visual character of the Castaic project area and surrounding areas. Although the Santa Clarita Valley Area Plan only directly mentions trails within the Parks and Recreation land use designation, the land use policy defers to the specific allowable uses and development standards determined by underlying zoning designations and adopted Specific Plans. The County zoning designations for the Castaic project area are predominantly heavy agricultural and open space, with two specific plan areas (Northlake Specific Plan and Newhall Specific Plan) and land designated with single-family residence, residential planned development, and restricted heavy manufacturing zones also comprising portions of the approximately 78-square-mile Castaic project area.[56] The Heavy Agricultural Zone, Specific Plan Zone, manufacturing zones, Unlimited Commercial Zone, Neighborhood Business Zone, and Watershed Zone permit riding and hiking trails; the Open Space, Light Agricultural Zone, Manufacturing Industrial Planned Development Zone, Commercial Planned Development Zone, and residential zones in the Castaic project area allow for riding and hiking trails if they have been approved by the Planning Director of the County of Los Angeles Department of Regional Planning (Director) and riding and hiking trails may be allowed in the Institutional Zone upon approval of a conditional use permit (CUP).

Consistent with planning guidelines provided by the County Trails Manual, conceptual trail alignments have been planned to maintain the characteristic rugged aesthetic of the trail. The proposed project has the potential to enhance the trail's visual quality through clarified trail designation, maintenance, and revegetation along constructed portions of the trail with native plants that may not have survived construction of subdivisions. The experience of recreation users would be enhanced through the incorporation of informational signs at trail intersections to provide orientation. The County Trail Manual specifies desired minimum trail widths for multi-use

[56] Municode. Accessed 12 February 2016. Municode Library: County of Los Angeles, CA. Title 22 – Planning and Zoning. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT22PLZO

trails (accommodating bicyclists, hikers, and equestrians) at 5 feet, wherever possible, with 6- to 10-foot-wide turn outs in high-traffic areas.[31] Where trails of up to 10 feet wide are developed or existing trials are expanded up to 10 feet wide, impacts to the visual character of the viewshed from surrounding residences can be avoided through the incorporation of native vegetation as a screening material. Restoration of native vegetation along conceptual trail alignments would have the potential to enhance the visual character within the Castaic project area. Preserving existing native vegetation adjacent to the trail would protect the aesthetic quality of the Castaic project area.[57]

Trails proposed as a result of the proposed project would be consistent with the visual character of the Castaic project area and surrounding areas. The visual nature of the Castaic project area is dominated by native and non-native vegetation, transmission corridors, roads, isolated structures, suburban and industrial/commercial developed areas, and trails (see Attachment A in Appendix A). The proposed trail improvements are compatible with the existing visual character of the Castaic area. Several official trails and many unofficial trail segments currently traverse the Castaic project area. Hiking and riding are passive recreation activities that are compatible with the land use allowed within the two adopted Significant Ecological Areas (SEAs) that encompass small portions of the Castaic project area. The proposed trail alignments would not substantially degrade or alter the existing visual character of the Castaic area. As the majority of trail designations in the proposed project already exist as access roads, fire roads, right-of-ways, and desire line trails (unofficial trails created where a significant number of people want to travel), trail construction would be relatively minor, predominantly consisting of realignments, improvements, and signage. Therefore, future trails anticipated in the proposed project would not be expected to result in significant impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings.

A viewshed analysis was conducted using ArcGIS to evaluate the potential visibility level of the Castaic project area from County-designated Town and Country Scenic Drives and City-designated scenic highways.[58] It was determined that the entire Castaic project area would not be visible from any of the City-designated scenic highways due to the intervening topography of the Santa Susana Mountains between these highways and the study area. The viewshed analysis for County-designated Town and Country Scenic Drives determined that approximately 44.2 percent of the Castaic project area (including proposed trails in San Francisquito Canyon, Castaic Valley, Hasley Canyon, the community of Castaic, the Santa Felicia SEA, near Castaic Lake, and within the vicinity of Elderberry Forebay) would be visible from the 16 County-designated Town and Country Scenic Drives located within a 15-mile radius of the Castaic project area (Figure 16, *Viewshed Map – County Designated Town and Country Scenic Drives*).

[57] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[58] Sapphos Environmental, Inc. 17 February 2016. Viewshed analysis calculated using 10-foot DEM data in ArcGIS.

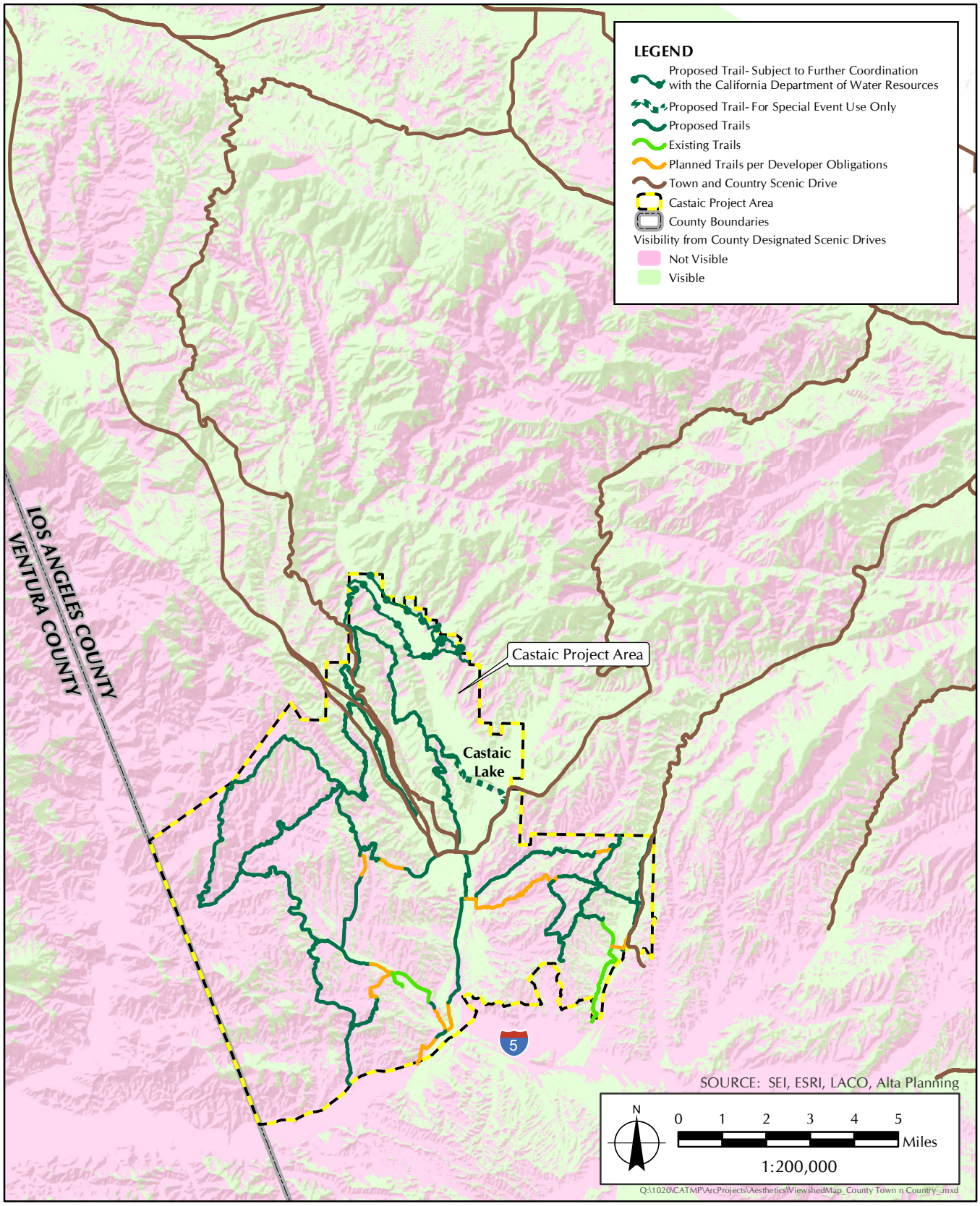

FIGURE 16

Viewshed Map - County Designated Town and Country Scenic Drives

According to the viewshed analysis based on topography, approximately 63.2 percent (approximately 2.9 miles) of the existing trail segments are visible from Town and Country Scenic Drives, approximately 27.3 percent (approximately 1.8 miles) of the approved subdivision trail segments have the potential to be visible from Town and Country Scenic Drives, and approximately 55.7 percent (50.1 miles) of the proposed trails in the proposed project have the potential to be visible from Town and Country Scenic Drives. It should be noted that a viewshed analysis evaluates visibility based solely on topographic data, and the presence of large trees, large shrubs, buildings, and infrastructure between the Town and Country Scenic Drives and the study area would be expected to reduce the potential visibility level further than this estimate. Furthermore, trails and supporting facility structures would not be expected to dramatically alter the form of ridgelines within the study area, and would therefore not be likely to be substantially visible from Town and Country Scenic Drives over five miles (foreground view) from the study area.

Trails are normally considered a compatible use within an SEA. Trail development within a Significant Ecological Area would likely require preparation of a Biota Report to demonstrate that the trail could be constructed, operated, and maintained in a manner that avoids significant impacts to the properties for which the SEA was designated, inclusive of the visual character of the area.

Therefore, the proposed project would result in less than significant impacts in regard to degradation of the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features as a result of the proposed project, and no mitigation would be required.

Shadows, Light, and Glare

The proposed project would result in less than significant impacts to aesthetics in relation to the creation of a new source of substantial shadows, light or glare. As the Castaic project area is generally rural, with suburban areas typically containing single-story to two-story residences and commercial and industrial buildings generally surrounded by parking lots and landscaping that provide a buffer between the buildings and potential shadow sensitive land uses, the structures considered within the proposed project would not be expected to create a new source of substantial shadows. Facilities such as restrooms, shade structures, and parking lots in support of the proposed trails would not be expected to be taller than a two-story building. Where buildings included in the plan are part of subdivision agreements, they would be designed to avoid creating substantial shadows on the new residences.

Approximately 62 percent of the Castaic project area is located within the County's Rural Outdoor Lighting District and subject to restrictions in terms of light and glare at night to maintain dark skies at night for the residents and wildlife in the district (see Figure 7).[59] Under the ordinance, outdoor lighting shall be fully shielded on properties located in residential, agricultural, open space, or watershed zones.[60] Exterior lighting on restrooms and other trail related supporting facilities would be required to conform to the ordinance. As shown in Figure 13, the remaining 38 percent of the

[59] County of Los Angeles Department of Regional Planning. Accessed 16 February 2016. *GIS-NET3 Public*. Planning & Zoning Information for Unincorporated LA County. Available at: http://gis.planning.lacounty.gov/GIS-NET3_Public/Viewer.html

[60] Los Angeles County Department of Regional Planning. 28 September 2012. Ordinance No. 2012-0047. Available at: http://planning.lacounty.gov/assets/upl/data/ord_outdoor-lighting.pdf

Castaic project area that is not located within the County's Rural Outdoor Lighting District is predominantly characterized by a high level of existing nighttime sky glow, including the nearby City of Santa Clarita, the communities of Castaic (near Castaic Lake) and Valencia (near the City of Santa Clarita), and the industrial Castaic Junction area in the southeastern portion of the Castaic project area. Due to the high level of existing nighttime sky glow, impacts from exterior lighting on restrooms and other trail related supporting facilities, would be less than significant.

The hours of operation for Los Angeles County trails are typically from dawn to dusk (County Code 17.04.330). Therefore, the Multi-Use Trails Plan does not include installation of nighttime lighting along the proposed trails; nor would the trails include nighttime safety lights that may affect nighttime views or add an additional source of light to the surrounding area. For safety purposes and to avoid disturbing the neighborhood from which the site is accessed, construction would not be conducted at night. In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would be installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[61] As this guideline is independent of whether the trail segment or related supporting facility is located within the County's Rural Outdoor Lighting District, the proposed project, which would comply with the County Trails Manual, would not be expected to result in a significant new source of nighttime light.

The trail alignments under the Multi-Use Trails Plan would be predominantly natural surface trails that would not create a new source of substantial glare. The proposed project also would include interpretive signage, small structures, new parking lots, and other related supporting facilities which would have the potential to create a source of daytime glare where glass, metal, asphalt, and additional vehicles are involved. However, these facilities would be small and are anticipated to be constructed in the areas with an existing moderate to high daytime glare level, towards the City of Santa Clarita, Castaic Lake, and the Interstate 5 freeway, which contain paved roads; commercial, industrial, and residential development and infrastructure; moderate to high vehicle traffic levels on major roads and freeways; and the presence of reflective water bodies. Therefore, the supporting facilities would not be expected to create a new source of substantial glare. Therefore, the proposed project would not in less than significant impacts to shadows, light and glare, and no mitigation would be required.

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California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

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[61] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

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KOP 1
State Route 126 at Castaic Creek, Facing North

KOP 2
Chiquito Canyon Road at Val Verde Sign, Facing West

APPENDIX A
Key Observation Points

KOP 3
Existing Hasley Canyon Trail Segment at Del Valle Road, Facing South

KOP 4
End of Existing Hasley Canyon Trail Along Commerce Center Drive, Facing West

KOP 5
Existing Hasley Canyon Trail Along Commerce Center Drive Near Castaic Creek, Facing West

KOP 6
Tapia Canyon Road at End of County Maintained Road, Facing Northeast

KOP 7
Charlie Canyon Road at Entrance to California Paintball Park, Facing North

KOP 8
Vista From Lake Hughes Road Scenic Overlook, Facing West-Northwest

KOP 9
Northern Edge of Lake Hughes Road Scenic Overlook, Facing West

KOP 10
Southern Edge of Lake Hughes Road Scenic Overlook, Facing Northwest

KOP 11
Lake Hughes Road Overlooking Castaic Lake Dam, Facing Northwest

KOP 12
West Ramp Road at West Ridge Trail, Castaic Lake State Recreation Area, Facing West

KOP 13
West Ridge Trail and Pine Ridge Fire Road Connection, Castaic Lake State Recreation Area, Facing Southwest

KOP 14
Switchbacks Overlooking Castaic Lake, Castaic Lake State Recreation Area, Facing North

KOP 15
San Francisquito Canyon Road, Facing Northwest

KOP 16
San Francisquito Canyon Road at Existing North Park Trail, Facing Southwest

Appendix B

Air Quality Analysis

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan

MEMORANDUM FOR THE RECORD
2.6 1020-085.M11

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc.
(Ms. Laura Male and Ms. Vicky Hsu)

SUBJECT: Air Quality Analysis for Castaic Area Multi-Use Trails Plan

FIGURES:

1. Regional Vicinity Map
2. Local Vicinity Map
3. Proposed Trails Plan
4. Topographic Maps
5. Proposed Trail Related Facility Locations
6. Sensitive Receptors

APPENDIX: A. CalEEMod Output for Castaic Area Multi-Use Trails Plan

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the air quality analysis that was undertaken in support of the proposed Castaic Area Multi-Use Trails Plan (proposed project). The results of the air quality analysis will be used to support the County of Los Angeles in its role as the Lead Agency under the California Environmental Quality Act (CEQA) with primary discretionary land use authority related to consideration of the proposed project for approval. The potential for impacts to air quality have been analyzed in accordance with Appendix G of the State of State CEQA) Guidelines[1] and the County of Los Angeles (County) General Plan, Air Quality Element, and County of Los Angeles Department of Parks and Recreation.[2]

A reasonable worst-case scenario, including construction, operation, and maintenance of the entire proposed project, was analyzed using California Emissions Estimator Model, version 2013.2.2.

South Coast Air Quality Management District Air Quality Plan and Air Quality Element of the County of Los Angeles 2035 General Plan Update

The construction, operation, and maintenance of the proposed project would not be expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation in the South Coast Air Basin; therefore, there would be no impact to air quality in relation to conflicts with the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP). The proposed project is also consistent with the Air Quality Element of the County of Los Angeles 2035 General Plan. The proposed project will reduce harmful air pollutants by reducing vehicle miles traveled (VMT) as the distance people have to travel to recreational trails is decreased. Therefore, there would be no impact and no contribution to cumulative impacts for air quality in relation to conflicting with the County of Los Angeles 2035 General Plan.

Criteria Air Pollutants

The Castaic project area is a non-attainment area for ozone (O_3), fine particulate matter ($PM_{2.5}$), and particulate matter (PM_{10}). The SCAQMD AQMP accounts for construction within the air basin. The operation and maintenance of the proposed project would not exceed thresholds of significance for criteria pollutants established by the SCAQMD. The direct, indirect, and contribution to cumulative impact related to criteria air pollutants would be less than significant.

Sensitive Receptors

There are 12,011 sensitive receptors located in the study area for air quality and an additional 5,318 sensitive receptors located within a 0.5-mile radius of the proposed project. Based on the CalEEMod results, construction, operation, and maintenance of the proposed project would not expose sensitive receptors to criteria pollutants in excess of Federal and State standards; therefore, there would be no impact.

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/generalplan

Objectionable Odors

There would be no anticipated objectionable odors associated with the construction, operation, or maintenance of the proposed project; therefore, there are no direct, indirect, or cumulative impacts to air quality related to objectionable odors.

Direct or Indirect Generation of Greenhouse Gas Emissions

The proposed project is consistent with the goals, policies, and strategies related to active transportation and recreation, and conservation of open space lands specified in the Southern California Association of Governments 2016 Regional Transportation Plan/Sustainable Communities Strategy.[3] By providing improved recreation opportunities close to the 29,000 residents that live in the study area, the proposed project supports regional goals related to per capita reduction of vehicle miles travelled and associated greenhouse gas emissions; therefore, there would be no impact.

Plans, Policies, and Regulation Related to Reduction of Regional Greenhouse Gas Emissions

The proposed project is consistent with the goals, policies, and strategies related to active transportation and recreation, and conservation of open space lands specified in the Southern California Association of Governments 2016 Regional Transportation Plan/Sustainable Communities Strategy and Air Quality Element of the County of Los Angeles 2035 General Plan Update. The 2016 RTP/SCS PEIR states that the County of Los Angeles General Plan established a standard for parklands of four acres of local parkland and six acres of regional parkland per 1,000 county residents in unincorporated areas. As the Trails Plan study area is located in unincorporated Los Angeles County, this proposed project helps reach the RTP/SCS goal by providing more recreational opportunities near residents. Therefore, there would be no impact to plans, policies, or regulations related to the reduction of regional greenhouse gas emissions, and no contribution to cumulative regional conflicts with adopted plans, policies, and regulations.

[3] Southern California Association of Governments. 4 December 2015. *2016 Draft RTP/SCS*. Available at: http://scagrtpscs.net/Pages/details.aspx?list=Announcements&lid=14&source=/pages/news.aspx

INTRODUCTION

This MFR provides the County with the substantial evidence to make a determination that there would be no anticipated significant impacts resulting from the construction, operation, or maintenance of the proposed trail elements on air quality and greenhouse gas emissions. The proposed designation, improvement, operation, and maintenance of the trail segment constitute a project pursuant to CEQA. This MFR provides the requisite information related to air quality to support the County's decision-making process in relation to the proposed project.

PURPOSE

The purpose of this MFR is to support the County in the development of a multi-use trail plan that would minimize the impacts related to air quality and greenhouse gas emissions. It is understood that the County expects to move forward with the proposed project and seeks funding for construction, operation, and maintenance of the proposed project. This MFR provides the requisite information related to impacts on air quality to support the County's decision-making process in relation to the proposed project. The evaluation of the potential for the proposed project to result in significant impacts to air quality was undertaken in accordance with Appendix G of the State CEQA Guidelines and guidance from the Los Angeles Department of Parks and Recreation. This MFR presents the results of these efforts and provides impact analyses for the construction, use, and maintenance of the proposed project.

LOCATION

The Castaic project area encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of the unincorporated area of the County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties. The proposed Castaic project area is composed of generally mountainous and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area, which is located in the Fifth Supervisorial District, includes a portion of the County-managed Castaic Lake State Recreation Area. The Trail Planning Study Area includes three existing County trails (approximately 4.90 miles), approximately 8.14 miles of planned trails per developer obligations, and approximately 89.90 miles of proposed trails (Figure 3, *Proposed Trails Plan*).

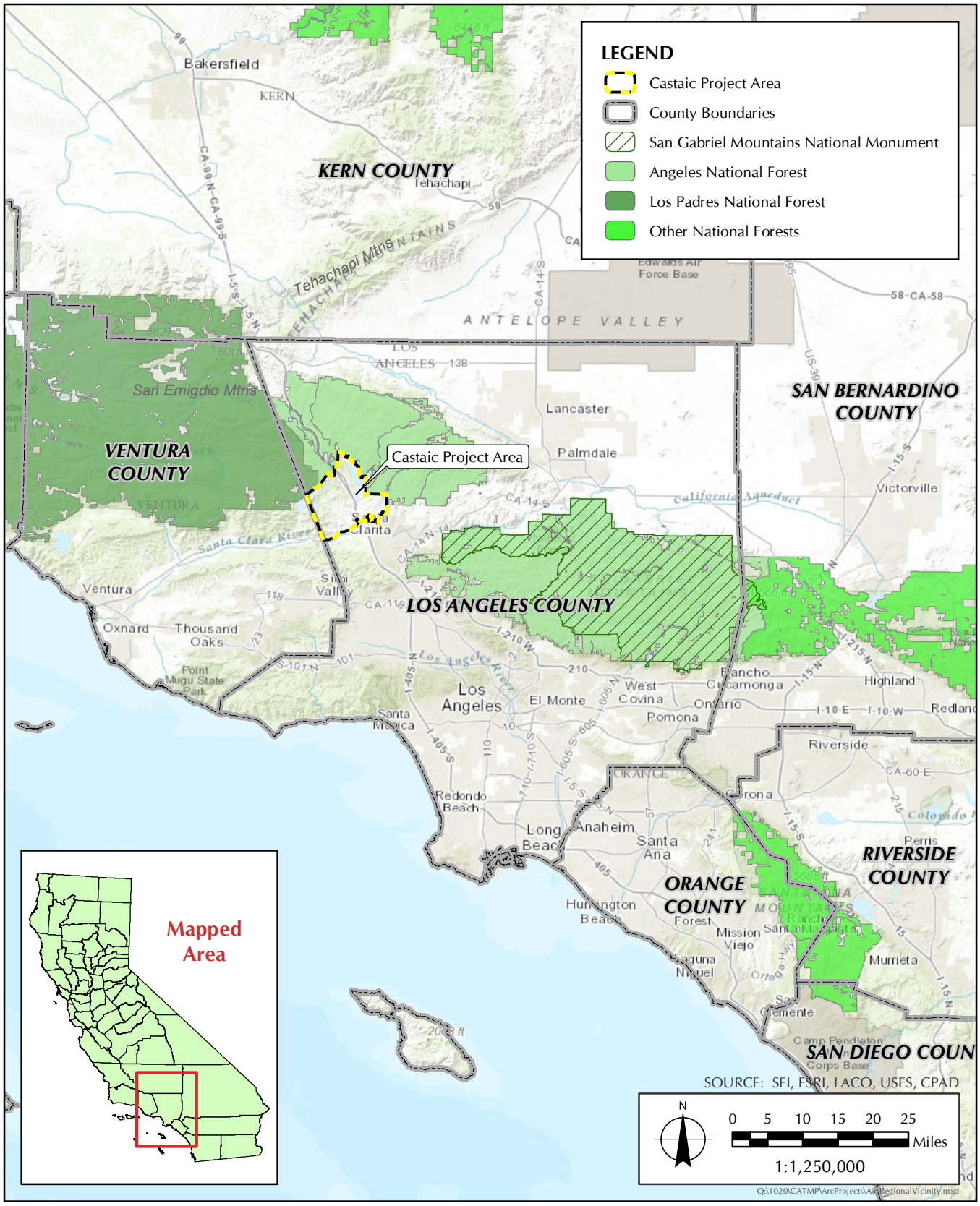

FIGURE 1

Regional Vicinity Map

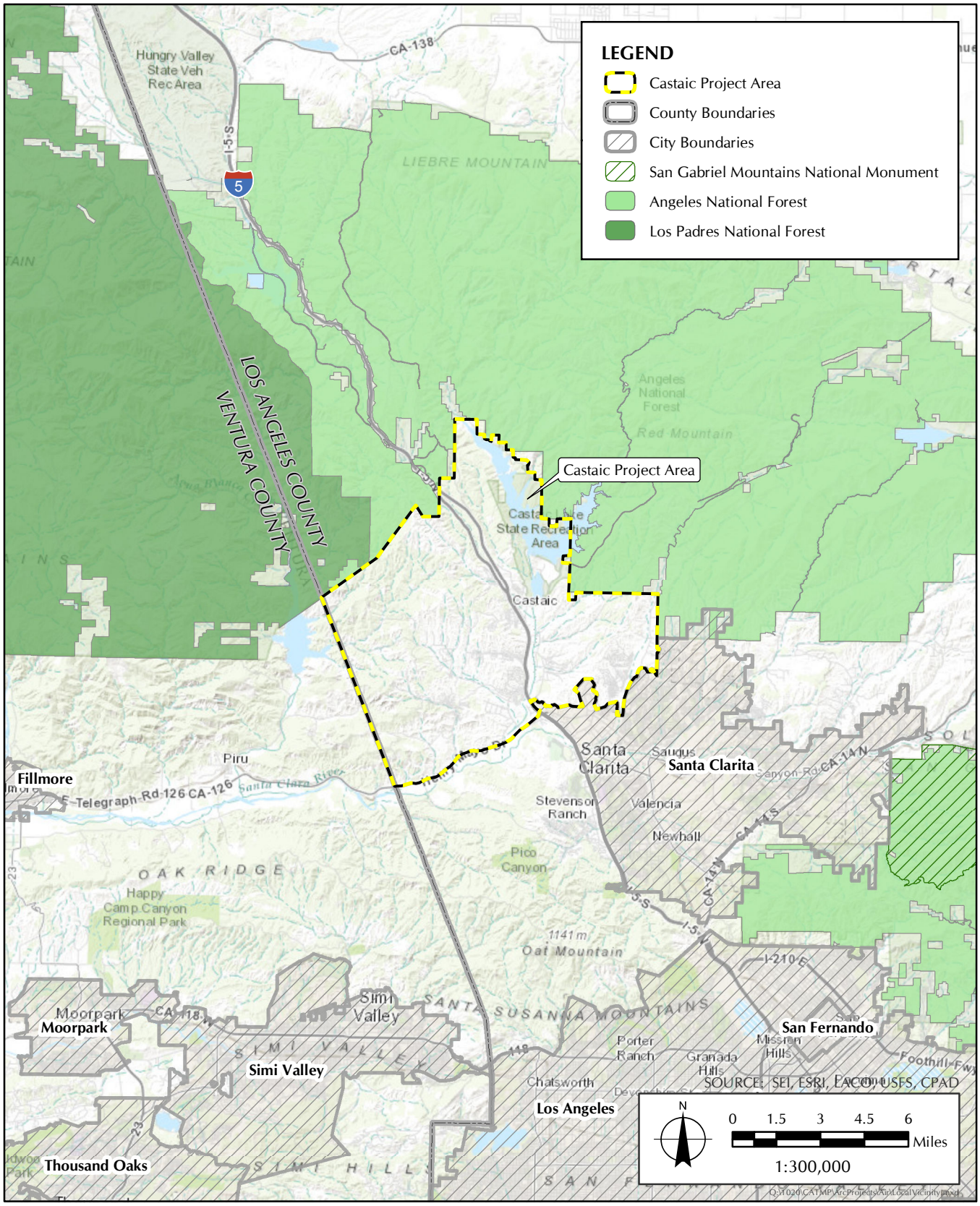

FIGURE 2

Local Vicinity Map

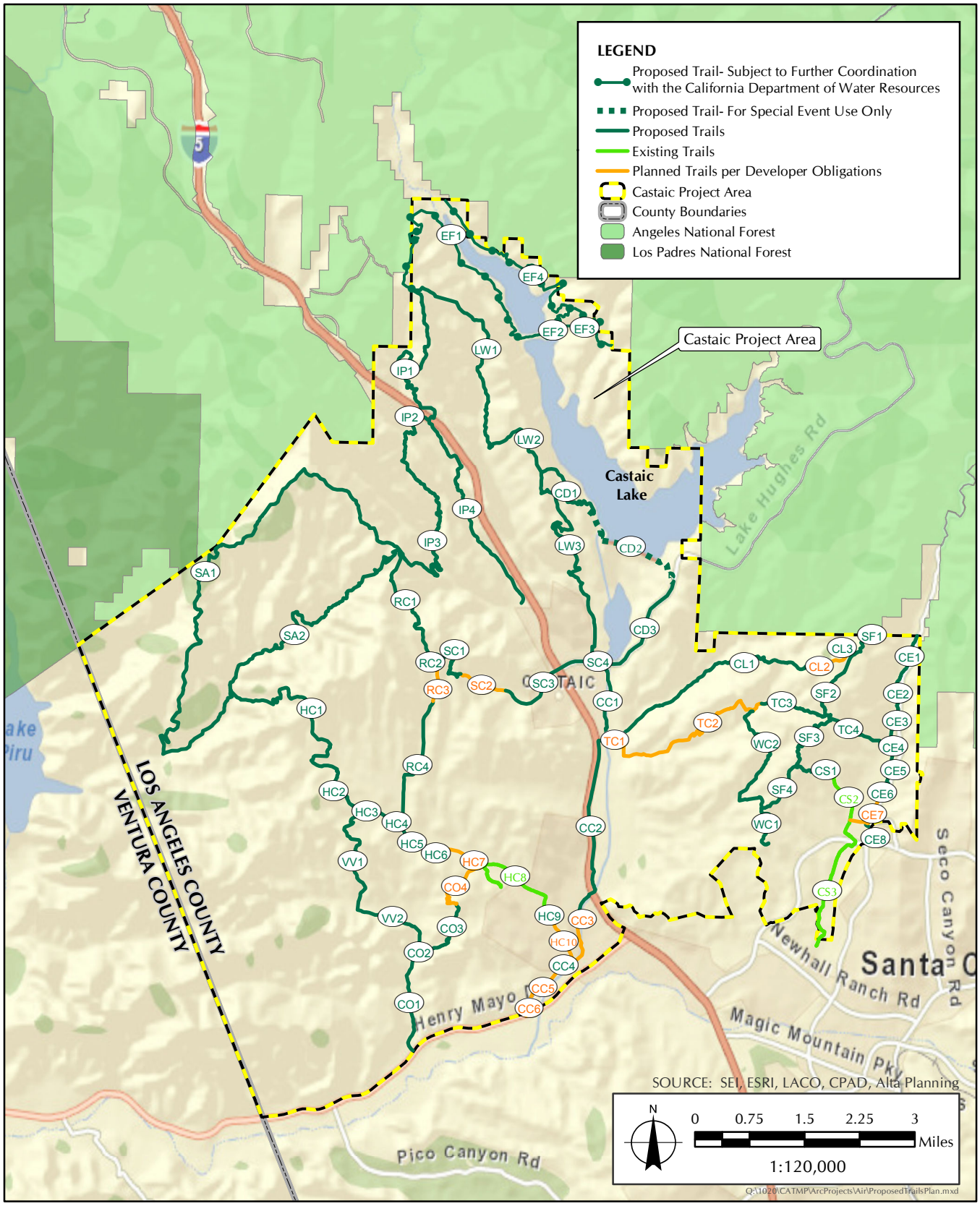

FIGURE 3

Proposed Trails Plan

The Castaic project area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 4, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[4,5,6,7] The elevation of the proposed Castaic project area ranges from 2,756 feet above mean sea level (MSL) near the northern edge of the Castaic project area between Violin Canyon and Palomas Canyon, to 863 feet above MSL near the Santa Clara River at the southwestern corner of the Castaic project area. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area. The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

4 U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

5 U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

6 U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

7 U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

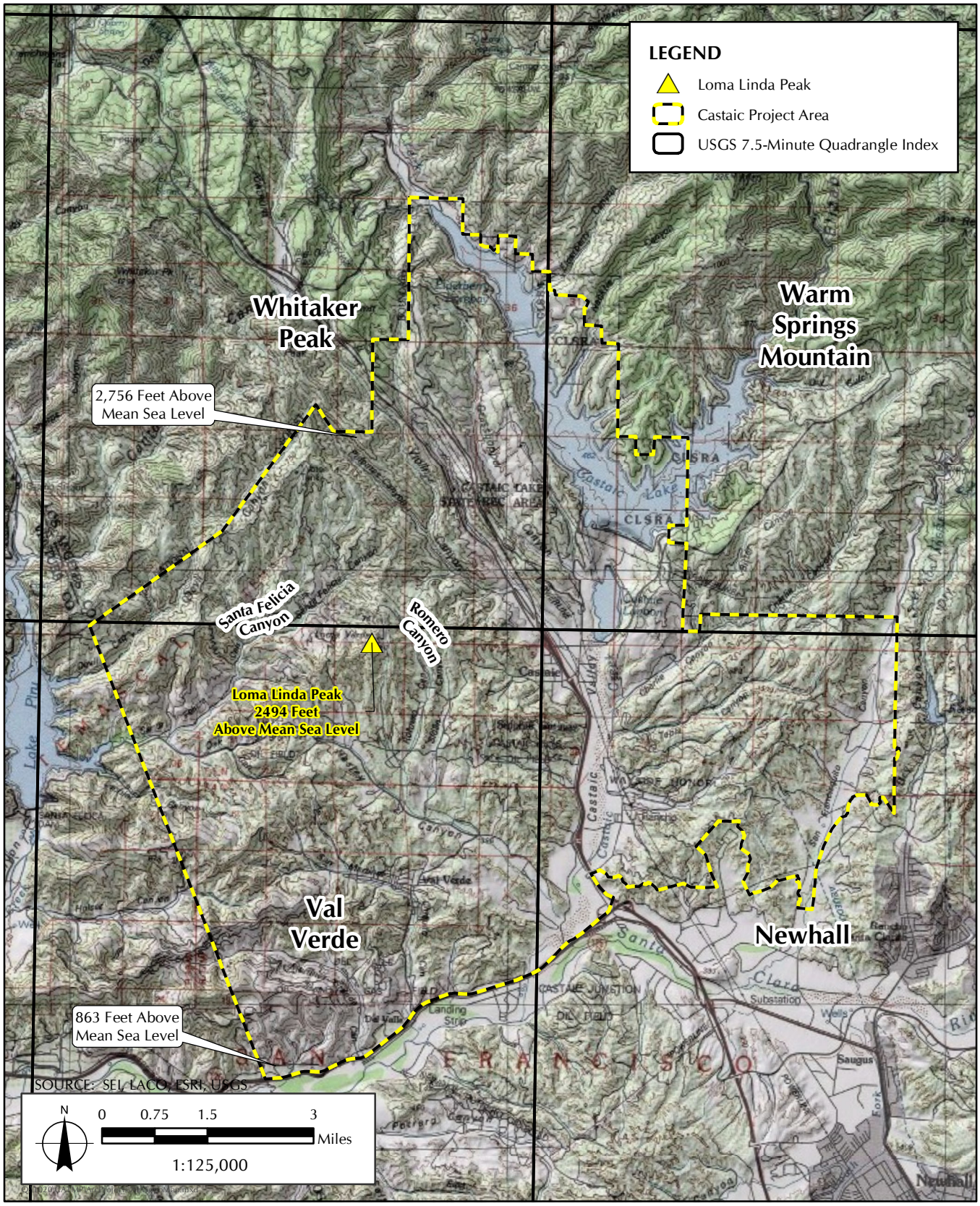

FIGURE 4

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

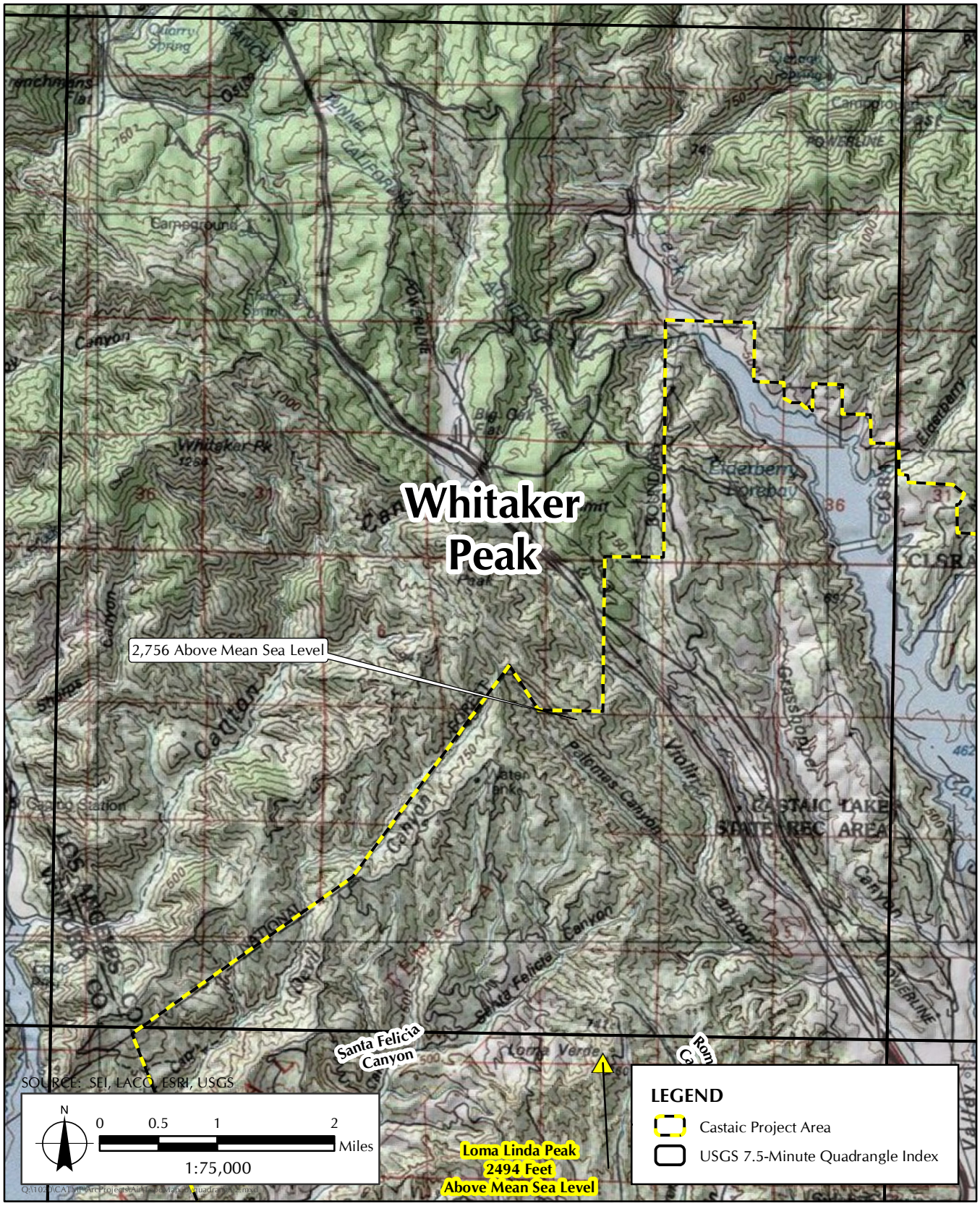

FIGURE 4A

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

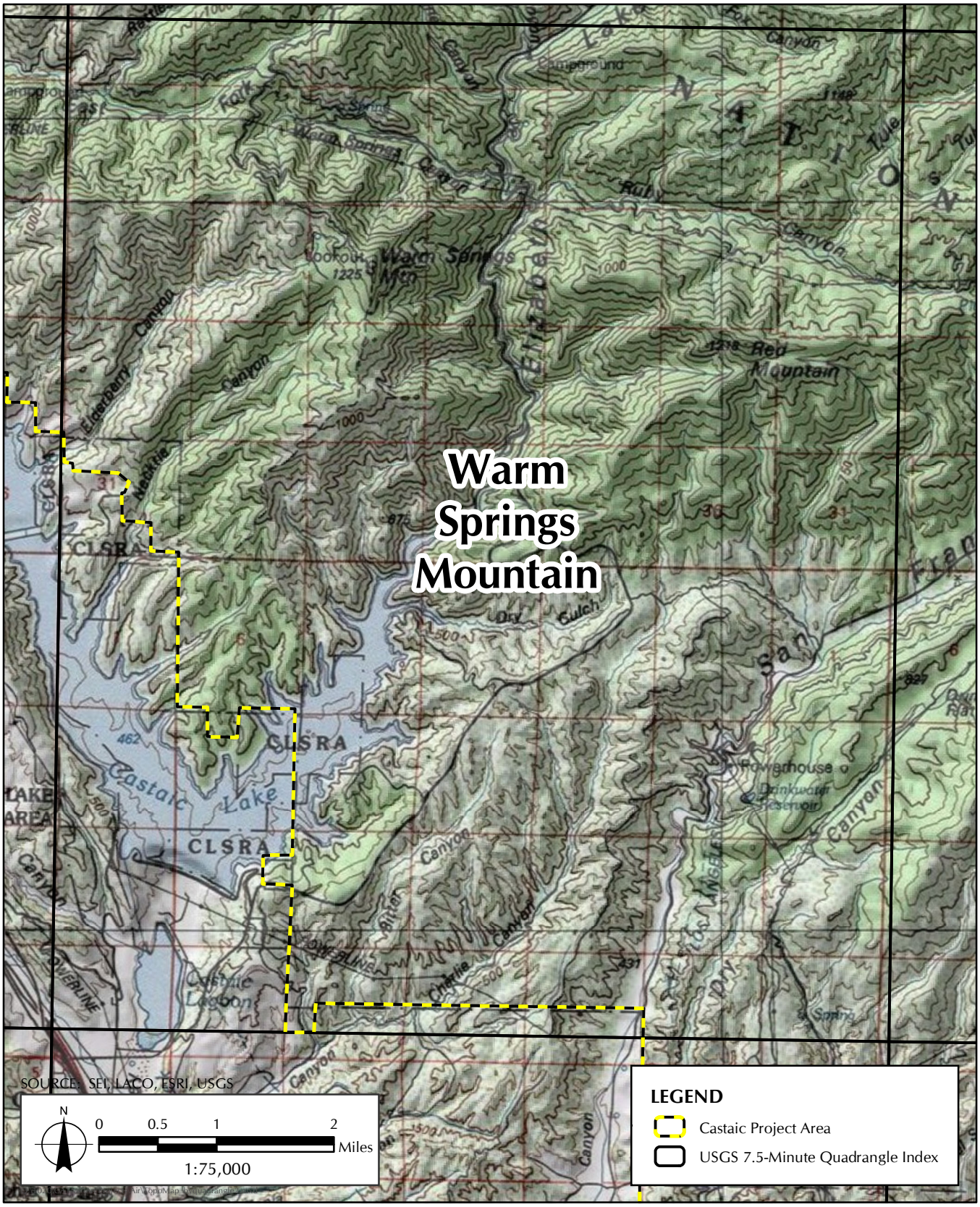

FIGURE 4B

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

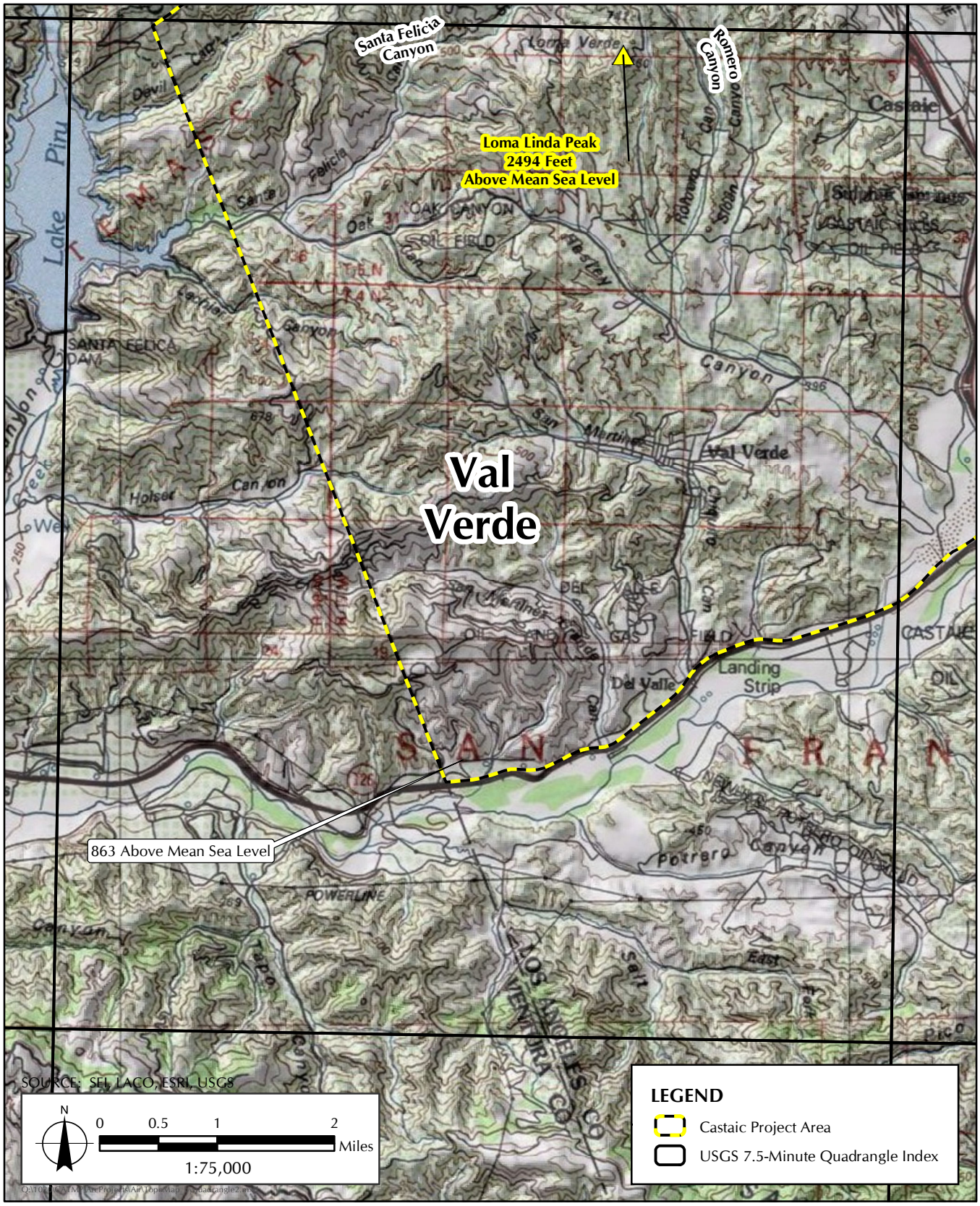

FIGURE 4C

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

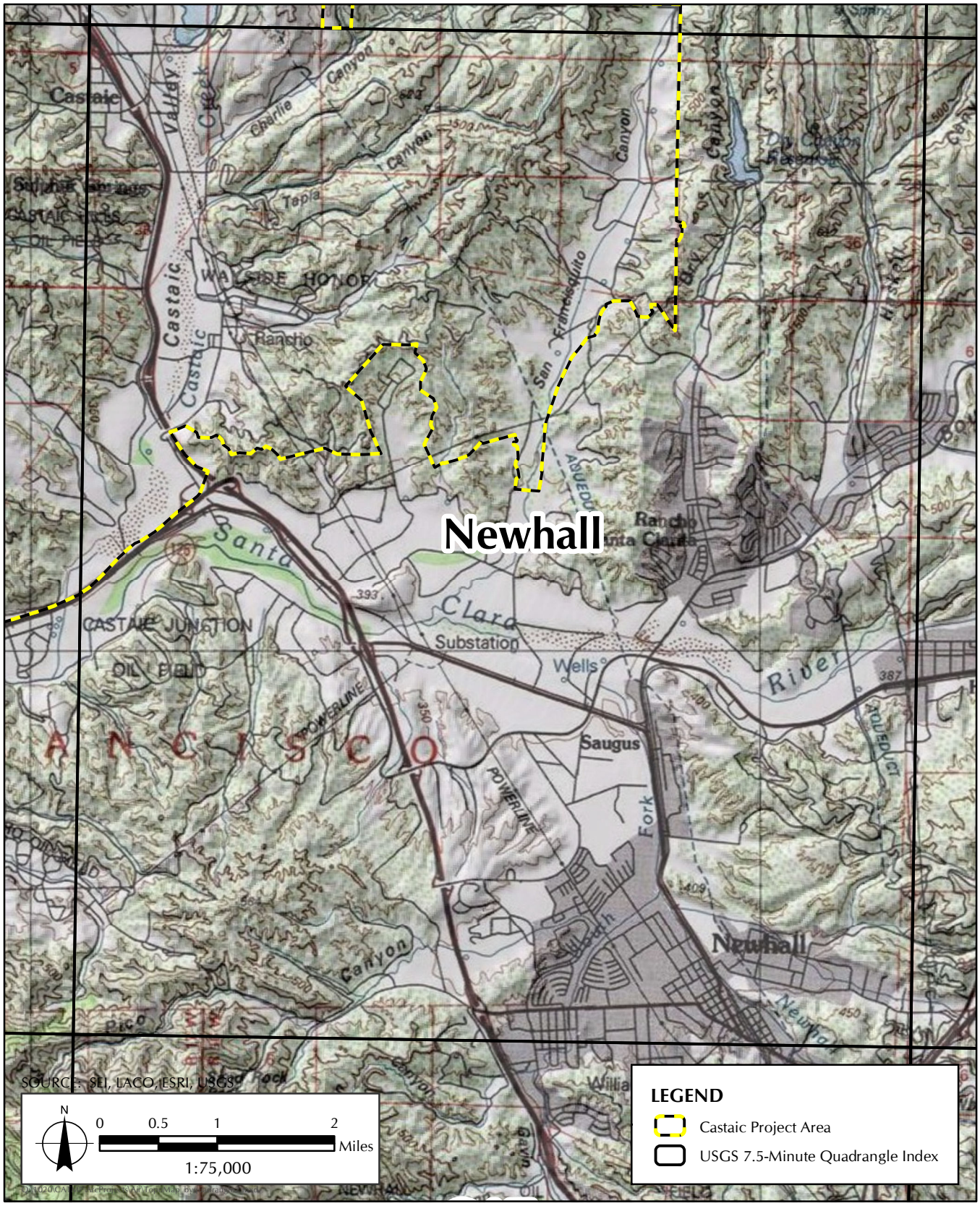

FIGURE 4D

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[8] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*; Figure 5, *Proposed Trail-Related Facility Locations*). The bike skills parks would occupy up to 45 acres.

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)

[8] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

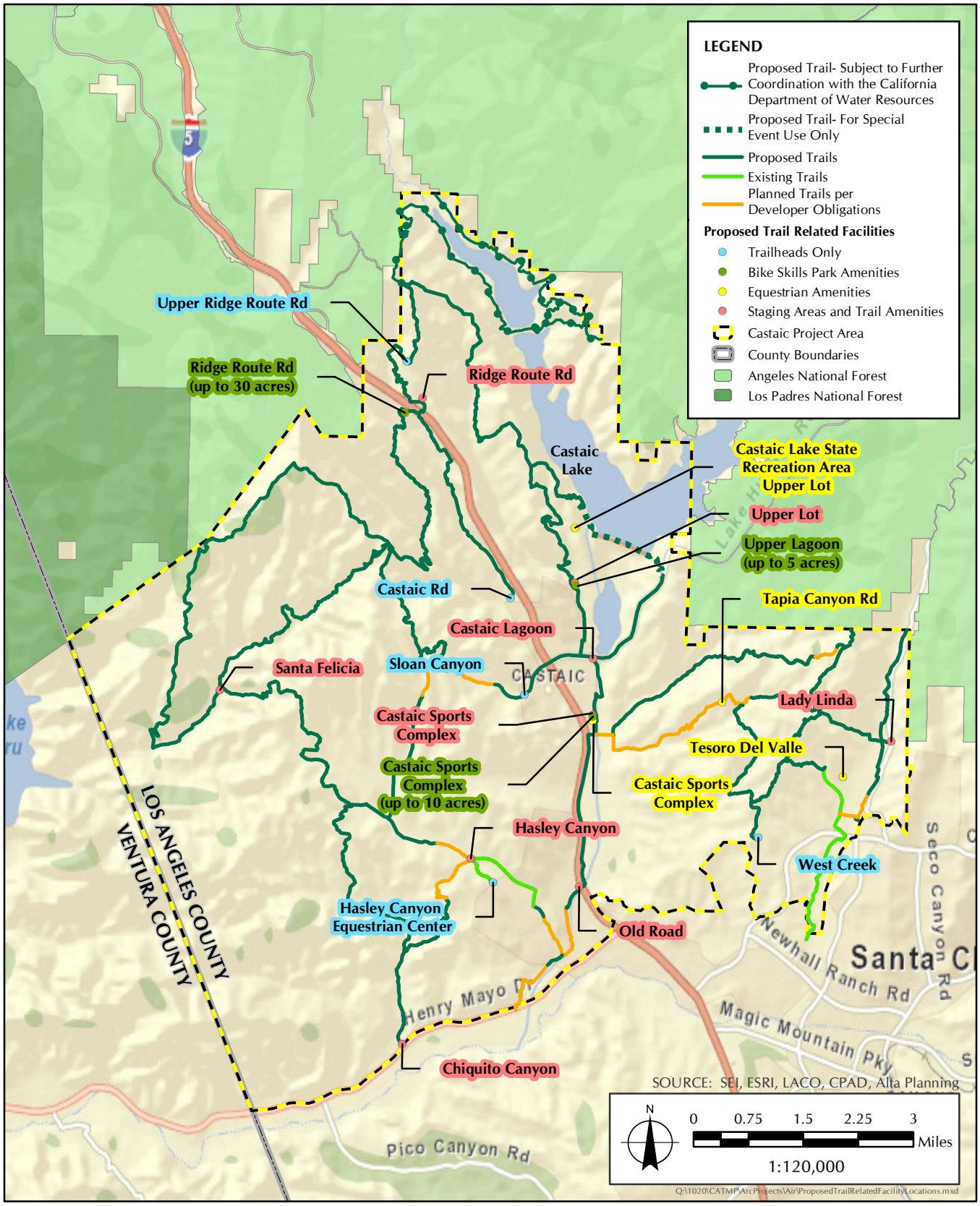

FIGURE 5

Proposed Trail Related Facility Locations

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[9]

[9] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at:

REGULATORY FRAMEWORK

Federal

Federal Clean Air Act

The Clean Air Act (CAA) was enacted in 1970 to foster growth in the economy and industry while improving human health and the environment. The CAA is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, the CAA authorizes the Unite States Environmental Protection Agency (U.S. EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. The CAA requires the U.S. EPA to routinely review and update the NAAQS in accordance with the latest available scientific evidence. For example, the 1-hour standard for O_3 was revoked in 2005 in favor of a new 8-hour standard that is intended to better protect public health.

National Ambient Air Quality Standards

The NAAQS were established by the U.S. EPA per the requirements of the CAA (Table 4, *National Ambient Air Quality Standards*). The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the CAA: (1) primary standards and (2) secondary standards. Primary standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation and buildings.

TABLE 4
NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon Monoxide		Primary	8-hour	9 ppm
			1-hour	35 ppm
Lead		Primary and secondary	Rolling 3 month average	0.15 $\mu g/m^3$
Nitrogen Dioxide		Primary	1-hour	100 ppb
		Primary and Secondary	Annual	53 ppb
Ozone		Primary and Secondary	8-hour	0.075 ppm*
Particle Matter	$PM_{2.5}$	Primary	Annual	12 $\mu g/m^3$
		Secondary	Annual	15 $\mu g/m^3$
		Primary and Secondary	24-hour	35 $\mu g/m^3$
	PM_{10}	Primary and Secondary	24-hour	150 $\mu g/m^3$
Sulfur Dioxide		Primary	1-hour	75 ppb

NOTE: ppm = parts per million. ppb = parts per billion. $\mu g/m^3$ = micrograms per cubic meter. *Revised to 0.070 ppm in 2015.
SOURCE: South Coast Air Quality Management District. February 2016. *Air Quality Management Plan (AQMP).* Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2)
South Coast Air Quality Management District. November 2012. *2012 AQMP Final Program EIR.* State and Federal Ambient Air Quality Standards.

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https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

State

California Air Resources Board

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act, responding to the federal CAA requirements to establish state ambient air quality standards, and for regulating emissions from motor vehicles and consumer products with the state. The CARB has established emissions standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. It also sets passenger vehicle fuel specifications to further reduce vehicular emissions.[10]

California Clean Air Act

The California Clean Air Act of 1988 requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for O_3, CO, and NO_2 by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM_{10} standard. The CARB, which became part of the California EPA in 1991, is responsible for meeting state requirements of the federal Clean Air Act, administrating the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for non-attainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards.

California Ambient Air Quality Standards

The Federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards (Table 5, *California Ambient Air Quality Standards*). California has also set standards for some pollutants that are not addressed by federal standards.

[10] South Coast Air Quality Management District. November 2001. *Air Quality Guidance Handbook*. Diamond Bar, CA.

TABLE 5
CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant		Averaging Time	Level
Carbon Monoxide		8-hour	9 ppm
		1-hour	20 ppm
Lead		30 day average	1.5 μg/m^3
Nitrogen Dioxide		1-hour	0.18 ppm
		Annual	0.03 ppm
Ozone		8-hour	0.07 ppm
		1-hour	0.09 ppm
Particle Matter	$PM_{2.5}$	Annual	12 μg/m^3
	PM_{10}	24-hour	50 μg/m^3
		Annual	20 μg/m^3
Sulfur Dioxide		1-hour	0.25 ppm
		24-hour	0.04 ppm
Sulfates		24-hour	25 μg/m^3
Hydrogen Sulfide		1-hour	0.03 ppm
Vinyl Chloride		24-hour	0.01 ppm

NOTE: ppm = parts per million. ppb = parts per billion. μg/m^3 = micrograms per cubic meter.
SOURCE: South Coast Air Quality Management District. November 2012. *2012 AQMP Final Program EIR*. State and Federal Ambient Air Quality Standards. November 2012.

State Implementation Plans

Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the federal CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls. Many of California's SIPs rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. CARB forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all of the items which are included in the California SIP.

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. Recognizing that California is particularly vulnerable to the impacts of climate change, Executive Order S-3-05 establishes statewide climate change emission reduction targets to reduce $CO_{2equivalent}$ (CO_{2e}) to the 2000 level (473 million metric tons [MT]) by 2010, to the 1990 level (427 million MT of CO_{2e}) by 2020, and to 80 percent below the 1990 level (85 million MT of CO_{2e}) by 2050 (Table 6, *California Business-as-Usual GHG Emissions and Targets*).[11,12] The executive order directs the

[11] California Governor. 1 June 2005. Executive Order S-3-05. Sacramento, CA.

California EPA Secretary to coordinate and oversee efforts from multiple agencies (that is, Secretary of the Business, Transportation, and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; Chairperson of the Air Resources Board; Chairperson of the Energy Commission; and President of the Public Utilities Commission) to reduce GHG emissions to achieve the target levels. In addition, the California EPA Secretary is responsible for submitting biannual reports to the governor and state legislature that outline (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) measures and adaptation plans to mitigate these impacts. To further ensure accomplishment of the targets, the California EPA Secretary created a Climate Action Team composed of representatives from the aforementioned agencies to implement global warming emission reduction programs and report on the progress made toward meeting the statewide GHG targets established in this executive order. In December 2005, the first report was released, which stated, "the climate change emission reduction targets [could] be met without adversely affecting the California economy," and "when all [the] strategies are implemented, those underway and those needed to meet the Governor's targets, the economy will benefit."[13]

TABLE 6
CALIFORNIA BUSINESS-AS-USUAL GHG EMISSIONS AND TARGETS

Emission Level	GHG Emissions (Million Metric Tons of $CO_{2equivalent}$)				
	1990	2000	2010	2020	2050
Business-as-usual emissions	427	473	532	596	762*
Target Emissions	—	—	473	427	85

NOTE: * Business-as-usual emissions reflect the projected emissions under a scenario without GHG control measures, where California would continue to emit GHGs at the same per capita rate. The CARB has not yet projected 2050 emissions under a business-as-usual scenario. Therefore, 2050 business-as-usual emissions were calculated assuming a linear increase of emissions from 1990 to 2050.

Assembly Bill 32

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act of 2006, is a California State Law that addresses climate change by establishing a comprehensive program to reduce greenhouse gas (GHG) emissions from all sources throughout the state. AB 32 requires that the California ARB develop regulations and market mechanisms to reduce California's GHG emissions to 1990 levels by 2020. To achieve this goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved.

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments for the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the

[12] California Climate Action Team. 3 April 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. Sacramento, CA.

[13] California Climate Action Team. 3 April 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. Sacramento, CA.

economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible, pursuant to Section 176(c) of the 1990 amendments to the CAA, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to California Health and Safety Code Section 40460(b), SCAG is also responsible for preparing and approving the portions of the Basin's air quality management plans relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG's method of accomplishing these requirements is through the preparation of demographic projections published in its 2012 Regional Transportation Plan (RTP), which was used by the SCAQMD in the preparation of its 2012 AQMP, discussed below.

South Coast Air Quality Management District

The SCAQMD was established by state legislation effective February 1, 1977, and was assigned jurisdiction over air quality in the South Coast Air Basin (Basin). The SCAQMD covers approximately 10,743 square miles and is home to more than 16.8 million people – about half the population of the whole state of California. It is the second most populated urban area in the United States and one of the smoggiest.

The Basin includes all of Orange County and the non-desert areas of Los Angeles, Riverside, and San Bernardino Counties, with an area of 6,800 square miles and a population of approximately 16 million people in 2011. The Los Angeles urban area (the nation's second largest), the Anaheim-Fullerton urban area, and the Riverside-San Bernardino urban area lie within the Basin's boundaries. About two-thirds of the Basin's population lives within Los Angeles County.

The SCAQMD adopts rules and regulations to implement portions of its AQMP. Several of these rules may apply to construction or operation of the proposed project. For example, SCAQMD Rule 403, *Fugitive Dust*, requires the implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with new development projects within the Basin, such as the proposed project. Instead, the SCAQMD published the *CEQA Air Quality Handbook* in 1993 to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of project proposed in the Basin. The SCAQMD *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis.

South Coast Air Quality Management Plan

The most recent update to the SCAQMD AQMP was adopted in 2012 by the SCAQMD Board and CARB.[14] The 2016 AQMP is expected to be submitted to in summer 2016. The 2012 AQMP demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the Basin through adoption of all feasible measures. The current AQMP also updates the U.S. EPA approved 8-hour ozone control plan with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NO_x and volatile organic compound (VOC) reductions. In addition, the AQMP addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models.

Los Angeles County General Plan

The Los Angeles County General Plan, Air Quality Element, addresses the General Plan's Guiding Principles by promoting clean air and addressing climate change. The latest version is a revised draft from October 6, 2015. The Community Climate Action Plan is a supplement of the Air Quality Element. In addition to Smart Growth policies, such as building sustainably and reducing energy consumption, the Air Quality Element discusses clean air as a positive outcome of smart growth land use policies to reduce vehicle miles traveled (VMTs), traffic pollution and greenhouse gas emissions, and Environmental Resource Management policies to protect resources. The Air Quality Element also addresses how the provision of Sufficient Community Services and Infrastructure, especially the County's vast transportation network, needs to include considerations for the impacts on air quality and quality of life. The Air Quality Element also discusses the importance of clean air in planning for Healthy, Livable, and Equitable Communities, and for the workforce in building a Strong and Diversified Economy.

The Air Quality Element summarizes air quality issues and outlines three (3) goals and sixteen (16) policies in the General Plan that will improve air quality and reduce GHG emissions.[15]

Goal AQ 1: Protection from exposure to harmful air pollutants.

- Policy AQ 1.1: Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.
- Policy AQ 1.2: Encourage the use of low or no volatile organic compound (VOC) emitting materials.
- Policy AQ 1.3: Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.
- Policy AQ 1.4: Work with local air quality management districts to publicize air quality warnings, and to track potential sources of airborne toxics from identified mobile and stationary sources.

[14] South Coast Air Quality Management District. 2012. *Final 2012 Air Quality Management Plan*. Diamond Bar, CA.

[15] Los Angeles County Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Chapter 8: Air Quality Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch8.pdf

Goal AQ 2: The reduction of air pollution and mobile source emissions through coordinated land use, transportation and air quality planning.

- Policy AQ 2.1: Encourage the application of design and other appropriate measures when siting sensitive uses, such as residences, schools, senior centers, daycare centers, medical facilities, or parks with active recreational facilities within proximity to major sources of air pollution, such as freeways.
- Policy AQ 2.2: Participate in, and effectively coordinate the development and implementation of community and regional air quality programs.
- Policy AQ 2.3: Support the conservation of natural resources and vegetation to reduce and mitigate air pollution impacts.
- Policy AQ 2.4: Coordinate with different agencies to minimize fugitive dust from different sources, activities, and uses.

Goal AQ 3: Implementation of plans and programs to address the impacts of climate change.

- Policy AQ 3.1: Facilitate the implementation and maintenance of the Community Climate Action Plan to ensure that the County reaches its climate change and greenhouse gas emission reduction goals.
- Policy AQ 3.2: Reduce energy consumption in County operations by 20 percent by 2015.
- Policy AQ 3.3: Reduce water consumption in County operations.
- Policy AQ 3.4: Participate in local, regional, and state programs to reduce greenhouse gas emissions.
- Policy AQ 3.5: Encourage energy conservation in new development and municipal operations.
- Policy AQ 3.6: Support rooftop solar facilities on new and existing buildings.
- Policy AQ 3.7: Support and expand urban forest programs within the unincorporated areas.
- Policy AQ 3.8: Develop, implement, and maintain countywide climate change adaptation strategies to ensure that the community and public services are resilient to climate change impacts.

Santa Clarita Valley Area Plan

The Trail Planning Study Area is located within the unincorporated portion of the Santa Clarita Valley and is subject to the 2012 Santa Clarita Valley Area Plan. Relevant guiding principles for air quality and greenhouse gas emissions stated in the Santa Clarita Valley Area Plan include:

Chapter 3: Circulation Element

- **Objective C-1.3-2:** Through trip reduction strategies and emphasis on multi-modal transportation options, contribute to achieving the air quality goals of South Coast Air Quality Management District Air Quality Management Plan.

Chapter 4: Conservation and Open Space Element

- **Objective CO-7.1:** Reduce air pollution from mobile sources.
- **Objective CO-7.2:** Apply guidelines to protect sensitive receptors from sources of air pollution as developed by the California Air Resources Board, where appropriate.
- **Objective CO-7.3:** Coordinate with other agencies to plan for and implement programs for improving air quality in the South Coast Air Basin.
- **Objective CO-8.1:** Comply with the requirements of State law, including AB 32, SB 375, and implementing regulations, to reach targeted reductions of GHG emissions.
- **Objective CO-8.2:** Reduce energy and materials consumption and greenhouse gas emissions in public uses and facilities.
- **Objective CO-8.3:** Encourage green building and sustainable development practices on private development projects, to the extent reasonable and feasible.
- **Objective CO-8.4:** Reduce energy consumption for processing raw materials by promoting recycling and materials recovery by all residents and businesses throughout the community.

Newhall Ranch Specific Plan

A portion of the Trail Planning Study Area is located within the Newhall Ranch area and is subject to the Newhall Ranch Specific Plan. There is one Land Use Planning Objective within the Newhall Ranch Specific Plan that would help improve air quality:

- **Land Use Planning Objective 5:** Arrange land uses to reduce vehicle miles traveled and energy consumption.[16]

Northlake Specific Plan

A portion of the Trail Planning Study Area is located within the Northlake Specific Plan area and is subject to the Northlake Specific Plan. The Northlake Specific Plan lists potential mitigation measures including: limit dust by watering, proper equipment engine maintenance, construction scheduling in accordance with the air district directives, compliance with Title 24 of the California State Energy Commission to minimize stationary source air pollutants, and a commuter ride-share program.[17]

Castaic Area Multi-Use Trails Plan

The proposed project references the Air Element of the County of Los Angeles General Plan 2035 as a guidance document for sustainability. Most relevant to this study area is Goal AQ 3, the Implementation of plans and programs to address the impacts of climate change.

[16] County of Los Angeles Department of Regional Planning. 27 May 2003. *Newhall Ranch Specific Plan*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_sp_newhall-ranch.pdf

[17] County of Los Angeles Department of Regional Planning. June 1992. *Northlake Specific Plan*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_sp_northlake.pdf

EXISTING CONDITIONS

Regional Climate

The regional climate significantly influences the air quality in the South Coast Air Quality Basin (Basin). Temperature, wind, humidity, precipitation, and the amount of sunshine influence the quality of the air. In addition, the Basin is frequently subjected to an inversion layer that traps air pollutants. Temperature has an important influence on Basin wind flow, pollutant dispersion, vertical mixing, and photochemistry.

Annual average temperatures throughout the Basin vary from the low to middle 60 degrees Fahrenheit (°F). However, due to decreased marine influence, the eastern portion of the Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the Basin, with average minimum temperatures of 47 °F in downtown Los Angeles and 36 °F in San Bernardino. All portions of the Basin have recorded maximum temperatures above 100 °F.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin, and the conversion of SO_2 to SO_4 is heightened in air with high relative humidity. The marine layer is an excellent environment for that conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the Basin's rainfall occurs from November through April. Annual average rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region and near the mountains. Rainy days comprise 5 to 10 percent of all days in the Basin, with the frequency being higher near the coast. The influence of rainfall on the contaminant levels in the Basin is minimal. Although some washout of pollution would be expected with winter rains, air masses that bring precipitation of consequence are very unstable and provide excellent dispersion that masks wash-out effects. Summer thunderstorm activity affects pollution only to a limited degree. If the inversion is not broken by a major weather system, high contaminant levels can persist even in areas of light showers.

Temperature Inversion

The vertical dispersion of air pollutants in the Basin is frequently restricted by the presence of a persistent temperature inversion in the atmospheric layers near the earth's surface. Normally, the temperature of the atmosphere decreases with altitude. However, when the temperature of the atmosphere increases with altitude, the phenomenon is termed an inversion. An inversion condition can exist at the surface or at any height above the ground. The bottom of the inversion, known as the mixing height, is the height of the base of the inversion.

In general, inversions in the Basin are lower before sunrise than during the daylight hours. As the day progresses, the mixing height normally increases as the warming of the ground heats the surface air layer. As this heating continues, the temperature of the surface layer approaches the

temperature of the base of the inversion layer. When these temperatures become equal, the inversion layer's lower edge begins to erode and, if enough warming occurs, the layer breaks up. The surface layers are gradually mixed upward, diluting the previously trapped pollutants. The breakup of inversion layers frequently occurs during mid to late afternoon on hot summer days. Winter inversions usually break up by mid-morning.

Regional Air Quality

The air quality in Southern California does not meet the state and federal standards. The American Lung Association consistently gives the County failing grades in the amount of ozone and particulate pollution in the air. Although smog levels are impacted by seasons and weather patterns, smog is visible in the air on most days.

The County is a large basin with the Pacific Ocean to the west and several mountain ranges with 11,000 foot peaks to the east and south. Frequent sunny days and low rainfall contribute to ozone formation, as well as high levels of fine particles and dust. In addition, the County is home to many diverse industries and the largest goods movement hub on the west coast. In spite of emission controls that are among the most stringent in the county, power generation and petroleum refining continue to be among the County's largest stationary sources of air pollution.

The determination of whether a region's air quality is healthy or unhealthy is determined by comparing contaminant levels in ambient air samples to national and state standards. These standards were established to protect exposed sensitive receptors from adverse health effects with a margin of safety. Air quality of a region is considered to be in attainment/nonattainment of the state standards.

The South Coast Air Basin is in federal non-attainment for O_3 and $PM_{2.5}$ (Table 7, *NAAQS and CAAQS Attainment Status South Coast Air Basin*). The Health and Safety Code (H&SC) section 39607(e) requires CARB to periodically review area designation criteria for CAAQS. These designation criteria provide the basis for CARB to designate areas of California as attainment, nonattainment, or unclassified for the State standards. CARB made the first area designations for CAAQS in 1989, and since then, has reviewed the designations each year, making changed as needed. As of February 2016, the County has been designated as nonattainment for O_3, $PM_{2.5}$, and PM_{10} (Table 7).

TABLE 7
NAAQS AND CAAQS ATTAINMENT STATUSES
SOUTH COAST AIR BASIN

Criteria Pollutant	Standard	Averaging Time	Designation	Attainment Date
1-Hour Ozone	NAAQS	1979 1-Hour (0.12 ppm)	Nonattainment (Extreme)	2/6/2023 Originally 11/15/2010 (not attained)
	CAAQS	1-Hour (0.12 ppm)	Nonattainment	N/A
8-Hour Ozone	NAAQS	1997 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	NAAQS	2008 8-Hour (0.075 ppm)	Nonattainment (Extreme)	7/20/2032
	NAAQS	2015 8-Hour (0.070 ppm)	Designations Pending	~2037
	CAAQS	8-Hour (0.070 ppm)	Nonattainment	Beyond 2032
Carbon Monoxide	NAAQS	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	CAAQS	1-Hour (20 ppm) 8-Hour (9 ppm)	Attainment	6/11/2007 (attained)
Nitrogen Dioxide	NAAQS	1-Hour (0.10 ppm)	Unclassifiable/Attainment	N/A (attained)
	NAAQS	Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
	CAAQS	1-Hour (0.18 ppm) Annual (0.030 ppm)	Attainment	--
Sulfur Dioxide	NAAQS	1-Hour (75 ppb)	Designations Pending (expect Unclassifiable/Attainment)	N/A (attained)
	NAAQS	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment	3/19/1979 (attained)
PM_{10}	NAAQS	1987 24-Hour (150 $\mu g/m^3$)	Attainment (Maintenance)	7/26/2013 (attained)
	CAAQS	24-hour (50 $\mu g/m^3$) Annual (20 $\mu g/m^3$)	Nonattainment	N/A
$PM_{2.5}$	NAAQS	2006 24-Hour (35 $\mu g/m^3$)	Nonattainment (Serious)	12/31/2019
	NAAQS	1997 Annual (15.0 $\mu g/m^3$)	Nonattainment	4/5/2015
	NAAQS	2012 Annual (12.0 $\mu g/m^3$)	Nonattainment (Serious)	12/31/2025
	CAAQS	Annual (12.0 $\mu g/m^3$)	Nonattainment	N/A
Lead	NAAQS	3-Months Rolling (0.15 $\mu g/m^3$)	Nonattainment (Partial)	12/31/2015
Hydrogen Sulfide (H_2S)	CAAQS	1-Hour (0.03 ppm/42 $\mu g/m^3$)	Attainment	--
Sulfates	CAAQS	24-Hour (25 $\mu g/m^3$)	Attainment	--
Vinyl Chloride	CAAQS	1-Hour (0.01 ppm/ 26 $\mu g/m^3$)	Attainment	--

SOURCE: South Coast Air Quality Management District. February 2016. *Air Quality Management Plan (AQMP)*. Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2

Air Quality Monitoring Stations

The SCAQMD monitors air quality through a network of 39 permanent, multi-pollutant monitoring stations and 4 additional single-pollutant source impact Lead (Pb) monitoring stations in the Basin and a portion of the Salton Sea Air Basin in Coachella Valley.[18] The closest monitoring station to study area of the proposed project is the Santa Clarita-Placerita Monitoring Station, located approximately 4.5 miles to the southeast of the project boundary at 22224 Placerita Canyon, Santa Clarita, California 91321. Santa Clarita Monitoring Station measures carbon monoxide, nitrogen dioxide, ozone, PM_{10}, and $PM_{2.5}$. The nearest monitoring station that records measurements of sulfur dioxide is the Burbank Monitoring Station, located approximately 25 miles to the southeast of the project boundary at 228 West Palm Avenue, Burbank, California 91502.

Ambient air quality data for the proposed project vicinity recorded at the two monitoring stations from 2012 to 2014 indicated exceedances for the applicable state standards for ozone, $PM_{2.5}$, and PM_{10} (Table 8, *Summary of 2012–2014 Ambient Air Quality Data in the Trails Plan Vicinity*).

[18] Annual Air Quality Monitoring Network Plan. July 2015. Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-monitoring-network-plan/annual-air-quality-monitoring-network-plan.pdf?sfvrsn=13

TABLE 8
SUMMARY OF 2012–2014 AMBIENT AIR QUALITY DATA IN THE TRAILS PLAN VICINITY

Pollutant		Pollutant Concentration and Standards	Average and Exceedances		
			2012	2013	2014
Ozone*		Maximum 1-hr concentration (ppm)	0.134	0.134	0.137
		Days above state 1-hr standard	45	30	32
		Maximum 8-hr concentration (ppm)	0.112	0.104	0.111
		Days above state 8-hr standard	83	58	65
Carbon Monoxide*		Maximum 1-hr concentration (ppm)	—	—	—
		Days above state 1-hr standard	—	—	—
		Maximum 8-hr concentration (ppm)	0.82	—	—
		Days above state 8-hr standard	0	0	0
Nitrogen Dioxide*		Maximum 1-hr concentration (ppm)	0.066	0.065	.057
		Days above state 1-hr standard	0	0	0
		Annual concentration (ppm)	.013	.014	.012
		Exceed 0.03 ppm (state annual standard)?	No	No	No
Particulate Matter	$PM_{2.5}$*	Maximum 24-hr concentration ($\mu g/m^3$)	29.0	29.5	28.9
		Days above federal 24-hr standard	—	—	-
		Annual concentration ($\mu g/m^3$)	14	13	10
		Exceed 12 $\mu g/m^3$ (state annual standard)?	Yes	Yes	No
	PM_{10}*	Maximum 24-hr concentration ($\mu g/m^3$)	37.0	43.0	47.0
		Days above state 24-hr standard	0	0	0
		3-year maximum annual concentration ($\mu g/m^3$)	20	21	22
		Exceed 20 $\mu g/m^3$ (state annual standard)?	No	Yes	Yes
Sulfur Dioxide**		Maximum 24-hr concentration (ppm)	.002	.002	—
		Maximum 1-hr concentration (ppm)	—	—	—
		Exceed 0.04 ppm (State 24-hr standard)?	No	No	—
		Exceed 0.25 ppm (State 1-hr standard)	—	—	—

NOTE: ppm = parts per million. $\mu g/m^3$ = micrograms per cubic meter. — = There was insufficient (or no) data available to determine the value

* Data for Ozone, Carbon Monoxide, Nitrogen Dioxide, and $PM_{2.5}$, were taken from the Santa Clarita-Placerita Monitoring Station.

** Data for Sulfur Dioxide was taken from the Burbank Monitoring Station.

SOURCE: California Air Resources Board. Accessed 5 February 2016. *Air Quality Data Statistics*. Available at: http://www.arb.ca.gov/adam/

Greenhouse Gas Emissions

In order to establish a reference point for future GHG emissions, carbon dioxide equivalent (CO_{2e}) emissions have been projected based on an unregulated, business-as-usual, GHG emissions scenario that does not consider the reductions in GHG emissions required by Executive Order S-3-05 or AB 32. In December 2007, CARB stated that California contributed 427 million MT of GHG emissions in CO_{2e} in 1990, and under a business-as-usual development scenario, will contribute approximately 509 million MT of CO_{2e} emissions in 2020, which presents a linear upward trend in California's total GHG emissions. These numbers were based on the IPCC's Second Assessment

Report. Under AB 32, California must reduce emissions to 1990 levels by 2020. By 2013, most climate change organizations were adopting the IPCC's Fourth Assessment Report, which revises global warming potentials of GHG. As a result, ARB updated the new 2020 statewide limit to 431 MMT CO_{2e} by 2020. CARB plans on achieving the reductions through the following sectors: energy (25 MMT), transportation (23 MMT), high-GWP (5 MMT), waste (2 MMT), and cap-and-trade (23 MMT).[19]

Sensitive Receptors

Land uses identified to be sensitive receptors by SCAQMD in the Air Quality Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. People with compromised immune systems may be exposed to emissions released from the construction and operation of the proposed project. The greatest potential for exposure of sensitive receptors to air contaminants would occur during the temporary construction phase.

The proposed project is situated in a rural community with approximately 29,000 residents in the unincorporated communities of Castaic, Castaic Junction, Val Verde, Hasley Canyon, Hillcrest, and Paradise Ranch. Other destinations of note are Castaic Lake; the canyons of Charlie, Tapia, Romero, Sloan, and Violin; the Valencia Commerce Center; the Peter Pitchess Detention Center; and the Northlake development and part of the Newhall Ranch developments. There are 12,011 known sensitive receptors within the study area and an additional 5,318 known sensitive receptors within a 0.5-mile radius of the study area (Figure 6, *Sensitive Receptors*).

Exposure of sensitive receptors to potential emissions would vary from day to day, depending on the amount of work being conducted, the weather/wind conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions.

Due to the short-term and segmented nature of project construction on this programmatic level, sensitive receptors would not be expected to be significantly affected by the proposed project. In addition, although off-site residents, both adults and children, would have a longer potential duration of exposure to the project's constructional air emissions, exposure is reduced with distance. The proposed project is expected to result in potential impacts below the level of significance.

[19] California Air Resources Board. 2013. *Climate Change Scoping Plan Update*. Available at: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

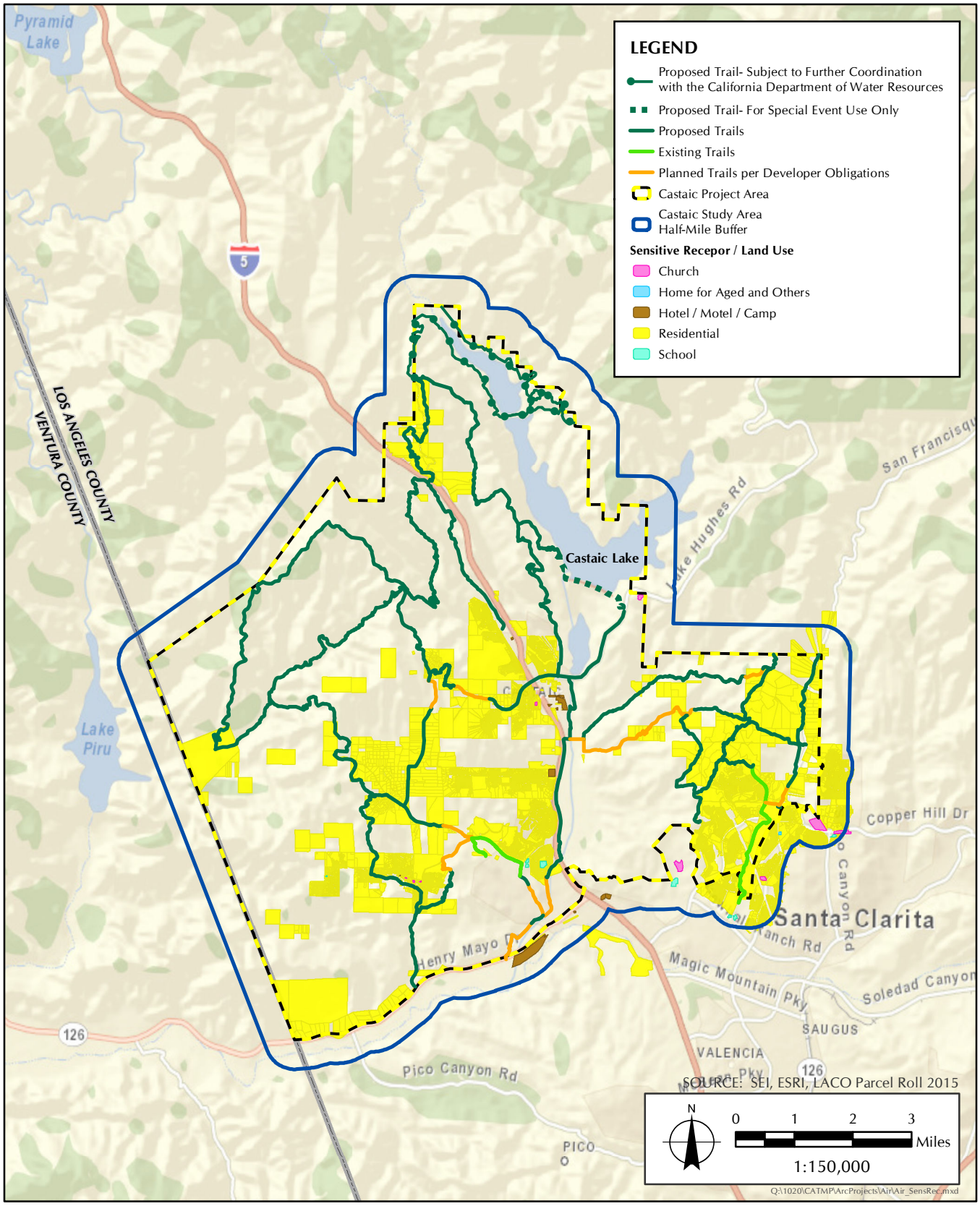

FIGURE 6

Sensitive Receptors

STUDY METHODS AND MODELS

The analysis of air quality impacts and GHG emissions associated with the proposed project was undertaken consistent with the guidelines provided in the SCAQMD Air Quality Handbook.

Definitions

Air Quality Handbook. Prepared by SCAQMD, the CEQA Air Quality Handbook recommends methodologies for assessing air quality impacts as they relate to CEQA.

CalEEMod. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects.

Criteria Pollutants. The Clean Air Act requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for six common air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead.

EMFAC. The SCAQMD Emission Factors (EMFAC) model is embedded within the CalEEMod software to estimate emissions from on-road vehicles. It includes the Pavley Standards and the Low Carbon Fuel Standards.

SCAQMD. SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties.

Toxic Air Contaminants. Additional pollutants have been determined by the State Board to be toxic air contaminants (TACs) as defined in Health and Safety Code Section 39655.

Conceptual Construction Scenario

CalEEMod Version 2013.2.2 was used to estimate construction emissions from the proposed project (Appendix A, *CalEEMod Output for the Castaic Area Multi-Use Trails Plan*). The proposed network of trails is being analyzed at the project level and is representative of how the conceptual plan would be implemented, allowing a basis for determining the impacts at the programmatic level. Additionally, CalEEMod was used to estimate emissions from the operation of proposed trails that would be likely to result from additional vehicle trips traveling to and from the proposed project study area by trail users. The following assumptions were made to perform the air quality analysis:

1. The "recreational" land use category was designated for the air quality analysis.

2. Construction would be conducted in accordance with the guidelines specified in the County Trails Manual. The County Trails Manual contains specific methods for building trails in areas with steep slopes and riparian crossings. The County Trails Manual should be referenced for further information to determine the constructability of trail segments.

3. The trail corridor width was assumed to be 12 feet. Actual trail widths range from 2 feet to 11 feet in width, so 12 feet is used as a conservative estimate.

4. The area of disturbance was assumed to be approximately 132 acres (90 miles × 12 feet width × unit conversion factors). Site preparation and grading were the only construction phases included in the model.

5. The derived empirical parking trip rate was 4.9 trips per mile of trail.[20] Default values for other trip characteristics were used.

6. Although the trails and related appurtenant facilities are expected be constructed through 2035 planning horizon in the County of Los Angeles General Plan, for the purpose of this analysis, the construction phase was assumed to take 48 months from January 1, 2017, to December 30, 2020. The operational year for the proposed project was assumed to be 2021. This would be a reasonable worst case scenario provided that funding became available for completion of all proposed trails.

7. To prevent the need for importing/exporting soil from off-site for the proposed project, utilization of "cut-and-fill" best management practices were assumed to be implemented into the construction phase. Default values of zero were used for material exported/imported.

8. The equipment listed in Table 9, *Construction Equipment List*, was assumed to calculate construction emissions for the proposed project:

TABLE 9
CONSTRUCTION EQUIPMENT LIST

Equipment	Horsepower Rating	Hours of Operation per Day
Site Preparation		
Two tractor/loader/backhoe	97	4
One water truck	400	4
Grading		
Four rubber tired dozers	255	4
Two grader	174	4
One water truck	400	4

NOTE: A load factor indicates the average proportion of rated power used.

One tractor/loader/backhoe operating 8 hours/day for 260 days a year was included as operational off-road equipment for trail maintenance.

9. No area air emissions sources were selected, assuming that area sources in the vicinity of the proposed project would be negligible. The zoning for the study area is defined as 53 percent Rural, 17 percent Open Space, 11 percent Residential, 5 percent Industrial, <1 percent Commercial, and 15 percent Other (Freeway ROW, Public and Semi-Public, Specific Plan). While there are oil wells within the study area, many attempts to find oil in the early 1900s were unsuccessful, and many

[20] The Santa Susana Trail Master Plan, which is located within 10 miles south of the Castaic Lakes project study area, developed an empirical parking trip rate of 4.9 trips per mile of trail based upon the Saturday AM Peak Hour Vehicle Trip Rate (56 percent inbound, 44 percent outbound). This assumption was used for the proposed project.

wells were abandoned. The Southern California Gas Company currently has 40 active gas wells in an underground natural gas storage field at Honor Rancho. These oil/gas wells were not accounted for in the air emission modeling. Operational energy, waste, and water sources were not considered at this programmatic level. Emissions from construction and operation of any buildings or structures within the study area will need to be considered on the project level.

10. Two recommended measures were selected for the construction phase of the proposed project: Reduce vehicular speed on unpaved roads to less than 15 miles per hour (mph). Water exposed areas three times a day.

The analysis of air impacts from construction is based on potential worst-case scenario for construction activities, including the site preparation and grading of trails.

Emissions from construction activities are represented in the model through off-road construction equipment and worker/vendor trips. These sources represent the majority of the construction emissions. All construction activities of the proposed project would be in accordance with all federal, state, and County building codes and the County Trails Manual. The County would require preparation of a trail site plan, site-specific geotechnical investigation, survey for biological and cultural resources, and a Categorical Exemption (or other appropriate CEQA document) in support of each trail segment before project approval and construction can commence.

Construction best management practices would be used. Construction equipment would be turned off when not in use. The construction contractor would ensure that all construction and grading equipment is properly maintained. All vehicles and compressors would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

EMFAC 2011 Model

CARB EMFAC 2011 model, which is embedded in CalEEMod, was used to evaluate the proposed project's emissions from mobile sources, such as passenger cars and maintenance vehicles, based on the expected vehicle fleet mix, vehicle speeds, commute distances, and temperature conditions for the estimated start date of the proposed project.

SIGNIFICANCE CRITERIA

The air quality impacts associated with the proposed project can be separated into construction-related short-term impacts and operation-related long-term, permanent impacts. Both types of impacts may occur on a local or regional scale. The potential for the proposed project to result in impacts related to air quality and GHG emissions was analyzed in relation to the questions outlined in Appendix G of the State CEQA Guidelines.[21]

[21] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

Air Quality

Would the proposed project:

(a) Conflict with or obstruct implementation of the applicable air quality plan?
(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The impacts to air quality were evaluated in accordance with the most recent SCAQMD significance thresholds for criteria pollutants (Table 10, *SCAQMD Air Quality Significance Thresholds*).

TABLE 10
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction (pounds/day)	Operation (pounds/day)
Nitrogen Oxides	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
Sulfur Oxides	150	150
Carbon Monoxide	550	550

SOURCE: South Coast Air Quality Management District. 1993. *CEQA Handbook*.

(d) Expose sensitive receptors to substantial pollutant concentrations?
(e) Create objectionable odors affecting a substantial number of people?

Greenhouse Gases

Would the proposed project:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

IMPACT ANALYIS

Air quality impacts for a project can be categorized in three main categories:

1. *Construction Impacts*—temporary impacts, including airborne dust and gaseous emissions from heavy construction equipment, and worker/vendor trips. Construction emissions vary substantially from day to day, depending on the level of construction phase and weather conditions.

2. *Operational Impacts*—long term permanent impacts from vehicles traveling to and from the trailheads, which is the main source of operational emissions. Natural gas and electricity usage was not included in the impact analysis.

3. *Cumulative Impacts*—air quality changes resulting from the incremental impact of the project when added to other projects in the vicinity.

Construction Impacts

Construction of the proposed project would not cause a violation of the SCAQMD AQMP because it would not impede the ability of the basin to achieve the NAAQS attainment deadlines for those pollutants not in attainment. Designations for attainment are the determined from the ambient air quality. The proposed project would further be consistent with the AQMP's goals to invest in strategies that improve air quality by supporting transportation control measures to reduce VMT. This is also consistent with the Air Quality Element for the County of Los Angeles General Plan, which states a direct link between transportation activities and air pollution. The project design measures to limit particulate matter from construction are in alignment with Policy AQ 1.3.

Construction has the potential to create air quality impacts through the use of construction equipment and through vehicle trips generated from construction workers traveling to and from study area. Fugitive dust emissions would primarily result from grading and site preparation activities. NO_x emissions would primarily result from tailpipe emissions of construction equipment and associated vehicles. Construction emissions are variable depending on the exact timing of construction from multiple subdivision agreements, daily weather, level of activity, and type of activity. The model represents a reasonable worst-case scenario.

Potential emissions estimates from construction activities are based on emissions factors and construction scenario information for development of the proposed project site. The total amount of construction, including duration and level of construction activity occurring at the proposed project site, would influence the estimated construction emissions and resulting potential impacts. The emissions forecasts are therefore based on conservative assumptions about the construction scenario. The construction scenario assumes all trails being built in four years, which would be a reasonable worst-case scenario. Estimates in this analysis are based upon four continuous years of construction (one year for site preparation and three years for grading). Construction of any buildings in the study area is not modeled and should be evaluated on the project level. Because of the conservative nature of these assumptions, actual emissions from the individual construction projects would most likely be less than the forecasted estimates.

The project's daily construction emissions were generated using CalEEMod 2013.2.2. Table 11, *Estimated Daily Construction Emissions*, summarizes the daily construction emissions associated with the proposed project's construction activities, and indicates that emissions would be far below the SCAQMD daily constructional emissions thresholds of significance.

TABLE 11
ESTIMATED DAILY CONSTRUCTION EMISSIONS

Criteria Air Pollutants	Mitigated Construction Emissions[1]					Exceed Significance Threshold?
	Project Emissions[2] (pounds/day)				SCAQMD Daily Significance Threshold (pounds/day)	
	2017	2018	2019	2020		
Carbon monoxide (CO)	5.17	25.45	24.37	23.00	550	No
Sulfur Dioxide (SO_2)	.01	.03	.03	.03	150	No
Nitrogen oxides (NO_x)	8.08	35.98	33.37	30.51	100	No
Reactive organic gases (ROGs)	0.78	3.41	3.22	3.01	75	No
Particulate matter (PM_{10})	0.96	11.50	11.37	11.24	150	No
Fine particulate matter ($PM_{2.5}$)	0.46	6.82	6.69	6.57	55	No

NOTE: [1] Includes two recommended measures: Reduce speed on unpaved roads to less than 15 mph and water exposed area three times a day.
[2] Daily emissions taken from CalEEMod Summer Report.
SOURCE: CalEEMod 2013.2.2.

According to the CalEEMod analysis summarized in Table 11, construction emissions associated with the proposed project are expected to be below the level of significance as determined by the SCAQMD. No mitigation measures are required.

Sensitive Receptors

Construction emissions from criteria air pollutants and odor impacts are expected to be below the level of significance. Therefore, the short-term exposure of sensitive receptors to the proposed project's construction air emissions is expected to be less than significant.

Odors

Odor nuisances are typically associated with land uses and industrial operations, such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Since the proposed project includes construction of trails in an undeveloped region of Los Angeles County, and does not include any land uses or industrial operations typically associated with odor nuisance, odor impacts from the proposed project would be expected to be below the level of significance. Therefore, construction of proposed project would not result in new or substantially more adverse significant impacts related to odor.

Operational Impacts

The proposed project would minimally increase the number of vehicles coming to and from the parks and open space areas in Castaic by providing recreational opportunities close to where people live and through the long term conservation of open space lands. These trips would be recreational in purpose, occurring mainly on weekends and/or outside peak hour traffic, and therefore not causing additional traffic. With limited new trips, the proposed project would support

Goal 2 of the County of Los Angeles General Plan by coordinating land use, transportation, and air quality planning. The proposed project would also not have a long term consequence on achieving attainment deadlines in the SCAQMD AQMP for criteria pollutants that are not in attainment.

Given that the proposed project would be operated as a trail that would not require any stationary sources for daily operation and maintenance, long-term operation-related air emissions in the proposed project study area are likely to result from vehicles traveling to and from the trailheads and minimal usage of a loader/backhoe/tractor for trail maintenance. The trip rate is from the Santa Susana Trails Plan, which used 4.9 trips/mile, the Saturday AM Peak hourly trip rate. This number was used as the trip rate for both weekend days and adjusted to half that amount for the estimated weekday trip rate. It was assumed that the trail would be operational for 12 hours a day.

Long-term operational emissions of the proposed project are listed in Table 12, *Estimated Daily Operational Emissions*. As shown in Table 5, daily operational emissions of the criteria air pollutants would not exceed SCAQMD mass daily thresholds of significance. Thus, the proposed project would result in a less than significant impact to air quality during operations and would require no mitigation measures.

TABLE 12
ESTIMATED DAILY OPERATIONAL EMISSIONS

Criteria Air Pollutants	Mitigated Operational Emissions[1]		Exceed Significance Threshold?
	Project Emissions[2] (pounds/day)	SCAQMD Daily Significance Threshold (pounds/day)	
Carbon monoxide (CO)	174.02	550	No
Sulfur Dioxide (SO_2)	0.57	150	No
Nitrogen oxides (NO_x)	41.90	55	No
Reactive organic gases (ROGs)	15.19	55	No
Particulate matter (PM_{10})	69.76	150	No
Fine particulate matter ($PM_{2.5}$)	18.52	55	No

NOTE: [1] Includes one mitigation measure: Reduce speed on unpaved roads to less than 15 mph**.**
[2] Daily emissions taken from CalEEMod Summer Report.
SOURCE: CalEEMod 2013.2.2.

According to the CalEEMod analysis summarized in Table 12, operational emissions associated with Phase I of the proposed project are expected to be below the level of significance as determined by the SCAQMD. No mitigation measures are required.

Toxic Air Contaminants

SCAQMD recommends that health risk assessment be conducted for substantial sources of diesel particulate emissions such as emissions from truck stops and warehouse distribution facilities. The operation of proposed project as a 100-mile network of trails would not be expected to require large-scale heavy-duty equipment operations or to generate daily truck trips. To take a conservative approach when considering the proposed project's contribution to the TAC levels, trucks used for maintenance purposes, during the project's operation, would be the only potential source contributing to the TAC level at the proposed project site. However, the number and frequency of

heavy-duty trucks accessing the proposed project site on a daily basis would be minimal to negligible. In addition, other sources such as commercial development, manufacturing industries, and automobile repair facilities are typical sources of acute and chronically hazardous TACs. Because the proposed project site does not contain commercial developments, manufacturing industries, or automobile repair facilities, additional amounts of TACs would be less likely to be contributed to the proposed project site. The proposed project would promote physical activity, which studies have shown to lower the risk of chronic disease and obesity. Walking and biking mode shares in the SCAG region are expected to increase by 28 percent and 71 percent, respectively, compared with the existing (2012) conditions. The proposed project would be consistent with this goal. Therefore, project operation-related TAC emissions would be less than significant.

Sensitive Receptors

SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions. In addition, typical sources of acutely and chronically TACs include industrial manufacturing processes; automotive repair facilities; and dry cleaning facilities. Since the proposed project does not include these uses, a health risk assessment is not warranted. Potential project-generated air toxic impacts that may be generated by construction equipment would be short-term. Daily operational air emissions of criteria air pollutants and TAC levels would be expected to be below the level of significance. Therefore, the long-term exposure of sensitive receptors to the proposed project's operational air emissions would be less than significant.

Odors

According to the CARB Air Quality Handbook, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Because the proposed project does not contain any of these land uses or industrial operations that are typically associated with odor nuisance and will require minimal use of diesel-powered mechanical equipment for maintenance, impacts would be less than significant.

Cumulative Impacts

The County portion of the Basin is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The project would generate these pollutants during the construction of trail improvements. Short-term cumulative impacts related to air quality could occur if project construction and nearby construction activities were to occur simultaneously. In particular, with respect to local impacts, cumulative construction particulate matter (i.e., fugitive dust) impacts are considered when projects are located within a few hundred yards of each other. Many of the related projects located within the project study area are residential subdivisions with the potential to create significant air quality impacts cumulatively. However, the proposed project is a trails plan, and is not expected to contribute significantly to a cumulative air quality impact. Therefore the proposed project's emissions would not be cumulatively considerable.

Greenhouse Gas Emissions

As of February 2016, SCAQMD, state, and federal agencies have not set mandatory significance thresholds for project impacts on climate change and global warming. SCAQMD has set a guidance threshold of 10,000 MT/year CO_{2e} for industrial facilities, but the guidance does not apply to the proposed project. More broadly, the U.S. EPA has set a GHG reporting threshold for facilities emitting at least 25,000 MT CO_{2e} / year. The construction and operation of the proposed project would involve movement of people and cars including emissions from passenger cars, light-duty trucks, sport utility vehicles, and maintenance trucks during active park hours and other construction timeframes. It is anticipated that a relative small amount of CO_{2e} emissions not to exceed 1,263.82 MT (construction) and 5,455.45 MT (operation) would occur, which is a relatively small amount for this type of recreation use. The proposed project would be below both guidances and would therefore have a less than significant impact with regard to greenhouse gas emissions (Table 13, *Greenhouse Gas Emissions*).

TABLE 13
GREENHOUSE GAS EMISSIONS

Phase	Project CO_{2e} Emissions[1] (MT CO_{2e}/year)	Significant?
Construction emissions	1,263.82	No
Operational emissions	5,455.45	No

NOTE: [1] Yearly emissions taken from CalEEMod Annual Report.

CONCLUSIONS, RECOMMENDATIONS, AND CONSIDERATIONS FOR TRAIL PLANNING

Air Quality Management Plan

The proposed project is expected to be consistent with the SCAQMD AQMP that was adopted in 2012. The 2012 AQMP sets forth a program for the South Coast Air Basin to achieve compliance with the federal 24-hour $PM_{2.5}$ standard and federal 8-hour ozone standards. Because the construction and operational emissions for $PM_{2.5}$ and ozone precursors are below the significance threshold set by SCAQMD, the proposed project would not conflict with or obstruct implementation of SCAQMD's AQMP, cause a violation of the standards, or impact the attainment status of SCAQMD. Therefore, the contribution of the proposed project to cumulative impacts would not result in new or substantially more adverse significant impacts.

Air Quality Violations

According to the CalEEMod analysis contained herein, construction and operation of the proposed project is not expected to result in a violation of an air quality standard, or contribute substantially to an existing or projected air quality violation. Best management practices, including watering construction areas three times a day and reducing vehicle speeds on unpaved roads, were built into the air emissions modeling to reduce particulate matter emissions. It is recommended that in order to remain in compliance with SCAQMD Rule 403, *Fugitive Dust*, the measures outlined in Table 14, *Best Management Practices for Fugitive Dust*, be implemented whenever feasible.

TABLE 14
BEST MANAGEMENT PRACTICES FOR FUGITIVE DUST

Source Activity	Mitigation Measure	PM_{10} Control Efficiency	Recommendations	Estimated Cost[1]
Trackout	Use a gravel apron, 25 feet long by road width, to reduce mud/dirt trackout from unpaved truck exit routes.	46%		$1,360/year (gravel apron dimensions: 50′ x 30′ x 3″ thick)
Construction activities	Apply water every 3 hours to disturbed areas within a construction site.	61%	3.2-hour water interval.	No data
Scraper loading and unloading	Require minimum soil moisture of 12% for earthmoving by use of a moveable sprinkler system or a water truck. Moisture content can be verified by lab sample or moisture probe.	69%	AP-42 emission factor equation for materials handling due to increasing soil moisture from 1.4% to 12%.	$138/acre (sprinkler system to maintain minimum soil moisture of 12%)
Construction traffic	Limit on-site vehicle speeds (on unpaved roads) to 15 mph by radar enforcement.	57%	Assume linear relationship between PM_{10} emissions and uncontrolled vehicle speed of 35 mph.	$22/inspection, $180/sign
Travel over unpaved roads	Apply chemical dust suppressant annually to unpaved parking areas	84%		$5,340/acre-year (useful life of 1 year)

NOTE: [1] 2003 dollars.
SOURCE: South Coast Air Quality Management District. April 2007. Mitigation Measure Examples. Available at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/fugitive-dust

It is further recommended that construction of the proposed project utilize "cut-and-fill" best management practices to prevent the need for importing/exporting soil from off-site, thus further reducing the potential impact of fugitive dust in the project vicinity and emissions from haul trucks to and from the project site.

Criteria Pollutants

As of February 2016, the South Coast Air Basin has been designated as nonattainment for ozone, $PM_{2.5}$, PM_{10}, and lead. According to the CalEEMod analysis contained herein, the emission of criteria pollutants (including ozone precursors such as nitrogen oxides) associated with construction and operation of the proposed project would be below the SCAQMD daily significance threshold, and therefore would not result in a cumulatively considerable net increase of any criteria pollutants for which the project region in non-attainment under federal and/or state ambient air quality standards.

Sensitive Receptors

The proposed project is situated in the Castaic Area of Los Angeles County with the Angeles National Forest to the north, the City of Santa Clarita to the southeast, Highway 126 to the south, and Ventura County to the west. There are 12,011 known sensitive receptors within the proposed project study area. There are an additional 5,318 known sensitive receptors within a 0.5-mile radius of the proposed project study area.

Exposure of sensitive receptors to potential emissions would vary from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions.

Due to the short-term nature of project construction, sensitive receptors would not be expected to be adversely affected by construction, operation, or maintenance of the proposed project. In addition, although off-site residents, both adults and children, would have a longer potential duration of exposure to the project's construction air emissions, the distance from the proposed project site would be expected to be below the level of significance because the best management practices for dust suppression would be required for construction.

Objectionable Odors

Odor nuisances are typically associated with land uses and industrial operations, such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Since the proposed project includes construction of trails in an undeveloped region of Los Angeles County, and does not include any land uses or industrial operations typically associated with odor nuisance, odor impacts from the proposed project would be expected to be below the level of significance. Operational impacts related to generating objectionable odors would be below the level of significance.

Greenhouse Gas Emissions

Based on the CalEEMod results and evaluation of federal, state, and regional guidance, construction and operation of the proposed project is not expected to result in generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The proposed project is consistent with the 2016 RTP/SCS because it provides recreational opportunities closer to where people live, thereby reducing per capita VMT. For Los Angeles County, there were 226,000 daily VMT in 2012. The proposed project only minimally increases trips and at non-peak hours while encouraging the 2016 RTP/SCS environmental and public health goals by creating more recreation space within Los Angeles County. At most, during the operational phase, the proposed project would be responsible for 5,455.45 MT of CO_{2e} per year. Therefore, GHG emissions associated with construction and operation of the proposed project would be below the level of significance.

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APPENDIX A
CALEEMOD OUTPUT FOR
CASTAIC AREA MULTI-USE TRAILS PLAN

Castaic Trails Plan

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	132.00	Acre	132.00	5,749,920.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 132 acres of disturbance

Construction Phase - Projects would be completed incrementally by subdivision agreement, but modeling represents total project impact assuming full build out of 100 miles of trails in 4 years. It assumes one year of site preparation and 3 years of grading.

Off-road Equipment - Grading assumptions: 2 Graders for 4 hrs/day, 4 dozers for 4 hrs/day, 1 off highway truck for 4 hrs/day

Off-road Equipment - Site prep assumptions: 2 backhoes for 4 hrs/day, 1 off highway truck for 4 hrs/day

Trips and VMT - Reduced worker trips/day to 1.25* #Equipment as per AQMD's Appendix A: Calculation Details for CalEEMod. 1 vendor trip is used for the water truck. Assume no hauling.

Grading - 132 acres disturbed

Vehicle Trips - 4.9 trips/mi/hr assumed to derived empirical trip rate, as taken from Santa Susana Trails Plan. 4.9 trips/mi/hr * 12 hours * 90.8 mi trails= 5339 trips for 132 acres. Assume ~40 trips/acre/day on Saturday and Sunday and ~20 trip/acre/day during the week.

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Road Dust -

Consumer Products - assume no area emissions

Area Coating - assume no area emissions

Landscape Equipment -

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation - Water construction areas 3x/day. Reduce vehicle speed on unpaved roads to 15 mph.

Mobile Land Use Mitigation -

Operational Off-Road Equipment - Assume 1 tractor/loader/backhoe for 8 hr/day, 260 days a year for maintenance.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	15812250	0
tblConstructionPhase	NumDays	465.00	784.00
tblConstructionPhase	NumDays	180.00	260.00
tblConstructionPhase	PhaseEndDate	12/29/2017	12/31/2017
tblGrading	AcresOfGrading	392.00	132.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	9.00
tblVehicleTrips	ST_TR	1.59	40.00
tblVehicleTrips	SU_TR	1.59	40.00
tblVehicleTrips	WD_TR	1.59	20.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1013	1.0510	0.6717	1.3900e-003	0.0786	0.0537	0.1323	9.8600e-003	0.0494	0.0593						127.6198
2018	0.4453	4.6970	3.3192	4.2400e-003	4.8096	0.2220	5.0315	2.6076	0.2042	2.8119						385.4602
2019	0.4199	4.3564	3.1774	4.2400e-003	4.8096	0.2053	5.0149	2.6076	0.1889	2.7965						378.9338
2020	0.3937	3.9983	3.0096	4.2600e-003	4.8096	0.1883	4.9979	2.6077	0.1732	2.7809						371.8072
Total	**1.3601**	**14.1026**	**10.1778**	**0.0141**	**14.5073**	**0.6693**	**15.1766**	**7.8328**	**0.6158**	**8.4486**						**1,263.8209**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1013	1.0509	0.6717	1.3900e-003	0.0705	0.0537	0.1242	9.9900e-003	0.0494	0.0594						127.6197
2018	0.4453	4.6970	3.3192	4.2400e-003	3.7712	0.2220	3.9931	2.0389	0.2042	2.2431						385.4597
2019	0.4199	4.3564	3.1774	4.2400e-003	3.7712	0.2053	3.9765	2.0389	0.1889	2.2278						378.9334
2020	0.3937	3.9983	3.0096	4.2600e-003	3.7713	0.1883	3.9596	2.0389	0.1732	2.2121						371.8068
Total	**1.3601**	**14.1026**	**10.1778**	**0.0141**	**11.3841**	**0.6693**	**12.0534**	**6.1267**	**0.6158**	**6.7425**						**1,263.8195**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**21.53**	**0.00**	**20.58**	**21.78**	**0.00**	**20.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.8312	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	1.7415	5.0257	20.2394	0.0644	7.8938	0.0872	7.9810	2.0332	0.0804	2.1136						4,489.9462
Offroad	0.0244	0.2465	0.2938	4.0000e-004		0.0145	0.0145		0.0134	0.0134						35.7274
Waste						0.0000	0.0000		0.0000	0.0000						9.4668
Water						0.0000	0.0000		0.0000	0.0000						920.3062
Total	**25.5971**	**5.2722**	**20.5349**	**0.0648**	**7.8938**	**0.1017**	**7.9956**	**2.0332**	**0.0938**	**2.1270**						**5,455.4501**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	23.8312	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	1.7415	5.0257	20.2394	0.0644	7.8938	0.0872	7.9810	2.0332	0.0804	2.1136						4,489.9462
Offroad	0.0244	0.2465	0.2938	4.0000e-004		0.0145	0.0145		0.0134	0.0134						35.7274
Waste						0.0000	0.0000		0.0000	0.0000						9.4668
Water						0.0000	0.0000		0.0000	0.0000						1,840.6125
Total	**25.5971**	**5.2722**	**20.5349**	**0.0648**	**7.8938**	**0.1017**	**7.9956**	**2.0332**	**0.0938**	**2.1270**						**6,375.7563**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.10**	**4.67**	**1.43**	**0.62**	**0.00**	**14.28**	**0.18**	**0.00**	**14.25**	**0.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-16.21**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2017	12/31/2017	5	260	
2	Grading	Grading	1/1/2018	12/31/2020	5	784	

Acres of Grading (Site Preparation Phase): 132

Acres of Grading (Grading Phase): 132

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Off-Highway Trucks	1	4.00	400	0.38
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Graders	2	4.00	174	0.41
Grading	Off-Highway Trucks	1	4.00	400	0.38
Grading	Rubber Tired Dozers	4	4.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	4.00	1.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	9.00	1.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0700	0.0000	0.0700	7.5600e-003	0.0000	7.5600e-003						0.0000
Off-Road	0.0979	1.0349	0.6158	1.2600e-003		0.0535	0.0535		0.0492	0.0492						117.5529
Total	**0.0979**	**1.0349**	**0.6158**	**1.2600e-003**	**0.0700**	**0.0535**	**0.1235**	**7.5600e-003**	**0.0492**	**0.0568**						**117.5529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.1200e-003	0.0121	0.0150	3.0000e-005	9.1000e-004	1.8000e-004	1.0900e-003	2.6000e-004	1.7000e-004	4.3000e-004						2.8875
Worker	2.2900e-003	3.9600e-003	0.0409	1.0000e-004	7.6700e-003	7.0000e-005	7.7400e-003	2.0400e-003	6.0000e-005	2.1000e-003						7.1794
Total	**3.4100e-003**	**0.0160**	**0.0559**	**1.3000e-004**	**8.5800e-003**	**2.5000e-004**	**8.8300e-003**	**2.3000e-003**	**2.3000e-004**	**2.5300e-003**						**10.0669**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0546	0.0000	0.0546	5.8900e-003	0.0000	5.8900e-003						0.0000
Off-Road	0.0979	1.0349	0.6158	1.2600e-003		0.0535	0.0535		0.0492	0.0492						117.5528
Total	**0.0979**	**1.0349**	**0.6158**	**1.2600e-003**	**0.0546**	**0.0535**	**0.1081**	**5.8900e-003**	**0.0492**	**0.0551**						**117.5528**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.1200e-003	0.0121	0.0150	3.0000e-005	1.5800e-003	1.8000e-004	1.7600e-003	4.2000e-004	1.7000e-004	5.9000e-004						2.8875
Worker	2.2900e-003	3.9600e-003	0.0409	1.0000e-004	0.0143	7.0000e-005	0.0144	3.6700e-003	6.0000e-005	3.7300e-003						7.1794
Total	**3.4100e-003**	**0.0160**	**0.0559**	**1.3000e-004**	**0.0159**	**2.5000e-004**	**0.0162**	**4.0900e-003**	**2.3000e-004**	**4.3200e-003**						**10.0669**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7913	0.0000	4.7913	2.6028	0.0000	2.6028						0.0000
Off-Road	0.4396	4.6778	3.2211	3.9900e-003		0.2217	0.2217		0.2039	0.2039						366.9887
Total	**0.4396**	**4.6778**	**3.2211**	**3.9900e-003**	**4.7913**	**0.2217**	**5.0130**	**2.6028**	**0.2039**	**2.8067**						**366.9887**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.0600e-003	0.0111	0.0145	3.0000e-005	9.2000e-004	1.7000e-004	1.0900e-003	2.6000e-004	1.6000e-004	4.2000e-004						2.8507
Worker	4.6100e-003	8.1200e-003	0.0836	2.2000e-004	0.0173	1.5000e-004	0.0175	4.6000e-003	1.4000e-004	4.7400e-003						15.6208
Total	**5.6700e-003**	**0.0192**	**0.0981**	**2.5000e-004**	**0.0183**	**3.2000e-004**	**0.0186**	**4.8600e-003**	**3.0000e-004**	**5.1600e-003**						**18.4715**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7372	0.0000	3.7372	2.0302	0.0000	2.0302						0.0000
Off-Road	0.4396	4.6778	3.2211	3.9900e-003		0.2217	0.2217		0.2039	0.2039						366.9883
Total	**0.4396**	**4.6778**	**3.2211**	**3.9900e-003**	**3.7372**	**0.2217**	**3.9589**	**2.0302**	**0.2039**	**2.2341**						**366.9883**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.0600e-003	0.0111	0.0145	3.0000e-005	1.5800e-003	1.7000e-004	1.7500e-003	4.2000e-004	1.6000e-004	5.8000e-004						2.8507
Worker	4.6100e-003	8.1200e-003	0.0836	2.2000e-004	0.0324	1.5000e-004	0.0325	8.2900e-003	1.4000e-004	8.4300e-003						15.6208
Total	**5.6700e-003**	**0.0192**	**0.0981**	**2.5000e-004**	**0.0339**	**3.2000e-004**	**0.0343**	**8.7100e-003**	**3.0000e-004**	**9.0100e-003**						**18.4715**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7913	0.0000	4.7913	2.6028	0.0000	2.6028						0.0000
Off-Road	0.4147	4.3387	3.0868	3.9900e-003		0.2050	0.2050		0.1886	0.1886						361.1344
Total	**0.4147**	**4.3387**	**3.0868**	**3.9900e-003**	**4.7913**	**0.2050**	**4.9963**	**2.6028**	**0.1886**	**2.7914**						**361.1344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.0000e-003	0.0102	0.0140	3.0000e-005	9.2000e-004	1.6000e-004	1.0800e-003	2.6000e-004	1.5000e-004	4.1000e-004						2.7921
Worker	4.2000e-003	7.4400e-003	0.0766	2.2000e-004	0.0173	1.5000e-004	0.0175	4.6000e-003	1.4000e-004	4.7400e-003						15.0073
Total	**5.2000e-003**	**0.0177**	**0.0906**	**2.5000e-004**	**0.0183**	**3.1000e-004**	**0.0186**	**4.8600e-003**	**2.9000e-004**	**5.1500e-003**						**17.7994**

3.3 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7372	0.0000	3.7372	2.0302	0.0000	2.0302						0.0000
Off-Road	0.4147	4.3387	3.0868	3.9900e-003		0.2050	0.2050		0.1886	0.1886						361.1339
Total	**0.4147**	**4.3387**	**3.0868**	**3.9900e-003**	**3.7372**	**0.2050**	**3.9422**	**2.0302**	**0.1886**	**2.2188**						**361.1339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.0000e-003	0.0102	0.0140	3.0000e-005	1.5800e-003	1.6000e-004	1.7500e-003	4.2000e-004	1.5000e-004	5.7000e-004						2.7921
Worker	4.2000e-003	7.4400e-003	0.0766	2.2000e-004	0.0324	1.5000e-004	0.0325	8.2900e-003	1.4000e-004	8.4300e-003						15.0073
Total	**5.2000e-003**	**0.0177**	**0.0906**	**2.5000e-004**	**0.0339**	**3.1000e-004**	**0.0343**	**8.7100e-003**	**2.9000e-004**	**9.0000e-003**						**17.7994**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7913	0.0000	4.7913	2.6028	0.0000	2.6028						0.0000
Off-Road	0.3888	3.9824	2.9244	4.0100e-003		0.1880	0.1880		0.1730	0.1730						354.6078
Total	**0.3888**	**3.9824**	**2.9244**	**4.0100e-003**	**4.7913**	**0.1880**	**4.9793**	**2.6028**	**0.1730**	**2.7757**						**354.6078**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	9.6000e-004	8.9600e-003	0.0137	3.0000e-005	9.2000e-004	1.5000e-004	1.0700e-003	2.6000e-004	1.4000e-004	4.0000e-004						2.7403
Worker	3.9400e-003	6.9300e-003	0.0716	2.2000e-004	0.0174	1.5000e-004	0.0175	4.6200e-003	1.4000e-004	4.7600e-003						14.4591
Total	**4.9000e-003**	**0.0159**	**0.0852**	**2.5000e-004**	**0.0183**	**3.0000e-004**	**0.0186**	**4.8800e-003**	**2.8000e-004**	**5.1600e-003**						**17.1994**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7372	0.0000	3.7372	2.0302	0.0000	2.0302						0.0000
Off-Road	0.3888	3.9824	2.9244	4.0100e-003		0.1880	0.1880		0.1730	0.1730						354.6073
Total	**0.3888**	**3.9824**	**2.9244**	**4.0100e-003**	**3.7372**	**0.1880**	**3.9252**	**2.0302**	**0.1730**	**2.2031**						**354.6073**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	9.6000e-004	8.9600e-003	0.0137	3.0000e-005	1.5900e-003	1.5000e-004	1.7400e-003	4.3000e-004	1.4000e-004	5.6000e-004						2.7403
Worker	3.9400e-003	6.9300e-003	0.0716	2.2000e-004	0.0325	1.5000e-004	0.0326	8.3200e-003	1.4000e-004	8.4600e-003						14.4591
Total	**4.9000e-003**	**0.0159**	**0.0852**	**2.5000e-004**	**0.0341**	**3.0000e-004**	**0.0344**	**8.7500e-003**	**2.8000e-004**	**9.0200e-003**						**17.1994**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7415	5.0257	20.2394	0.0644	7.8938	0.0872	7.9810	2.0332	0.0804	2.1136						4,489.9462
Unmitigated	1.7415	5.0257	20.2394	0.0644	7.8938	0.0872	7.9810	2.0332	0.0804	2.1136						4,489.9462

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	2,640.00	5,280.00	5280.00	11,240,044	11,240,044
Total	2,640.00	5,280.00	5,280.00	11,240,044	11,240,044

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	18.50	10.10	7.90	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.527271	0.057774	0.179409	0.125521	0.039563	0.006393	0.017164	0.035220	0.002536	0.003167	0.003715	0.000530	0.001736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0				0.0000
Total					**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0				0.0000
Total					**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	23.8312	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003
Unmitigated	23.8312	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.0537					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	20.7773					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.6000e-004	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003
Total	**23.8312**	**2.0000e-005**	**1.6900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.4600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.0537					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	20.7773					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.6000e-004	2.0000e-005	1.6900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.4600e-003
Total	**23.8312**	**2.0000e-005**	**1.6900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.4600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				1,840.6125
Unmitigated				920.3062

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 288.338				920.3062
Total					**920.3062**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 288.338				1,840.6125
Total					**1,840.6125**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				9.4668
Unmitigated				9.4668

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	20.81				9.4668
Total					**9.4668**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	20.81				9.4668
Total					**9.4668**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	8.00	260	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/ Backhoes	0.0244	0.2465	0.2938	4.0000e-004		0.0145	0.0145		0.0134	0.0134						35.7274
Total	**0.0244**	**0.2465**	**0.2938**	**4.0000e-004**		**0.0145**	**0.0145**		**0.0134**	**0.0134**						**35.7274**

10.0 Vegetation

Castaic Trails Plan

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	132.00	Acre	132.00	5,749,920.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 132 acres of disturbance

Construction Phase - Projects would be completed incrementally by subdivision agreement, but modeling represents total project impact assuming full build out of 100 miles of trails in 4 years. It assumes one year of site preparation and 3 years of grading.

Off-road Equipment - Grading assumptions: 2 Graders for 4 hrs/day, 4 dozers for 4 hrs/day, 1 off highway truck for 4 hrs/day

Off-road Equipment - Site prep assumptions: 2 backhoes for 4 hrs/day, 1 off highway truck for 4 hrs/day

Trips and VMT - Reduced worker trips/day to 1.25* #Equipment as per AQMD's Appendix A: Calculation Details for CalEEMod. 1 vendor trip is used for the water truck. Assume no hauling.

Grading - 132 acres disturbed

Vehicle Trips - 4.9 trips/mi/hr assumed to derived empirical trip rate, as taken from Santa Susana Trails Plan. 4.9 trips/mi/hr * 12 hours * 90.8 mi trails= 5339 trips for 132 acres. Assume ~40 trips/acre/day on Saturday and Sunday and ~20 trip/acre/day during the week.

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Road Dust -

Consumer Products - assume no area emissions

Area Coating - assume no area emissions

Landscape Equipment -

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation - Water construction areas 3x/day. Reduce vehicle speed on unpaved roads to 15 mph.

Mobile Land Use Mitigation -

Operational Off-Road Equipment - Assume 1 tractor/loader/backhoe for 8 hr/day, 260 days a year for maintenance.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	5270750	0
tblAreaCoating	Area_Nonresidential_Interior	15812250	0
tblConstructionPhase	NumDays	465.00	784.00
tblConstructionPhase	NumDays	180.00	260.00
tblConstructionPhase	PhaseEndDate	12/29/2017	12/31/2017
tblGrading	AcresOfGrading	392.00	132.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	9.00
tblVehicleTrips	ST_TR	1.59	40.00
tblVehicleTrips	SU_TR	1.59	40.00
tblVehicleTrips	WD_TR	1.59	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.7790	8.0764	5.1663	0.0107	0.6058	0.4134	1.0191	0.0761	0.3803	0.4564						1,084.8140
2018	3.4127	35.9811	25.4541	0.0326	12.3653	1.7010	14.0663	6.6777	1.5649	8.2426						3,261.6553
2019	3.2181	33.3717	24.3661	0.0326	12.3653	1.5734	13.9387	6.6777	1.4475	8.1252						3,206.3112
2020	3.0057	30.5117	22.9910	0.0326	12.3653	1.4373	13.8026	6.6777	1.3223	8.0000						3,133.9131
Total	**10.4155**	**107.9409**	**77.9776**	**0.1084**	**37.7018**	**5.1250**	**42.8268**	**20.1092**	**4.7150**	**24.8242**						**10,686.6937**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.7790	8.0764	5.1663	0.0107	0.5449	0.4134	0.9583	0.0775	0.3803	0.4578						1,084.8140
2018	3.4127	35.9811	25.4541	0.0326	9.7994	1.7010	11.5003	5.2471	1.5649	6.8120						3,261.6553
2019	3.2181	33.3717	24.3661	0.0326	9.7994	1.5734	11.3727	5.2471	1.4475	6.6947						3,206.3112
2020	3.0057	30.5117	22.9910	0.0326	9.7994	1.4373	11.2367	5.2472	1.3223	6.5695						3,133.9131
Total	**10.4155**	**107.9409**	**77.9776**	**0.1084**	**29.9430**	**5.1250**	**35.0680**	**15.8189**	**4.7150**	**20.5339**						**10,686.6937**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**20.58**	**0.00**	**18.12**	**21.33**	**0.00**	**17.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	15.0015	40.0085	171.7478	0.5696	68.9041	0.7452	69.6493	17.7301	0.6874	18.4175						43,689.8721
Offroad	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028						302.9437
Total	**15.1900**	**41.9044**	**174.0216**	**0.5727**	**68.9041**	**0.8570**	**69.7611**	**17.7301**	**0.7903**	**18.5204**						**43,992.8464**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	15.0015	40.0085	171.7478	0.5696	68.9041	0.7452	69.6493	17.7301	0.6874	18.4175						43,689.8721
Offroad	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028						302.9437
Total	**15.1900**	**41.9044**	**174.0216**	**0.5727**	**68.9041**	**0.8570**	**69.7611**	**17.7301**	**0.7903**	**18.5204**						**43,992.8464**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.23**	**4.52**	**1.30**	**0.54**	**0.00**	**13.04**	**0.16**	**0.00**	**13.01**	**0.56**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2017	12/31/2017	5	260	
2	Grading	Grading	1/1/2018	12/31/2020	5	784	

Acres of Grading (Site Preparation Phase): 132

Acres of Grading (Grading Phase): 132

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Off-Highway Trucks	1	4.00	400	0.38
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Graders	2	4.00	174	0.41
Grading	Off-Highway Trucks	1	4.00	400	0.38
Grading	Rubber Tired Dozers	4	4.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	4.00	1.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	9.00	1.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5384	0.0000	0.5384	0.0581	0.0000	0.0581						0.0000
Off-Road	0.7528	7.9610	4.7365	9.6800e-003		0.4115	0.4115		0.3785	0.3785						996.7687
Total	**0.7528**	**7.9610**	**4.7365**	**9.6800e-003**	**0.5384**	**0.4115**	**0.9499**	**0.0581**	**0.3785**	**0.4367**						**996.7687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	8.1400e-003	0.0886	0.0987	2.5000e-004	7.1400e-003	1.3900e-003	8.5300e-003	2.0300e-003	1.2800e-003	3.3100e-003						24.5596
Worker	0.0181	0.0267	0.3311	7.8000e-004	0.0602	5.3000e-004	0.0607	0.0160	4.9000e-004	0.0165						63.4857
Total	**0.0262**	**0.1153**	**0.4298**	**1.0300e-003**	**0.0674**	**1.9200e-003**	**0.0693**	**0.0180**	**1.7700e-003**	**0.0198**						**88.0453**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4200	0.0000	0.4200	0.0454	0.0000	0.0454						0.0000
Off-Road	0.7528	7.9610	4.7365	9.6800e-003		0.4115	0.4115		0.3785	0.3785						996.7687
Total	**0.7528**	**7.9610**	**4.7365**	**9.6800e-003**	**0.4200**	**0.4115**	**0.8314**	**0.0454**	**0.3785**	**0.4239**						**996.7687**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	8.1400e-003	0.0886	0.0987	2.5000e-004	0.0124	1.3900e-003	0.0138	3.3100e-003	1.2800e-003	4.5900e-003						24.5596
Worker	0.0181	0.0267	0.3311	7.8000e-004	0.1126	5.3000e-004	0.1131	0.0288	4.9000e-004	0.0293						63.4857
Total	**0.0262**	**0.1153**	**0.4298**	**1.0300e-003**	**0.1249**	**1.9200e-003**	**0.1269**	**0.0321**	**1.7700e-003**	**0.0339**						**88.0453**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.2227	0.0000	12.2227	6.6397	0.0000	6.6397						0.0000
Off-Road	3.3687	35.8452	24.6830	0.0306		1.6985	1.6985		1.5626	1.5626						3,099.8913
Total	**3.3687**	**35.8452**	**24.6830**	**0.0306**	**12.2227**	**1.6985**	**13.9212**	**6.6397**	**1.5626**	**8.2023**						**3,099.8913**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	7.6800e-003	0.0814	0.0943	2.5000e-004	7.1400e-003	1.3100e-003	8.4500e-003	2.0300e-003	1.2000e-003	3.2300e-003						24.1540
Worker	0.0363	0.0546	0.6769	1.7500e-003	0.1355	1.1600e-003	0.1366	0.0359	1.0800e-003	0.0370						137.6100
Total	**0.0440**	**0.1359**	**0.7712**	**2.0000e-003**	**0.1426**	**2.4700e-003**	**0.1451**	**0.0380**	**2.2800e-003**	**0.0402**						**161.7640**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5337	0.0000	9.5337	5.1790	0.0000	5.1790						0.0000
Off-Road	3.3687	35.8452	24.6830	0.0306		1.6985	1.6985		1.5626	1.5626						3,099.8913
Total	**3.3687**	**35.8452**	**24.6830**	**0.0306**	**9.5337**	**1.6985**	**11.2322**	**5.1790**	**1.5626**	**6.7416**						**3,099.8913**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	7.6800e-003	0.0814	0.0943	2.5000e-004	0.0124	1.3100e-003	0.0137	3.3100e-003	1.2000e-003	4.5200e-003						24.1540
Worker	0.0363	0.0546	0.6769	1.7500e-003	0.2533	1.1600e-003	0.2544	0.0648	1.0800e-003	0.0659						137.6100
Total	**0.0440**	**0.1359**	**0.7712**	**2.0000e-003**	**0.2656**	**2.4700e-003**	**0.2681**	**0.0682**	**2.2800e-003**	**0.0704**						**161.7640**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.2227	0.0000	12.2227	6.6397	0.0000	6.6397						0.0000
Off-Road	3.1776	33.2467	23.6537	0.0306		1.5710	1.5710		1.4453	1.4453						3,050.4406
Total	**3.1776**	**33.2467**	**23.6537**	**0.0306**	**12.2227**	**1.5710**	**13.7937**	**6.6397**	**1.4453**	**8.0851**						**3,050.4406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	7.2900e-003	0.0750	0.0908	2.5000e-004	7.1400e-003	1.2400e-003	8.3900e-003	2.0300e-003	1.1400e-003	3.1800e-003						23.6577
Worker	0.0332	0.0500	0.6217	1.7500e-003	0.1355	1.1300e-003	0.1366	0.0359	1.0500e-003	0.0370						132.2129
Total	**0.0405**	**0.1250**	**0.7125**	**2.0000e-003**	**0.1426**	**2.3700e-003**	**0.1450**	**0.0380**	**2.1900e-003**	**0.0402**						**155.8706**

3.3 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5337	0.0000	9.5337	5.1790	0.0000	5.1790						0.0000
Off-Road	3.1776	33.2467	23.6537	0.0306		1.5710	1.5710		1.4453	1.4453						3,050.4406
Total	**3.1776**	**33.2467**	**23.6537**	**0.0306**	**9.5337**	**1.5710**	**11.1047**	**5.1790**	**1.4453**	**6.6243**						**3,050.4406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	7.2900e-003	0.0750	0.0908	2.5000e-004	0.0124	1.2400e-003	0.0136	3.3100e-003	1.1400e-003	4.4600e-003						23.6577
Worker	0.0332	0.0500	0.6217	1.7500e-003	0.2533	1.1300e-003	0.2544	0.0648	1.0500e-003	0.0659						132.2129
Total	**0.0405**	**0.1250**	**0.7125**	**2.0000e-003**	**0.2656**	**2.3700e-003**	**0.2680**	**0.0682**	**2.1900e-003**	**0.0704**						**155.8706**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.2227	0.0000	12.2227	6.6397	0.0000	6.6397						0.0000
Off-Road	2.9676	30.3998	22.3234	0.0306		1.4351	1.4351		1.3202	1.3202						2,983.8789
Total	**2.9676**	**30.3998**	**22.3234**	**0.0306**	**12.2227**	**1.4351**	**13.6578**	**6.6397**	**1.3202**	**7.9600**						**2,983.8789**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	6.9800e-003	0.0655	0.0880	2.5000e-004	7.1400e-003	1.1400e-003	8.2800e-003	2.0300e-003	1.0500e-003	3.0800e-003						23.1305
Worker	0.0311	0.0464	0.5796	1.7500e-003	0.1355	1.1200e-003	0.1366	0.0359	1.0400e-003	0.0370						126.9037
Total	**0.0380**	**0.1119**	**0.6676**	**2.0000e-003**	**0.1426**	**2.2600e-003**	**0.1449**	**0.0380**	**2.0900e-003**	**0.0400**						**150.0342**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.5337	0.0000	9.5337	5.1790	0.0000	5.1790						0.0000
Off-Road	2.9676	30.3998	22.3234	0.0306		1.4351	1.4351		1.3202	1.3202						2,983.8789
Total	**2.9676**	**30.3998**	**22.3234**	**0.0306**	**9.5337**	**1.4351**	**10.9688**	**5.1790**	**1.3202**	**6.4992**						**2,983.8789**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	6.9800e-003	0.0655	0.0880	2.5000e-004	0.0124	1.1400e-003	0.0135	3.3100e-003	1.0500e-003	4.3600e-003						23.1305
Worker	0.0311	0.0464	0.5796	1.7500e-003	0.2533	1.1200e-003	0.2544	0.0648	1.0400e-003	0.0659						126.9037
Total	**0.0380**	**0.1119**	**0.6676**	**2.0000e-003**	**0.2656**	**2.2600e-003**	**0.2679**	**0.0682**	**2.0900e-003**	**0.0702**						**150.0342**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	15.0015	40.0085	171.7478	0.5696	68.9041	0.7452	69.6493	17.7301	0.6874	18.4175						43,689.8721
Unmitigated	15.0015	40.0085	171.7478	0.5696	68.9041	0.7452	69.6493	17.7301	0.6874	18.4175						43,689.8721

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	2,640.00	5,280.00	5280.00	11,240,044	11,240,044
Total	2,640.00	5,280.00	5,280.00	11,240,044	11,240,044

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	18.50	10.10	7.90	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.527271	0.057774	0.179409	0.125521	0.039563	0.006393	0.017164	0.035220	0.002536	0.003167	0.003715	0.000530	0.001736

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305
Unmitigated	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305
Total	**1.2600e-003**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**						**0.0305**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.2600e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						0.0305
Total	**1.2600e-003**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**						**0.0305**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	8.00	260	97	0.37	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028						302.9437
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**						**302.9437**

10.0 Vegetation

Appendix C

Biological Resources Assessment

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan Project

MEMORANDUM FOR THE RECORD
2.6 1020-085.M05

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, and Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc.
(Ms. Lauren Dorough)

SUBJECT: Castaic Area Multi-Use Trails Plan Biological Resources Assessment

FIGURES:

1. Regional Vicinity Map
2. Local Vicinity Map
3. USGS 7.5-Minute Quadrangle Index
4. Listed Plant and Wildlife Species with the Potential to Occur in the Castaic Project Area
5. Critical Habitat Present within the Castaic Project Area
6. Sensitive Wildlife Species with the Potential to Occur in the Castaic Project Area
7. California Natural Diversity Database Rare and Locally Important Plant Species with the Potential to Occur in the Castaic Project Area
8. Riparian and State Sensitive Plant Community Records in the Castaic Project Area
9. Federally Protected Wetlands and Waterways Reported in the Castaic Project Area
10. Existing Significant Ecological Areas Present in the Castaic Project Area
11. Habitat Conservation Plans and Natural Community Conservation Plans Present in the Vicinity of the Castaic Project Area

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the programmatic evaluation of the existing conditions associated with the proposed Castaic Area Multi-Use Trails Plan (proposed project) as they pertain to sensitive biological resources in accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines.[1] Presented here are the regulatory framework applicable to the proposed project; a characterization of the existing conditions for biological resources in relation to listed and sensitive species, sensitive plant communities, waters of the United States, migratory corridors and nursery sites, local plans and policies, and Habitat Conservation Plans and Natural Community Conservation Plans; and conclusions, recommendations, and considerations for trail planning as it pertains to biological resources. Based on the results of the programmatic evaluation of biological resources conducted by Sapphos Environmental, Inc., the construction, recreational use, and maintenance activities associated with the proposed project would have the potential to result in impacts to biological resources that would be require the consideration of mitigation measures.

Listed, Sensitive, and Locally Important Species

Listed, sensitive, and locally important plant and wildlife species have the potential to be present throughout the Castaic project area. The construction of trails and supporting facilities may result in impacts to these species either directly or through habitat conversion. Implementation of Mitigation Measure BIO-1 is required to reduce impacts to less than significant.

Riparian and State Sensitive Plant Communities

State sensitive and riparian plant communities have the potential to be present throughout the Castaic project area. The construction of trails and supporting facilities may result in impacts to these plant communities through removal or disturbance. Implementation of Mitigation Measures BIO-1 and BIO-2 are required to reduce impacts to less than significant.

Federally Protected Wetlands and Waterways

Federally and state-protected wetlands and waterways have the potential to be present throughout the Castaic project area. The construction of trails and supporting facilities may result in impacts to these wetlands and waterways through ground disturbing and dredge and fill activities. Implementation of Mitigation Measures BIO-1 and BIO-2 are required to reduce impacts to less than significant.

Migratory Corridors and Nursery Sites

The Castaic project area is located within an area of native wildlife movement and native wildlife nursery sites have the potential to be present throughout the area. The construction of trails and supporting facilities may result in impacts due to the disruption of wildlife movement and disturbance of nursery sites. Implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3 are required to reduce impacts to less than significant.

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

Oak and Native Woodlands

Oak and other native woodlands have the potential to be present throughout the Castaic project area. The construction of trails and supporting facilities may result in impacts to these woodlands through removal or disturbance. Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 are required to reduce impacts to less than significant.

General Plans and Policies

The proposed project would result in no impacts to biological resources related to conflicts with any local policies or ordinances protecting biological resources. Therefore no mitigation measures are required.

Habitat Conservation Plans and Natural Community Conservation Plans

There are no HCPs or NCCPs with boundaries that intersect the Castaic project area. Therefore the proposed project would result in no impacts related to conflicts with the provision of adopted state, regional, or local habitat conservation plans, and no mitigation measures are required.

INTRODUCTION

This MFR documents the methods and results of a desktop evaluation of biological resources in support of the proposed project. The purpose of the evaluation was to characterize the biological resources located within areas that may be impacted by the proposed project. The evaluation included a literature and database review to determine rare, threatened, and endangered species, as well as locally important species that have the potential to be present within or adjacent to the Castaic project area, including a review of topographic maps and aerial photographs. The purpose of the evaluation was to determine the potential effects of the proposed project on sensitive biological resources identified by the County of Los Angeles (County) or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS) pursuant to Appendix G of the State CEQA Guidelines.

LOCATION

The Castaic project area encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties.[2] The Castaic project area is composed of generally mountainous and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area, which is located in the Fifth Supervisorial District, includes a portion of the County-managed Castaic Lake State Recreation Area.

[2] U.S. Geological Survey. Accessed 4 January 2016. TopoView. Available at: http://ngmdb.usgs.gov/maps/TopoView/viewer/#11/34.5626/-118.5353

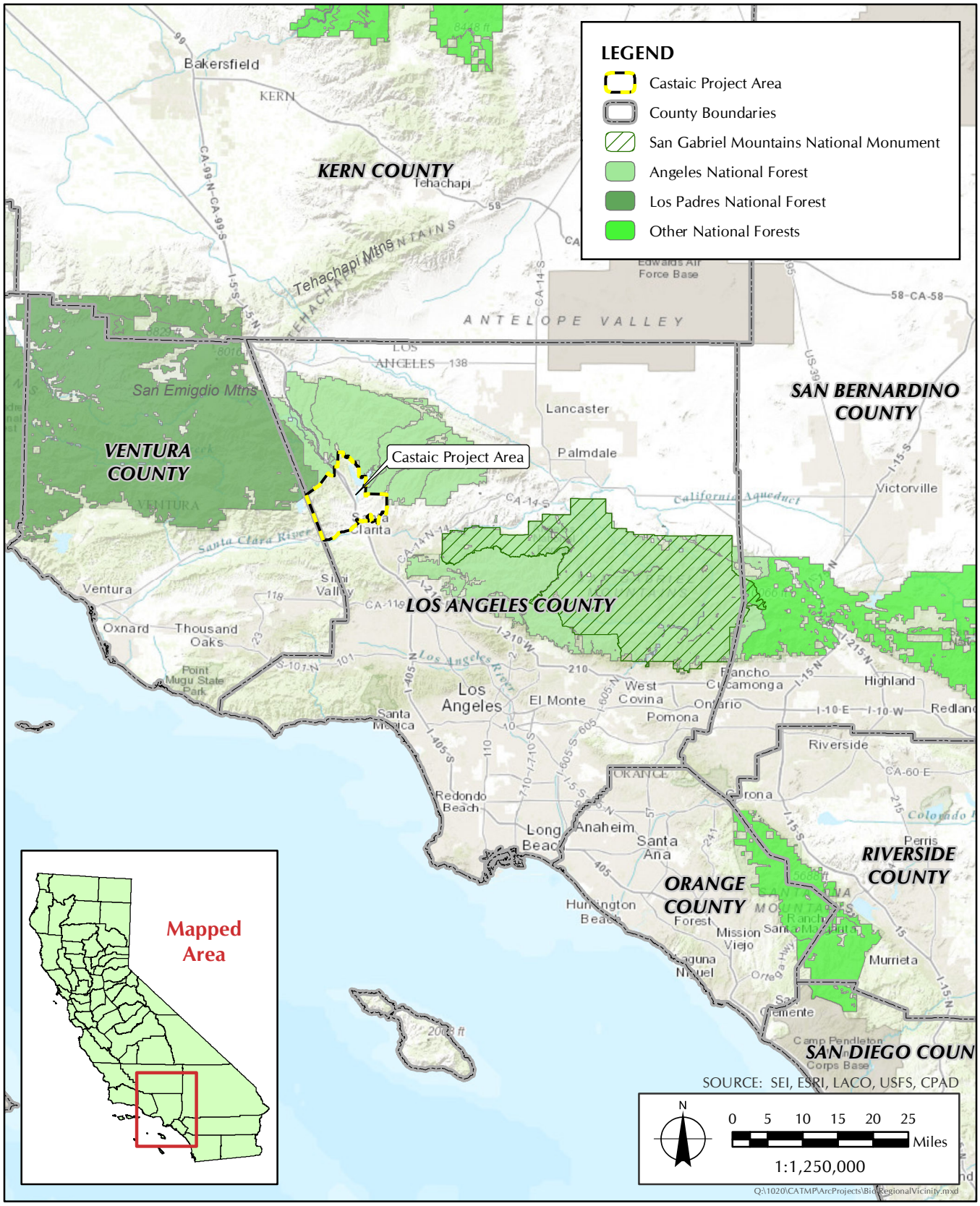

FIGURE 1

Regional Vicinity Map

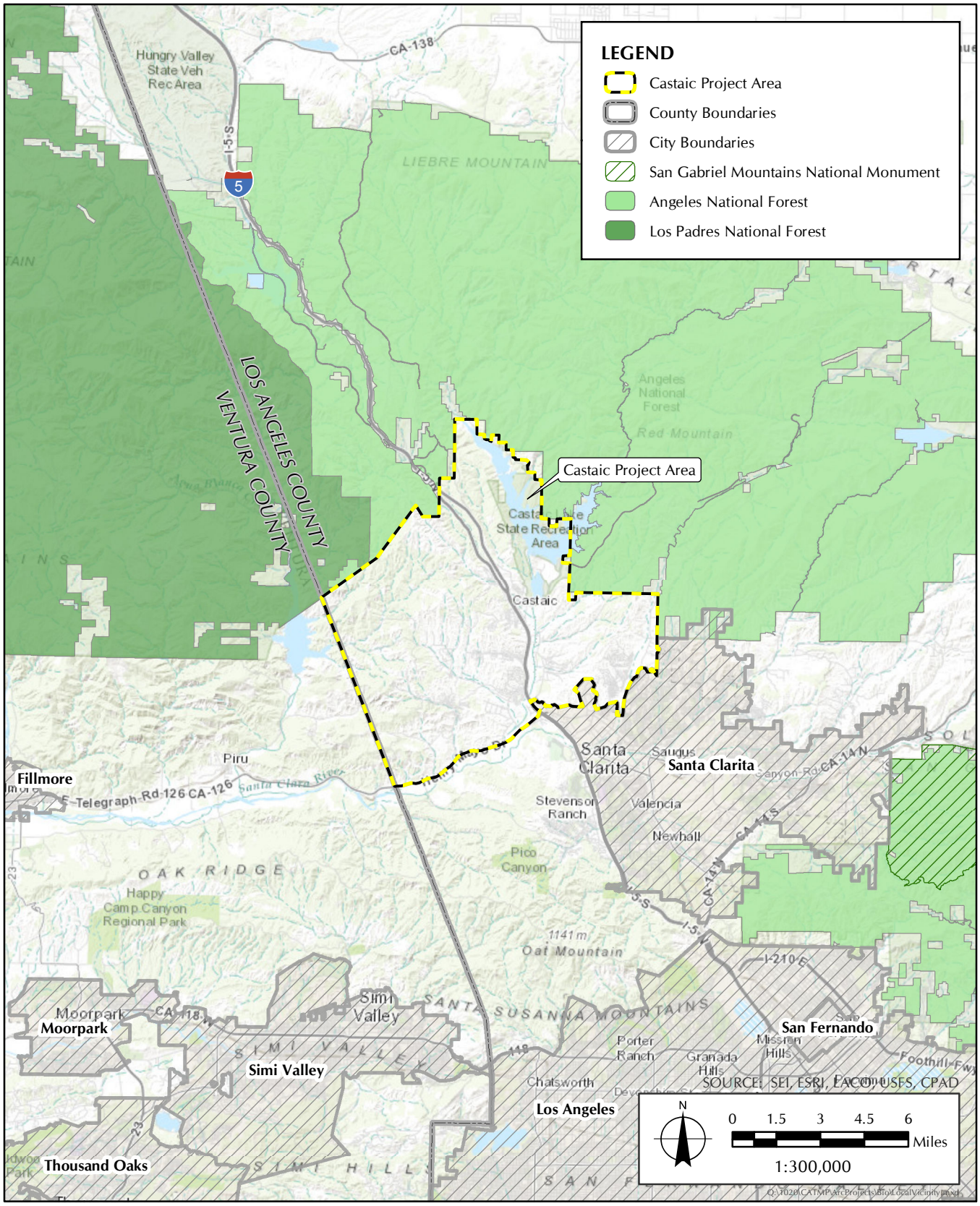

FIGURE 2

Local Vicinity Map

The Castaic project area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 3, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[3,4,5,6] The elevation of the Castaic project area ranges from 2,756 feet above mean sea level (MSL) near the northern edge of the Castaic project area between Violin Canyon and Palomas Canyon, to 863 feet above MSL near the Santa Clara River at the southwestern corner of the Castaic project area. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area. The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

[3] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[4] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[6] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

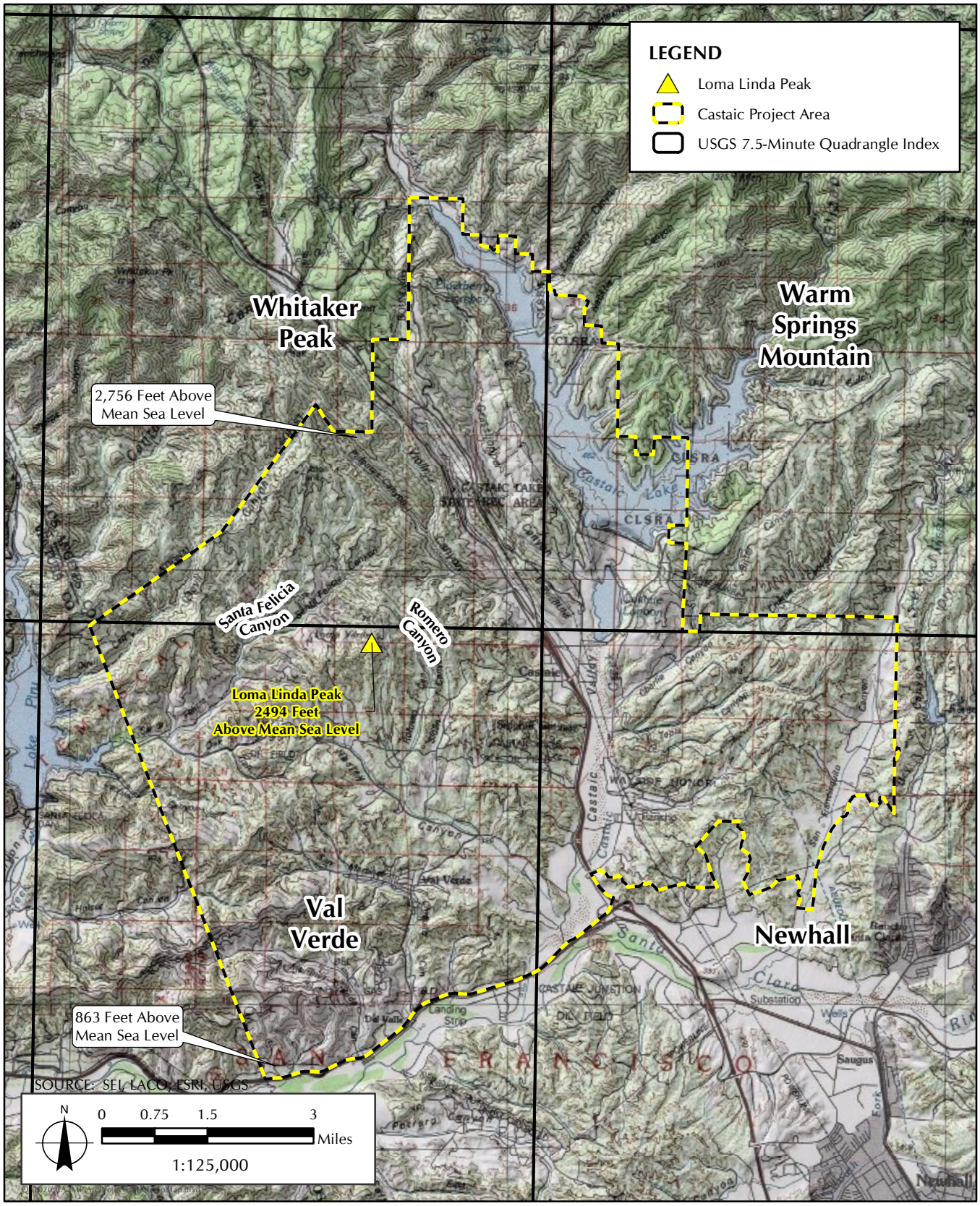

FIGURE 3

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[7] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)

[7] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[8]

[8] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at:

REGULATORY FRAMEWORK

Federal

Federal Endangered Species Act

The federal Endangered Species Act (ESA) defines listed species as "endangered" or "threatened" and provides regulatory protection for listed species. The federal ESA provides a program for conservation and recovery of threatened and endangered species; it also ensures the conservation of designated critical habitat that the U.S. Fish and Wildlife Service (USFWS) has determined is required for the survival and recovery of these listed species. Section 9 of the federal ESA prohibits the "take" of species listed by USFWS as threatened or endangered. Take is defined as follows: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct." In recognition that take cannot always be avoided, Section 10(a) of the federal ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) permits (incidental take permits) may be issued if take is incidental and does not jeopardize the survival and recovery of the species. A Habitat Conservation Plan (HCP) must accompany an application for an incidental take permit. The purpose of the HCP planning process associated with the permit is to ensure there is adequate minimizing and mitigating of the effects of the authorized incidental take. As defined in the federal ESA, individuals, organizations, states, local governments, and other nonfederal entities are affected by the designation of critical habitat only if their actions occur on federal lands; require a federal permit, license, or other authorization; or involve federal funding.

Migratory Bird Treaty Act (MBTA)

The MBTA makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and Russia (formerly the Soviet Union). Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal *Bald and Golden Eagle Protection Act (BGEPA)* (16 USC 668–668c, as amended) that is administered by the USFWS protects bald and golden eagles, their nests, eggs, and parts.[9] The BGEPA prohibits the "take" of bald and golden eagles unless pursuant to regulations. Take is defined by the BGEPA as an action "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb (i.e., agitate or bother to a degree that causes injury, decreased productivity, or nest abandonment)." In addition, the *National Bald Eagle Management Guidelines* were published by the USFWS in May 2007 in conjunction with delisting the bald eagle to provide provisions to continue to protect bald eagles from harmful actions and impacts.[10] Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed

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https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[9] U.S. Fish and Wildlife Service. n.d. Bald Eagle Management Guidelines and Conservation Measures: Bald and Golden Eagle Protection Act. Available at: http://www.fws.gov/midwest/Eagle/guidelines/bgepa.html

[10] U.S. Fish and Wildlife Service. May 2007. National Bald Eagle Management Guidelines. Available at: http://www.fws.gov/pacific/eagle/NationalBaldEagleManagementGuidelines.pdf

authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.[11]

Section 404 of the Federal Clean Water Act

Section 404 of the federal Clean Water Act, which is administered by the United States Army Corps of Engineers (USACOE), regulates the discharge of dredged and fill material into Waters of the United States, which include surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. USACOE has established a series of nationwide permits that authorize certain activities in Waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. Projects that result in the loss of less than the acreage specified by the applicable nationwide permit can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. If the conditions of a nationwide permit cannot be met, or the project results in more than minimal adverse environmental impact, an individual permit may be required.

State Fish and Game Code

Sections 1600 through 1603, Notification to CDFW of Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW (California Fish and Game Code Sections 1600 through 1603) and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction.

Sections 1900–1913—Native Plant Protection Act

The Native Plant Protection Act includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations that no person would import into this State—or take, possess, or sell within the State of California—any rare or endangered native plant, except in compliance with provisions of the Act. Where individual landowners have been notified by the CDFW that rare or native plants are growing on their land, the landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

Sections 2080 and 2081—California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050 et seq.) prohibits the take of listed species, except as otherwise provided in State law. The *take* for the California ESA is defined as it is in the federal ESA; however, unlike the federal ESA, the California ESA also applies the take prohibitions to species petitioned for listing as State candidates rather than only those listed

[11] Federal Register. 20 May 2008. Notices. 73(98): 29075–29084.

species. State lead agencies are required to consult with CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any State-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes. Permits for incidental take of species protected pursuant to the California ESA are available under certain circumstances as described in Sections 2080 and 2081 of the California Fish and Game Code described below.

Section 2080 of the California ESA states:

> No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act (DNPA).

Pursuant to Section 2081 of the Fish and Game Code, CDFW may authorize individuals or public agencies to import, export, take, or possess, any State-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs as follows: (1) if the take is incidental to an otherwise lawful activity, (2) if impacts of the authorized take are minimized and fully mitigated, (3) if the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (4) if the applicant ensures adequate funding to implement the measures required by CDFW. CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Section 2800–2835, Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (California Fish and Game Code Section 2800–2835) established the Natural Community Conservation Planning Program for the protection and perpetuation of the State's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. A Natural Community Conservation Plan (NCCP) identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the State ESA.

Sections 3503 and 3503.5 State Protection for Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the prohibition of the taking of nests and eggs, unless otherwise provided for by the Code. Specifically, these sections of the Code make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code.

Section 3511, 4700, 5050, and 5515 State Fully Protected Species

The state of California classifies certain animals as "Fully Protected," in Section 3511 of the State Fish and Game Code. This classification was the State's initial effort in the 1960s to identify and provide additional protection to certain species that were rare or faced possible extinction. Lists were made for fish, mammals, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the State and/or federal ESAs. Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Section 4150—Non-Game Mammal or Furbearing Mammal

All mammals occurring naturally in California that are not game mammals, fully protected mammals, or fur-bearing mammals are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission. The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including but not limited to desert kit fox (*Vulpes macrotis arsipus*), coyote (*Canis latrans*), and American badger (*Taxidea taxus*). Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the Fish and Game Code.

Local

Los Angeles County General Plan 2035

The Castaic project area is located within the unincorporated County and is subject to the Los Angeles County General Plan 2035. The Conservation and Natural Resources Element of the General Plan 2035 has established 2 goals and 12 policies related to biological resources:[12]

Goal C/NR 3: Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and Significant Ecological Areas. Topic Policy

- *Policy C/NR 3.1:* Conserve and enhance the ecological function of diverse natural habitats and biological resources.
- *Policy C/NR 3.2:* Create and administer innovative County programs incentivizing the permanent dedication of SEAs and other important biological resources as open space areas.
- *Policy C/NR 3.3:* Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function—acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible.

[12] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 9: Conservation and Natural Resources Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

- *Policy C/NR 3.4:* Conserve and sustainably manage forests and woodlands.
- *Policy C/NR 3.5:* Ensure compatibility of development in the National Forests in conjunction with the U.S. Forest Service Land and Resource Management Plan.
- *Policy C/NR 3.6:* Assist state and federal agencies and other agencies, as appropriate, with the preservation of special status species and their associated habitat and wildlife movement corridors through the administration of the SEAs and other programs.
- *Policy C/NR 3.7:* Participate in inter-jurisdictional collaborative strategies that protect biological resources. Site Sensitive Design
- *Policy C/NR 3.8:* Discourage development in areas with identified significant biological resources, such as SEAs.
- *Policy C/NR 3.9:* Consider the following in the design of a project that is located within an SEA, to the greatest extent feasible:
    - Preservation of biologically valuable habitats, species, wildlife corridors and linkages;
    - Protection of sensitive resources on the site within open space;
    - Protection of water sources from hydro-modification in order to maintain the ecological function of riparian habitats;
    - Placement of the development in the least biologically sensitive areas on the site (prioritize the preservation or avoidance of the most sensitive biological resources onsite);
    - Design required open spaces to retain contiguous undisturbed open space that preserves the most sensitive biological resources onsite and/or serves to maintain regional connectivity;
    - Maintenance of watershed connectivity by capturing, treating, retaining, and/or infiltrating storm water flows on site; and
    - Consideration of the continuity of onsite open space with adjacent open space in project design.
- *Policy C/NR 3.10:* Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites.
- *Policy C/NR 3.11:* Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities.

Goal C/NR 4: Conserved and sustainably managed woodlands.

- *Policy C/NR 4.1:* Preserve and restore oak woodlands and other native woodlands that are conserved in perpetuity with a goal of no net loss of existing woodlands.

Santa Clarita Valley Area Plan

The Castaic project area is located within the Santa Clarita Valley and is subject to the 2012 Santa Clarita Valley Area Plan, a component of the County of Los Angeles General Plan. The Conservation and Open Space Element of the Santa Clarita Valley Area Plan has 7 objectives and 34 policies that cover biological resources:

Objective CO-3.1: **In review of development plans and projects, encourage conservation of existing natural areas and restoration of damaged natural vegetation to provide for habitat and biodiversity.**

- *Policy CO-3.1.1:* On the Land Use Map and through the development review process, concentrate development into previously developed or urban areas to promote infill development and prevent sprawl and habitat loss, to the extent feasible.
- *Policy CO-3.1.2:* Avoid designating or approving new development that will adversely impact wetlands, floodplains, threatened or endangered species and habitat, and water bodies supporting fish or recreational uses, and establish an adequate buffer area as deemed appropriate through site specific review.
- *Policy CO-3.1.3:* On previously undeveloped sites ("greenfields"), identify biological resources and incorporate habitat preservation measures into the site plan, where appropriate.
- *Policy CO-3.1.4:* For new development on sites with degraded habitat, include habitat restoration measures as part of the project development plan, where appropriate.
- *Policy CO-3.1.5:* Promote the use of site-appropriate native or adapted plant materials, and prohibit use of invasive or noxious plant species in landscape designs.
- *Policy CO-3.1.6:* On development sites, preserve and enhance natural site elements including existing water bodies, soil conditions, ecosystems, trees, vegetation and habitat, to the extent feasible.
- *Policy CO-3.1.7:* Limit the use of turf-grass on development sites and promote the use of native or adapted plantings to promote biodiversity and natural habitat.
- *Policy CO-3.1.8:* On development sites, require tree planting to provide habitat and shade to reduce the heat island effect caused by pavement and buildings.
- *Policy CO-3.1.9:* During construction, ensure preservation of habitat and trees designated to be protected through use of fencing and other means as appropriate, so as to prevent damage by grading, soil compaction, pollution, erosion or other adverse construction impacts.
- *Policy CO-3.1.10:* To the extent feasible, encourage the use of open space to promote biodiversity.
- *Policy CO-3.1.11:* Promote use of pervious materials or porous concrete on sidewalks to allow for planted area infiltration, allow oxygen to reach tree roots (preventing sidewalk lift-up from roots seeking oxygen), and mitigate tree sidewalk conflicts, in order to maintain a healthy mature urban forest.

Objective CO-3.2: **Identify and protect areas which have exceptional biological resource value due to a specific type of vegetation, habitat, ecosystem, or location.**

- *Policy CO-3.2.1:* Protect wetlands from development impacts, with the goal of achieving no net loss (or functional reduction) of jurisdictional wetlands within the planning area.
- *Policy CO-3.2.2:* Ensure that development is located and designed to protect oak and other significant indigenous woodlands.
- *Policy CO-3.2.3:* Ensure protection of any endangered or threatened species or habitat, in conformance with State and federal laws.

- *Policy CO-3.2.4:* Protect biological resources in the designated Significant Ecological Areas (SEAs) through the siting and design of development which is highly compatible with the SEA resources. Specific development standards shall be identified to control the types of land use, density, building location and size, roadways and other infrastructure, landscape, drainage, and other elements to assure the protection of the critical and important plant and animal habitats of each SEA. In general, the principle shall be to minimize the intrusion and impacts of development in these areas with sufficient controls to adequately protect the resources.

***Objective CO-3.3:* Protect significant wildlife corridors from encroachment by development that would hinder or obstruct wildlife movement.**

- *Policy CO-3.3.1:* Protect the banks and adjacent riparian habitat along the Santa Clara River and its tributaries, to provide wildlife corridors.
- *Policy CO-3.3.2:* Cooperate with other responsible agencies to protect, enhance, and extend the Rim of the Valley trail system through Elsmere and Whitney Canyons, and other areas as appropriate, to provide both recreational trails and wildlife corridors linking the Santa Susana and San Gabriel Mountains.
- *Policy CO-3.3.3:* Identify and protect one or more designated wildlife corridors linking the Los Padres and Angeles National Forests through the Santa Clarita Valley (the San Gabriel-Castaic connection).
- *Policy CO-3.3.4:* Support the maintenance of Santa Clarita Woodlands Park, a critical component of a cross-mountain range wildlife habitat corridor linking the Santa Monica Mountains to the Angeles and Los Padres National Forests.
- *Policy CO-3.3.5:* Encourage connection of natural open space areas in site design, to allow for wildlife movement.

***Objective CO-3.4:* Ensure that development in the Santa Clarita Valley does not adversely impact habitat within the adjacent National Forest lands.**

- *Policy CO-3.4.1:* Coordinate with the United States Forest Service on discretionary development projects that may have impacts on the National Forest.
- *Policy CO-3.4.2:* Consider principles of forest management in land use decisions for projects adjacent to the National Forest, including limiting the use of invasive species, discouraging off-road vehicle use, maintaining fuel modification zones and fire access roads, and other measures as appropriate, in accordance with the goals set forth in the Angeles National Forest Land Management Plan.
- *Policy CO-3.4.3:* On the Land Use Map, maintain low density rural residential and open space uses adjacent to forest land, and protect the urban-forest interface area from overdevelopment.
- *Policy CO-3.4.4:* Participate as a stakeholder in planning efforts by the United States Forest Service for land uses within the National Forest, providing input as appropriate.

Objective CO-3.5: **Maintain, enhance, and manage the urban forest throughout developed portions of the Santa Clarita Valley to provide habitat, reduce energy consumption, and create a more livable environment.**

- *Policy CO-3.5.1:* Continue to plant and maintain trees on public lands and within the public right-of-way to provide shade and walkable streets, incorporating measures to ensure that roots have access to oxygen at tree maturity, such as use of porous concrete.
- *Policy CO-3.5.2:* Where appropriate, promote planting of trees that are native or climactically appropriate to the surrounding environment, emphasizing oaks, sycamores, maple, walnut, and other native species in order to enhance habitat, and discouraging the use of introduced species such as eucalyptus, pepper trees, and palms except as ornamental landscape features.
- *Policy CO-3.5.3:* Pursuant to the requirements of the Zoning Ordinance, protect heritage oak trees that, due to their size and condition, are deemed to have exceptional value to the community.

Objective CO-3.6: **Minimize impacts of human activity and the built environment on natural plant and wildlife communities.**

- *Policy CO-3.6.1:* Minimize light trespass, sky-glow, glare, and other adverse impacts on the nocturnal ecosystem by limiting exterior lighting to the level needed for safety and comfort; reduce unnecessary lighting for landscaping and architectural purposes, and encourage reduction of lighting levels during non-business nighttime hours.
- *Policy CO-3.6.2:* Reduce impervious surfaces and provide more natural vegetation to enhance microclimates and provide habitat. In implementing this policy, consider the following design concepts:
    - Consideration of reduced parking requirements, where supported by a parking study and/or through shared use of parking areas;
    - Increased use of vegetated areas around parking lot perimeters; such areas should be designed as bioswales or as otherwise determined appropriate to allow surface water infiltration;
    - Use of connected open space areas as drainage infiltration areas in lieu of curbed landscape islands, minimizing the separation of natural and landscaped areas into isolated "islands"; and
    - Breaking up large expanses of paving with natural landscaped areas planted with shade trees to reduce the heat island effect, along with shrubs and groundcover to provide diverse vegetation for habitat.
- *Policy CO-3.6.3:* Restrict use of unauthorized off -road vehicles within sensitive habitat areas through signage, fencing, or other means as appropriate.
- *Policy CO-3.6.4:* Provide public information and support with demonstration sites at County facilities on gardening and landscaping techniques to reduce spread of invasive species and pollution from pesticides and fertilizers that threaten natural ecosystems.
- *Policy CO-3.6.5:* Ensure revegetation of graded areas and slopes adjacent to natural open space areas with native plants (consistent with fi re prevention requirements).

Objective CO-3.7: **Provide public access to, and education about, natural habitats and ecosystems.**

- *Policy CO-3.7.1:* Support the public education programs offered at the Placerita Canyon Nature Center and Ed Davis Park (Sonia Thompson Nature Center).
- *Policy CO-3.7.2:* Seek opportunities for partnerships with schools, non-profit organizations, and volunteers, to increase public access to and information about natural areas.

Newhall Ranch Specific Plan

A portion of the Castaic project area is located within the Newhall Ranch area and is subject to the Newhall Ranch Specific Plan. There are five Resource Conservation Objectives within the Newhall Ranch Specific Plan that relate to biological resources:

Resource Conservation Objective 1: Protect wetland and endangered species in the Santa Clara River.

Resource Conservation Objective 2: Preserve the Santa Clara River Corridor and adjacent uplands containing significant natural resources for their resource value, *Open Area*, and recreational use.

Resource Conservation Objective 3: Retain major *Open Area* and its natural vegetation as a wildlife or ecological reserve.

Resource Conservation Objective 4: Preserve significant stands of oak trees.

Resource Conservation Objective 6: Identify and protect significant resources within the two Los Angeles County Significant Ecological Areas.

Northlake Specific Plan

A portion of the Castaic project area is located within the Northlake Specific Plan area. However, there are no goals or policies within this specific plan that pertain to biological resources. Therefore, this plan is not applicable to the proposed project.

Los Angeles County Municipal Code Title 12, Chapter 12.36 – Wildflower Reserves

Title 12, Chapter 12.36 of the Los Angeles County Municipal Code states that a person, firm or corporation shall not drive, or allow the same to be driven, on or over any designated Wildflower Reserve Area during any portion of the period from February 1st to April 15th, inclusive, or May 1st to July 15th, inclusive, of any calendar year.

Los Angeles County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas

Title 22, Section 22.56.215 of the Los Angeles County Municipal Code regulates development within Significant Ecological Areas (SEAs). Conditional use permits are required prior to granting a building permit or grading permit within an SEA and must be approved to allow development within SEAs, subject to review by the Significant Ecological Areas Technical Advisory Committee (SEATAC) and a public hearing.

Los Angeles County Municipal Code Title 22, § Chapter 22.44, Part 6 – Sensitive Environmental Resource Areas

Sensitive Environmental Resource Areas (SERAs) are located within the Santa Monica Mountains Coastal Zone area only. SERAs contain biological resources that, because of their special characteristics and/or vulnerability, require greater protection, and development in a SERA requires a heightened level of review to ensure that protection. Projects in a SERA are subject to review by the Los Angeles County Department of Regional Planning Environmental Review Board.

Los Angeles County Municipal Code Sections 22.56.2050 – 22.56.2260 – Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance requires a permit prior to the cutting, removing, destroying, relocating, inflicting damage on, or encroaching into a protected zone of any tree within the oak genus. The Ordinance regulates only oak trees (genus *Quercus*) located within unincorporated areas of Los Angeles County. In addition, the circumference of an oak tree with one trunk must be 25 inches (8 inches in diameter) or more. For oak trees with multiple trunks, any two trunks must have a circumference of 38 inches (12 inches in diameter) or more. Measurements must be recorded at 4.5 feet above mean natural grade.

STUDY METHODS

The study methods were designed to provide the substantial evidence required to address the scope of analysis recommended in Appendix G of the State CEQA Guidelines, as well as the Conservation and Natural Resources Element of the Los Angeles County General Plan 2035;[13] and the Los Angeles County Code of Ordinances – Title 22 Planning and Zoning goals and policies related to biological resources. The methods used for the characterization and evaluation of biological resources consider the Los Angeles County General Plan 2035, Newhall Ranch Specific Plan, and Northlake Specific Plan goals and policies related to biological resources, areas potentially subject to the jurisdiction of the USACOE pursuant to Section 404 of the Clean Water Act, riparian and other State-designated sensitive habitats including those requiring a Streambed Alteration Agreement pursuant to Section 1600 of the State Fish and Game Code, special-status species and designated critical habitat, native resident or migratory species of fish and wildlife, and any federal, State, and regional conservation plans.

Listed, Sensitive, and Locally Important Species

Records of listed and sensitive plants and animals were reviewed to determine what federally and State-listed species and sensitive species have the potential to occur within the limits of the Castaic project area. For the purposes of this analysis, species were assumed to be present if historic records of the species occur within or in the immediate vicinity of the Castaic project area and the area has suitable habitat. Directed surveys would need to be undertaken to assess the presence or absence of sensitive species and make a determination as to whether or not permits would be required pursuant to Section 10(a)(1) of the federal ESA or Section 2081 of the California ESA.

The California Natural Diversity Database (CNDDB) query was supplemented with information from published and unpublished literature, including program- and project-level environmental

[13] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 9: Conservation and Natural Resources Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

documents prepared pursuant to CEQA and the National Environmental Policy Act (NEPA) in the vicinity of the Castaic project area. The CNDDB database and the California Native Plant Society (CNPS) Online Inventory[14] query for occurrence data within and surrounding the Castaic project area included 16 USGS 7.5-minute series topographic quadrangles: Black Mountain,[15] Burnt Peak,[16] Cobblestone Mountain,[17] Green Valley,[18] Lake Hughes,[19] Liebre Mountain,[20] Mint Canyon,[21] Newhall,[22] Oat Mountain,[23] Piru,[24] Simi Valley East,[25] Simi Valley West,[26] San Fernando,[27] Val Verde,[28] Warm Springs Mountain,[29] and Whitaker Peak.[30]

Critical habitat data, as determined by the USFWS, was searched to determine the proximity of critical habitat to the Castaic project area.[31] The list of species was evaluated with respect to the habitats present. *The Jepson Manual* was consulted for detailed biological, distributional, and phenological information of plants and used as a standard for nomenclature.[32]

Riparian and State Sensitive Plant Communities

The evaluation of riparian and state-sensitive plant communities for the Castaic project area was undertaken using data from the Natural Heritage Division of CDFW via a query of the CNDDB, which identifies special-status natural communities. The Natural Heritage Division is currently in the process of classifying and mapping vegetation in California. Consequently, these CNDDB records date back only as recently as 1993. It is important to note that there is the potential for additional state-sensitive plant communities and riparian habitat to exist within the Castaic project area. Focused plant community mapping would need to be undertaken to assess the presence or absence and extent of riparian habitat and state-sensitive plant communities.

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[14] California Native Plant Society. 2013. *Inventory of Rare and Endangered Plants*,. Sacramento, CA.

[15] U.S. Geologic Survey. 2013. 7.5-minute Series, Black Mountain, California, Topographic Quadrangle. Reston, VA.

[16] U.S. Geologic Survey. 2012. 7.5-minute Series, Burnt Peak, California, Topographic Quadrangle. Reston, VA.

[17] U.S. Geologic Survey. 2015. 7.5-minute Series, Cobblestone Mountain, California, Topographic Quadrangle. Reston, VA

[18] U.S. Geologic Survey. 2014. 7.5-minute Series, Green Valley, California, Topographic Quadrangle. Reston, VA

[19] U.S. Geologic Survey. 2015. 7.5-minute Series, Lake Hughes, California, Topographic Quadrangle. Reston, VA.

[20] U.S. Geologic Survey. 2012. 7.5-minute Series, Liebre Mountain, California, Topographic Quadrangle. Reston, VA.

[21] U.S. Geologic Survey. 2015. 7.5-minute Series, Mint Canyon, California, Topographic Quadrangle. Reston, VA.

[22] U.S. Geologic Survey. 2015. 7.5-minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[23] U.S. Geologic Survey. 2012. 7.5-minute Series, Oat Mountain, California, Topographic Quadrangle. Reston, VA.

[24] U.S. Geologic Survey. 2015. 7.5-minute Series, Piru, California, Topographic Quadrangle. Reston, VA.

[25] U.S. Geologic Survey. 2015. 7.5-minute Series, Simi Valley East, California, Topographic Quadrangle. Reston, VA.

[26] U.S. Geologic Survey. 2015. 7.5-minute Series, Simi Valley West, California, Topographic Quadrangle. Reston, VA.

[27] U.S. Geologic Survey. 2015. 7.5-minute Series, San Fernando, California, Topographic Quadrangle. Reston, VA.

[28] U.S. Geologic Survey. 2015. 7.5-minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

[29] U.S. Geologic Survey. 2012. 7.5-minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[30] U.S. Geologic Survey. 2015. 7.5-minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[31] U.S. Fish and Wildlife Service. 2015. *Critical Habitat Mapper*. Available at: http://criticalhabitat.fws.gov/crithab/flex/crithabMapper.jsp?

[32] Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*. 2nd ed. Berkeley: University of California Press.

Federally Protected Wetlands and Waterways

The purpose of evaluating federal Waters of the United States was to determine what federal wetlands and waterways are potentially present and which agency (federal or State) may have jurisdiction. Sapphos Environmental, Inc. used the National Wetlands Inventory (NWI) database and USGS topographical maps to determine if federal wetlands may be present within the Castaic project area. For the purpose of this evaluation, all NWI wetlands are assumed to be USACOE jurisdictional wetlands, but these wetlands may also fall under other jurisdictions. In addition, Sapphos Environmental, Inc. used USGS maps and blue-line drainage data to find navigable water bodies and blue-line features that may be considered federal waterways. A jurisdictional delineation would be required to be undertaken to assess the presence or absence of Waters of the United States and the potential for development of a trails system to result in dredge or fill activities within any features subject to Section 404 of the Federal Clean Water Act and requiring either a pre-construction notification pursuant to a Nationwide Permit or an individual permit from USACOE.

Migratory Corridors and Nursery Sites

Sapphos Environmental, Inc. used GIS to overlay the Castaic project area with topographic, plant community, and published data for migratory corridors and nursery sites for wildlife species to characterize the baseline conditions for these resources within the area. The County has established SEAs primarily with the goal of protecting plants and animals and their corridors. Sapphos Environmental, Inc. used the SEAs in the vicinity of the Castaic project area as indicators of the presence of wildlife corridors. The Castaic project area would require a directed survey to assess the presence or absence of migratory corridors or nursery sites and the potential for development of a trails system to result in impacts to such resources.

Oak and Native Woodlands

The evaluation of oak and native woodlands for the Castaic project area was undertaken using data from the Natural Heritage Division of CDFW via a query of the CNDDB, which identifies special-status natural communities. The Natural Heritage Division is currently in the process of classifying and mapping vegetation in California. Consequently, these CNDDB records date back only as recently as 1993. It is important to note that there is the potential for additional oak and native woodlands to exist within the Castaic project area as well as additional individual oak trees or other native trees. Focused plant community and tree mapping would need to be undertaken to assess the presence or absence and extent of oak and native woodland communities as well as individual oak and native trees.

General Plans and Policies

The Los Angeles County General Plan 2035, Santa Clarita Valley Area Plan, and Newhall Ranch Specific Plan were evaluated to determine if the Castaic project area has the potential to conflict with adopted goals, policies, and ordinances related to conservation of biological resources that are applicable to the plan. No goals or policies within Northlake Specific Plan pertain to biological resources. The Los Angeles County Oak Tree Ordinance, Wildflower Reserve Ordinance, Significant Ecological Area Ordinance, and Sensitive Environmental Resource Area Ordinance were also evaluated to determine its applicability to the proposed project.

Habitat Conservation Plans and Natural Community Conservation Plans

Adopted and proposed HCPs and NCCPs within and adjacent to the Castaic project area were mapped using data obtained from the USFWS and CDFW. The boundaries of any HCP or NCCP were compared to the Castaic project area boundaries using CDFW's NCCP California Regional Conservation Plans Map, which features all NCCPs and HCPs in the State of California (see https://www.wildlife.ca.gov/Conservation/Planning/NCCP). All applicable HCPs and NCCPs were intensively reviewed to identify provisions for the management of biological resources that are applicable to the proposed project.

EXISTING CONDITIONS

Listed, Sensitive, and Locally Important Species

Listed and Candidate Species and Critical Habitat

The literature review identified 26 species that are listed or candidate species under protection of the federal ESA or California ESA that are known from the region, including 10 plant species and 16 wildlife species (Figure 4, *Listed Plant and Wildlife Species with the Potential to Occur in the Castaic Project Area*; Table 4, *Listed Plant and Wildlife Species with the Potential to Occur in the Castaic Project Area*).

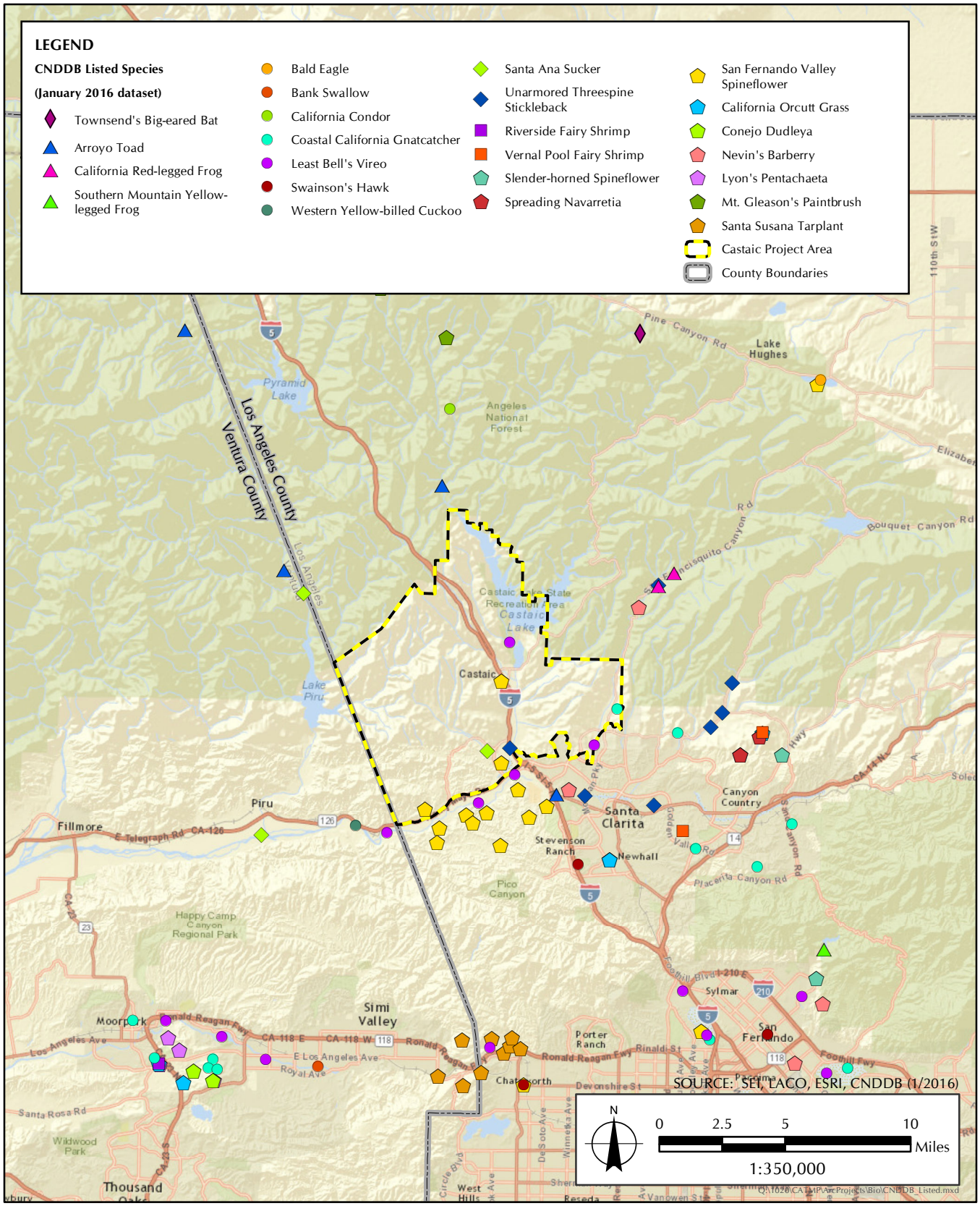

FIGURE 4

Listed Plant and Wildlife Species with the Potential to Occur in the Castaic Project Area

TABLE 4
LISTED PLANT AND WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Castaic Project Area
Plants				
Braunton's milk-vetch*	*Astragalus brauntonii*	FE, CRPR: 1B.1	Chaparral, closed-cone coniferous forest, coastal scrub, limestone, valley and foothill grassland; often in recent burned or disturbed areas; usually in sandstone soil with carbonate layers; occurs between 4 and 640 meters (m) above mean sea level (MSL).	Low. The Castaic project area is outside of the elevation range for this species.
California Orcutt grass	*Orcuttia californica*	FE, SE, CRPR: 1B.1	Vernal pool, wetland; occurs 49–2,165 feet (ft) above MSL.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
Conejo dudleya	*Dudleya parva*	FT, CRPR: 1B.2	Rocky or gravelly, clay or volcanic soil. Coastal scrub, and valley and foothill grassland; occurs between 60 and 450 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
Lyon's pentachaeta	*Pentachaeta lyonii*	FE, SE, CRPR: 1B.1	Chaparral (openings), coastal scrub, valley and foothill grassland; rocky, clay soils; occurs between 30 and 630 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
Mt. Gleason paintbrush	*Castilleja gleasoni*	SR, CRPR: 1B.2	Chaparral, lower montane coniferous forest, pinyon and juniper woodland; occurs 1,160–2,170 m above MSL.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
Nevin's barberry	*Berberis nevinii*	FE, SE, CRPR: 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub, in sandy or gravelly soils; occurs 274–825 m above MSL.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
San Fernando Valley spineflower	*Chorizanthe parryi var. fernandina*	FC, SE, CRPR: 1B.1	Coastal scrub in sandy soil, valley and foothill grassland; occurs 150–1,220 m above MSL.	Very high. Several CNDDB records for this species exist within and in the immediate vicinity of the Castaic project area.
Santa Susana tarplant	*Deinandra minthornii*	SR, CRPR: 1B.2	Rocky soil; Chaparral and coastal scrub; occurs 280–760 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
slender-horned spineflower	*Dodecahema leptoceras*	FE, SE, CRPR: 1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan); often in sandy soil; occurs 200–760 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
spreading navarretia	*Navarretia fossalis*	FT, CRPR: 1B.1	Alkali playa, chenopod scrub, marsh and swamp, vernal pool, wetland; occurs 30–655 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
Invertebrates				
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	Freshwater, vernal pool complexes.	Low. The Castaic project area does not contain any known vernal pools.
vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Vernal pools from the Transverse Range north into southern Oregon.	Low. The Castaic project area does not contain any known vernal pools.
Fish				
Santa Ana sucker	*Catostomus santaanae*	FT	Aquatic, south coast flowing waters; clear cool ponds, creeks, small to medium rivers with generally coarse substrates; benthic, freshwater.	Very high. CNDDB records for this species exist within the Castaic project area.
unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	FE, SE	Clear water systems Los Angeles and Santa Barbara Counties with a low current.	Very high. CNDDB records for this species exist within the Castaic project area.
Amphibians				
arroyo toad	*Anaxyrus californicus*	FE	Desert wash, riparian scrub, riparian woodland, south coast flowing waters, south coast standing waters; mating and egg-laying at shallow stream margins from March to July; adults require overflow pools adjacent to the inflow channel of third- to greater-order streams that are free of predatory fishes in which to breed; occurs between 0–900 m above MSL.	Very high. Critical habitat for this species exists within the Castaic project area.
California red-legged frog	*Rana draytonii*	FT	Humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover, especially in lowlands and foothills.	High. CNDDB records for this species exist near tributaries to the Santa Clara River, which flows through the area
southern mountain yellow-legged frog	*Rana muscosa*	FE, SE	Aquatic; eggs usually laid in shallow water attached to gravel or rocks; associated with streams lakes and ponds in montane riparian habitat; occurs between 370–2,290 m above MSL.	High. CNDDB records for this species exist near tributaries to the Santa Clara River, which flows through the area

TABLE 4
LISTED PLANT AND WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Castaic Project Area
Birds				
bald eagle	*Haliaeetus leucocephalus*	FD, SE	Found near water that provides fish or waterfowl as a food source. Breeds in forested areas near large bodies of water; winters in coastal areas, along large rivers, and large unfrozen lakes.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
bank swallow	*Riparia riparia*	ST	Riparian scrub, riparian woodland; nests in steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, along coast, in gravel pits, or road embankments; diet primarily flying insects.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
California condor	*Gymnogyps californianus*	FE, SE	Chaparral, coniferous forests, and oak savannah in Southern and Central California.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
coastal California gnatcatcher	*Polioptila californica californica*	FT	Coastal bluff scrub, coastal scrub; dry coastal slopes, washes, and mesas; cone-shaped nests built in shrubs; areas of low plant growth (about 1 m high); strongly associated with sage scrub; generally avoids crossing unsuitable habitat.	Very high. CNDDB records for this species exist within the Castaic project area.
least Bell's vireo	*Vireo bellii pusillus*	FE, SE	Riparian forest, riparian scrub, riparian woodland; forages exclusively in riparian habitats primarily on insects; dense riparian understory shrubbery required for nesting; nests usually 1 m off ground.	Very high. CNDDB records and critical habitat for this species exist within the Castaic project area.
southwestern willow flycatcher	*Empidonax traillii extimus*	FE, SE	Riparian woodland; breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs; habitat patches must be at least 0.25 acres in size and at least 30 ft wide.	Very high. Critical habitat for this species exist within the Castaic project area.
Swainson's hawk	*Buteo swainsoni*	ST	Riparian, cropland/hedgerow, desert, grassland/herbaceous, savanna, mixed woodland; may be found in grasslands and other open habitats in winter and migration.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, SE	Riparian forest; dense riparian understory important for nest site selection; cottonwood trees important foraging habitat; nests in dense trees, shrubs, vines.	Moderate. CNDDB records for this species exist within 5 miles of the Castaic project area, which may contain suitable habitat.
Mammals				
Townsend's big-eared bat	*Corynorhinus townsendii*	SCT	Cliff, desert, conifer forest, hardwood forest, mixed forest, grassland/herbaceous, old field, savanna, shrubland/chaparral, conifer woodland, hardwood woodland, mixed woodland. Roosts in caves and mine tunnels.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, and the area may contain suitable habitat.

KEY:
FD = federal delisted species; FC = federal candidate; FE = federal endangered; FT = federal threatened; SCT = State candidate threatened; SE = State endangered; SR = State Rare; ST = State threatened; CRPR = California Rare Plant Rank: CNPS categories: California Rare Plant Rank: List 1B: Rare, threatened, or endangered in California and elsewhere (0.1: Seriously endangered in California, 0.2: Fairly endangered in California.
NOTE:
* Individual records within the vicinity of the Castaic project area are not provided by CNPS, therefore this plant is not shown on Figure 4.

Critical habitat is a designated area defined by the USFWS as being important for the survival of species listed pursuant to the federal ESA. The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened or endangered. The Castaic project area contains designated critical habitat for two species: Arroyo toad and least Bell's vireo (Figure 5, *Critical Habitat Present within the Castaic Project Area*). There are 268.0 acres of critical habitat for Arroyo toad, 154.8 acres of critical habitat for southwestern willow flycatcher, and 1.9 acres for least Bell's vireo located within to the boundary of the Castaic project area. All instances of critical habitat are located near the Santa Clara River and Castaic Lake.

Sensitive Wildlife Species

A total of 38 wildlife species that are considered sensitive in the State of California have the potential to be present within the Castaic project area (Table 5, *Sensitive Wildlife Species with the Potential to Occur in the Castaic Project Area*; Figure 6, *Sensitive Wildlife Species with the Potential to Occur in the Castaic Project Area*). This includes 3 invertebrates, 1 fish, 2 amphibians, 7 reptiles, 12 birds, and 13 mammals.

Rare and Locally Important Plant Species

A total of 41 plant species that are considered rare in the State of California or are locally important to the Castaic region have the potential to be present within the Castaic project area (Table 6, *Rare and Locally Important Plant Species with the Potential to Occur in the Castaic Project Area*; Figure 7, *CNDDB Rare and Locally Important Plant Species with the Potential to Occur in the Castaic Project Area*).

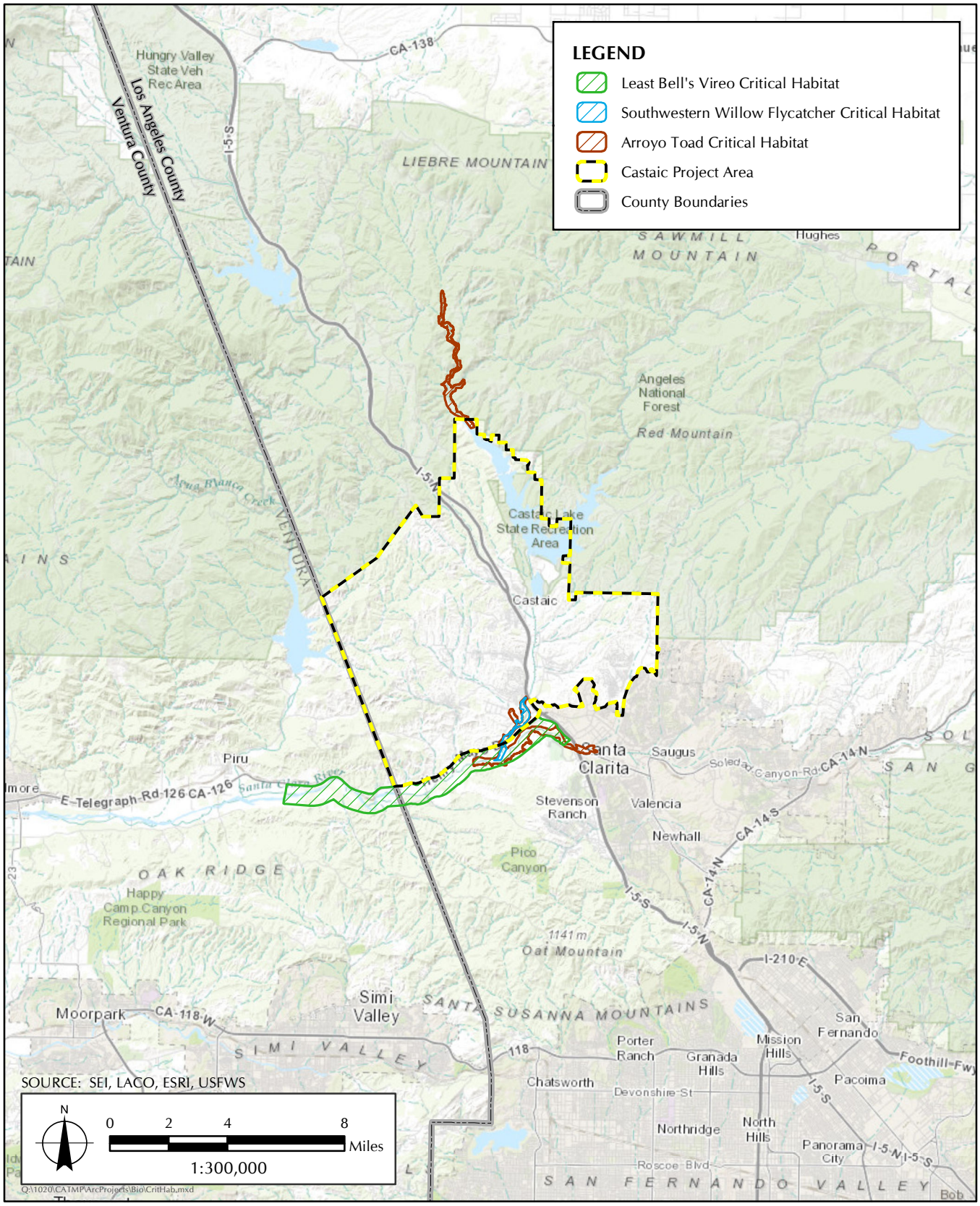

FIGURE 5

Critical Habitat Present within the Castaic Project Area

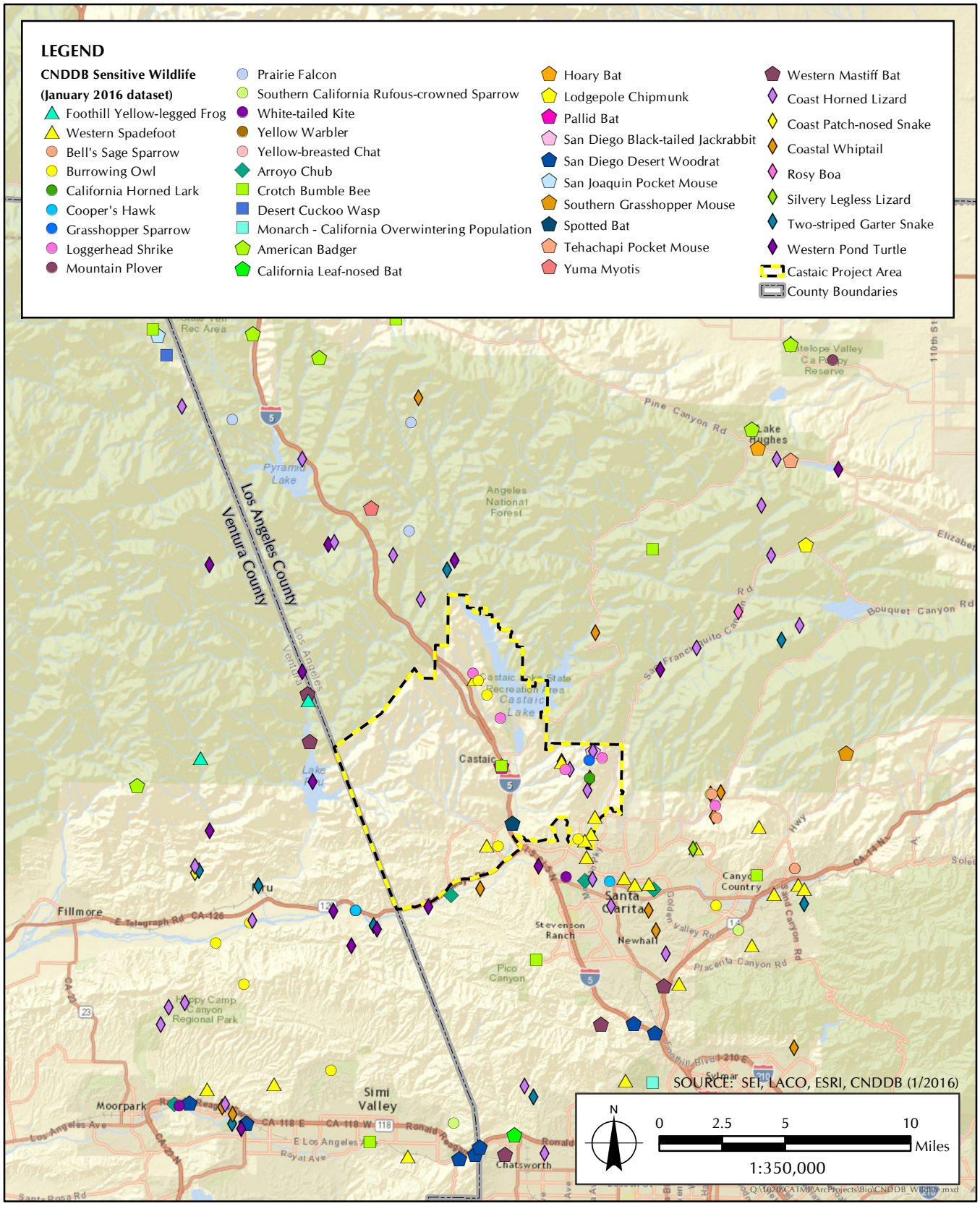

FIGURE 6

Sensitive Wildlife Species with the Potential to Occur in the Castaic Project Area

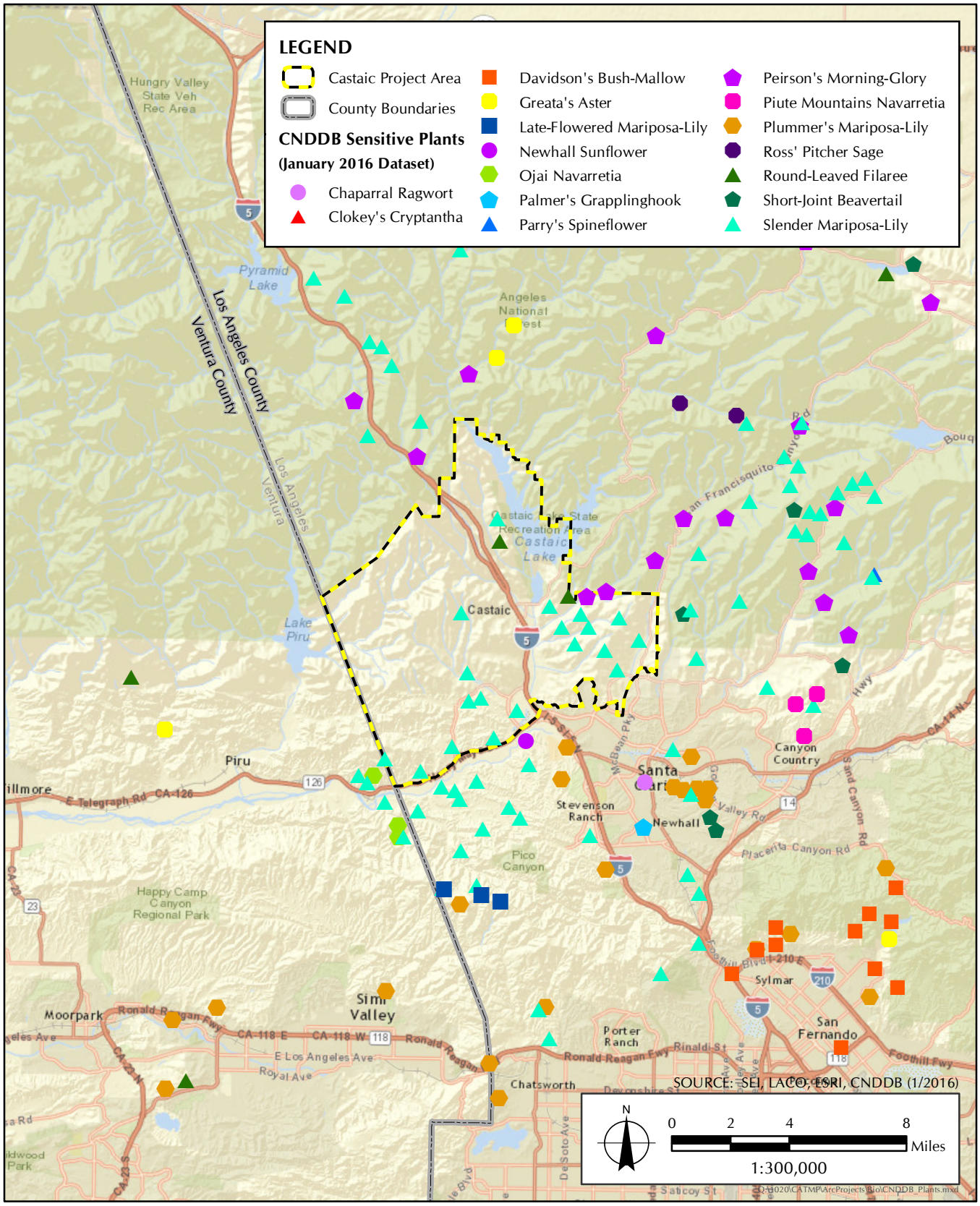

FIGURE 7

California Natural Diversity Database Rare and Locally Important Plant Species with the Potential to Occur in the Castaic Project Area

TABLE 5
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Castaic Project Area
Invertebrates				
Crotch bumble bee	*Bombus crotchii*	CSA	Warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
desert cuckoo wasp	*Ceratochrysis longimala*	CSA	No description available; record from Hungry Valley, 5 miles south of Gorman.	Unknown. Species habitat description is unknown.
monarch butterfly - California overwintering population	*Danaus plexippus pop. 1*	CSA	Grassland/herbaceous, old field, sand/dune, shrubland/chaparral, suburban/orchard, woodland–hardwood, woodland–mixed, coastal California conifer or eucalyptus groves. Adults rely on coastal non-native woodlands (especially Eucalyptus) for winter roosting aggregations, larval (caterpillar) stage forages exclusively on milkweed (*Asclepias* spp.), which occurs in grassland, wetland and riparian areas.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
Fish				
arroyo chub	*Gila orcuttii*	CSC	Aquatic, south coast flowing waters; freshwater; benthic; headwaters, creeks, intermittent streams, small to medium rivers; spawns in stream pools; diet primarily aquatic invertebrates.	High. CNDDB records for this species exist near tributaries to the Santa Clara River, which flows through the area
Amphibians				
foothill yellow-legged frog	*Rana boylii*	CSC	Rocky streams, rivers with rocky substrate; found in forests, chaparral, and woodlands.	High. CNDDB records for this species exist near tributaries to the Santa Clara River, which flows through the area
western spadefoot	*Spea hammondii*	CSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, wetland; benthic, burrowing in or using soil; it prefers shortgrass plains, sandy or gravelly soil (e.g., alkali flats, washes, alluvial fans). It is fossorial and breeds in temporary rain pools and slow-moving streams.	Very high. Several CNDDB records for this species exist within the Castaic project area.
Reptiles				
coast horned lizard	*Phrynosoma blainvillii*	CSC	Found in a variety of vegetation types, including coastal scrub, coastal bluff scrub, valley and foothill grassland, chaparral, cismontane woodland, pinyon and juniper woodlands, riparian scrub, riparian woodland and desert wash; in inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance.	Very high. Several CNDDB records for this species exist within the Castaic project area.
coast patch-nosed snake	*Salvadora hexalepis virgultea*	CSC	Chaparral, canyons and rocky hillsides, plains, in semi-arid brushy areas. Occurs from below sea level to 7,000 feet (ft) above mean sea level (MSL).	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
coastal whiptail	*Aspidoscelis tigris stejnegeri*	CSA	Occurs in habitats that are primarily hot and dry open areas with sparse foliage. Found in chaparral, woodland, and riparian areas.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
rosy boa	*Charina trivirgata*	CSA	Inhabits rocky outcrops and rocky shrublands in the southwestern U.S. and Mexico. Habitats are diverse and include desert, arid scrub, brushland, sandy plains, rocky slopes, and chaparral-covered foothills, particularly where moisture is available, as around springs, streams, and canyon floors.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
silvery legless lizard	*Anniella pulchra pulchra*	CSC	Chaparral, coastal dunes, coastal scrub; burrows in loose soil, especially in semi-stabilized sand dunes and also in other areas with sandy soil, in areas vegetated with oak or pine-oak woodland, or chaparral; also wooded stream edges, and occasionally desert-scrub; bush lupine often is an indicator of suitable conditions; often found in leaf litter, under rocks, logs, and driftwood.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
two-striped garter snake	*Thamnophis hammondii*	CSC	Marsh and swamp, riparian scrub, riparian woodland, wetland; generally found in or near permanent fresh water, often along streams with rocky beds bordered by willows and other riparian vegetation, including mountain slopes and desert oases; requires dense riparian vegetation; burrowing in or using soil.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
western pond turtle	*Emys marmorata*	CSC	Aquatic, artificial flowing waters, marsh and swamp, south coast flowing waters, south coast standing waters, wetland; habitat includes permanent and intermittent waters of rivers, creeks, small lakes and ponds, man-made stock ponds and sewage-treatment ponds; nesting sites on sandy banks and bars, in fields, or sunny spots up to a few hundred feet from water.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Birds				
Bell's sage sparrow	*Artemisiospiza belli belli*	CSA	Chaparral, shrubland; often found in habitats dominated by chamise and/or California sagebrush.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
burrowing owl	*Athene cunicularia*	CSC	Found in open grasslands, agricultural and range lands, and desert habitats and often are associated with burrowing animals, specifically the California ground squirrel; can also inhabit grass, forbs, and shrub stages of pinyon and ponderosa pine habitats.	Very high. Several CNDDB records for this species exist within the Castaic project area.
California horned lark	*Eremophila alpestris actia*	CSA	Grassland/herbaceous; open areas with sparse low herbaceous vegetation or scattered low shrubs; agricultural fields; nests in hollow on ground next to grass tuft, manure, or clod of soil.	Very high. CNDDB records for this species exist within the Castaic project area.

TABLE 5
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Castaic Project Area
Cooper's hawk	*Accipiter cooperii*	CSA	Cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest, urban areas; nests in tall trees; usually builds new nest on horizontal limb near trunk or in crotch, 20–59 ft above ground; may use virtually all habitats for foraging.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
grasshopper sparrow	*Ammodramus savannarum*	CSC	Grassland/herbaceous, old field, savanna; grasslands with patches of vegetation and moderately deep litter preferred for breeding; occasionally inhabits croplands.	Very high. CNDDB records for this species exist within the Castaic project area.
loggerhead shrike	*Lanius ludovicianus*	CSC	Cropland/hedgerow, desert, grassland/herbaceous, old field, savanna, shrubland/chaparral. Nests in shrubs or small trees.	Very high. Several CNDDB records for this species exist within the Castaic project area.
mountain plover	*Charadrius montanus*		Chenopod scrub, valley and foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas that support burrowing rodents.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
prairie falcon	*Falco mexicanus*	CSA	Grasslands, shrub-steppe, deserts, open areas below 3,048 meters (m) in elevation.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CSC	Shrubland/chaparral, coastal sage dominated by sagebrush, coastal bluff scrub. Nests on the ground or low in the branches of trees or shrubs.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
white-tailed kite	*Elanus leucurus*	CFP	Cropland/hedgerow, grassland/herbaceous, savanna, hardwood woodland. Nests in trees.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
yellow warbler	*Setophaga petechial*	CSC	Riparian woodland. Commonly in open to medium-density woodlands and forests with a heavy brush understory in breeding season. Nests often placed in deciduous saplings or shrubs 2-16 ft above ground. Territory includes tall trees for foraging and dense understory for nesting.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
yellow-breasted chat	*Icteria virens*	CSC	Riparian forest, riparian scrub, riparian woodland; nests in bushes, brier tangles, vines, and low trees, generally in dense vegetation less than 7 ft above ground.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
Mammals				
American badger	*Taxidea taxus*	CSC	Found in arid, open habitats, particularly grasslands, savannahs, mountain meadows, and desert scrub openings; needs friable soils for digging and open, uncultivated ground; occurs at low to moderate slopes; has been associated with Joshua tree woodland and pinyon-juniper habitats.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
California leaf-nosed bat	*Macrotus californicus*	CSC	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, palm oasis; day roosts in mine tunnels or caves, occasionally buildings and bridges.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
hoary bat	*Lasiurus cinereus*	CSA	Forages over a wide range of habitats, but prefers open habitats with access to trees for roosting, and water. Primarily roosts in trees and foliage. Ranges throughout most of California.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
lodgepole chipmunk	*Neotamias speciosus speciosus*	CSA	Chaparral, upper montane coniferous forest; usually found in open-canopy forests. Southern California elevation range 16,398 to 9,688 ft above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
pallid bat	*Antrozous pallidus*	CSC	Occurs throughout the American west; chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland; roosts in rock crevices, caves, mineshafts, under bridges, in buildings, and within hollow trees; consumes insects and other invertebrates; roosts in small colonies of 10 to 100 and emerges late at night to forage on the ground.	Very high. CNDDB records for this species exist within the Castaic project area.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	CSC	Coastal scrub; open country with scattered thickets or patches of shrubs. Rests by day in shallow depression.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
San Diego desert woodrat	*Neotoma lepida intermedia*	CSC	Coastal scrub; sagebrush scrub; chaparral; often associated with large cactus patches; also found in rocky outcroppings and boulder hillsides within chaparral and oak woodland habitats.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
San Joaquin Pocket Mouse	*Perognathus inornatus*	CSA	Dry, open grasslands, scrub areas, between 350 and 600 m above MSL.	Low. The Castaic project area is outside of the elevation range for this species.
southern grasshopper mouse	*Onychomys torridus ramona*	CSC	Chenopod scrub; consumes soft-bodied insects including cutworms and grasshoppers; lives in arid habitats but requires no open water sources; the species forages under and within shrubs and crosses open areas.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
spotted bat	*Euderma maculatum*	SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Prefers rock crevices in cliffs or caves for roosting.	Very high. CNDDB records for this species exist within the Castaic project area.

TABLE 5
SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Potential to Occur within the Castaic Project Area
Tehachapi pocket mouse	*Perognathus alticolus inexpectatus*	SSC	Chaparral, Joshua tree woodland, valley and foothill grassland. Arid annual grassland and desert shrub communities, but also found in fallow grain fields and in Russian thistle. Burrows for cover and nesting. Aestivates and hibernates during extreme weather. Forages on open ground and under shrubs.	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area, which may contain suitable habitat.
western mastiff bat	*Eumops perotis californicus*	CSC	Found in the southwestern United States, generally away from human development; this species can utilize a variety of habitat types including chaparral, oak woodland, pine forests, agricultural areas, and desert washes; roosts primarily in vertical rock crevices on cliffs; common in open habitats when foraging.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Yuma myotis	*Myotis yumanensis*	CSA	Inhabits juniper and riparian woodlands to desert regions in proximity to open water. Roosts in caves, attics, buildings, mines, and bridges.	High. Several CNDDB records for this species exist within the immediate vicinity of the Castaic project area.

KEY:
SSC = California Species of Special Concern; CSA* = California Special Animal
SOURCE:
California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.
NOTE:
* California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.

TABLE 6
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Source	Potential to Occur within the Castaic Project Area
California androsace	*Androsace elongata ssp. acuta*	CRPR: 4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland; occurs between 150–1,200 meters (m) above mean sea level (MSL).	CNPS[33]	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Catalina mariposa lily	*Calochortus catalinae*	CRPR: 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs between 15 and 700 m above MSL.	CNPS	Low. The Castaic project area is outside of the elevation range for this species.
chaparral ragwort	*Senecio aphanactis*	CRPR: 2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline soils; occurs between 15 and 800 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Clokey's cryptantha	*Cryptantha clokeyi*	CRPR: 1B.2	Mojavean desert scrub; occurs between 725–1,365 m above MSL.	CNPS, CNDDB	Low. The Castaic project area does not contain Mojavean desert scrub habitat.
club-haired mariposa lily	*Calochortus clavatus var. clavatus*	CRPR: 4.3	Usually in serpentinite, clay, rocky soils. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs 75 – 1,300 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Davidson's bush-mallow	*Malacothamnus davidsonii*	CRPR: 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; occurs 185 to 855 m above MSL.	CNPS, CNDDB	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
fragrant pitcher sage	*Lepechinia fragrans*	CRPR: 4.2	Chaparral; occurs 20–1,310 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Greata's aster	*Symphyotrichum greatae*	CRPR: 1B.3	Occurs in chaparral, broadleaf upland forest, cismontane woodland, lower montane coniferous forest, and riparian woodland on mesic soils; occurs 300 to 2,010 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Hubby's phacelia	*Phacelia hubbyi*	CRPR: 4.2	Chaparral, coastal scrub, valley and foothill grassland in gravelly, rocky, and talus soils; occurs between 0 and 1,000 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
island mountain-mahogany	*Cercocarpus betuloides var. blancheae*	CRPR: 4.3	Closed-cone coniferous forest, chaparral; occurs 30–600 m above MSL.	CNPS	Low. The Castaic project area is outside of the elevation range for this species.
late-flowered mariposa-lily	*Calochortus fimbriatus*	CRPR: 1B.2	Often in serpentinite soil. Chaparral, cismontane woodland, riparian woodland; occurs 275–1,905 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Lincoln rockcress	*Boechera lincolnensis*	CRPR: 2B.3	Carbonate soil. Chenopod scrub, Mojavean desert scrub; occurs 1,100–2,705 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Los Angeles sunflower	*Helianthus nuttallii ssp. parishii*	CRPR: 1A	Freshwater marsh, marsh and swamp, salt marsh, wetlands; occurs between 10 and 1,675 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
many-stemmed dudleya	*Dudleya multicaulis*	CRPR: 1B.2	Chaparral, coastal scrub, valley and foothill grassland, often clay; occurs between 50 and 790 meters above MSL.	CNPS	Low. The Castaic project area is outside of the elevation range for this species.
mesa horkelia	*Horkelia cuneata var. puberula*	CRPR: 1B.1	Chaparral, cismontane woodland, coastal shrub; occurs between 70 and 810 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Mojave phacelia	*Phacelia mohavensis*	CRPR: 4.3	Sandy or gravelly soil. Cismontane woodland, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; occurs 1,400–2,500 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
monkey-flower savory	*Clinopodium mimuloides*	CRPR: 4.2	Found on mesic stream banks. Chaparral, north coast coniferous forest; occurs 305–1800 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Mt. Pinos larkspur	*Delphinium parryi ssp. purpureum*	CRPR: 4.3	Chaparral, Mojavean desert scrub, pinyon and juniper woodland; occurs between 1,000 and 2,600 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Mt. Pinos onion	*Allium howellii var. clokeyi*	CRPR: 1B.3	Great Basin scrub, pinyon and juniper woodland; occurs between 1,300 and 1,850 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Newhall sunflower	*Helianthus inexpectatus*	CRPR: 1B.1	Marsh and swamp, meadow and seep, wetland, riparian woodland. Occurs around 305 m above MSL.	CNPS, CNDDB	Low. The Castaic project area is outside of the elevation range for this species.
ocellated Humboldt lily	*Lilium humboldtii ssp. ocellatum*	CRPR: 4.2	Found in openings; chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; occurs between 30 and 1,800 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.

[33] Plant records from the CNPS Rare Plant Inventory do not contain spatial data that allow for inclusion on a records search map. Therefore, plants in this table that contain CNPS as the sole source were not included in Figure 8.

TABLE 6
RARE AND LOCALLY IMPORTANT PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE CASTAIC PROJECT AREA

Common Name	Scientific Name	Status	Habitat	Source	Potential to Occur within the Castaic Project Area
Ojai navarretia	*Navarretia ojaiensis*	CRPR: 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Openings in shrublands or grasslands. Occurs between 275 and 620 m above MSL.	CNPS, CNDDB	Low. The Castaic project area is outside of the elevation range for this species.
Palmer's grapplinghook	*Harpagonella palmeri*	CRPR: 4.2	Clay soils, open grassy areas within shrubland; chaparral, coastal scrub, valley and foothill grassland; occurs between 20 and 955 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
paniculate tarplant	*Deinandra paniculata*	CRPR: 4.2	Usually found in mesic soils, sometimes sandy soils; coastal scrub, valley and foothill grassland, vernal pools; occurs between 25 and 940 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Parry's spineflower	*Chorizanthe parryi var. parryi*	CRPR: 1B.1	Sandy or rocky openings, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; occurs 902–4,003 feet (ft) above MSL.	CNPS, CNDDB	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Parry's sunflower	*Hulsea vestita ssp. parryi*	CRPR: 4.3	Found in granitic or carbonate soils, rocky openings; lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest; occurs between 1,370 and 2,895 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Peirson's morning-glory	*Calystegia peirsonii*	CRPR: 4.2	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland; occurs 30 to 1,500 m above MSL.	CNPS, CNDDB	Very High. Several CNDDB records for this species exist within and in the immediate vicinity of the Castaic project area.
Piute Mountains navarretia	*Navarretia setiloba*	CRPR: 1B.1	Cismontane woodland, pinyon and juniper woodlands, valley and foothill grassland. Red clay soils, other clay soils, or on gravelly loam. Occurs between 285 and 2100 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Plummer's mariposa-lily	*Calochortus plummerae*	CRPR: 4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland, in granitic rocky soil; occurs 100 to 1,700 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	CRPR: 4.3	Chaparral and coastal scrub habitat. Occurs between 1 and 885 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
Ross' pitcher sage	*Lepechinia rossii*	CRPR: 1B.2	Chaparral habitats; occurs between 305 and 790 m above MSL.	CNPS, CNDDB	Moderate. CNDDB records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
round-leaved filaree	*California macrophylla*	CRPR: 1B.1	Cismontane woodland, valley and foothill grassland; clay soils; occurs 49–3,937 ft above MSL.	CNPS, CNDDB	Very High. Several CNDDB records for this species exist within the Castaic project area.
San Gabriel bedstraw	*Galium grande*	CRPR: 1B.2	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest; occurs between 425 and 1,500 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
short-joint beavertail	*Opuntia basilaris var. brachyclada*	CRPR: 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland; occurs 425 to 1,800 m above MSL.	CNPS, CNDDB	High. CNDDB records for this species exist within the immediate vicinity of the Castaic project area.
slender clarkia	*Clarkia exilis*	CRPR: 4.3	Cismontane woodland; occurs between 120 and 1,000 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
slender mariposa-lily	*Calochortus clavatus var. gracilis*	CRPR: 1B.2	Chaparral, coastal scrub, valley and foothill grassland; occurs 320 to 1,000 above MSL.	CNPS, CNDDB	Very High. Several CNDDB records for this species exist in and within the immediate vicinity of the Castaic project area.
small-flowered morning-glory	*Convolvulus simulans*	CRPR: 4.2	Clay soils and serpentinite seeps; chaparral (openings), coastal scrub, valley and foothill grassland; occurs between 30 and 700 m above MSL.	CNPS	Low. The Castaic project area is outside of the elevation range for this species.
Southern California black walnut	*Juglans californica*	CRPR: 4.2	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt), found in sandy sometimes rocky soils; occurs between 5 and 300 m above MSL.	CNPS	Low. The Castaic project area is outside of the elevation range for this species.
Tehachapi monardella	*Monardella linoides ssp. oblonga*	CRPR: 3.2	Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest; occurs between 900 and 2,470 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
vernal barley	*Hordeum intercedens*	CRPR: 3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools; occurs between 5 and 1,000 m above MSL.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.
white pygmy-poppy	*Canbya candida*	CRPR: 4.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands. Sandy places. Occurs between 600 and 1,460 m.	CNPS	Moderate. CNPS records for this species exist within 10 miles of the Castaic project area which may contain suitable habitat.

KEY: California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution.

THREAT RANK:

0.1: Seriously endangered in California. 0.2: Fairly endangered in California. 0.3: Not very endangered in California

Riparian and State Sensitive Plant Communities

The Natural Heritage Division of CDFW identifies special-status natural communities. A record search of the CNDDB reported six state-sensitive or riparian natural communities within the Castaic project area (Table 7, *Riparian Habitat and State Sensitive Plant Communities Reported in the Castaic Project Area*). The distributions of these community records in the Castaic project area are depicted in Figure 8, *Riparian and State Sensitive Plant Community Records in the Castaic Project Area*. The Natural Heritage Division is currently in the process of reclassifying and mapping vegetation in California. Consequently, the most recent CNDDB records date back to 1993. Thus, it is important to note that the likelihood of additional state-sensitive plant communities and riparian habitats to exist within the Castaic project area is high. Individualized surveys within the Castaic project area would be required to delineate State-sensitive and riparian plant communities on a project-by-project basis.

TABLE 7
RIPARIAN AND STATE SENSITIVE PLANT COMMUNITIES REPORTED IN THE CASTAIC PROJECT AREA

Community Name	State Sensitivity Rank	Acres Reported in the Area
Mainland Cherry Forest	S1.1	73
Riversidean Alluvial Fan Sage Scrub	S1.1	232
Southern California Threespine Stickleback Stream	SNR	609
Southern Coast Live Oak Riparian Forest	S4	984
Southern Cottonwood Willow Riparian Forest	S3.2	1,439
Southern Sycamore Alder Riparian Woodland	S4	25
Total		**3,362**

KEY:
State Rank: S1 = .Fewer than 6 viable occurrences statewide and/or up to 518 hectares; S2 = 6-20 viable occurances statewide and/or more than 518 – 2,590 hectares; S3 = 21-100 viable occurrences statewide and/or more than 2,590 – 12,950 hectares; S4 = Greater than 100 viable occurrences statewide, and/or more than 12,950 hectares.
THREAT RANK: 0.1: Very Threatened. 0.2: Threatened.
SOURCE:
California Department of Fish and Wildlife. 2015. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Federally Protected Wetlands and Waterways

Current NWI[34] maps and USGS blue-line drainage data for the Castaic project area were reviewed for potential wetlands and waterways subject to protection under Section 404 of the Clean Water Act. Wetlands and waterways potentially subject to the jurisdiction of the USACOE were determined to be present within the Castaic project area (Table 8, *Federally Protected Wetlands and Waterways Reported in the Castaic Project Area*). The distribution of federally protected wetlands and waterways in the Castaic project area are shown on Figure 9, *Federally Protected Wetlands and Waterways Reported in the Castaic Project Area*.

[34] U.S. Fish and Wildlife Service. n.d. National Wetlands Inventory Map. Available at: http://www.fws.gov/wetlands/Wetlands-Mapper.html

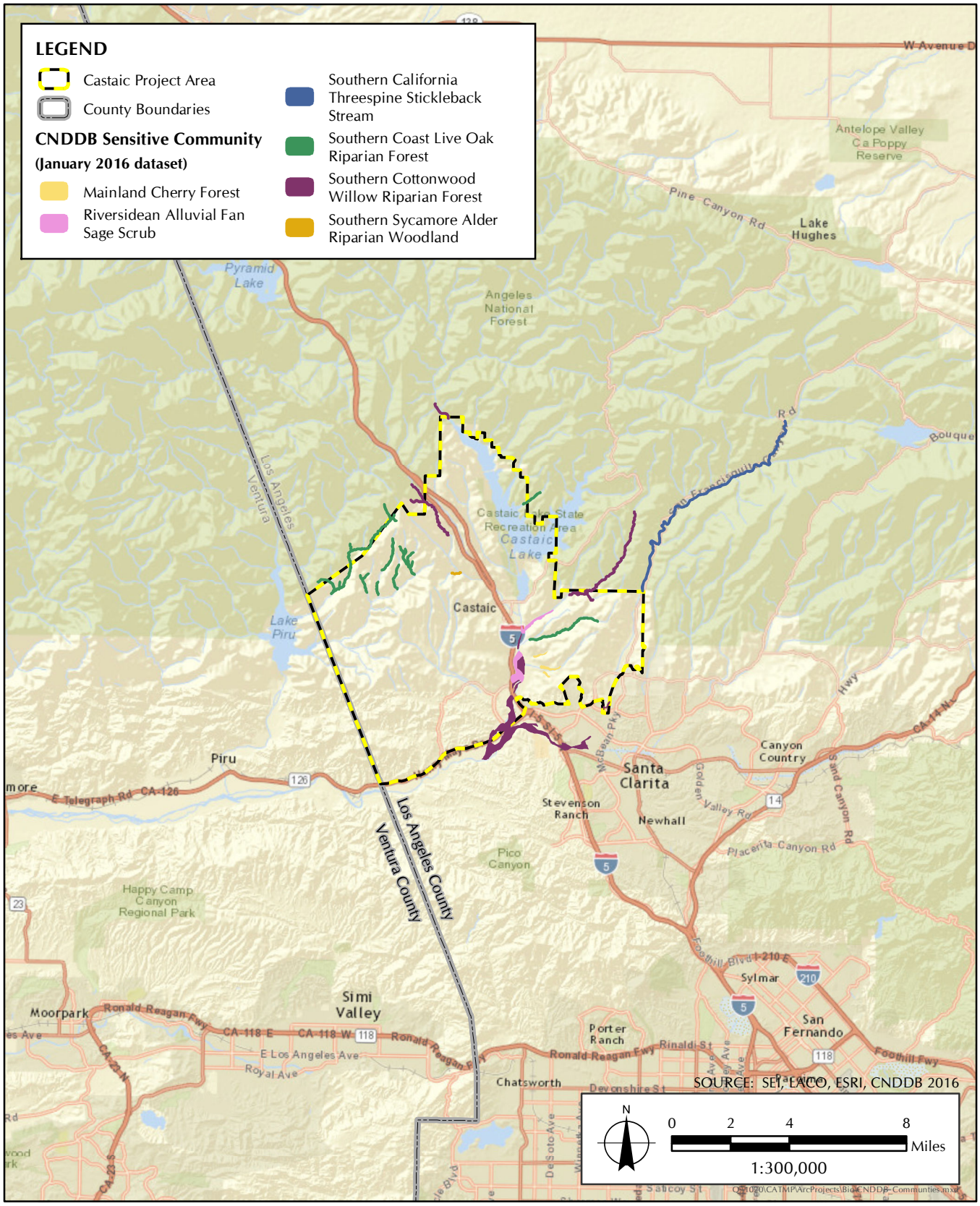

FIGURE 8

Riparian and State Sensitive Plant Community Records in the Castaic Project Area

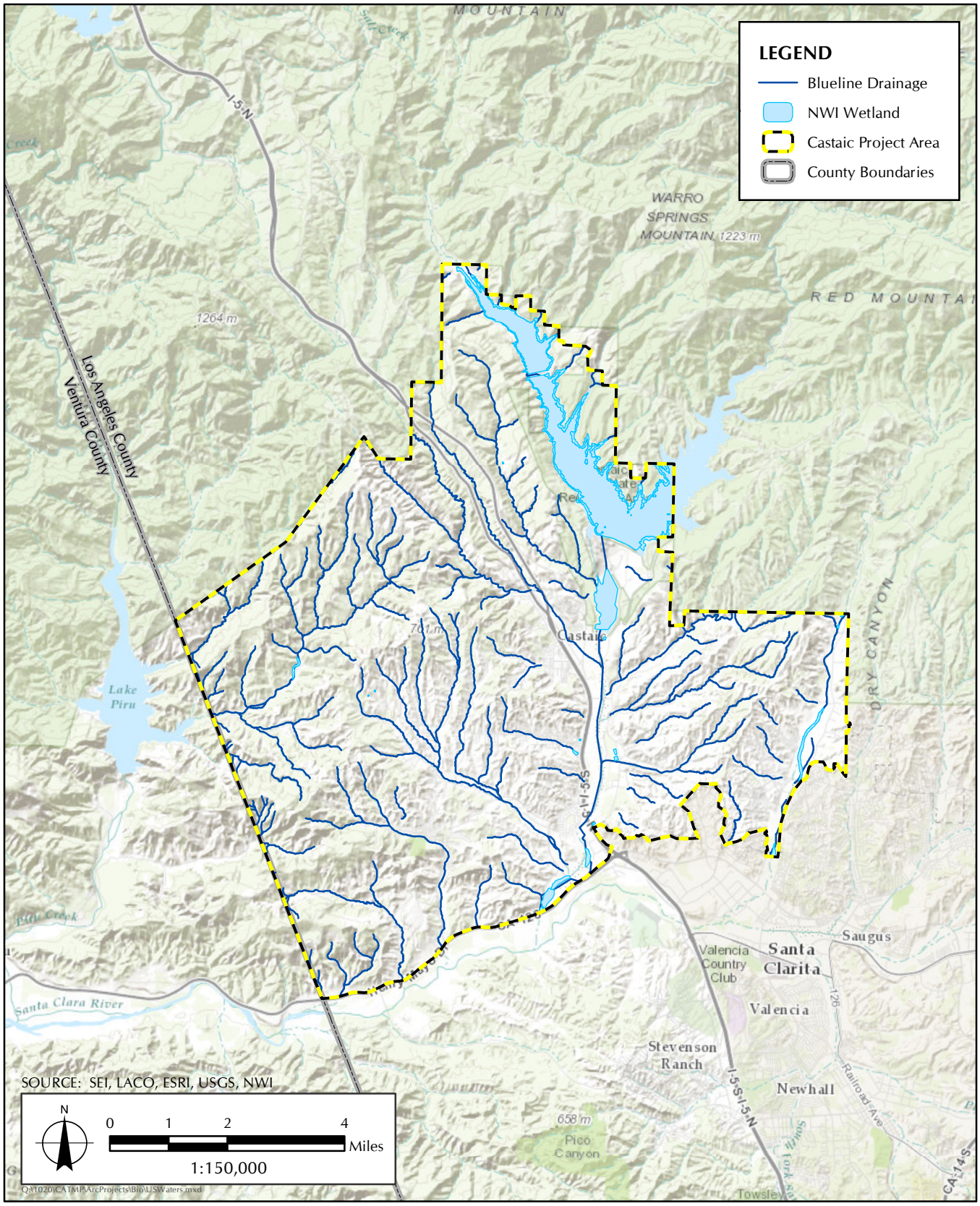

FIGURE 9

Federally Protected Wetlands and Waterways Reported in the Castaic Project Area

In addition to the NWI wetland features described in Table 6, there are 144miles of USGS blue-line drainages reported that may be subject to USACOE jurisdiction in the Castaic project area. The analysis of Federally Protected Wetlands and Waterways in this section was based on aerial imagery and satellite data. Individual projects within the Castaic project area would be required to complete a formal jurisdictional delineation pursuant to USACOE requirements.

TABLE 8
FEDERALLY PROTECTED WETLANDS AND WATERWAYS REPORTED IN THE CASTAIC PROJECT AREA

Wetland Type	National Wetlands Inventory (Acres)
Freshwater Emergent Wetland	42.2
Freshwater Forested/Shrub Wetland	26.3
Freshwater Pond	10.7
Lake	2,178.3
Riverine	48.5
Other	0.4
Total	**2,306.4**

Migratory Corridors and Nursery Sites

A desktop analysis, including aerial imagery habitat and land use assessments, and review of existing data indicative of the presence of wildlife movement corridors and nursery sites in the Castaic project area was conducted. Significant Ecological Areas (SEAs) are areas that have been determined by the County of Los Angeles to contain sensitive biological resources based on the criteria of sensitive plants and animals, plant communities, and corridors. Often, these SEAs can be indicators of the presence of wildlife movement corridors. There are two SEAs that include 9,037.0 acres within the Castaic project area (Table 9, *Significant Ecological Areas Present in the Castaic Project Area,* Figure 10, *Significant Ecological Areas Present in the Castaic Project Area*).

TABLE 9
SIGNIFICANT ECOLOGICAL AREAS PRESENT IN THE CASTAIC PROJECT AREA

Significant Ecological Area Name	Acres
Santa Clara River	958.3
Santa Felicia	8,078.7
Total	**9,037.0**

The Santa Clara River Watershed is a nursery site for several fish species. The Santa Clara River is the largest natural river remaining in Southern California. Although there are no known bird rookeries in the Castaic project area, many species of birds breed within the area. Nesting birds protected under the Migratory Bird Treaty Act (MBTA) have the potential to be present throughout the Castaic project area.

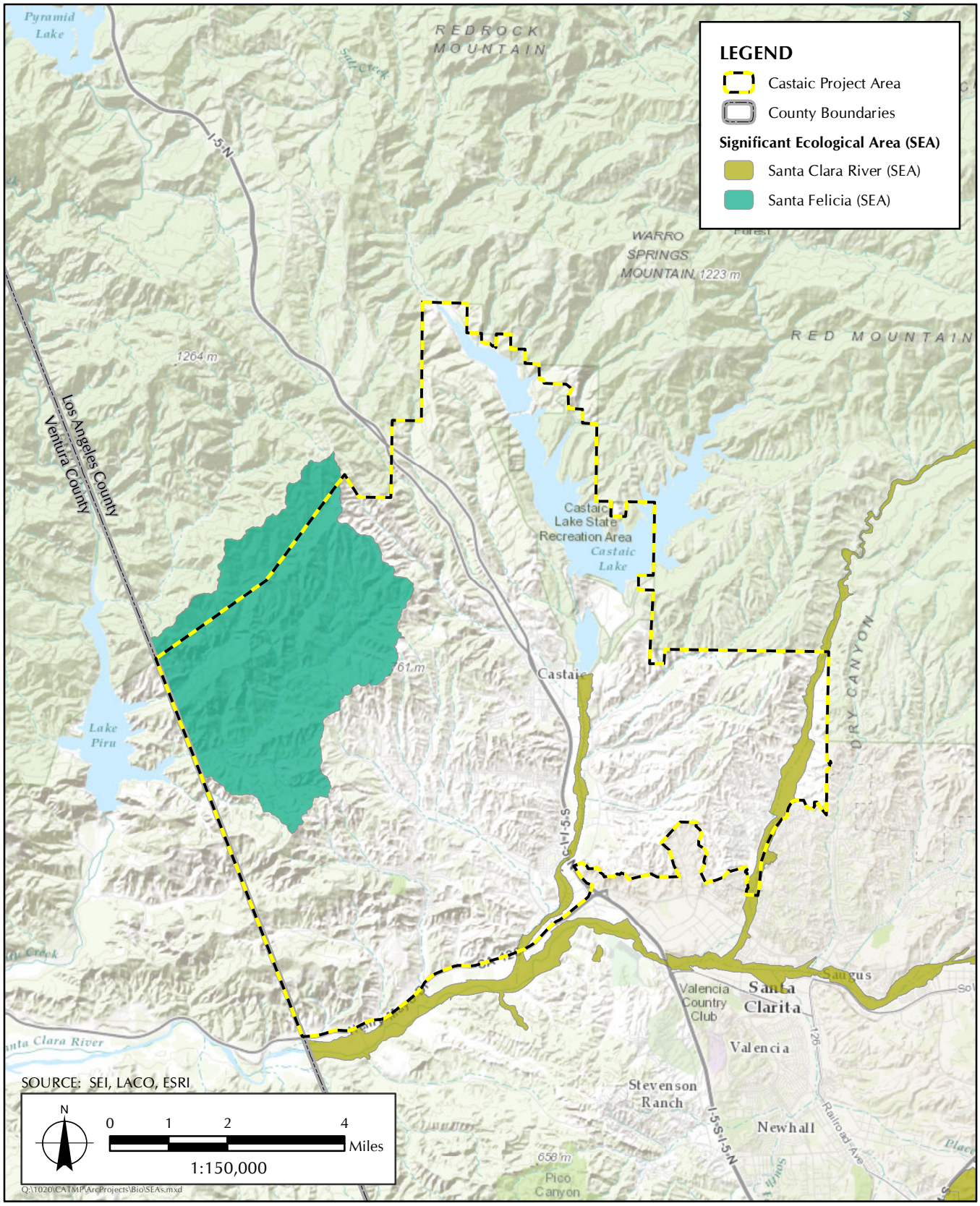

FIGURE 10

Significant Ecological Areas (SEAs) in the Castaic Project Area

Oak and Native Woodlands

A record search of the CNDDB reported approximately 984 acres of Southern Coast Live Oak Riparian Forest in the Castaic project area (Table 5). In addition, there is the potential for protected oak trees as well as other native trees and woodlands to be present on or within the vicinity of the Castaic project area. Oak trees are typically found in oak woodlands and other indigenous woodlands, but may also be found in urban areas as planted trees. Individualized surveys within the Castaic project area would be required to delineate oak and other native woodland communities and to map individual oak and native trees on a project-by-project basis.

General Plans and Policies

Los Angeles County General Plan 2035

Of the 2 goals and 12 policies established in the Conservation and Natural Resources Element of the Los Angeles County General Plan 2035, 2 goals (C/NR 3 and C/NR 4) and 8 policies (C/NR 3.1, C/NR 3.3, C/NR 3.4, C/NR 3.8, C/NR 3.9, C/NR 3.10, C/NR 3.11, and C/NR 4.1) are applicable to the proposed project.

Santa Clarita Valley Area Plan

Of the 7 objectives and 34 policies related to biological resources established in the Conservation and Open Space Element of the Santa Clarita Valley Area Plan, 5 objectives (CO-3.1, CO-3.2, CO-3.3, CO-3.5, and CO-3.6) and 20 policies (CO-3.1.2, CO-3.1.3, CO-3.1.4, CO-3.1.5, CO-3.1.6, CO-3.1.7, CO-3.1.10, CO-3.1.11, CO-3.2.1, CO-3.2.2, CO-3.2.3, CO-3.2.4, CO-3.3.1, CO-3.3.5, CO-3.5.2, CO-3.5.3, CO-3.6.1, CO-3.6.2, CO-3.6.3, and CO-3.6.5) are applicable to the proposed project.

Los Angeles County Municipal Code Title 12, Chapter 12.36 – Wildflower Reserves

The Castaic project area does not contain any designated Wildflower Reserve Areas. Therefore, this ordinance is not applicable to the proposed project.

Los Angeles County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas

There are two SEAs that include 9,037.0 acres within the Castaic project area, the Santa Clara River SEA and the Santa Felicia SEA (see Table 6 and Figure 10). Therefore, this ordinance is applicable to the proposed project.

Los Angeles County Municipal Code Title 22, § Chapter 22.44, Part 6 – Sensitive Environmental Resource Areas

The Castaic project area is not located within the Santa Monica Mountains Coastal Zone area and does not contain any Sensitive Environmental Resource Areas. Therefore, this ordinance is not applicable to the proposed project.

Newhall Ranch Specific Plan

All five Resource Conservation Objectives within the Newhall Ranch Specific Plan related to biological resources are relevant to the proposed project.

Municipal Code Sections 22.56.2050–22.56.2260

There is the potential for protected oak trees to be present on or within the vicinity of the Castaic project area. Oak trees are typically found in oak woodlands and other indigenous woodlands, but may also be found in urban areas as planted trees. Therefore, this ordinance is relevant to the evaluation of conflicts of the proposed project with local general plans, policies, and ordinances.

Habitat Conservation Plans and Natural Community Conservation Plans

HCPs and NCCPs were evaluated to determine applicability of any adopted or proposed HCPs or NCCPS in the Castaic project area. The boundaries of all HCPs/NCCPs were reviewed and compared to the Castaic project area boundary to determine their relevance. There are no HCPs or NCCPs with boundaries that intersect the Castaic project area (Figure 11, *HCPs and NCCPs Present in the Vicinity of the Castaic Project Area*). Therefore, there are no HCPs or NCCPs with provisions applicable to the proposed project.

SIGNIFICANCE THRESHOLDS

The potential for trails constructed within the Castaic project area to result in impacts related to biological resources was analyzed in relation to the questions in Appendix G of the State CEQA Guidelines.[35] Trails constructed within the Castaic project area would be considered to have a significant impact to biological resources if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS.
- Have a substantial adverse effect on federally or state protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by § 404 of the federal Clean Water Act or California Fish & Game code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshuas, southern California black walnut, etc.).

[35] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

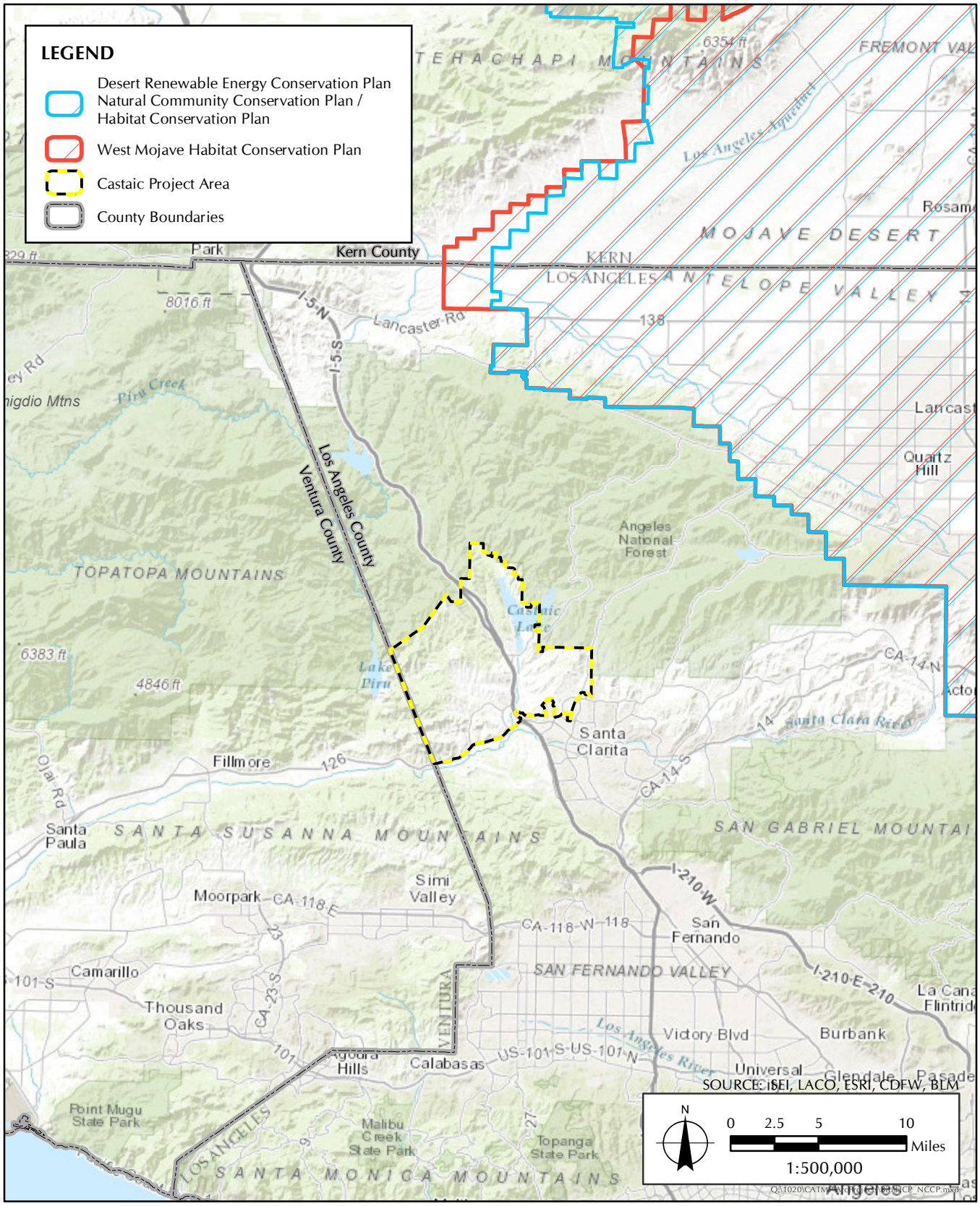

FIGURE 11

Habitat Conservation Plans and Natural Community Conservation Plans Present in the Vicinity of the Castaic Project Area

- Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the SEAs (L.A. County Code, Title 22, § 22.56.215), and SERAs (L.A. County Code, Title 22, Ch. 22.44, Part 6).

- Conflict with the provisions of an adopted state, regional, or local habitat conservation plan.

IMPACT ANALYSIS

Proposed trail width within the proposed project varies between 3 and 12 feet. Therefore, spatial impact analysis for biological resources was based on a worst-case analysis using a maximum width of 12 feet and incorporating a 250-foot buffer to account for construction disturbances beyond the trail footprint.

Listed, Sensitive, and Locally Important Species

Approximately 191.5 acres of critical habitat for listed species (126.3 acres for arroyo toad, and 65.2 acres for southwestern willow flycatcher would be potentially be converted to trails and other recreation amenities or would be disturbed through associated construction activities as a result of the Castaic Trails Master Plan. Furthermore, there are CNDDB records and suitable habitat for the federally and state-listed endangered unarmored threespine stickleback, the CNPS rare plant slender mariposa lily, and sensitive wildlife species including western spadefoot, coast horned lizard, loggerhead shrike, and burrowing owl within 250 feet of the planned trail activities that may be disturbed through trail development and associated construction activities. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within areas of potentially suitable and occupied habitat for listed and special-status species. Direct impacts would occur during trail construction and would include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Additionally, direct impacts may occur through the direct habitat loss and fragmentation during construction of the trails and associated structures; introduction of non-native plants; and introduction of lighting, dust, and noise during construction. Further, indirect impacts resulting from the development of trails projects in the proposed project could occur as a result of increased human interaction with sensitive plants and wildlife.

This analysis of impacts of trails projects included in the proposed project to sensitive plant and wildlife species and their habitats and designated critical habitat is programmatic, and conservatively assumes that all species with critical habitat and/or CNDDB records in the Castaic project area are present. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of the federal and state ESA, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, and 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or

regulations, or by the CDFW or USFWS. Implementation of Mitigation Measure BIO-1 would reduce impacts to below the level of significance.

Riparian and State Sensitive Plant Communities

Approximately 308 acres of state designated sensitive plant communities (including 248 acres of riparian communities) would potentially be converted to trails and other recreation amenities or would be disturbed through associated construction activities as a result of the Castaic Trails Master Plan. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within sensitive natural communities on-site. Impacts associated with the disturbance of sensitive and riparian habitats would include direct loss and fragmentation of sensitive communities and riparian habitats as trails projects are developed and the introduction of non-native plants that would degrade existing communities. Further, indirect impacts resulting from the development of trails projects in the proposed project could occur as a result of increased public access to sensitive plant communities.

This analysis of impacts of trails projects included in the proposed project to sensitive plant communities and riparian habitats is programmatic, and conservatively assumes that sensitive plant communities have the potential to exist throughout the Castaic project area and that all waterways have the potential to contain riparian habitat. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on any sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS. Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce impacts to below the level of significance.

Federally Protected Wetlands and Waterways

Approximately 252 acres of riparian communities that may be under CDFW jurisdiction, 122.7 acres of federally protected wetlands, and 36.2 miles of blueline drainages that may include waters of the United States would potentially be converted to trails and other recreation amenities or would be disturbed through associated construction activities as a result of the Castaic Trails Master Plan. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within and adjacent to state and federal wetlands and or waters of the United States on-site. Impacts would include disruption of streams and wetlands as new trails are developed and dredge and fill activities associated with trail development. Trail development projects would be subject to the provisions of Section 404 of the Federal Clean Water Act. Dredge or fill in waters of the United States is subject to the regulatory authority of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act. Trail development projects would also be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the proposed project would result in significant impacts to biological resources in regard to having a substantial adverse effect on federally or state protected wetlands or waters of the United States. Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce impacts to below the level of significance.

Migratory Corridors and Nursery Sites

The Castaic project area is considered an important wildlife corridor as determined by the County General Plan (Appendix C). Within the County General Plan, the Santa Clara River and Santa Felicia SEAs are identified as important corridors for wildlife movement, linking the Santa Monica Mountains, the San Gabriel Mountains, and Piru Lake in Ventura County. Trails and passive recreation use are an allowable use within SEAs. Although trail use would not conflict with the goals of the SEA program, new trail construction within an SEA would require consultation with the County of Los Angeles Department of Regional Planning and a Biological Technical Report prepared for Significant Ecological Area Technical Advisory Committee (SEATAC) review. Furthermore, nesting birds protected under the Migratory Bird Treaty Act (MBTA) have the potential to be present throughout the Castaic project area.

Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within areas used for native wildlife movement and within and adjacent to suitable nesting locations for native and migratory birds on-site. Impacts would include direct habitat removal that would disrupt nesting birds as new trails projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery sites. Additionally, an increase in wildlife-human interactions as a result of the development of new trails projects may increase wildlife injury.

This analysis of impacts of trails projects included in the proposed project to wildlife corridors and nursery sites is programmatic, and conservatively assumes that wildlife movement areas and nesting birds may occur throughout the Castaic project area. The level of impact of subsequent projects would be subject to verification at the project level of environmental review pursuant to CEQA. Trail development projects would be subject to the provisions of the MBTA.

Therefore, the proposed project would result in significant impacts to biological resources in regard to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites. Implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce impacts to below the level of significance.

Oak and Native Woodlands

Approximately 123.1 acres of state designated Southern Coast Live Oak Riparian Forest and 128.8 acres of Southern Cottonwood Willow Riparian Forest would potentially be converted to trails and other recreation amenities or would be disturbed through associated construction activities as a result of the Castaic Trails Master Plan. Construction activities associated with trail development would include excavation, grading, and construction of trails and small structures at trailheads and trail staging areas. These construction activities have the potential to occur within oak and other native woodlands on-site or within the dripline of individual oak or other native trees. Impacts associated with the disturbance of oak and other native woodlands would include direct loss and

fragmentation of woodlands as trails projects are developed, and the introduction of non-native plants that would degrade existing woodlands.

Therefore, the proposed project would result in significant impacts to biological resources in regard to converting oak woodlands or woodlands otherwise containing oak or other unique native trees. Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 would reduce impacts to below the level of significance.

General Plans and Policies

The Castaic project area is not located within any Wildflower Reserve Areas or SERAs; therefore, it would not conflict with these policies. The Northlake Specific Plan does not contain any policies related to biological resources; therefore, the proposed project would not conflict with the policies of this plan. The proposed project would not result in significant impacts to biological resources related to conflicts with the County General Plan, Santa Clarita Valley Area Plan, or Newhall Ranch Specific Plan because trails and other recreation facilities are required to be designed consistent with the County Trails Manual, which requires no net loss of habitat functions and values.[36] The application of the County Trails Manual to the individual trails projects within the proposed project would accomplish the objectives within these plans of minimizing impacts to the natural environment. Furthermore, the implementation of the proposed project would be beneficial to biological resources because it would direct visitors to the Castaic project area to designated areas for use rather than permit disorganized use of the land without acknowledgement and protection of environmentally sensitive areas.

The proposed project would not conflict with Los Angeles County Municipal Code Title 22, § 22.56.215 – Significant Ecological Areas because trails and recreation facilities are an allowed use in SEAs, and any trails project under the proposed project would be required to comply with the SEATAC CUP application process. The proposed project would not conflict with Municipal Code Sections 22.56.2050–22.56.2260 – Oak Tree Ordinance because trails and recreation facilities would be designed to avoid the removal or disturbance of any protected oak tree, and any trails project under the proposed project would be required to comply with the Los Angeles County Oak Tree Removal Permit application process should tree removal be necessary. Therefore, the proposed project would result in no impacts in regard to conflicts with local policies or ordinances protecting biological resources, and no mitigation would be required.

Habitat Conservation Plans and Natural Community Conservation Plans

The proposed project would result in no impacts to biological resources in regard to conflicting with the provisions of an adopted state, regional, or local habitat conservation plan. There are no Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) with boundaries that intersect the Castaic project area. Therefore, the proposed project would result in no impacts related to conflicts with the provision of adopted state, regional, or local habitat conservation plans, and no mitigation would be required.

[36] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

MITIGATION RECOMMENDATIONS

The following mitigation measures shall be implemented, as applicable, for ground-disturbing activities associated with trail construction and/or improvements within the Castaic Area Multi-Use Trails Project. These measures, with proper implementation, will serve to avoid, minimize, or substantially reduce impacts to biological resources.

Mitigation Measure BIO-1: To mitigate potential impacts on listed, sensitive, and locally important species and their habitats, the County shall require that a habitat assessment by a qualified biologist take place using approved U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) protocols to identify suitable habitat for any listed, sensitive, and locally important species on-site. Where suitable and/or occupied habitat is determined to be present, mitigation shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of the federal and state Endangered Species Acts (ESAs), may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any occupied habitat, potentially suitable habitat, and designated critical habitat for any listed, sensitive, or locally important species and to minimize impacts to native plant communities, wherever practicable and feasible.
- Consultation with USFWS and CDFW with regards to trail building activities within critical habitat and suitable habitat.
- Implementation of pre-construction habitat surveys to delineate occupied or suitable sensitive species' habitat to facilitate avoidance.
- Formal consultation with the USFWS will be required if a species afforded protection pursuant to the federal ESA is determined to be present as a result of focused protocol surveys. Formal consultation with the CDFW will be required if a species afforded protection pursuant to the state ESA is determined to be present as a result of focused protocol surveys.
- Altering the timing of construction to avoid seasons when sensitive species may be present (i.e., nesting bird season).
- Worker Education and Awareness Program to inform all construction workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- Designation of suitable habitat as off-limits during construction on all construction drawings and diagrams.
- Use of fencing and/or flagging to delineate environmentally sensitive areas as off-limits during trail construction.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of environmentally sensitive areas.
- Where temporary impacts to critical habitat may occur, the development and implementation of a habitat restoration plan shall be required.

Where permanent impacts to critical habitat may occur, compensatory mitigation such as purchasing credits at a mitigation bank, purchasing off-site lands, or similar shall be required.

Mitigation Measure BIO-2: To mitigate potential impacts on riparian, state-sensitive plant communities, state protected wetlands, and federally protected wetlands and waters of the United States, the County shall require that plant community mapping be conducted by a qualified biologist with experience classifying plant communities in Southern California and/or a formal jurisdictional delineation be conducted by a certified wetland delineator to identify any state or federally protected wetlands, riparian areas, and state-sensitive plant communities on-site. Where state designated sensitive plant communities, riparian habitat, state or federally protected wetlands, or waters of the United States are determined to be present, mitigation measures shall be implemented such that there is no net loss of habitat functions or values. Opportunities for achieving this performance standard, consistent with the provisions of Section 1600 of the State Fish and Game Code and Section 404 of the Federal Clean Water Act, may include:

- Demonstration that trail segment projects have been and will be designed, constructed, and maintained to avoid disturbance of any state-sensitive plant communities or riparian habitat, or any state or federally protected wetlands or waters of the United States wherever practicable and feasible.
- Conduct pre-construction habitat surveys to delineate sensitive plant communities and riparian habitats to facilitate avoidance.
- Consult with CDFW with regards to trail building activities within state-sensitive plant communities.
- Use of on-site monitors for periods when trail construction will be undertaken within 250 feet of oak woodlands, native woodlands, and 100 feet of the dripline of native trees.
- Where temporary impacts may occur to sensitive plant communities, the development and implementation of a habitat enhancement and restoration plan shall be required.
- Where permanent impacts may occur to sensitive plant communities, compensatory mitigation such as purchasing credits at mitigation bank, purchasing off-site lands, or similar shall be required.
- Where impacts are located in areas subject to the jurisdiction of the CDFW pursuant to Section 1600 of the State Fish and Game Code, obtain a Streambed Alteration Agreement prior to commencing ground-disturbing activities or any other alternation of a lake or stream.
- Where impacts are located in areas subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Federal Clean Water Act, obtain authorization to complete the required work pursuant to a Nationwide or individual permit.
- Where impacts are subject to the jurisdiction of the Regional Water Quality Control Board, obtain a Waiver of Water Quality Certification or Notice of Applicability of Waste Discharge Requirement permit.

Mitigation Measure BIO-3: To avoid impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA), trail construction should take place outside of the nesting bird season, which generally occurs between February 15 and September 1. If trail construction activities cannot avoid the nesting bird season, pre-construction nesting bird surveys shall be conducted by a qualified biologist a maximum of three days prior to the start of construction. Should nesting birds be discovered within or adjacent to the construction footprint during these surveys, a non-disturbance buffer shall be placed on the active nest as determined by the biologist to prevent impacts to nesting birds. Construction shall be halted within the non-disturbance buffer of 250 feet of

songbirds and 500 feet for raptors until the biologist has determined that the young have fledged and are flying well enough to avoid the proposed construction activities.

Mitigation Measure BIO-4: To mitigate potential impacts on oak and other native woodlands, the County shall require that for every protected tree that must be removed, the same species shall be replaced at a minimum of a 1:1 ratio. Compensatory mitigation for protected trees in the jurisdiction of the County may include replacement at a 3:1 ratio for trees with a diameter at breast height (DBH) of eight inches or more at an appropriate mitigation site, and replacement at a 10:1 ratio for heritage oaks. Monitoring for at least one year would be required to meet success criteria.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of mitigation measures BIO-1 through BIO-4 would reduce impacts to biological resources related to an substantial adverse effect on listed, sensitive, and locally important species, riparian and state sensitive plant communities, federally protected wetlands and waterways, migratory corridors and nursery sites, and oak and native woodlands to below the level of significance.

Should there be any questions regarding the information contained in this MFR, please contact Mr. Ryan Villanueva at (626) 683-3547, extension 115.

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U.S. Geologic Survey. 2015. 7.5-minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

U.S. Geologic Survey. 2015. 7.5-minute Series, Piru, California, Topographic Quadrangle. Reston, VA.

U.S. Geologic Survey. 2015. 7.5-minute Series, San Fernando, California, Topographic Quadrangle. Reston, VA.

U.S. Geologic Survey. 2015. 7.5-minute Series, Simi Valley East, California, Topographic Quadrangle. Reston, VA.

U.S. Geologic Survey. 2015. 7.5-minute Series, Simi Valley West, California, Topographic Quadrangle. Reston, VA.

U.S. Geologic Survey. 2015. 7.5-minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

U.S. Geological Survey. 2015. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

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CASTAIC AREA MULTI-USE TRAILS PLAN

FINAL MITIGATED NEGATIVE DECLARATION

Volume III
Appendices D–I

Prepared for:

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August 12, 2016

Appendix D

Cultural Resources Analysis

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan Project

MEMORANDUM FOR THE RECORD
2.6 1020-085.M06

TO: County of Los Angeles Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, and Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc.
(Mr. Eugen Ruzi)

SUBJECT: Castaic Area Multi-Use Trails Plan Cultural Resources Assessment

FIGURES:
1. Regional Vicinity Map
2. Local Vicinity Map
3. Topographic Map with USGS 7.5-minute Quadrangle Index

APPENDICES:
A. Previous Cultural Resource Studies
B. Map of Cultural Resources within the APE (confidential information redacted)
C. Native American Correspondence

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the programmatic evaluation of the existing conditions associated with the proposed Castaic Area Multi-Use Trails Plan (proposed project) as they pertain to cultural resources in accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines.[1] Based on the results of the records are archival research and map review conducted by Sapphos Environmental, Inc., the construction, recreational use, and maintenance activities associated with the proposed project would have the potential to result in impacts to cultural resources that would be mitigated to below the level of significance with mitigation measures. The scope of evaluation of cultural resources includes paleontological resources, archaeological and historic resources, and Native American sites and human remains.

Paleontological Resources

There are ten geologic units that underlie the proposed project area that have a moderate to high potential for containing unique paleontological resources. Where construction of the trails requires excavation in these geologic units, there is a potential to have significant impacts on vertebrate fossil remains that constitute unique paleontological resources pursuant to CEQA. Such impacts would be reduced to below the level of significance through preparation and implementation of a Paleontological Resources Management Plan to ensure that the unanticipated discovery of unique paleontological resources during ground-disturbing activities are appropriately salvaged, recorded, and reposited.

Archaeological and Historic Resources and Native American Sacred Sites

There are recorded archaeological and historic resources within the proposed project area. Additionally, the potential exists for the unanticipated discovery of buried significant historical and unique archaeological resources, including tribal cultural resources, during ground-disturbing activities in native soils. Exposure or displacement of historical resources and unique archaeological resources is a significant impact that would be reduced to below the level of significance through preparation and implementation of a Cultural Resources Management Plan to ensure that the unanticipated discovery of unique archaeological, or significant historic or tribal cultural resources during ground-disturbing activities are appropriately salvaged, recorded, and reposited.

Human Remains

There are known prehistoric burial sites within the proposed project area. Additionally, the potential exists for the unanticipated discovery of human remains interred outside of a formal cemetery and Native American sacred sites, during ground-disturbing activities in native soils. Disturbance of human remains and Native American sacred sites is a significant impact that would be reduced to below the level of significance through preparation and implementation of a Cultural Resources Management Plan specifying the appropriate protocols for required notifications of the discovery of human remains, and subsequent repatriation or disposition of such remains consistent with the requirements of the Government Code and Native American Graves Protection and Repatriation Act.

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

INTRODUCTION

This MFR addresses provides the County of Los Angeles (County) with the substantial evidence used to a make a determination that the potential for significant impacts to cultural resources that could result from construction, operation, and maintenance of the proposed project would be reduced to below the level of significance through application of the specified mitigation measures. This assessment is based on record search and archival research conducted within the Trails Planning Area. In accordance with CEQA, this cultural resource study encompasses paleontological resources, archaeological resources, historical resources, human remains, and addresses the presence of Native American tribal cultural resources. This MFR presents the results of these efforts and provides a programmatic impact analyses and mitigation recommendations related to cultural resources within the Trails Planning Area.

PURPOSE

The purpose of this MFR is to support the County in the development of a multi-use trail plan that would minimize the impacts on the surrounding community, Native Americans most likely descendants identified by the Native American Heritage Commission (NAHC). It is understood that the County expects to move forward with the proposed project and seeks funding for construction, operation, and maintenance of the proposed project. This MFR provides the requisite information related to impacts on cultural resources to support the County's decision-making process in relation to the proposed project. The evaluation of the potential for the proposed project to result in significant impacts to cultural resources was undertaken in accordance with Appendix G of the State CEQA Guidelines and the Los Angeles County General Plan. This MFR presents the results of these efforts and provides impact analyses.

LOCATION

The Castaic project area, which encompasses approximately 78 square miles (approximately 50,000 acres) in the Castaic area of the Santa Clarita Valley, is located in the northwestern portion of the unincorporated area of the County (Figure 1, *Regional Vicinity Map*). The Castaic project area is bound by the Angeles National Forest to the north, the City of Santa Clarita to the southeast, Highway 126 to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area includes three existing County trails (approximately 4.9 miles) and approximately 74.7 miles of adopted County Trail System proposed trails. The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties. The Castaic project area is located on the U.S. Geological Survey (USGS) 7.5-minute series Val Verde, Newhall, Whitaker Peak, and Warm Springs Mountain topographic quadrangles.[2,3,4,5] (Figure 3, *Topographic Map with USGS 7.5-minute Quadrangle Index*).

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[2] U.S. Geological Survey. 2015. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

[3] U.S. Geological Survey. 2015. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[4] U.S. Geological Survey. 2015. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[5] U.S. Geological Survey. 2015. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

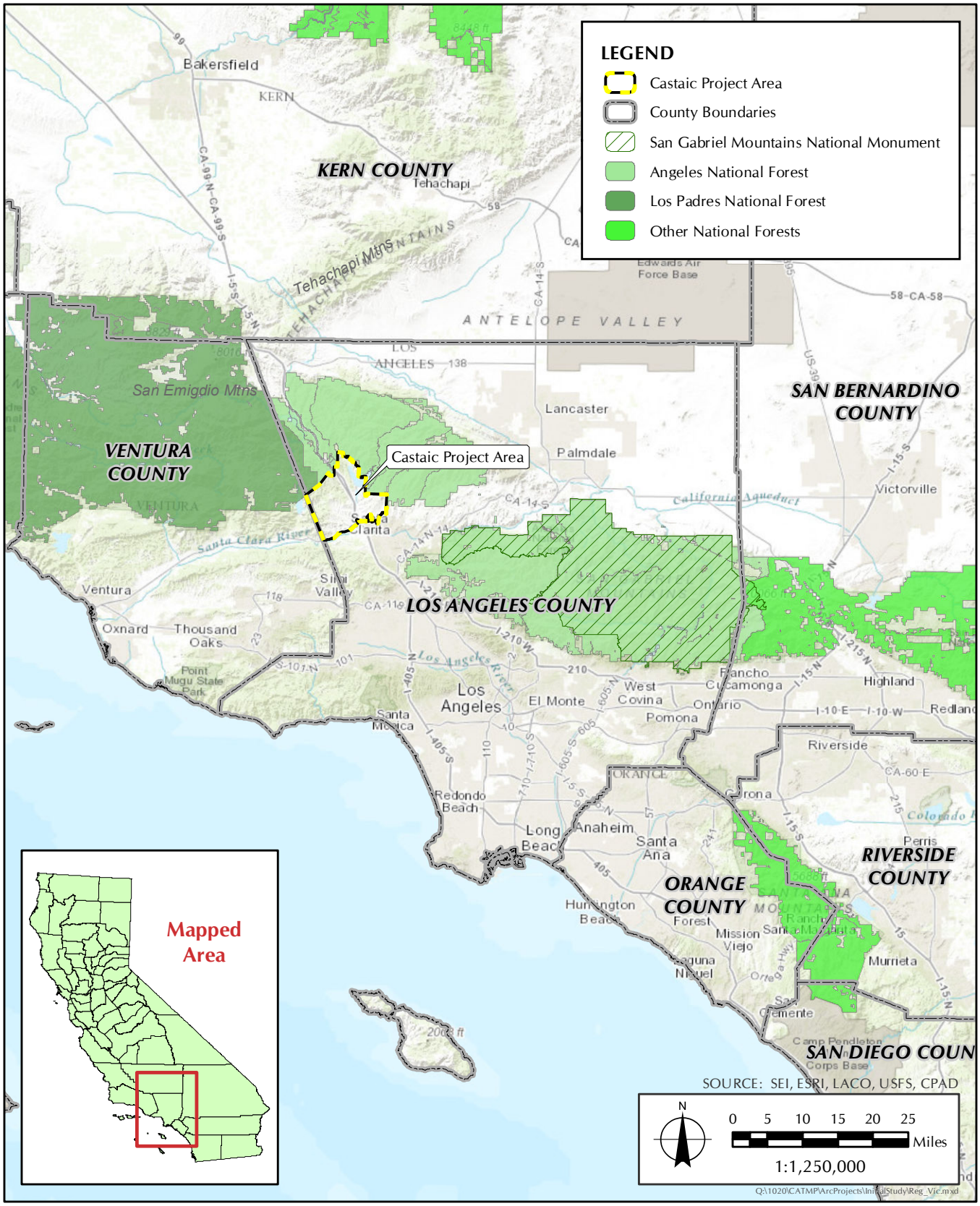

FIGURE 1

Regional Vicinity Map

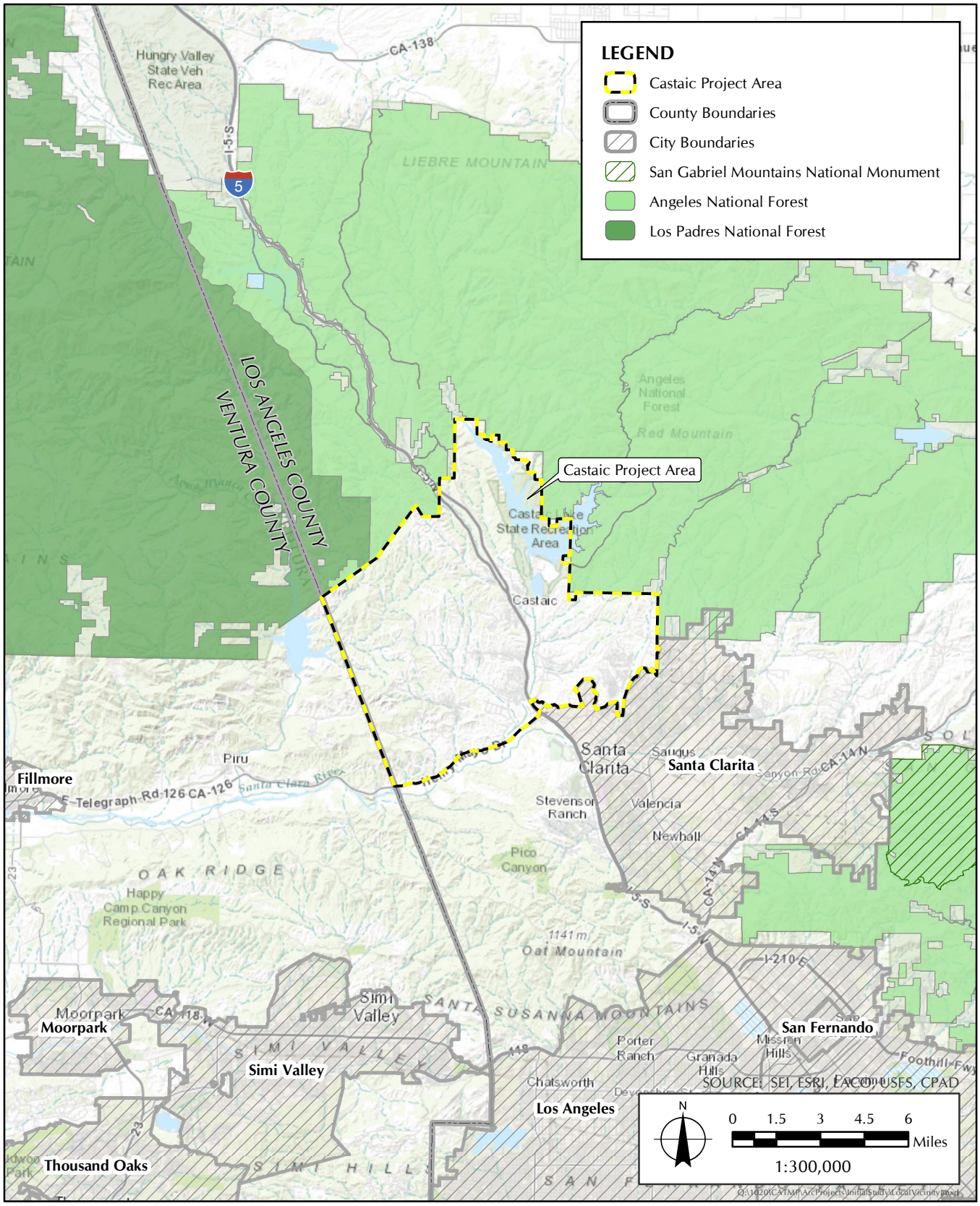

FIGURE 2

Local Vicinity Map

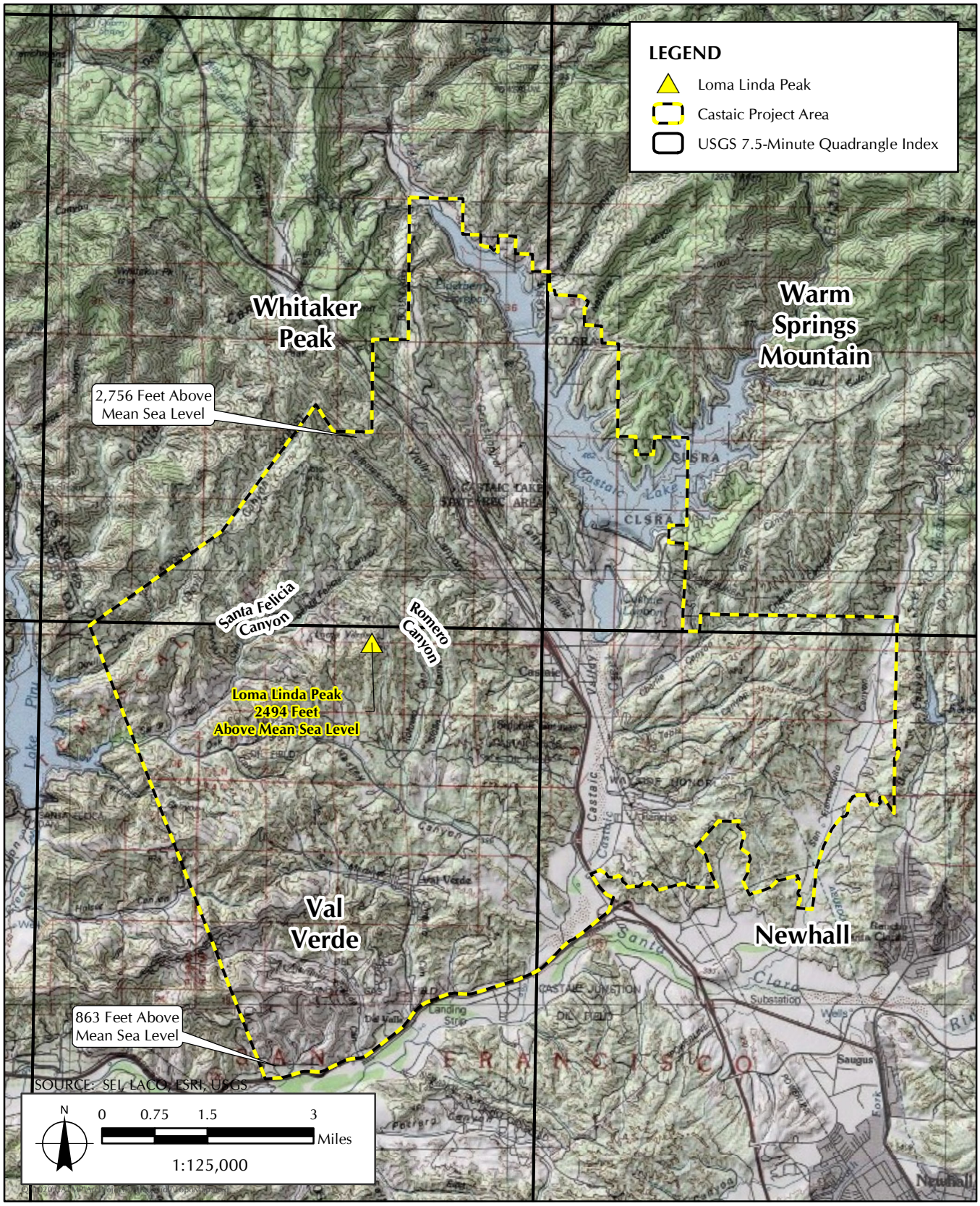

FIGURE 3

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

The elevation of the Castaic project area ranges from approximately 863 feet above mean sea level (MSL) in the Santa Clara River bed at the southern edge of the Castaic project area to approximately 2,756 feet above MSL along the northern edge of the Castaic project area, approximately 0.7 mile southwest of Interstate 5. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area (Figure 4, *Castaic Area Multi-Use Trails Plan*). The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[6] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

6 County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
• Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[7]

REGULATORY FRAMEWORK

Federal

Historic Sites Act of 1935

The Historic Sites Act (HAS; 49 Stat. 666; 16 USC 461–467) became law on August 21, 1935, and declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance." The National Historic Preservation Act (NHPA) expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed

7 County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

on or eligible for listing on the National Register. The Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).

United States Department of Transportation (USDOT) Act of 1966 (Section 4[f])

Section 4(f) of the USDOT Act of 1966 affords special protection to public recreational lands and facilities, including local parks and school facilities that are open and available to the general public for recreational purposes, significant cultural resources, historical resources, and natural wildlife refuges. Federally funded transportation improvement projects are prohibited from the encroachment (direct or constructive use, or a take) of Section 4(f) lands unless it can be demonstrated that no feasible and prudent alternative exists.

National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA; Public Law 89-665; 16 USC 470 et seq.) declared a national policy of historic preservation and instituted a multifaceted program, administered by the National Parks Service, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP). Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP, and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800, on such undertakings.

The National Park Service administers two Federal recognition programs, the National Register of Historic Places (NRHP) and the National Historic Landmarks Program.

National Register of Historic Places

Working with State Historic Preservation Offices, Tribal Historic Preservation Offices, and Federal Preservation Offices, the National Park Service maintains the NRHP. This is the official list of properties that are deemed worthy of preservation. Properties listed in the NRHP tell stories that are important to a local community, the citizens of a specific state, or all Americans. Properties listed in the NRHP may be owned by private individuals, universities, non-profits, governments, and/or corporations.

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.
Criterion B: It is associated with the lives of persons who are significant in our past.
Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

National Landmarks Program

The National Park Service also administers the National Historic Landmarks (NHL) Program. Properties designated as NHLs tell important stories related to the history of the nation overall. These properties must also possess a high level of historic integrity. All properties designated NHLs are automatically included in the NRHP.

Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines

The Standards and Guidelines are prepared under the authority of Sections 101(f) (g), and (h), and Section 110 of the National Historic Preservation Act of 1966, as amended. The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. They are intended to provide technical advice about archaeological and historic preservation activities and methods. The National Park Service (NPS) has not republished "The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation" since 1983 (48 FR 44716). NPS has updated portions of the Standards and Guidelines. NPS has officially revised portions and published the revisions in the Federal Register, such as the Historic Preservation Project standards and the treatment definitions. The purposes of the Standards are:

- To organize the information gathered about preservation activities.
- To describe results to be achieved by Federal agencies, States, and others when planning for the identification, evaluation, registration and treatment of historic properties.
- To integrate the diverse efforts of many entities performing historic preservation into a systematic effort to preserve our nation's culture heritage.

Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995)

The current version of The Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995) consists of four treatment standards—Preservation, Rehabilitation, Restoration and Reconstruction—and is regulatory for NPS Grants-in-Aid programs.

The Secretary of the Interior's Standards for Rehabilitation (36 CFR Part 67, 1990), which are included in the treatment standards, are regulatory for the Federal Historic Preservation Tax Incentives program and used as the criteria to determine if a project qualifies as "a certified rehabilitation." The 1990 and the 1995 versions of the Rehabilitation Standards are identical except for their use of "shall" and "will," respectively. The Secretary of the Interior's Standards for the Treatment of Historic Properties, in particular the Standards for Rehabilitation, are intended as general guidance for work on all historic properties and are widely used and have been adopted at the Federal, State and local levels.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA; Public Law 101-601; 25 USC 3001–3013) also applies if human remains of Native American origin are discovered on federal land. NAGPRA requires federal agencies and federally assisted museums to return "Native American cultural items" to the federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Regulations (43 CFR Part 10) stipulate the following procedures be followed. If Native American human remains are discovered, the following provisions would be followed to comply with regulations:

- Notify, in writing, the responsible federal agency;
- Cease activity in the area of discovery and protect the human remains;
- Certify receipt of the notification;
- Take steps to secure and protect the remains;
- Notify the Native American tribes or tribes likely to be culturally affiliated with the discovered human remains within one working day; and
- Initiate consultation with the Native American tribe or tribes in accordance with regulations described in 43 CFR, Part 10, Subpart B, Section 10.5.

State

California Implementation of Federally and State-Mandated Historic Preservation Program

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission.

OHP's responsibilities include:

- Identifying, evaluating, and registering historic properties;
- Ensuring compliance with federal and state regulatory obligations;
- Encouraging the adoption of economic incentives programs designed to benefit property owners; and
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.

OHP reviews and comments on thousands of federally sponsored projects annually pursuant to Section 106 of the National Historic Preservation Act and state programs and projects pursuant to Sections 5024 and 5024.5 of the PRC. OHP also reviews and comments on local government and state projects pursuant to CEQA.

The purpose of OHP's project review program is to promote the preservation of California's heritage resources by ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid any adverse effects to heritage resources. If adverse effects cannot be avoided, the OHP assists Lead Agencies in developing measures to minimize or mitigate such effects.

OHP administers the NRHP, the California Register of Historical Resources, the California Historical Landmarks, and the California Points of Historical Interest programs. Each program has different eligibility criteria and procedural requirements; all register nominations must be submitted to the Commission for review and approval.

National Register of Historic Places

Applications to nominate California properties to the NRHP are submitted to OHP for review and approval by the State Historic Resources Commission. Authorized under the NHPA, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archaeological resources. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior. Prior to forwarding Nomination Packages for consideration for the National Register, OHP must review the package and make a determination that it conforms to the guidelines published by National Park Service Bulletin 16A. If approved by the SHRC, the nomination is sent to the State Historic Preservation Officer for nomination to the National Register.

California Register of Historical Resources

The California Register is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for eligibility for the California Register are based upon National Register criteria. These criteria are:

- Criterion 1: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States;
- Criterion 2: Associated with the lives of persons important to local, California or national history;
- Criterion 3: Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; and
- Criterion 4: Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register

automatically includes the following:

- California properties listed in the National Register of Historic Places (Category 1 in the State Inventory of Historical Resources) and those formally Determined Eligible for listing in the National Register of Historic Places (Category 2 in the State Inventory)
- California Registered Historical Landmarks from No. 0770 onward
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion in the California Register

Other resources which may be nominated for listing in the California Register include:

- Historical resources with a significance rating of Categories 3 through 5 in the State Inventory. (Categories 3 and 4 refer to potential eligibility for the National Register, while Category 5 indicates a property with local significance);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as a local landmark.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

California Historical Landmarks

California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark # 770. California Historical Landmarks #770 and above are automatically listed in the California Register of Historical Resources.

To be designated as a California Historical Landmark, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

Criteria for Designation. To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under California Environmental Quality Act (CEQA) if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code. Registration will be recorded on the property deed.
- Automatic listing in California Register of Historical Resources.
- Bronze plaque at site (underwritten by local sponsor) ordered through OHP; highway directional sign available through local Department of Transportation (Caltrans) district office.

California Points of Historical Interest

If a site is primarily of local interest, it may meet the criteria for the California Points of Historical Interest Program. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

Criteria for Designation. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County).
- Associated with an individual or group having a profound influence on the history of the local area.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code.
- Registration is recorded on property deed.
- A small enamel directional sign (no text) available through local Caltrans district office. Owner may place his or her own marker at the site.

California Environmental Quality Act[8]

Pursuant to CEQA, a *historical resource* is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historical resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR, or is not included in a local register or survey, shall not preclude a Lead Agency from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.[9]

CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:[10]

(1) The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

(2) The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code HSC) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.

The State Historic Building Code (HSC; Sections 18950–18961 provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

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8 *California Public Resources Code*, Division 13, Sections 21083.2 and 21084.1.

9 *California Code of Regulations*. Title 14, Chapter 3: "Guidelines for the Implementation of the California Environmental Quality Act as Amended October 6, 2005," Section 15064.5(a).

10 *California Public Resources Code*. Division 13, Section 21083.2(g).

California Penal Code Section 622 – Destruction of Historical Properties

This section of the California Penal Code makes it a misdemeanor for anyone (except the owner) to willfully injure or destroy anything of archaeological interest or value whether on private lands or within any public park or place. In addition, Penal Code Section 622.5 sets the penalties for the damage or removal of cultural resources.

Senate Bill 18 – Traditional Tribal Cultural Places

Senate Bill (SB) 18, enacted in 2004, requires local governments to consult with Native American groups at the earliest point in the local government land use planning process. The consultation intends to establish a meaningful dialogue regarding potential means to preserve Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It allows for tribes to hold conservation easements and for tribal cultural places to be included in open space planning.

Assembly Bill 52

AB 52 creates a new category of environmental resources that must be considered under CEQA: "tribal cultural resources." AB 52 is applicable to a project for which a Notice of Preparation (NOP) is filed on or after July 2015. Although the NOP for the 2016 RTP/SCS PEIR was filed in March 2015, and is therefore not subject to the provisions of AB 52, a brief summary of the provisions of AB 52 is provided for informational purposes and for consideration by future projects.

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either (1) "sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Recognizing that tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

The parties must consult in good faith, and consultation is deemed concluded when either the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached.

County

Los Angeles County General Plan 2035

The County's cultural resources objective, found in the Conservation and Natural Resources Element of the General Plan 2035, is to preserve and protect cultural resources including historic, archaeological, and paleontological resources.[11] Under this objective, the County has established the following policies:[12]

Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.

Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural and paleontological resources.

Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.

Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Los Angeles County Historical Landmarks and Records Commission

The Los Angeles County Board of Supervisors established and has maintained the Los Angeles County Historical Landmarks and Records Commission (Commission) pursuant to Los Angeles County Code Chapter 3.30. Pursuant to Section 26490 of the California Government Code, the Commission is designated as a historical records commission to foster and promote the preservation of historical records. The Los Angeles County Historical Landmarks and Records Commission (Commission) considers and recommends to the Board of Supervisors local historical landmarks defined to be worthy of registration by the State of California, either as California Historical Landmarks or as Points of Historical Interest. The Commission may also comment for the Board on applications relating to the NRHP. The Commission is also charged with fostering and promoting the preservation of historical records. In its capacity as the memorial plaque review committee of the County of Los Angeles, the Commission screens applications for donations of historical memorial plaques and recommends to the Board plaques worthy of installation as County property.[13]

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[11] Los Angeles County Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf

[12] Los Angeles County Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf

[13] County of Los Angeles Department of Auditor-Controller (J. Tyler McCauley, Auditor-Controller). 21 October 2002. Sunset Review for the Los Angeles County Historical Landmarks and Records Commission. Available at: http://auditor.co.la.ca.us/cms1_003345.pdf

STUDY METHODS

Paleontological Resources Records Search and Map Review

The presence of recorded paleontological resources and fossil localities within proposed project area were assessed using information obtained from geologic maps of the San Fernando Valley were also examined to evaluate the potential for the geological deposits within the Castaic project area to yield unique paleontological resources.[14]

Based on the results of the records and map searches, each of the geologic units identified within the Castaic project area were characterized according to their potential to yield paleontological resources. The geological formations were categorized using a three-tiered sensitivity classification scheme:

- **High Potential:** Sedimentary geologic units and other geologic units that have yielded unique paleontological resources
- **Moderate Potential:** Older alluvial geologic units
- **Low to No Potential:** Metamorphic and igneous geologic units and younger alluvial geologic units

Archaeological and Historic Resources Records Search and Literature Review

Cultural resources records searches were conducted at the South Central Coastal Information Center (SCCIC), housed at California State University, Fullerton, on July 17, 2015. The search included reviews of all known relevant cultural resource survey reports within the Castaic project area to ascertain the presence of known prehistoric and historic archaeological resources.

Native American Sacred Sites and Human Remains

Coordination with the Native American Heritage Commission (NAHC) was initiated for the Castaic Area Multi-Use Trails Plan Project on August 10, 2015.[15] The NAHC was requested to conduct a Sacred Lands File Records Search for the presence of Native American sacred sites and human remains within the project area. A written response from NAHC was received by Sapphos Environmental, Inc. on January 20, 2016, stating that the Sacred Lands File search indicates no recorded Native American cultural resources within the project area.[16] On the recommendation of the NAHC, Sapphos Environmental, Inc. sent letters to six (6) Native American contacts classified by the NAHC as potential sources of information related to cultural resources in the vicinity of the proposed Castaic Area Multi-Use Trails Plan Project. The letters advised the tribes and specific individuals of the proposed project and its geographic area and requested information regarding cultural resources within the vicinity of the Castaic Area Multi-Use Trails Plan Project, including feedback or concerns related to the project. On February 9, 2016, a response from the Fernandeño Tataviam Band of Mission Indians stated that the project area is of extreme risk to cultural and tribal resources and that they would like to consult with the Lead Agency regarding project

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[14] Jennings, C.W., and R.G. Strand. 1969. *Geologic Map of California, Los Angeles Sheet, 1:250,000*. Sacramento, CA: California Geological Survey, California Division of Mines and Geology.

[15] Holland, Karl, Sapphos Environmental, Inc., Pasadena, CA. 10 August 2015. Letter to Native American Heritage Commission, Sacramento, CA.

[16] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. January 20, 2016. Emailed to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA. Subject: Letter Response

mitigation. Another group, the Soboba Band of Luiseño Indians, on February 25, 2016 expressed no specific concerns with the project, but did request that the appropriate consultation to take place between tribes, project proponents and government agencies. This latter group suggested consultation with Gabrieleño tribes; however, additional discussions with NAHC revealed that consultations with the tribes listed in the initial NAHC letter would be sufficient.[17] A third group's response (on March 1, 2016), the San Manuel Band of Mission Indians, had no concerns with the project, since the project area lays outside their Tribe's ancestral territories.

RESULTS

Paleontological Resources

During the Miocene and Pliocene Periods (23.7 to 1.6 million years ago), most of the greater Los Angeles Basin and the surrounding hills, including the Castaic area, was submerged. Los Angeles County is one of the richest areas in the world for both fossil marine vertebrates and land vertebrates from rock deposited over the last 25 million years. Although Rancho La Brea (in the City of Los Angeles) has been highly publicized, there are many other areas of Los Angeles County, including the Castaic Valley and surrounding areas, which contain equally important fossil occurrences.

The surficial geology of Castaic Lake and surrounding areas was mapped by Dibblee between 1993 and 1997.[18,19,20,21] The following rock units/formations have the potential to yield significant paleontological resources based on previous collections and/or age and lithology and are given high paleontological sensitivity: the Saugus Formation (non-marine Pliocene and Pleistocene)[22]; Pico Formation (marine Pliocene)[23,24]; Towsley Formation (marine late Miocene to early Pliocene)[25]; the Sisquoc Formation (marine late Miocene); the Castaic Formation (marine late

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17 Ruzi, Eugen, Sapphos Environmental, Inc., Pasadena, CA. 10 August 2015. Letter to Native American Heritage Commission, Sacramento, CA.

18 Dibblee, T. W., Jr. 1993. Geologic Map of the Val Verde Quadrangle, Los Angeles and Ventura Counties, California. Dibblee Geological Foundation DF-50 (Ehrenspeck, H. E., ed.), scale 1:24,000, colored, one cross-section. Available online at: http://www.sbnature.org/dibblee/newweb/maps_catalog.html

19 Dibblee, T. W., Jr. 1996a. Geologic Map of the Newhall Quadrangle, Los Angeles County, California. Dibblee Geological Foundation Map DF-56 (Ehrenspeck, H. E., ed.), scale 1:24,000, colored, two cross-sections. Available at: http://www.sbnature.org/dibblee/newweb/maps_catalog.html

20 Dibblee, T. W., Jr. 1997a. Geologic Map of the Warm Springs Mountain Quadrangle, Los Angeles County, California. Dibblee Geological Foundation Map DF-64 (Ehrenspeck, H. E., ed.), scale 1:24,000, colored, three cross-sections. Available at: http://www.sbnature.org/dibblee/newweb/maps_catalog.html

21 Dibblee, T. W., Jr. 1997b. Geologic Map of the Whitaker Peak Quadrangle, Los Angeles and Ventura Counties, California. Dibblee Geological Foundation Map DF-63 (Ehrenspeck, H. E., ed.), scale 1:24,000, colored, three cross-sections. Available at: http://www.sbnature.org/dibblee/newweb/maps_catalog.html

22 Jefferson, G. T., 1991. "A Catalogue of Late Quaternary Vertebrates from California, Part Two, Mammals." *Natural History Museum of Los Angeles County Technical Reports*, no. 7, 129 p. Los Angeles, CA: Natural History Museum of Los Angeles County.

23 Squires, R. L., Groves, L.T., and J. T. Smith. 20 November 2006. "New Information on Molluscan Paleontology and Depositional Environments of the Upper Pliocene Pico Formation, Valencia Area, Los Angeles County, Southern California." *Los Angeles County Museum of Natural History Contributions in Science* 511. Los Angeles, CA: Natural History Museum of Los Angeles County.

24 Fierstine, H.L., Huddleston, R.W, and G.T. Takeuchi. 2012. "Catalog of Neogene Bony Fishes of Southern California: A Systematic Inventory of all Published Accounts." *Occasional Papers of the California Academy of Sciences*, 206 p.

25 Kern, J. P. 1973. "Early Pliocene Marine Climate and Environments of Eastern Ventura Basin, Southern

Miocene)[26,27,28] the Monterey Formation; the Mint Canyon Formation (non-marine Miocene)[29,30,31]; and the San Francisquito Formation (marine Paleocene). Igneous and metamorphic rocks have a low potential for yielding significant paleontological resources, and are therefore assigned low paleontological sensitivity within the Castaic project area.

Areas of Younger Quaternary Alluvium are characterized by a low potential for containing unique paleontological resources. These areas are predominately located in stream terraces of Santa Clarita River and its tributaries. Stream-terrace deposits are widely distributed most extensively near the town of Saugus and in the immediate vicinity of the Santa Clara River. The deposits consist of crudely stratified, poorly consolidated reddish-brown gravel, sand, and silt.

Archaeological and Historic Resources

Prehistoric Context

Several prehistoric cultural chronologies have been proposed for the coastal Southern California region with three of the most frequently cited sequences developed by William Wallace,[32] Claude Warren,[33] and Chester King.[34] Such chronologies provide a framework to discuss archaeological data in relation to broad cultural changes seen in the archaeological record. The chronological sequence presented herein represents an updated synthesis of these schemes as compiled by Glassow and others[35] for the Northern California Bight. This geographic area consists of the coastal area from Vandenberg Air Force Base south to Palos Verdes, as well as the Channel Islands and adjacent inland areas, including the San Fernando Valley and Los Angeles Basin.[36] The prehistoric

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California." *University of California Publications in Geologic Sciences* 96:1-117. Berkeley and Los Angeles, CA: University of California Press.

26 Kellogg, R., 1925. "Additions to the Tertiary History of the Pelagic Mammals on the Pacific Coast of North America." *Carnegie Institution of Washington*, No. 348: 1-120. Washington, D.C.: Judd & Detweiler, Inc.

27 Kellogg, R., 1929. "A New Cetothere from Southern California." *Bulletin of the Department of Geological Sciences* 18: 449-457. Berkeley, CA: University of California Publications.

28 Repenning, C. A. and R. H. Tedford. 1977. "Otarioid Seals of the Neogene." *U.S. Geological Survey Professional Paper* 992: 1-93.

29 Maxson, J. H. 1930. *A Tertiary Mammalian Fauna from the Mint Canyon Formation of Southern California*. Carnegie Institution of Washington Publications 404:77-112.

30 Axelrod, D. I. 1940. "The Mint Canyon Flora of Southern California: A Preliminary Statement." *American Journal of Science* 238: 577-585.

31 Mount, J. D. 1971. "A Late Miocene Flora from the Solemint Area, Los Angeles County, California." *Bulletin of the Southern California Paleontological Society* 3:1-4.

32 Wallace, William J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology 11*: 214–30.

33 Warren, Claude M. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In *Archaic Prehistory in the Western United States*, ed. Cynthia Irwin-Williams. Eastern New Mexico University Contributions in Anthropology No. 1. Portales, NM: Eastern New Mexico University.

34 King, Chester. 1990. *Evolution of Chumash Society: A Comparative Study of Artifacts Used for Social System Maintenance in the Santa Barbara Channel Region before AD 1804*. New York, NY: Garland.

35 Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges." In *California Prehistory, Colonization, Culture, and Complexity*, ed. Terry L. Jones and Kathryn A. Klar. New York, NY: Altamira.

36 Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges." In *California Prehistory, Colonization, Culture, and Complexity*, ed. Terry L. Jones and Kathryn A. Klar. New York, NY: Altamira.

sequence of the Northern California Bight can be divided into four broad temporal categories (Table 4, *Southern California Coastal Regional Chronology*). It should be noted that the prehistoric chronology for the region is being refined on a continuing basis, with new discoveries and improvements in the accuracy of dating techniques.

TABLE 4
SOUTHERN CALIFORNIA COASTAL REGIONAL CHRONOLOGY

Epoch	Coastal Region	Dates
Terminal Pleistocene / Early Holocene	Paleo-Coastal Period	Circa 9500 to 7000/6500 BC
Middle Holocene	Millingstone Period	Circa 7000/6500 to 1500/1000 BC
Late Holocene	Intermediate Period	1500/1000 BC to AD 750
Late Holocene	Late Period	AD 750 to Spanish contact

Terminal Pleistocene and Early Holocene: Paleo-Coastal Period (Circa 9500 to 7000/6500 BC)

Although data on early human occupation for the Southern California coast are limited, archaeological evidence from the northern Channel Islands suggests initial settlement within the region occurred at least 12,000 years before present (BP). At Daisy Cave (CA-SMI-261) on San Miguel Island, radiocarbon dates indicate an early period of use in the terminal Pleistocene, sometime between 9600 and 9000 calibrated (cal) BC.[37] Evidence of early human occupation in the Northern California Bight has also been found on nearby Santa Rosa Island, where human remains from the Arlington Springs Site (CA-SRI-1730) have been dated between 11,000 and 10,000 cal BC.[38] Archaeological data recovered from these and other coastal Paleoindian sites indicate a distinctively maritime cultural adaptation, termed the "Paleo-Coastal Tradition,"[39] which involved the use of seafaring technology and a subsistence regime focused on shellfish gathering and fishing.[40]

Relatively few sites have been identified in Los Angeles County that date to the terminal Pleistocene and early Holocene. Currently, the earliest reliable date for human occupation in the area derives from the La Brea Tar Pits (CA-LAN-159), where human bone has been dated to 8520 cal BC.[41] Evidence of possible early human occupation has also been found at the sand dune bluff site of Malaga Cove (CA-LAN-138), located between Redondo Beach and Palos Verdes.[42] Researchers have proposed that archaeological remains recovered from the lowermost cultural

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37 Erlandson, J.M., D.J. Kennett, B.L. Ingram, D.A. Guthrie, D.P. Morris, M.A. Tveshov, G.J. West, and P.L. Walker 1996. "An Archaeological and Paleontological Chronology for Daisy Cave (CA-SMI-261), San Miguel Island, California." *Radiocarbon*, *38*: 355–73.

38 Johnson, J.R., T.W. Stafford Jr., H.O. Ajie, and D.P. Morris. 2002. "Arlington Springs Revisited." In *Proceedings of the Fifth California Islands Symposium*, ed. D. Browne, K. Mitchell, and H. Chaney, pp. 541–45. Santa Barbara, CA: USDI Minerals Management Service and The Santa Barbara Museum of Natural History.

39 Moratto, M.J. 1984. California Archaeology, pp. 103-113. Academic Press, New York.

40 Rick, T.C., J.M. Erlandson, and R.L. Vellanoweth. 2001. "Paleocoastal Fishing along the Pacific Coast of the Americas: Evidence from Daisy Cave, San Miguel Island, California." *American Antiquity*, *66*: 595–614.

41 Berger, R., R. Protsch, R. Reynolds, C. Rozaire, and J.R. Sackett. 1971. *New Radiocarbon Dates Based on Bone Collagen of California Indians*. Los Angeles, CA: Contributions to the University of California Archaeological Survey.

42 Walker, Edwin Francis. 1951. *Five Prehistoric Archaeological Sites in Los Angeles County, California*. F. W. Hodge Anniversary Publication Fund VI. Los Angeles, CA: Southwest Museum.

stratum at the site, which include shell, animal bone, and chipped stone tools, may date as early as 8000 cal BC.[43,44]

Middle Holocene: Millingstone Period (Circa 7000/6500 to 1500/1000 BC)

The Millingstone Period or Horizon, also referred to as the "Encinitas Tradition,"[45,46] is the earliest well-established cultural occupation of the coastal areas of the region. The onset of this period, which began sometime between 7000 and 6500 cal BC, is marked by the expansion of populations throughout the Northern California Bight. Regional variations in technology, settlement patterns, and mortuary practices among Millingstone sites have led researchers to define several local manifestations or "patterns" of the tradition.[47] Groups that occupied the Santa Clarita Valley are thought to have been relatively small and highly mobile during this time, with a general subsistence economy focused on the gathering of shellfish and plant foods, particularly hard seeds, with hunting being of less importance.[48]

Two temporal subdivisions have been defined for the portion of the Topanga Pattern falling within the Millingstone Period: Topanga I (circa 6500 to 3000 BC) and Topanga II (circa 3000 to 1000 BC).[49] Topanga I assemblages are characterized by abundant manos and metates, core tools and scrapers, charmstones, cogged stone, and discoidals; projectile points are quite rare with those present resembling earlier, large, leaf-shaped forms.[50] Secondary inhumations with associated cairns are the most common burial form at Millingstone sites with small numbers of extended inhumations also identified. The subsequent Topanga II phase largely represents a continuation of the Topanga pattern with site assemblages characterized by numerous manos and metates, charmstones, cogged stones, discoidals, and some stone balls. A significant technological change in ground stone occurs at this time with the appearance of mortars and pestles at Topanga II sites suggesting the adoption of balanophagy by coastal populations.[51] The quantity of projectile points also notably increases in Topanga II site deposits indicating that the hunting of large game may have played a greater role in the subsistence economy than in earlier times. While secondary burials continue to be quite common, a few flexed inhumations have also been recovered from archaeological contexts dating to the Topanga II phase.

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43 Moratto, M.J. 1984. *California Archaeology*, pp. 132. Academic Press, New York.

44 Wallace, W.J. 1986. "Archaeological Research at Malaga Cove." In *Symposium: A New Look at Some Old Sites*, ed. G.S. Breschini and T. Haversat. Salinas, CA: Coyote Press.

45 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

46 Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly*, *42*(4): 1–64.

47 Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly*, *42*(4): 1–64.

48 Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges." In *California Prehistory, Colonization, Culture, and Complexity*, ed. Terry L. Jones and Kathryn A. Klar. New York, NY: Altamira.

49 Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly*, *42*(4): 1–64, 8.

50 Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges." In *California Prehistory, Colonization, Culture, and Complexity*, ed. Terry L. Jones and Kathryn A. Klar. New York, NY: Altamira.

51 Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly*, *42*(4): 1–64, 41.

Late Holocene: Intermediate Period (1500/1000 BC to AD 750)

The Intermediate Period, which encompasses the early portion of the "Del Rey Tradition" as defined by Sutton,[52] begins around 3500 BP. At this time, significant changes are seen throughout the coastal areas of Southern California in material culture, settlement systems, subsistence strategies, and mortuary practices. These new cultural traits have been attributed to the arrival of Takic speaking people from the southern San Joaquin Valley.[53] Biological, archaeological, and linguistic data indicate that the Takic groups who settled in the Santa Clarita Valley were ethnically distinct from the preexisting Hokan-speaking Topanga populations and are believed to be ancestral to ethnographic Tataviam groups.

Intermediate Period sites within the Santa Clarita Valley are represented by the "Angeles Pattern" of the Del Rey Tradition.[54] Three temporal subdivisions have been defined for the portion of the Angeles Pattern that falls within the Intermediate Period: Angeles I (1500 to 600 BC), Angeles II (600 BC to AD 400), and Angeles III (AD 400 to 750).[55] The onset of the Angeles I phase is characterized by the increase and aggregation of regional populations and the appearance of the first village settlements. The prevalence of projectile points, single-piece shell fishhooks, and bone harpoon points at Angeles I sites suggests a subsistence shift in the Intermediate Period with an increased emphasis on fishing and terrestrial hunting and less reliance on the gathering of shellfish resources. Regional trade or interaction networks also appeared to develop at this time with coastal populations in Los Angeles County obtaining small steatite artifacts and *Olivella* shell beads from the southern Channel Islands and obsidian from the Coso Volcanic Field.[56] Finally, marked changes are seen in mortuary practices during the Angeles I phase with flexed primary inhumations and cremations replacing extended inhumations and cairns.

The Angeles II phase largely represents a continuation and elaboration of the Angeles I technology, settlement, and subsistence systems. One exception to this pattern is the introduction of a new funerary complex around 2600 BP consisting of large rock cairns or platforms which contain abundant broken tools, faunal remains, and cremated human bone. These mortuary features have generally been thought to represent the predecessor of the Southern California Mourning Ceremony.[57] Several important changes in the archaeological record mark the beginning of the Angeles III phase. At this time, larger seasonal villages characterized by well-developed middens and cemeteries were established along the coast or inland areas. Archaeological data from Angeles III sites indicate that residents of these settlements practiced a fairly diverse subsistence strategy

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52 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

53 Sutton, Mark Q. 2009. "People and Language: Defining the Takic Expansion in Southern California." *Pacific Coast Archaeological Society Quarterly*, *41*(2&3): 31-93.

54 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

55 Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly*, *42*(4): 1–64, 8.

56 Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. "Complexity, Demography, and Change in Late Holocene Orange County." In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, ed. M. Erlandson and Terry L. Jones. *Perspectives in California Archaeology*, Vol. 6. Los Angeles, CA: University of California, Los Angeles, Institute of Archaeology.

57 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

which included the exploitation of both marine and terrestrial resources.[58] Notable technological changes occurred at this time with the introduction of the plank canoe and bow and arrow.[59] The appearance of new *Olivella* bead types at Angeles III sites indicates a reconfiguration of existing regional exchange networks with increased interaction with populations in the Gulf of California.[60] Finally, cremations increase slightly in frequency at this time with inhumations no longer placed in an extended position.[61]

Late Holocene: Late Period (AD 750 to Spanish Contact)

The Late Period dates from approximately AD 750 until Spanish contact at AD 1542. Sutton[62] has divided this period, which falls within the larger Del Rey Tradition, into two phases: Angeles IV (AD 750–1200) and Angeles V (AD 1200–1550). The Angeles IV phase is characterized by the continued growth of regional populations and the development of large, sedentary villages.

Several new types of material culture appear during the Angeles IV phase including Cottonwood series points, birdstone and "spike" effigies, *Olivella* cupped beads, and *Mytilus* shell disk beads. The presence of Southwestern pottery, Patayan ceramic figurines, and Hohokam shell bracelets at Angeles IV sites suggests some interaction between groups in Southern California and the Southwest. Notable changes are seen in regional exchange networks after 800 BP with an increase in the number and size of steatite artifacts, including large vessels, elaborate effigies, and *comals*, recovered from Angeles V sites. The presence of these artifacts suggests a strengthening of trade ties between coastal Los Angeles populations and the southern Channel Islands.[63] Finally, Late Period mortuary practices remain largely unchanged from the Intermediate Period with flexed primary inhumations continuing to be the preferred burial method.

Regional Ethnography

Native American territorial occupation of the Santa Clarita Valley is traditionally assigned to the Tataviam group; however, the Chumash, Gabrielino, Kitanemuk and Serrano territories are thought to have bordered the outer limits of the Santa Clarita Valley.[64,65,66] For this study, a description of Tataviam ethnography is provided.

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58 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

59 Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell. 2007. "Prehistory of the Northern California Bight and the Adjacent Transverse Ranges." In *California Prehistory, Colonization, Culture, and Complexity*, ed. Terry L. Jones and Kathryn A. Klar. New York, NY: Altamira.

60 Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. "Complexity, Demography, and Change in Late Holocene Orange County." In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, ed. M. Erlandson and Terry L. Jones. *Perspectives in California Archaeology*, Vol. 6. Los Angeles, CA: University of California, Los Angeles, Institute of Archaeology.

61 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

62 Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly*, *44*(2): 1–54.

63 Koerper, Henry C., Roger D. Mason, and Mark L. Peterson. 2002. "Complexity, Demography, and Change in Late Holocene Orange County." In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, ed. M. Erlandson and Terry L. Jones. *Perspectives in California Archaeology*, Vol. 6. Los Angeles, CA: University of California, Los Angeles, Institute of Archaeology.

64 Bean, L.J., and C.R. Smith. 1978. "Gabrielino." In *Handbook of North American Indians*, Vol. 8, ed. R.F. Heizer. Washington, DC: Smithsonian Institution.

The Tataviam

The existing ethnographic data on the Tataviam is limited and limited archaeological research has been directly linked to this group. Most of what is known about the Tataviam comes from the work of two anthropologists, John Harrington and Alfred Kroeber, and from data obtained from the San Fernando Mission's registers, as well as the limited archaeological record.[67] In addition, a recent synthesis of mission's registers has greatly expanded our understanding on Tataviam ethnography.[68]

Tataviam territory was bounded by the Chumash to the west, the Kitanemuk to the north, the Serrano to the east, and the Gabrielino to the south. Thus, their material culture, subsistence strategies, rock art representation, and religious practices resemble those of their neighbors, primarily the Gabrielino and Inland Chumash, as well as the Serrano and even the Kawaiisu, who were located to the north of the Kitanemuk.[69,70]

The Tataviam territory extended from the northwest to the southeast, and encompassed portions of the Antelope, San Fernando, and Santa Clarita Valleys. The center of their territory is assumed to have been the Santa Clarita Basin area (upper portion of the Santa Clara River), east of Piru Creek, just north of what is currently known as the Los Angeles Metropolitan area.[71] The northern portion of their territory probably included the foothills of Liebre Mountain and Sawmill Mountain, located at the southwestern edge of the Antelope Valley. The northeast boundary of Tataviam territory included the south-facing slopes of Sawmill Mountain and Sierra Pelona, extending southeast to Soledad Pass. The southeastern boundary is unclear but it is likely that the upper Soledad Canyon–Acton area was part of Tataviam territory, at least sometime during the Late Prehistoric period. The southern boundary included the high portions of the San Gabriel Mountains and continued to the west towards the Santa Susana Mountains. Piru Creek appears to be the westernmost boundary of the Tataviam territory.[72,73] Tataviam territory included portions of the Lake Hughes/Gorman/West of Lancaster, Castaic/Santa Clarita/Agua Dulce, and Acton initiative subareas.

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65 King, C., and T. Blackburn. 1978. "Tataviam." In *Handbook of North American Indians*, Vol. 8, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, p. 535.

66 Grant, C. 1978. "Eastern Coastal Chumash." In *Handbook of North American Indians*, Vol. 8, ed. R.F. Heizer. Washington, DC: Smithsonian Institution, p. 538.

67 King, Chester D., and Thomas C. Blackburn. 1978. "Tataviam." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, p. 535-537.

68 King, Chester D. 2004. "*Ethnographic Overview of the Angeles National Forest Tataviam and San Gabriel Mountain Serrano Ethnohistory*." Prepared for: U.S. Department of Agriculture Southern California Province Angeles National Forest, Arcadia, CA

69 King, Chester D., and Thomas C. Blackburn. 1978. "Tataviam." In *Handbook of North American Indians, Volume 8: California, ed*. by William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 535-537.

70 Heizer, R.F. (ed). 1978. "Key to Tribal Territories." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, p. ix.

71 Johnson, John R. 1990. "Tataviam Geography and Ethnohistory." In J*ournal of California and Great Basin Anthropology*, 12(2): 191-214. Banning, CA: Malki Museum, Inc.

72 King, Chester D., and Thomas C. Blackburn. 1978. "Tataviam." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 535-537.

73 Johnson, John R. 1990. "Tataviam Geography and Ethnohistory." In *Journal of California and Great Basin Anthropology*, 12(2): 191-214. Banning, CA: Malki Museum, Inc.

Linguistically the Tataviam (also known as Alliklik)[74] are considered to be part of the Takic subfamily of the Uto Aztecan linguistic family, who moved inland towards the west and along the California coast. The time frame of the Takic expansion is not clearly defined, because migration of the population throughout the region took place at different times. Moratto indicates that Uto-Aztecan speakers migrated to California and that by the end of the Early period (circa 1500–1200 BC) Takic groups, such as the Tataviam, the Gabrielino, and the northern Serrano, already had firmly established territories.[75]

Ethnographic and archaeological information indicates that the Tataviam lived in villages of various sizes, with large centers occupied by about 200 people, widely separated from each other. Large villages were considered to be the major centers. Very small satellite communities of 10 to 15 people were located near the large centers, while mid-size settlements of 20 to 60 people were situated among the large villages. The total Tataviam population at the time of contact is assumed not to have exceeded 1,000 people.[76] The village located at Vasquez Rocks is known as the Agua Dulce Village. According to King et al.,[77] the Agua Dulce Village was larger than the surrounding villages and was probably an important economic and political center. Alliances with other villages were maintained through intermarriage and trade. It is estimated that the population of the Agua Dulce Village was possibly as low as 50 people during the early portion of the Middle period and approximately 200 to 300 people towards the end of the Middle period and throughout the Historic period (after AD 1200).[78]

Tataviam subsistence strategies were very similar to those of neighboring groups. A variety of plant foods was part of their diet, including the buds of the yucca plant (*Yucca whipplei*), a major staple, as well as coast live oak acorns (*Quercus agrifolia*), sage (*Salvia mellifera*), juniper berries (*Juniperus californica*), and berries of holly-leaf cherry (*Prunus ilicifolia*). Their diet was also supplemented with insects, small mammals, deer, and possibly pronghorn.[79] The Tataviam cooked the flower stalks of the plant in earth ovens lined with rocks. The final product was stored and consumed throughout the year. The flowers, seeds, and leaves at the base of the plant were also consumed. Archaeological evidence suggests that the Tataviam, as well as most native Southern Californians, traveled a long distance to collect acorns during certain times of the year. Ethnographic information indicates that acorn was primarily processed using bedrock mortars.

The Tataviam mortuary practices were influenced by their immediate neighbors, and archaeological evidence indicates that the Tataviam practiced both cremation and inhumation.

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74 Kroeber, A. 1925. *Handbook of the Indians of California*. New York: Dover Publications, Inc., p. 995. (Used the term Alliklik, which was the name used by neighboring Chumash groups and roughly translates grunters or stammerers. The Kitanemuk used the term Tataviam or people facing the sun when referring to the inhabitants of the sunny upper Santa Clara River. The term Alliklik is considered to be derogatory, and therefore ceased to be used in literature around the mid-1970s.)

75 Moratto, Michael J. [1984] 2004. *California Archaeology*. Salinas, CA: Coyote Press.

76 King, Chester D., and Thomas C. Blackburn. 1978. "Tataviam.: In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 535-537.

77 King, Chester D., Charles Smith and Tom King. 1974. Archaeological Report Related to the Interpretation of Archaeological Resources Present at Vasquez Rocks County Park. Prepared for: County of Los Angeles Department of Parks and Recreation, p. 43.

78 King, Chester D., Charles Smith and Tom King. 1974. Archaeological Report Related to the Interpretation of Archaeological Resources Present at Vasquez Rocks County Park. Prepared for: County of Los Angeles Department of Parks and Recreation, p. 33.

79 King, Chester D., and Thomas C. Blackburn. 1978. "Tataviam." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 535-537.

Among the groups influencing the Tataviam were the Chumash; Coastal and inland Chumash were among the few that used inhumation exclusively.[80] The Gabrielino practiced both, inhumation and cremation,[81] until the establishment of the missions, when cremation was eliminated and inhumation alone became the norm. The Serrano cremated their deceased,[82] while the Kitanemuk preferred inhumation.[83] Based on his research of the Gabrielino, McCawley[84] mentions that inhumation (more common along coastal groups) may have been a result of cultural influence by the Chumash or a practice adopted because of a scarcity of fuel required for cremations.[85] With interment came the practice of grave goods, a practice favored by most of the tribes in California. Grave goods usually consisted of beads of various materials, knifes, projectile points, and exotic trade items among other objects. Ethnographic studies, as well as archaeological evidence regarding the presence or absence of grave goods, and their quality, has been an important archaeological tool to determine social hierarchy among individuals in specific social groups. Excavations at two burial sites in the Agua Dulce Village (CA-LAN-361 and CA-LAN-373) show social differentiation, which is reflected as the presence of exotic trade items in the graves, or complete lack of any grave goods.

Historic Context

European Discovery and the Mission Period (1769–1821)

The first Europeans to pass through the Santa Clarita Valley were a group of Spanish explorers on their way to Monterey Bay from San Diego. Under the leadership of Gaspar de Portolá, the exploration party entered the Santa Clarita Valley on August 8, 1769, after previously crossing the Santa Monica Mountains and San Fernando Valley. The explorers named a river they encountered after St. Clare, thus giving the name of the Santa Clarita Valley and community. The group then headed north on their way to Santa Barbara.

In August of 1795, an exploration party set out to identify a site for a new mission, to be located between the San Gabriel Mission and the San Buenaventura Mission. The requirements included that the land be viable for crops, be near a source of abundant water, and have an indigenous population that could be converted to Catholicism. With these objectives met, a site for the new mission was decided upon in the upper half of the Los Encinos Valle, as the San Fernando Valley was then called. The San Fernando Mission was established on September 8, 1797, and was the seventeenth mission founded by the Catholic Church in California. Father Fermin Francisco Lausen was appointed in charge of the mission. The name given to the mission honored King Ferdinand III of Spain (1217–1251). In order to assist in the establishment of the San Fernando Mission, several other California missions sent nearly 1,000 animals that included cattle, horses, mules, and sheep. Many native inhabitants of the Santa Clarita Valley, such as the Tataviam, were forcibly taken to

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80 Kroeber, A.L. 1925. *Handbook of the Indians of California*. New York: Dover Publications, Inc., p. 556.

81 McCawley, William. 1996. *The First Angelinos: The Gabrielino Indians of Los Angeles*. Banning, CA: Malki Museum Press, p. 157.

82 Bean, Lowell J., and Charles R. Smith. 1978. "Serrano." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 570-574.

83 Blackburn, Thomas C., and Lowell J. Bean. 1978. "Kitanemuk." In *Handbook of North American Indians, Volume 8: California, ed*. William C. Sturtevant. Washington, DC: Smithsonian Institute, pp. 564-569.

84 McCawley, William. 1996. *The First Angelinos: The Gabrielino Indians of Los Angeles*. Banning, CA: Malki Museum Press.

85 McCawley, William. 1996. *The First Angelinos: The Gabrielino Indians of Los Angeles*. Banning, CA: Malki Museum Press, p. 157.

the newly-constructed mission. While living at the mission, they were under the direction of the priests who required the Native Americans to farm (wheat, barley, corn, beans, peas, and fruit trees); raise cattle; cure hides; tend vineyards; make wine; and practice a trade, such as carpentry, masonry, tailoring or shoemaking. The mission's ranch lands eventually grew to include the Santa Clarita Valley.

The Mexican Period (1821–1846)

In 1821, when Mexico declared its independence from Spain, initially little changed for the missions. At that time there were approximately 1,000 Native Americans living and working at the San Fernando Mission. However, in 1834, the Mexican government secularized the California Missions, which resulted in the San Fernando Mission being turned over to Don Pedro Lopez, who acted as mission *majordomo* (governor of the mission). Between 1840 and 1846, six separate land grants were carved out of the former Rancho Misión San Fernando Rey de España. Eulogio de Célis was the first to acquire the entire 116,858-acre ranch for an estimated $14,000. Further encroachments on mission lands in the valley included Tujunga (1840), El Escorpión (1845), El Encino (1845), La Providencia (1845), and Cahuenga (1846). In 1846, California governor Pio Pico authorized the sale of remaining mission land to raise money to defend Mexican California from an inevitable American takeover.

Up to this period, gold was thought to be a myth in California. Native Americans told Spanish explorers they were familiar with gold, but for the entirety of Spanish California and the majority of Mexican California, none had been discovered. However, in 1842 the first gold in California in was discovered at Placerita Canyon, near Santa Clarita, by Francisco Lopez, Manuel Cota, and Domingo Bermudez.[86] The discovery set off a miniature gold rush in the Santa Clarita Valley, sending hundreds of local residents to the canyon in search of riches; however, the first shipment of gold from California only contained 18.3 ounces.[87]

The American Period (1850–present)

After Californian statehood was established in 1850, mining developed into a major presence in the Santa Clarita Valley region. In 1861, mines began operating in Soledad Canyon, initially pursuing copper but eventually switching to produce the majority of gold recovered in Los Angeles County.[88] Soledad Canyon mines include the Red Rover, Don, and Emma mines. Iron, quartz and titanium were additionally mined periodically from Soledad Canyon. Beginning during the first half of the 20th century, mining in the Santa Clarita Valley began to shift toward aggregate production and continues to the present.[89]

Petroleum was another natural resource to have an impact on the Santa Clarita Valley. Beginning in the 1860s, Los Angeles-based residents began prospecting for oil in the Santa Clarita Valley. On September 26, 1876, one of the first commercially successful oil wells on the west coast of the

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86 Guinn, J.M. 1915. *An Extended A History of California and an Extended History of Los Angeles and Environs*. Los Angeles, CA: Historic Record Company.

87 Guinn, J.M. 1915. *An Extended A History of California and an Extended History of Los Angeles and Environs*. Los Angeles, CA: Historic Record Company.

88 Blanchard, Hugh. "Mines of the Soledad." Available at: http://www.lagoldmines.com/index.php?page=143075.txt. Accessed 8 October 2014.

89 Santa Clarita Historical Society. "Soledad Canyon Mining Operations." Available at: http://www.scvhistory.com/scvhistory/jk0017.htm. Accessed 8 October 2014.

United States began producing at Pico Canyon in southwest Santa Clarita Valley.[90] The discovery led to an oil boom, creating the boom town of Mentryville, named after the owner of the successful well. The town included a school, blacksmith, machine shop, and bakery, but began to collapse at the turn of the century as new oil fields were quickly appearing.[91] Oil production in the Santa Clarita Valley continues to this day.

The construction of the Los Angeles Aqueduct was also important to the development of the Santa Clarita Valley. The entire construction of the aqueduct required thousands of laborers, housed in camps alongside the aqueduct route, which left an imprint on the local economies. Becoming the country's largest municipal water system at the time, the Los Angeles Aqueduct was completed in 1913. Obtaining water continued to have an impact on the Santa Clarita Valley, but the St. Francis Dam, completed in 1926, was to have a devastating impact on the region. The St. Francis Dam was constructed in San Francisquito Canyon in an ambitious plan to secure water for the growing Los Angeles metropolitan region. On the night of March 12/13, 1928, the dam failed catastrophically, unleashing an incredible volume of water on the Santa Clarita Valley.[92] The resulting flood killed 432 people, not including an unknown amount of migrant workers, and caused extensive damage to the Santa Clarita Valley. The failure of the St. Francis Dam is the largest engineering catastrophe in United States during the 20th century and is the second-worst disaster in California history, next to the 1906 San Francisco earthquake.

Cultural Resources Characterization

Previous Archaeological Studies in the Castaic Area Multi-Use Trails Plan

The results of the literature reviews indicate that 185 archaeological studies (survey, excavation, and monitoring) have been conducted within the proposed project area (Appendix A, *Previous Cultural Resource Studies*). The record search indicates that an estimated 32,000 acres have been previously surveyed in the project area, comprising approximately 42 percent of the entire Castaic project area. Appendix A provides an overview of the previous surveys conducted within the Castaic Trails Plan area.

Previously Recorded Archaeological Resources

The results of the records searches determined that there are 89 archaeological sites within the boundaries of the Castaic Trails Plan area. From these 89 resources, 40 are of prehistoric age; 45 are of historic age; and four are multicomponent archaeological sites (containing both prehistoric and historic components). From the 40 prehistoric resources, 11 are isolates and 29 are prehistoric sites. Descriptions of these resources are provided in Table 5, *Previously Recorded Archaeological Resources*. In addition, large areas within the proposed project area are located within the Angeles National Forest, a State Historical Landmark and a Point of Historical Interest.

The record search indicates that an estimated 32,000 acres have been previously surveyed in the proposed project area, which constitutes approximately 42 percent of the proposed project area.

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90 Worden, Leon. 1997. "The Story of Mentryville: California's Pioneer Oil Town." Available at: http://www.scvhistory.com/mentryville/mstory.htm. Accessed October 8, 2014.

91 Worden, Leon. 1997. "The Story of Mentryville: California's Pioneer Oil Town." Available at: http://www.scvhistory.com/mentryville/mstory.htm. Accessed October 8, 2014.

92 Rogers, J.D. "The 1928 St. Francis Dam Failure and Its Impact on American Civil Engineering." Available at: http://web.mst.edu/~rogersda/st_francis_dam/St-Francis-Dam-for-ASCE-Press.pdf. Accessed February 4, 2016.

From the 89 recorded resources within the proposed project area, only one is listed in the CRHR. This resource (P-19-002233, a prehistoric campsite) is an individual property determined eligible for the NRHP by a consensus through Section 106 process, and it is listed in the CRHR. However, the resource is not in the immediate impact area, which comprises a 60-foot buffer along the proposed trail alignment and related elements. In total, 52 of the 89 recorded resources are situated within a quarter-mile buffer zone of the proposed trail alignment, but only 12 are located within the immediate impact area (Table 5). The map of the resources within the APE is on file with the County of Los Angeles Department of Parks and Recreation and is withheld from public review to protect the resources (Appendix B, *Map of Cultural Resources Within the APE* [confidential information redacted, on file with the County]). A proposed trail segment passes through the Angeles National Forest, which is State Historical Landmark No. 717.

TABLE 5
PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

Primary Number	Time Period		Description	Located within APE	Located within ¼ Mile Buffer of APE
	Prehistoric	Historic			
P-19-000036	x	x	Bowers cave		x
P-19-000323	x		#1 Castaic Res. - Daires Ranch Site		x
P-19-000324	x		Elderberry Canyon Site		x
P-19-000325	x		Prehistoric Rockshelter		x
P-19-000327	x	x	Prehistoric Artifact Scatter		x
P-19-000437	x		Elderberry #2		x
P-19-001221	x		Prehistoric Rockshelter		x
P-19-001222	x	x	Prehistoric Rockshelter		x
P-19-001445		x	Historic Water Well Pumping Station		x
P-19-001446		x	Foundation of Two Buildings (Historic)	x	
P-19-001447		x	Foundation a Building (Historic)		x
P-19-001448		x	Historic Cemetery		x
P-19-001646	x		Prehistoric Village		x
P-19-001647	x		Small Lithic Scatter (Prehistoric)		x
P-19-001648	x		Small Lithic Scatter (Prehistoric)		x
P-19-001649	x		Small Lithic Scatter (Prehistoric)		x
P-19-001650	x		Prehistoric Village	x	
P-19-001651	x	x	Large Milling Station (Prehistoric)	x	
P-19-001652	x		Small Lithic Scatter (Prehistoric)		x
P-19-001653	x		Large Lithic Scatter (Prehistoric)		x
P-19-001654	x		Large Milling Station (Prehistoric)		x
P-19-001655	x		Prehistoric Artifact Scatter and Rubble Pile		x
P-19-001656	x		Small Lithic Scatter (Prehistoric)		x
P-19-001657	x		Small Lithic Scatter (Prehistoric)		x

TABLE 5
PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

Primary Number	Time Period		Description	Located within APE	Located within ¼ Mile Buffer of APE
	Prehistoric	Historic			
P-19-001658	x		Small Lithic Scatter (Prehistoric)		x
P-19-001659	x		Small Lithic Scatter (Prehistoric)		x
P-19-001660		x	Historic Stone Structure		x
P-19-001661	x		Small Lithic Scatter (Prehistoric)		x
P-19-001662	x		Small Milling Station (Prehistoric)	x	
P-19-001663	x		Moderate Lithic Scatter (Prehistoric)		x
P-19-001664	x		Prehistoric Habitation Site		x
P-19-001665		x	Burned Oil Drilling Locale (Historic)		x
P-19-001666	x		Prehistoric Habitation Site		x
P-19-001667		x	Hathaway Ranch		x
P-19-001668		x	Historic Mining Camp		x
P-19-001669		x	Historic Pad with Oil/Water Pump and Platform		x
P-19-001670		x	Historic Mining Camp		x
P-19-001671		x	Historic Mining Camp		x
P-19-001672		x	Ranch Complex (Historic)		x
P-19-002070		x	Clougherty Ranch Caretaker's House	x	
P-19-002071		x	Harry Carey Ranch, Clougherty Ranch		x
P-19-002072		x	Small Scatter of Historic Debris	x	
P-19-002233	x		Chiquito Cyn Camp #2		x
P-19-002235	x		Chiquito Canyon Village		x
P-19-002242	x		Martinez Grande Cave		x
P-19-003038		x	Well Site 1		x
P-19-003046		x	Uncle Charlie's House		x
P-19-003580		x	Historic Cabin Foundation		x
P-19-003581		x	Debris of a Cairn (Historic)		x
P-19-004282	x		Prehistoric Midden, Hearth and Oven	x	
P-19-004321		x	Historic Refuse Deposit	x	
P-19-004475	x		Small Lithic Scatter (Prehistoric)		x
P-19-004476	x		Groundstone Scatter (Prehistoric)		x
P-19-004477		x	Wooden Telephone Pole Fragments		x
P-19-004478		x	Telephone Alignment Segment		x
P-19-100006		x	Large Wooden Planks (Historic)		x
P-19-100027		x	US Forrest Service Boundary Monument		x

TABLE 5
PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

Primary Number	Time Period		Description	Located within APE	Located within ¼ Mile Buffer of APE
	Prehistoric	Historic			
P-19-100146		x	Mining Activity Tools Debris (Historic)		x
P-19-100147		x	Historic Artifact Scatter		x
P-19-100148		x	Harrow with Metal Wheels, Nuts and Bolts		x
P-19-100149		x	Historic Water Trough		x
P-19-100592		x	Historic Artifact (Glass) Scatter		x
P-19-186535		x	Los Angeles National Forest	x	
P-19-189816		x	Sloan Canyon Road	x	
P-19-190655		x	Harry Carey Ranch District, Farmer John / Clougherty Ranch		x
P-19-190656		x	Harry Carey Ranch - Main House		x
P-19-190657		x	Harry Carey Ranch - Joe's Cabin		x
P-19-190658		x	Harry Carey Ranch - Bunkhouse		x
P-19-190659		x	Harry Carey Ranch - Upper Garage		x
P-19-190660		x	Harry Carey Ranch - Lower Garage		x
P-19-190661		x	Harry Carey Ranch - Adobe Stable		x
P-19-190662		x	Harry Carey Ranch - Wood Stable		x
P-19-190663		x	Harry Carey Ranch - Smokehouse		x
P-19-190664		x	Harry Carey Ranch - Caretaker's House		x
P-19-190750		x	Utility Pole		x
P-19-190941		x	Castaic Emergency Spillway	x	
P-56-152882		x	Santa Clara Valley District		x
P-56-152902		x	Newhall Land & Farming Co		x
P-19-100028	x		Prehistoric Artifact		x
P-19-100139	x		Prehistoric Artifact		x
P-19-100140	x		Prehistoric Artifact		x
P-19-100141	x		Prehistoric Artifact		x
P-19-100142	x		Prehistoric Artifact		x
P-19-100143	x		Prehistoric Artifact		x
P-19-100144	x		Prehistoric Artifact		x
P-19-100145	x		Prehistoric Artifact		x
P-19-100511	x		Prehistoric Artifact	x	
P-19-101216	x		Small Lithic Scatter (Prehistoric)		x
P-19-101217	x		Prehistoric Artifact		x

Native American Sacred Sites and Human Remains

A Native American sacred site is defined by the NAHC as an area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is central to their origins as a people.[93] Consultation with NAHC identified no Native American cultural resources in the vicinity of the Castaic Area Multi-Use Trails Project Area.[94] On February 9, 2016, a response from the Fernandeño Tataviam Band of Mission Indians stated that the project area is of extreme risk to cultural and tribal resources and that they would like to consult with the Lead Agency regarding project mitigation. Another group, the Soboba Band of Luiseño Indians, on February 25, 2016 expressed no specific concerns with the project, but did request that the appropriate consultation to take place between tribes, project proponents and government agencies. This latter group suggested consultation with Gabrieleño tribes; however, additional discussions with NAHC revealed that consultations with the tribes listed in the initial NAHC letter would be sufficient.[95] A third group's response (on March 1, 2016), the San Manuel Band of Mission Indians, had no concerns with the project, since the project area lays outside their Tribe's ancestral territories. The NAHC requested ongoing consultation regarding the project (Appendix C, *Native American Correspondence*).

The records search did reveal two cemeteries and/or burial sites of prehistoric and historic age within the Castaic Multi-Use Trails Plan Area. The burial grounds are not located in the immediate impact area; however, they are located within the quarter-mile buffer along the trail alignment. One of the burial grounds (P-19-000324) is a prehistoric cemetery; however, it was inundated during the construction of the Castaic Reservoir. The other (P-19-001448H) is an early-twentieth-century cemetery for victims of the 1928 St. Francis Dam Disaster.

IMPACT ANALYSIS

Paleontological Resources

The geologic units that underlie the proposed project area, Chatsworth Formation, Santa Susana Formation, Llajas Formation, Sespe Formation, Topanga Formation, Monterey Formation, Towsley Formation, Pico Formation, Saugus Formation, and older Quaternary Alluvium, have a moderate to high potential for containing unique paleontological resources. Where construction of the trails requires excavation in to these geologic units, there is a potential to have significant impacts on vertebrate fossil remains that constitute unique paleontological resources pursuant to CEQA, requiring the consideration of mitigation measures.

Archaeological and Historic Resources

There are recorded archaeological and historic resources within the proposed project area. Additionally, the potential exists for the unanticipated discovery of buried significant historical and unique archaeological resources, including tribal cultural resources, during ground-disturbing

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93 Native American Heritage Commission. "Understanding Cultural Resources" Available at: http://nahc.ca.gov/resources/understanding-cultural-resources/. Accessed 3 February 2016.

94 Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA. Subject: Letter Response.

95 Ruzi, Eugen, Sapphos Environmental, Inc., Pasadena, CA. 10 August 2015. Letter to Native American Heritage Commission, Sacramento, CA.

activities in native soils. Exposure or displacement of historical resources and unique archaeological resources is a significant impact, requiring the consideration of mitigation measures.

Native American Sacred Sites and Human Remains

There are known prehistoric burial sites within the proposed project area. Additionally, the potential exists for the unanticipated discovery of human remains interred outside of a formal cemetery and Native American sacred sites, during ground-disturbing activities in native soils. Disturbance of human remains and Native American sacred sites is a significant, requiring the consideration of mitigation measures.

MITIGATION RECOMMENDATIONS

The following mitigation measures shall be implemented, as applicable, for ground-disturbing activities associated with trail construction and/or improvements within the Castaic Area Multi-Use Trails Project. These measures, with proper implementation, will serve to avoid, minimize, or substantially reduce impacts to cultural resources.

Mitigation Measure CULTURAL-1: *Archaeological and Historic Resources – Avoidance and Monitoring*. Completion of a Worker Education and Awareness Program for all personnel who will be engaged in ground-disturbing activities shall be required prior to the start of ground-disturbing activities. This shall include training that provides an overview of cultural resources that might potentially be found and the appropriate procedures to follow if cultural resources are identified. This requirement extends to any new staff prior to engaging in ground disturbing activities.

Prior to the initiation of ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall review the construction plans to ensure that any known cultural resources sites that are required to be avoided have been marked as "off-limits" areas for construction and construction staging. In addition, County Parks shall require monitoring of all ground disturbing activities by a qualified archaeologist within 100 feet of a known extant unique archaeological resources, significant historical resources, or tribal cultural resource. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

In the event that previously unknown unique archaeological resources, significant historical resources, or tribal cultural resources are encountered during construction, the resources shall either be left in situ and avoided through realignment of the trail, or the resources shall be salvaged, recorded, and reposited consistent with the provisions of a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. Data recovery is not required by law or regulation. It is, though, the most commonly agreed-upon measure to mitigate adverse effects to archaeological sites eligible or listed under Section 106 Criterion D, as it preserves important information that will otherwise be lost.

Mitigation Measure CULTURAL-2: *Pre-Construction Surveys* At the time that any new segment of trail is proposed for development that would require ground-disturbing activities in soils that have been predominantly *in situ* during the past 50 years, records and archival information shall be reviewed to determine if there are any recorded unique archaeological resources, significant historical resources as defined in Section 15064.5 of the State CEQA Guidelines, or tribal cultural resources as defined in AB52 in the Area of Potential Effects. At a minimum, the records and

archival review will include a search of the South Central Coastal Information Center, a request for Sacred Lands File from the Native American Heritage Commission, and a request for information regarding tribal cultural resources from the Most Likely Descendants designated by Native American Heritage Commission. The appropriate course of action will be undertaken in light of the results of the records search:

(A) Where the Area of Potential Effect has been subject to a Phase I Walkover Survey within two years of the proposed activity and no unique archaeological resources, significant cultural resources, or tribal cultural resources are known from the Area of Potential Effect, work shall proceed per the provision of Mitigation Measure CULTURAL-1.

(B) Where all or a portion of the Area of Potential Effect has not been surveyed for cultural resources within two years of a proposed ground-disturbing activity, a qualified archaeologist who meets the Secretary of the Interior's professional qualification standards for archaeology and shall conduct a Phase I Walkover Survey to ascertain the presence or absence of unique archaeological and/or significant historic resources, as defined in Section 15064.5 of the State CEQA Guidelines.

a. If the survey determines no unique archaeological resources or significant historical resources, including potential tribal cultural, then the work shall proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

b. If the survey determines potential unique archaeological resources or significant historical resources, including potential tribal cultural resources, then one of two courses of action shall be employed:

i. Where avoidance is feasible, the trail alignments shall be realigned to avoid the potentially significant resource, and the work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1. The new alignment will be surveyed by a qualified archaeologist. An archaeological monitor shall be present during ground-disturbing activities. In addition, consultation shall be undertaken with the Most Likely Descendants designated by Native American Heritage Commission to determine if a Native American monitor shall also be present during all or a portion of the ground-disturbing activities.

ii. Where avoidance is not feasible, a Phase II evaluation of the cultural resources shall be undertaken to determine the significance of the cultural resource. If the Phase II investigation identifies a unique/eligible cultural resource within the area proposed for ground-disturbing work, the County shall determine whether to avoid the resource through redesign or to proceed with a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. The work shall then proceed consistent with the provisions of Mitigation Measure CULTURAL-1.

Mitigation Measure CULTURAL-3: *Paleontological Resources – Paleontological Monitoring.* Impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource from the proposed project shall be reduced to below the level of significance by monitoring, salvage, and curation of unanticipated paleontological resources discovered during ground-disturbing activities in previously undisturbed native soils located five or more feet below the ground surface that would have the potential to contact geologic units with a

high to moderate potential to yield unique paleontological resources. Ground-disturbing activities include, but are not limited to, drilling, excavation, trenching, and grading. If paleontological resources are encountered during ground-disturbing activities, the County of Los Angeles Department of Parks and Recreation (County Parks) shall require and be responsible for salvage and recovery of those resources consistent with standards for such recovery established by the Society of Vertebrate Paleontology.

Paleontological Resources Sensitivity Training shall be required for all project personnel prior to the start of ground-disturbing activities in geologic units with a moderate to high potential to yield unique paleontological resources. This shall include a brief field training that provides an overview of fossils that might potentially be found, and the appropriate procedures to follow if fossils are identified. This requirement extends to any new staff that joins the project.

Construction monitoring by a qualified monitor (archaeologist cross-trained in paleontology or paleontologist) shall be implemented during all ground-disturbing activities that affect previously undisturbed geologic units 12 or more inches below the ground surface and have the potential to encounter geologic units with a moderate to high potential to yield unique paleontological resources. In the event that a paleontological resource is encountered during construction, all ground-disturbing activity within 100 feet of the find shall be halted until a qualified paleontologist can evaluate the significant of the discovery. Additional monitoring recommendations may be required. If the resource is found to be significant, the paleontologist shall determine the most appropriate treatment and method for removing and stabilizing the specimen. Curation of the any significant paleontological finds shall be required with a qualified repository, such as the Natural History Museum of Los Angeles County (LACM).

Within 90 days of the completion of any salvage operation or monitoring activities, a mitigation report shall be submitted to County Parks with an appended, itemized inventory of specimens. The report and inventory, when submitted to County Parks, shall signify the completion of the program to mitigate impacts to paleontological resources. A copy of the report/inventory shall be filed with the County of Los Angeles Planning and Development Agency.

Mitigation Measure CULTURAL-4: *Regulatory Requirements – Human Remains*. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are encountered during excavation activities, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby areas reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains.

If the County Coroner determines that the remains are or are believed to be Native American, s/he shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with Section 5097.98 of the California Public Resources Code, the NAHC shall immediately notify the person(s) it believes to be the most likely descendant (MLD) of the deceased Native American. The descendants shall complete their inspection and make a recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the County of Los Angeles Department of Parks and Recreation (County Parks), the disposition of the human remains. The MLD's recommendation shall be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials. If County Parks rejects the MLD's recommendations, the agency shall rebury the remains with appropriate dignity on the

property in a location that will not be subject to further subsurface disturbance (14 California Code of Regulations §15064.5(e)).

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of mitigation measures Cultural-1 through Cultural-4 would reduce impacts to cultural resources related to an adverse change in the significance of a paleontological resource, an archaeological resource, or human remains to below the level of significance.

Should there be any questions regarding the information contained in this MFR, please contact Mr. Eugen Ruzi at (626) 683-3547, extension 109.

APPENDIX A
PREVIOUS CULTURAL RESOURCE STUDIES

Report Number	Year	Title	Author(s)
LA-00054	1974	Archaeological Resources of the Proposed Castaic Conduit System	Leonard, Nelson N. III
LA-00088	1973	Archaeological Survey of the Proposed Castaic Development Site	Carrico, Richard L.
LA-00285	1988	Cultural Resources Archaeological Survey Hasley Canyon, California Tentative Parcel Map No. 19784.	Tartaglia, Louis J.
LA-00294		A Preliminary Archaeological Literature Search for the Community Development Plan	Adams, Andrea
LA-00504	1979	Assessment of the Impact Upon Cultural Resources by the Proposed Development of a 654 Acre Parcel Located in Seco Canyon, Saugus, California	Romani, John F.
LA-00562	1979	An Archaeological Assessment of Parcel 11490	Bowles, Larry L. and Jean A. Salpas
LA-00573	1988	Environmental Impact Evaluation: an Archaeological Assessment of the Ranch/tapia/san Fran Control Burn Areas Located in the Castaic Lake Area of Los Angeles County, California	Parr, Robert E.
LA-00678	1980	Cultural Resource Survey of Preliminary Minor Land Division No 12316 San Francisquito Canyon County of Los Angeles, California	Tartaglia, Louis J.
LA-00826	1980	Archaeological Assessment for Tentative Tract 30756	Cooley, Theodore G.
LA-00848	1977	Review of Archaeological Resource Identification and Impact Mitigation California Aqueduct Project (west Branch, Mojave Division and Coastal Branch)	Schulz, Peter D.
LA-00895	1980	A Preliminary Archaeological Resource Survey of the Garcia Ranch, Los Angeles County, California	Rechtman, Robert B.
LA-00938	1981	Cultural Resource Survey and Impact Assessment for a 20+ Acre Lot in San Francisquito Canyon (parcel Map No. 13726), Los Angeles County	Singer, Clay A.
LA-00972	1980	Cultural Resources Investigation Re: Tentative Tract Map #34032 Submitted to Andel Engineering Company	Robinson, R. W.
LA-00973	1980	Cultural Resources Investigation Re: Tentative Minor Land Division No. 13336 Submitted to Zimmerman Consulting Engineers	Robinson, R. W.
LA-00990	1981	Cultural Resource Survey, Chiquita Landfill, Newhall, California	Tartaglia, Louis J.
LA-01081	1981	An Evaluation of the Impacts to Cultural Resources by the Proposed Construction of an Oil Well and Appurtenances Newhall 1-21, San Martinez Grande Canyon Area of Los Angeles	Wlodarski, Robert J.
LA-01187	1975	Archaeological Reconnaissance Report: Dry Canyon Fire Plantation Sites (arr No. 05-ac-01-53-03)	Ryan, Thomas M.
LA-01223	1980	A Survey of Cultural Resources and Assessment of Impacts for Tentative Tract No. 34031, Hasley Canyon, Los Angeles County, California	Romani, Gwendolyn R.
LA-01233	1983	Cultural Resource Survey Storm Drain- Castaic Park P.d. No. 1707	Tartaglia, Louis J.
LA-01252	1981	Cultural Resources Investigation Parcel Map No. 12291	Robinson, R. W.
LA-01317	1983	Preliminary Archaeological Reconnaissance San Francisquito Canyon	Tartaglia, Louis J.
LA-01318	1983	Preliminary Archaeological Reconnaissance-Hasley Canyon	Tartaglia, Louis J.
LA-01341	1984	Cultural Resources Report Hasley Canyon Tentative Tract 36668	Tartaglia, Louis J.
LA-01418	1983	Cultural Resources Survey for Tentative Tract No. 34365	Romani, Gwendolyn R.
LA-01419	1984	Negative Archaeological Survey Report: Additional Ramps to I-5 Between Magic Mountain Parkway and Henry Mayo Drive Interchanges, Los Angeles County, Ca	Romani, John F.
LA-01490	1985	Report of Archaeological Reconnaissance Survey Near Castaic Lake, Los Angeles County	Raab, Mark L.
LA-01650	1987	Archaeological Reconnaissance Report of LADWP Geologic Exploration Project	McIntyre, Michael J.
LA-01660	1987	Phase I Feasibility Analysis for the Los Angeles County Airport Site Selection Study: Evaluation of Prehistoric, Historic, and Paleontological Resource Sensitivity of Three Alternate Locations	Whitney-Desautels, Nancy A.
LA-01667	1987	Archaeological Survey of Proposed New Development Areas in Castaic Lake State Recreation Area	Woodward, Jim
LA-01753	1989	Cultural Resources Archaeological Survey Hasley Canyon, California Tentative Parcel Map No. 19784	Tartaglia, Louis J.
LA-01775	1989	Cultural Resource Assessment for Three Postal Service Sites, Los Angeles County	Love, Bruce
LA-01785	1989	Cultural Resources Archaeological Survey Hasley Canyon, California Tentative Tract No. 45084	Tartaglia, Louis J.
LA-01808	1987	A Cultural Resources Investigation of a Portion of Grasshopper Canyon, Los Angeles County, California.	Robinson, R. W.
LA-01832	1989	Cultural Resource Survey of 408 Acres of Land for the Proposed Chiquita Canyon Sanitary Landfill Expansion Los Angeles County California	Cooley, Theodore G. and Toren, George A.
LA-01839	1989	Cultural Resource Investigation: Del Valle Regional Emergency Training Center Project, Los Angeles County	Romani, Gwendolyn R.
LA-01849	1989	Report of Archaeological Reconnaissance Survey Of: Wayside Project Newhall Quadrangle Los Angeles County, California	Bleitz, Dana E. and L. Mark Raab
LA-01971	1989	Report of Archaeological Evaluation Of: Site CA-LAN-1221, Castaic Lake Los Angeles County, California	Raab, Mark L.
LA-01995	1976	Assessment of the Archaeological Impact by the Proposed Zone Change for Portion Nw 1/4 of Sw 1/4 of Sec. 25, T5n. R.17w, Sb	McIntyre, Michael J.
LA-02009	1990	Report of Archaeological Reconnaissance Survey of the San Fransiquito Project, Parcels 9 and 10 Newhall Quadrangle Los Angeles County, California	Bleitz, Dana E. and L. Mark Raab
LA-02105	1990	Cultural Resources Archaeological Survey Castaic Junction, California Tentative Tract No. 45958	Tartaglia, Louis J.
LA-02106	1989	Cultural Resources Archaeological Survey Tentative Tract No. 44831	Tartaglia, Louis J.
LA-02154	1990	Cultural Resource Assessment of Tract 44471, Sloan Canyon, Map Number 21161) on Decker Road Off Encimal Canyon, Santa Monica Mountains, California	Lerch, Michael K.
LA-02209	1990	Archaeological Survey Report of a Two Acre Plot 31455 the Old Road Castaic, California	Frierman, Jay D.
LA-02259	1990	Cultural Resources Assessment Report He Pyle Ranch and Tsavangu Rancheria Site Complex Tentative Parcel Map 19784 Los Angeles County, California	Tartaglia, Louis J.
LA-02269	1991	Cultural Resources Survey and Impact Assessment for Tentative Parcel Map 22411, a 4.79 Acre Parcel at 30920 Gilmour Road in Castaic, Los Angeles County, California	Singer, Clay A. and John E. Atwood
LA-02362	1963	The Archaeology of Bowers Cave, Los Angeles County, California	Elsasser, Albert B.
LA-02388	1991	Westside Conveyance System Cultural Resources Investigation Final Technical Report.	Wells, Helen Fairman, Theresa Clewlow, Len Winter, and Robert Helman

Report Number	Year	Title	Author(s)
LA-02400	1982	Documentation Report for Historical Cultural Resources Located on a 654 Acre Parcel (tt 37539) Located in Seco Canyon, Los Angeles County, California.	Singer, Clay A. and Robert J. Wlodarski
LA-02437	1991	Phase I Archaeological Survey and Cultural Resources Assessment of an 80.4 Gross Acres Parcel, Val Verde, Los Angeles County, California	Simon, Joseph M., Tamara K. Whitley, and David S. Whitley
LA-02446	1991	Cultural Resources Archaeological Survey Seco Canyon Development III Project Tentative Tract 46564	Tartaglia, Louis J.
LA-02503	1992	Historic Property Survey Report & Archaeological Survey Report & Historic Architectural Survey Report for the Route 126 Location Study (easterly Extension) From I-5 to SR-14, Santa Claita Valley, Los Angeles County, California 07-la-126-5.8/12.7. Final	Romani, John F., Roberta S. Greenwood, Portia Lee, and Gwen Romani
LA-02639	1992	Phase 1 Archaeological Survey and Cultural Resources Assessment of a 5.5 Gross Acres Parcel, Castaic, Los Angeles County, California	W & S Consultants
LA-02718	1992	Clougherty Ranch, Los Angeles County, California Cultural Resources Investigation: Literature Search and Survey Final	Rasson, Judith A., Toni Snyder, Rene L. Vellanoweth, and Helen Wells
LA-02723	1990	Report of Archaeological Reconnaissance Survey Of: Tentative Tract 49048 Castaic, California.	Salls, Roy A.
LA-02725	1980	(also VN-1177) Proposed Highway Widening for Route Ven/la 126 P.m. 13.4/34.6; 0.0/5.0	Huey, Gene and John Romani
LA-02800	1993	Cultural Resource Monitoring Report Mobil Oil Corporation M-70 Pipeline Project	Broeker, Gale and Beth Padon
LA-02891	1993	A Cultural Resources Investigation of Tentative Tract No.47646: Eighty Acres Located Near Castaic Reservoir, Los Angeles County, California	Robinson, R. W.
LA-02933	1993	Archaeological Survey and Impact Assessment of the Rye Canyon Redevelopment Project, a 400 Acre Parcel in Valencia, Los Angeles County, California	Dillon, Brian D.
LA-02934	1993	Archaeological Survey and Impact Assessment of Tentative Parcel Map 20033, a 177 Acre Parcel Near Castaic Creek, Los Angeles County, California	Dillon, Brian D.
LA-02951	1993	Results of Archaeological Records Review for the Pacific Pipeline Project Emidio Lateral Pipeline Kern and Los Angeles Counties, Ca	Gibson, Robert O.
LA-02957	1993	Cultural Resources Survey and Impact Assessment for an 11.09 Acre Property (tentative Minor Land Division Parcel Map No. 23849) Located at 30481 Hasley Canyon Road, in the Community of Castaic, Los Angeles County, California	Singer, Clay A., John E. Atwood, and Shelley M. Gomes
LA-02980	1993	Phase I Cultural Resources Evaluation of the Chiquita Canyon Sanitary Landfill Expansion Los Angeles County, California.	Cooley, Theodore G., A.George Toren, and Loren J. Santoro
LA-02987	1987	Bicep Transmission Project Magunden to Vincent/pardee Alternative Corridor Study Archaeology, Ethnology, History and Paleontology Technical Reports (draft)	Woods, Clyde M., Andrew York, Rebecca Apple, Tirzo Gonzalez, Stephen Van Wormer, Tom Demere, and James H. Cleland
LA-03093	1993	Phase 2 Historic Resources Investigation for the Proposed Tesoro Del Valle Development, Los Angeles County, California	Wells, Helen Fairman, Leslie Heumann, Toni Snyder, Rene Vellanoweth, and Judith Rasson
LA-03226	1994	Cultural Resources Survey Report Tentative Tract Map No. 44831	Tartaglia, Louis J.
LA-03255	1994	Devil's Fire Suppression and Rehab Assessment, Los Angeles County	McIntyre, Michael J.
LA-03289	1990	Mobil M-70 Pipeline Replacement Project Cultural Resource Survey Report for Mobil Corporation	Davis, Gene
LA-03360	1996	Cultural Resources Survey Report, Tentative Parcel Map No. 20685	Tartaglia, Louis J.
LA-03396	1994	Phase 2 Test Excavations and Determinations of Significance at CA-LAN-2133,-2233,-2234,-2235,-2236,-2240,-2241,-2242, Los Angeles County, California	Whitley, David S. and Joseph M. Simon
LA-03397	1994	Intensive Phase 1 Archaeological Survey of the West Ranch Project Area, Los Angeles County, California	Whitley, David S. and Joseph M. Simon
LA-03499	1994	Metropolitan Water District West Valley Project Cultural Resources Technical Report	Eisentraut, Phyllisa
LA-03580	1972	The Archaeology of Bridgeport Flats	Singer, Clay A.
LA-03690	1997	Cultural Resources Evaluation City of Santa Clarita Circulation Element EIR	Wlodarski, Robert J.
LA-03696	1997	Negative Phase I Archaeological Survey Sheriff's Pitchess Detention Center Saugus, Los Angeles County, California	Maki, Mary K.
LA-03711	1980	Archaeological Survey Report for the Proposed Highway Widening for Route Ven/la 126 P.m. 16.6/34.9; 0.0/5.2 Hall Road to Castaic Junction	Huey, Gene and John Romani
LA-03796	1989	Technical Report of Cultural Resources Studies for the Proposed Wtg-west, Inc. Los Angeles to San Francisco and Sacramento, California Fiber Optic Cable Project	
LA-03848	1997	Cultural Resources Survey Report Lake Castaic, California	Tartaglia, Louis J.
LA-03849	1996	Archaeological Assessment of the Castaic Creek Waterway and Elderberry Reservoir Sediment and Infrastructure Management Plan	Dillon, Brian D.
LA-03897	1995	Pacific Pipeline's Proposed Geotech- Total Acres: 1 Technical Drilling, Whitaker Station, La County	Stone, David
LA-03904	1995	Phase I Archaeological Survey and Cultural Resources Basement for the Parcel Map 19091 North Rover Study Area, Los Angeles County, California	Anonymous
LA-03932	1998	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility La 311-01, 26730 West Tapia Canyon Road, Castaic, County of Los Angeles, California	McLean, Deborah K.
LA-04008	1996	Cultural Resources Investigation Pacific Pipeline Emidio Route	Unknown
LA-04287	1995	Environmental Impact Report Implementation of the Monterey Agreement Statement of Principles by the State Water Contractors and the State of California	Unknown
LA-04516	1999	A Phase I Cultural Resources Study for the Heights at Hidden Lakes Project, Tract 52535, Los Angeles County, California	Wlodarski, Robert J.

Report Number	Year	Title	Author(s)
LA-04546	1999	A Study in the Prehistory of the Santa Clara River Valley, Archaeological Data Recovery at CA-LAN-2233 Los Angeles County, California	Waugh, Georgie M.
LA-04547	1980	Historic Property Survey, 07 Ven/la 126 Pm 16.6-34.6/0.0-5.2 Hall Road to Route 5 07229 393131	Webb, Lois M. and Gene Huey
LA-04739	1999	Negative Phase I Archaeological Survey and Impact Assessment of 70 Acres for the Sloan Canyon Greystone Homes Project Vesting Tentative Tract No. 52475 Los Angeles County, California	Maki, Mary K.
LA-04859	2000	Negative Phase 1 Archaeological Survey of Approximately 0.12 Acre for the Val Verde Acquisition Project APN 3270-007-043, Sheridan Road Val Verde, Los Angeles County, California	Maki, Mary K.
LA-05140	1999	A Phase I Archaeological Study for Approximately 176 Acres (conceptual Lottind Study) San Francisquito Canyon, County of Los Angeles, California	Wlodarski, Robert J.
LA-05184	2000	Report of Archaeological Investigations: Castaic Project Area, I-5 Storm Damage Project, Task Order 4, Location a & B, Los Angeles County, Ca	Nixon, Joseph M.
LA-05524	2000	Negative Archaeological Survey Report: of the Proposed Cold Plane and Overlay Ac Pavement for on and Off-ramps on Route 5 From Parker Rd. to Lake Hughes Rd. in the Castaic Area of Northern Los Angeles County	Sylvia, Barbara
LA-05525	1972	Geo-science at the Castaic Site (4-LAN-324)	Ericson, Jonathon E.
LA-05552	2000	Supplemental Evaluation of the Old Ridge Route Alignment Los Angeles County, California	McKenna, Jeanette A.
LA-05616	1999	Cultural Resource Assessment for the At&t Wireless Service Facility Number C815.2 County of Los Angeles, California	Duke, Curt
LA-05768	2000	Review of Pacific Bell Wireless Facility La 312-01, County of Los Angeles, California	Duke, Curt
LA-05846	1999	Phase I Archaeological Survey of Castaic Lake Water Agency Lateral Extension Pipeline Project Area, Valencia, Los Angeles County, California	Anonymous
LA-05848	1998	Phase I Archaeological Survey of Planning Sub-area 6 in the Decoro South Project Area, Valencia, Los Angeles County, California	Anonymous
LA-05893	1998	Phase I Archaeological Survey of the Hasley Canyon Land Company Study Area, Los Angeles County, California	Anonymous
LA-06250	1974	Historic Property Survey 07-la-126 Pm 2.3/3.6 San Martinez Grande Bridge to Castaic Creek Bridge	Rosen, Martin D.
LA-06251	2002	Highway Project to Construct a Trapezoidal Channel and Concrete Ditch Along Route 126 at Chiquito Canyon Road	Sriro, Adam
LA-06585	2003	A Phase I Cultural Resources Investigation of the Proposed Sterling Gateway Project Area in the Martinez Canyon/Val Verde Area of Los Angeles County, California	McKenna, Jeanette A.
LA-06658	2002	Archaeological Survey Report of 4.078 Acres for the Castaic Senior Apartments Project APN 2865-036-034, Castaic Road, Castaic, Los Angeles County, Ca	Maki, Mary K.
LA-06660	1999	Cultural Resource Assessment for the At&t Wireless Services Facility Number C815.2, County of Los Angeles, Ca	Duke, Curt
LA-06886	2003	Phase Ii Cultural Resource Evaluation for Vesting Tentative Tract No. 53189 in San Francisquito Canyon, Northern Los Angeles County, California	Shepard, Richard S.
LA-07188	2004	Cordova/Castaic/necktie Fuelbreak Improvement Projects, Angeles National Forest, Los Angeles County, California	Bartoy, Kevin M.
LA-07832	2000	I-5/Hasley Canyon Road Interchange Project Historic Property Survey Report-negative Findings	Bingham, Jeffrey C.
LA-07861	2006	Archaeological Survey Report for the Southern California Edison Company Replacement of 30 Deteriorated Poles Private and Public Inholdings, Ventura, Los Angeles, and Santa Barbara Counties, California	Jordan, Stacey C. and Patterson, Joshua D.
LA-07890	2006	Dwo 6159-7126; A.i. #6-7102: Tips 16 Kv Overhead Line Removal Project, Commerce Center Drive, Castaic Area, Los Angeles County	Schmidt, James J.
LA-07986	2006	Cultural Resources Assessment for the Castaic Lake Water Agency Recycled Water Master Plan and the Northwest Spur Pipeline, Santa Clarita, Los Angeles County, California	Harper, Caprice D.
LA-08255	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	Arrington, Cindy and Nancy Sikes
LA-08317	2007	A Phase 1 Archaeological Study for Vesting Tentative Tract No. 067617 (the Highlands Project) on Park Vista Drive, North of Knoll Court Located in Castaic, County of Los Angeles, California	Wlodarski, Robert J.
LA-08783	2006	Cultural Resources Records Search Results and Site Visit for T-mobile USA Candidate Sv00922e (rancho Tesoro), Rancho Tesoro Drive at 2900 North Bernardo Way, Valencia, Los Angeles County, California	Bonner, Wayne H.
LA-08963	2007	Archaeological Survey Report for Southern California Edison Company a Line Extension on the Smith Property in Los Angeles County, California	Tsunoda, Koji
LA-08993	2007	Sce Tehachapi Renewable Transmission Project, Shoofly Corridor, Santa Clarita Area, Los Angeles County, California	Schmidt, James J.
LA-08998	2007	East Side Tower Footing Repairs Project, Los Angeles County	Schmidt, James J.
LA-09015	2005	Records Search and Field Reconnaissance Results for Sprint Site La33xc431c (Castaic Lagoon - CA-7701a) (atc Project No. 85.75013.1022 Task 1) Located at 26730 West Tapia Canyon Road, Castaic, Los Angeles County, Ca 91384	Wlodarski, Robert J.
LA-09017	2006	A Phase 1 Archaeological Study for the Mountain View Apartments Project Including a 44.16-acre Portion for Proposed Development (APN#2865-019-064) and 36-acres for Proposed Fill Material (APN 2865-019-011/tract 46798), Located in Castaic County of Los Angeles	Wlodarski, Robert J.
LA-09018	2005	A Phase 1 Archaeological Study for Tentative Tract Map Number 53933 a 47 +/- Acre Parcel of Land Located in Castaic, County of Los Angeles, California	Wlodarski, Robert J.
LA-09019	2004	Cutlural Resource Survey of 23 Work Locations for Southern California Edison Within a Segment of the Oion 16 Kv/Romanus 16kv Power Lines Along a Portion of San Francisquito Canyon Road, Los Angeles County, California	Cooley, Theodore G.
LA-09020	2004	Intensive Phase I Archaeological Survey of the Old Road Study Area, Northern Los Angeles County, California	Whitley, David S. and Joseph M. Simon
LA-09021	2004	Intensive Phase I Archaeological Survey of Tt 60319, Los Angeles County, California	Simon, Joseph M.
LA-09025	2007	Cultural Resources Reconnaissance for Two 80-acre Parcels and Evaluation of Historic Structures Within the Tapia Ranch Development Project, Castaic, Los Angeles County, California	O'Neil, Stephen, James Steely, and Patrick Maxon
LA-09026	2006	Cultural Resources Reconnaissance for the Bridge Alternatives at Tapia Canyon Road Project, Castaic, Los Angeles County, California	O'Neil, Stephen
LA-09027	2005	Cultural Resource Assessment for the Castaic Lake Water Agency Recycled Water Master Plan and the Northwest Spur Pipeline, Santa Clarita, Los Angeles County, California	Harper, Caprice D.
LA-09029	2005	Cultural Resources Reconnaissance for Two 80-acre Parcels in the Tapia Ranch Development Project, Castaic, Los Angeles County, California.	O'Neil, Stephen

Report Number	Year	Title	Author(s)
LA-09450	2008	Castaic Peak: LA-20974A	Billat, Lorna
LA-09462	2008	WO 4605-2170; 4605-2175: Santa Clara Valley Deteriorated Pole Replacement Project, Ventura and Los Angeles Counties.	Schmidt, June
LA-09471	2008	Phase Archaeological Survey of 42.6 Acres of Land (APN 3244-030-005; Tentative Parcel map 069788) Located on the West and East Sides of San Francisquito Canyon Road, Saugus, Los Angeles County, California	Romani, Gwen R.
LA-09765	2008	Supplemental Cultural Resource Assessment, Segment 1, Section 1, Tehachapi Renewable Transmission Project, Variance For Wire Stringing Location Near Construction Tower 16, Los Angeles County, California	Gust, Sherri
LA-09767	2009	Supplemental Archaeological and Paleontological Resources Assessment, Segment 1, Section 1, Tehachapi Renewable Transmission Project, Variance for Wire Stringing Work Area Near Construction Tower 16, Los Angeles County, California	Gust, Sherri
LA-09911	2009	Archaeological Letter Report: WO 6059-4800; 9-4832: Crabtree 16kV Deteriorated Pole Replacement Project, Los Angeles County, California	James Schmidt
LA-09912	2008	A Cultural Resources Assessment of 80 Acres Located in Section 28, Township 5 North, Range 17 West, of the Val Verde Quad, Los Angeles County, California	Matthew DeCarlo and L. Suzann Henrikson
LA-09920	2008	Results of the Class III Cultural Resources Investigation for the Southern California Edison Tehachapi Renewable Transmission Project (TRTP) Segment 1, Angeles National Forest and Adjacent Lands, Los Angeles County, California, ARR No. 05-01-01079	Schmidt, James J., June A. Schmidt, and Gwen R. Romani
LA-09984	2002	2002 Copper Fire Suppression and Rehabilitation Archaeological Reconnaissance Report (#05-01-00682), Angeles National Forest, Los Angeles County, California	Vance, Darrell W.
LA-10111	2003	A Phase I Cultural Resources Investigation of the Taft Corporation Property (APN 2865-022-005) in the Castaic Area of Northern Los Angeles County, California	McKenna, Jeanette A.
LA-10112	2003	A Phase I Cultural Resources Investigation of the Proposed Wshuhsd Hasley-Sloan School Sites in the Hasley Canyon Area of Northern Los Angeles County, California	McKenna, Jeanette A.
LA-10113	2004	Negative Archaeological Reconnaissance Report: 30740 Brushwood Drive (APN#3247-051-20) Castaic, Los Angeles County, California	Schmidt, James J.
LA-10114	2004	Addendum Studies: a Phase I Cultural Resources Investigation of the Proposed Sterling Gateway Project Area in the Martinez Canyon/Val Verde Area, Los Angeles County, California	McKenna, Jeanette A.
LA-10115	2005	Robert Schlattman Residential Service Installation, 31160 Romero Canyon Road, Los Angeles County.	Schmidt, James J.
LA-10116	2004	Negative Archaeological Survey Report 30801 Sloan Canyon Road, Castaic, Ca (APN 3247-042-015)	Romani, Gwendolyn R.
LA-10117	1996	Treatment Plan for CA-LAN-2233 and Prehistoric Archaeological Sites Discovered During the Construction on State Highway Ay 126 at Val Verde and Del Valle Near Santa Clarita Los Angeles County, California	Anonymous
LA-10118	2004	Intensive Phase I Archaeological Survey of Vtm 60678, Newhall Ranch, Los Angeles County, California	Whitley, David S.
LA-10119	2003	Phase I Archaeological Survey of the 325 Acres Del Valle Specific Plan Study Area, Los Angeles County, California	Whitley, David S.
LA-10122	2005	Cultural Resources Survey Report for the Hidden Paradise Ranch Property (APN 2865-018-033; 2865-018-034; 2865-023-006; 2865-023-019; and 2865-023-021) Near Castaic, Los Angeles County, California.	Mason, Roger, D. and Koral Ahmet
LA-10123	2005	Cultural Resources Survey Report for the Castaic 120 Project Property (APN 3247-026-032; 3247-026-055; and 3247-026-056) Near Castaic, Los Angeles County, California	Mason, Roger, D. and Koral Ahmet
LA-10161	2008	Castaic Lake Road/Sawtooth Warmsprings Road Maintenance Project, Santa Clara- Mojave Rivers Ranger District, Angeles National Forest, Los Angeles County, CA	Peebles, David S.
LA-10198	2002	Expansion of Earl Schmidt Filtration Plant	Foster, Karen A.
LA-10200	2000	Cultural Resource Assessment for Modifications to Pacific Bell Mobile Services Facility LA 312-01, County of Los Angeles, California	Duke, Curt
LA-10210	2006	Cultural Resources Survey Report for Antelope-Pardee 500-kV Transmission Project	Ahmet, Koral and Roger D. Mason
LA-10359	2009	Draft Program EIR for the County of Los Angeles' Proposed Santa Clarita Valley Area Plan	Tebo, Susan, Judy Charles, Joe Decruyendere, and Mark Austin
LA-10439	2010	Phase I archaeological investigation for the Proposed William S. Hart Union High School District, Romero Canyon High School Site APN 3247-068-001 and 3247-068-004 (Tentative Tract 47807) Located in the Castaic Area of Los Angeles County, California	Romani, Gwen R.
LA-10456	2009	Archaeological Survey for the Southern California Edison Company: Replacement of one deteriorated power pole on the Trumpet 16kV, Scott Brackett Program, Castaic, Los Angeles County (W 6059-4800-9-4830), and one deteriorated power pole on Crabtree 16kV	Orfila, Rebecca
LA-10481	2010	Phase I Cultural Resources Investigation for the proposed William S. Hart Union High School District, Hasley-Sloan High School Site, Located in the Castaic Area of Los Angeles County, California	Romani, Gwen R.
LA-10556	2004	2004 Los Angeles County Pole Replacement Project	Schmidt, James J.
LA-10557	2006	Commerce Center Relocation Project, Los Angeles County, California	Schmidt, James J.
LA-10578	2009	TEA21 Rural Roadside Inventory: Native American Consultation and Ethnographic Study Caltrans District 7, County of Los Angeles	Fortier, Jana
LA-10611	2009	Archaeological Survey for the Southern California Edison Company: Replacement of Two Deteriorated Power Poles on the Saugus-Haskell-Solemint 66kV line, Newhall, Los Angeles County, One deteriorated power pole on the Burro Flats-Chatworth-Thrust 66kV line	Orfila, Rebecca S.
LA-10654	2010	Archaeological letter report: Chiquito Line Extension Operations and Maintenance Project, IO#313382, TD435120, Los Angeles County, California	Schmidt, June
LA-10792	2010	Revised Draft Program EIR for the County of Los Angeles' Proposed Santa Clarita Valley Area Plan, Vol. 1	Unknown
LA-10873	2006	Section 106 Review TCNS ID 20589 Collocation of an existing 73' monopole tower 3019364; Castaic 26730 Tapia Canyon Road, Castaic, CA 91384 Los Angeles County	Martin, Thomas
LA-10995	2011	Verizon Cellular Communications Tower Site - Val Verde, Rainbow Drive, Castaic, Los Angeles County, CA 91384	Hatoff, Brian
LA-11113	2011	County of Los Angeles' Proposed Santa Clarita Valley Area Plan, Final Program Environmental Impact Report. Volumes I through III	unknown
LA-11316	2010	Research Design and Treatment Plan for Archaeological Sites CA-LAN-962H, CA-LAN-2133, and CA-LAN-2233 for the Newhall Ranch Resource Management & Development Plan, Los Angeles County, California	Unknown

Report Number	Year	Title	Author(s)
LA-11424	2011	A Class III/Section 106 and Phase I CEQA Cultural Resources Investigation for the Proposed William S. Hart Union High School District Castaic High School Access Roads in the Romero and Sloan Canyon Areas of Los Angeles County, California	McKenna, Jeanette A.
LA-11452	2011	Archaeological Survey for the Southern California Edison Company: Replacement of one deteriorated power pole near Castaic in Los Angeles County, California (59-TD518073)	Orfila, Rebecca
LA-11454	2011	Archaeological Survey for the Southern California Edison Company: Replacement of three deteriorated power poles near Newhall and Santa Clarita in Los Angeles County, California (WO6088-4800 0-4892 and WO6088-4800, RSO Consulting CWA 9)	Orfila, Rebecca
LA-11514	2011	Archaeological Letter Report: Trumpet, Crabtree, Nero, and Davenport 16kV Deteriorated Pole Replacement Projects (WO 6059-4800, I-4805 & 0-4888), Los Angeles County, California	Schmidt, James
LA-11637	2012	Alternative Road Alignments, Castaic High School, Los Angeles County, CA	McKenna, Jeanette
LA-11713	2012	Archaeological Survey Report for Southern California Edison Company's Replacement of Two Deteriorated Power Pole Structures on the Bouquet 16kV and Trumpet 16 kV Distribution Circuits, Santa Clarita, Los Angeles County, CA	Schmidt, James
LA-12526	2013	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	Ehringer, Candace, Ramirez, Katherine, and Vader, Michael
LA-12539	2012	Verizon Wireless Chiquito, 29915 Henry Mayo Drive (Hwy 126), Newhall, CA	Zalavaris-Chase, Dimitra
LA-12553	2014	Homestead South, Notice of Preparation of a Draft Environmental Impact Report and Public Scoping Meeting, Expanded Project Description Initial Study	Salazy, Kim
LA-12604	2014	Del Valle Sediment Placement Project Phase I Cultural Resources Study	Maxon, Patrick
LA-12605	2013	Claremont Homes, Inc., Sloan Canyon Residential Project, Cultural Resources Study	Haas, Hannah and Ramirez, Robert
LA-12606	2013	Claremont Homes, Inc., Hasley Canyon Residential Project, Cultural Resources Study	Haas, Hannah and Ramirez, Robert
LA-12679	2014	Los Angeles Department of Water and Power Castaic Emergency Spillway Repair Project, County of Los Angeles, California	Ehringer, Candace, Gonzalez, Matthew, and Anderson, Katherine
LA-12681	2013	Intensive Phase I Archaeological Survey of the Los Valles Study Area, Los Angeles County, California	Simon, Joseph
LA-12726	2013	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate NL0449 (Salmont Ridge) 30255 North Quail Trail, Santa Clarita, Los Angeles County, California CSAPR No.3551017625	Bonner, Wayne and Williams, Sarah
VN-01177	1980	(also LA-2725) Proposed Highway Widening for Route Ven/la 126 P.m.13.4/34.6; O.o/5.o_(report Missing)	Romani, John F. and Gene Huey
VN-01422	1994	Metropolitan Water District West Valley Project Cultural Resources Technical Report	Eisentraut, Phyllisa
VN-01511	1980	Archaeological Survey Report for the Proposed Highway Widening for Route Ven/la 126 P.m. 16.6/34.9; 0.0/5.2 Hall Road to Castaic Junction	Huey, Gene and John Romani
VN-01800	1980	Historic Property Survey, 07 Ven/la 126 Pm 16.6-34.6/0.0-5.2 Hall Road to Route 5 07229 393131	Webb, Lois M. and Gene Huey
VN-02872	2009	TEA-21 Rural Roadside Inventory: Native American Consultants and Ethnographic Study for Caltrans District 7, Ventura County	Fortier, Jana
VN-02886	1999	Ventura County Cultural Heritage Survey Phase VI: Santa Clara Valley	Triem, Judy
VN-03153	2013	Santa Clarita Valley Sanitation District Chloride TMDL Facilities Plan Project, Phase I Cultural Resources Assessment	Ehringer, Candace, Ramirez, Katherine, and Vader, Michael

APPENDIX B
MAP OF CULTURAL RESOURCES WITHIN THE APE

The location data for the archaeological resources will not be circulated for public review. To protect the sites from unauthorized excavation, looting, and/or vandalism, the applicant and County of Los Angeles have been notified of the need to keep confidential the location of known archaeological resources beyond what is necessary. Records in the information centers are exempt from the California Public Records Act (Government Code Section 6250 et seq.). Government Code Section 6254.19 states that "nothing in this chapter requires disclosure of records that relate to archaeological sites information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission." Government Code Section 6254 explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Due to the sensitive nature of cultural resources described herein, this report is confidential and meant for the exclusive use of the applicant, County of Los Angeles, and other trustee and responsible agencies related to planning, construction, operation, maintenance, and management of the project.

APPENDIX C
NATIVE AMERICAN CORRESPONDENCE

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX

January 20, 2016

Eugen Ruzi
Sapphos Environmental

Sent by e-mail: eruzi@sapphosenvironmental.com
Number of pages: 3

RE: Proposed Castiac Lake Trails Master Plan Project, Los Angeles County, California

Dear Mr. Ruzi:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent above reference codes is to mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects.

As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and

- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measurers.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A search of the SFL was completed for the USGS quadrangle information provided with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton
Associate Governmental Program Analyst

Native American Heritage Commission
Tribal Consultation List
Los Angeles County
January 21, 2016

San Manuel Band of Mission Indians
Lynn Valbuena, Chairwoman
26569 Community Center — Serrano
Highland , CA 92346
(909) 864-8933

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street — Fernandeno
San Fernando , CA 91340 — Tataviam
(818) 837-0794 Office

Soboba Band of Luiseno Indians
Rosemary Morillo, Chairperson; Attn: Carrie Garcia
P.O. Box 487 — Luiseno
San Jacinto , CA 92581 — Cahuilla
carrieg@soboba-nsn.gov
(951) 654-2765

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street — Fernandeno
San Fernando , CA 91340 — Tataviam
(818) 837-0794 Office

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 — Fernandeño
Newhall , CA 91322 — Tataviam
tsen2u@hotmail.com — Serrano
Vanyume
(760) 885-0955 Cell — Kitanemuk

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Luiseno
San Jacinto , CA 92581 — Cahuilla
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.
This list applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Castiac Lake Trails Master Plan Project, Los Angeles County, California.

Sapphos environmental inc.

January 27, 2016
Job Number: 1020-085
Proposed Castaic Lake Trails Master Plan Project

Rosemary Morillo
Chairperson
Attn: Carrie Garcia
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581
carrieg@soboba-nsn.gov
(951) 654-2765

SUBJECT: Request for Information Regarding Native American Resources in the Vicinity of the Proposed Castaic Lake Trails Master Plan Project

Dear Ms. Morillo:

Sapphos Environmental, Inc. hereby requests additional information with regard to Native American cultural resources in the vicinity of the proposed Castaic Lake Trails Master Plan Project property located in Santa Clarita Valley, California.

A Native American Heritage Commission (NAHC) Sacred Lands File record search was conducted for the proposed project on January 20, 2016.[1] The NAHC response to the request stated, "A search of the SFL was completed for the USGS quadrangle information provided with negative results."[2] The NAHC response identified five Native American individuals, of whom you are one, to be contacted for further information with regard to the presence of cultural resources in the proposed project area.

The proposed project study area encompasses approximately 78 square miles (approximately 50,000 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated Los Angeles County. The proposed project study area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 1, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[3,4,5,6]

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[1] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email letter response to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA.

[2] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email letter response to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA.

[3] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[4] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[6] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

Corporate Office:
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TEL 626.683.3547
FAX 626.683.3548

Billing Address:
P.O. Box 655
Sierra Madre, CA 91025
Web site:
www.sapphosenvironmental.com

Thank you for your assistance. Sapphos Environmental, Inc. looks forward to receiving any information or comments you may have regarding Native American cultural resources in the vicinity of the proposed project property. Should there be any questions or concerns, please contact Mr. Eugen Ruzi by phone at (626) 683-3547 ext. 109 or by e-mail at eruzi@sapphosenvironmental.com.

Respectfully submitted,

SAPPHOS ENVIRONMENTAL, INC.

Eugen Ruzi
Archaeological Resources Coordinator

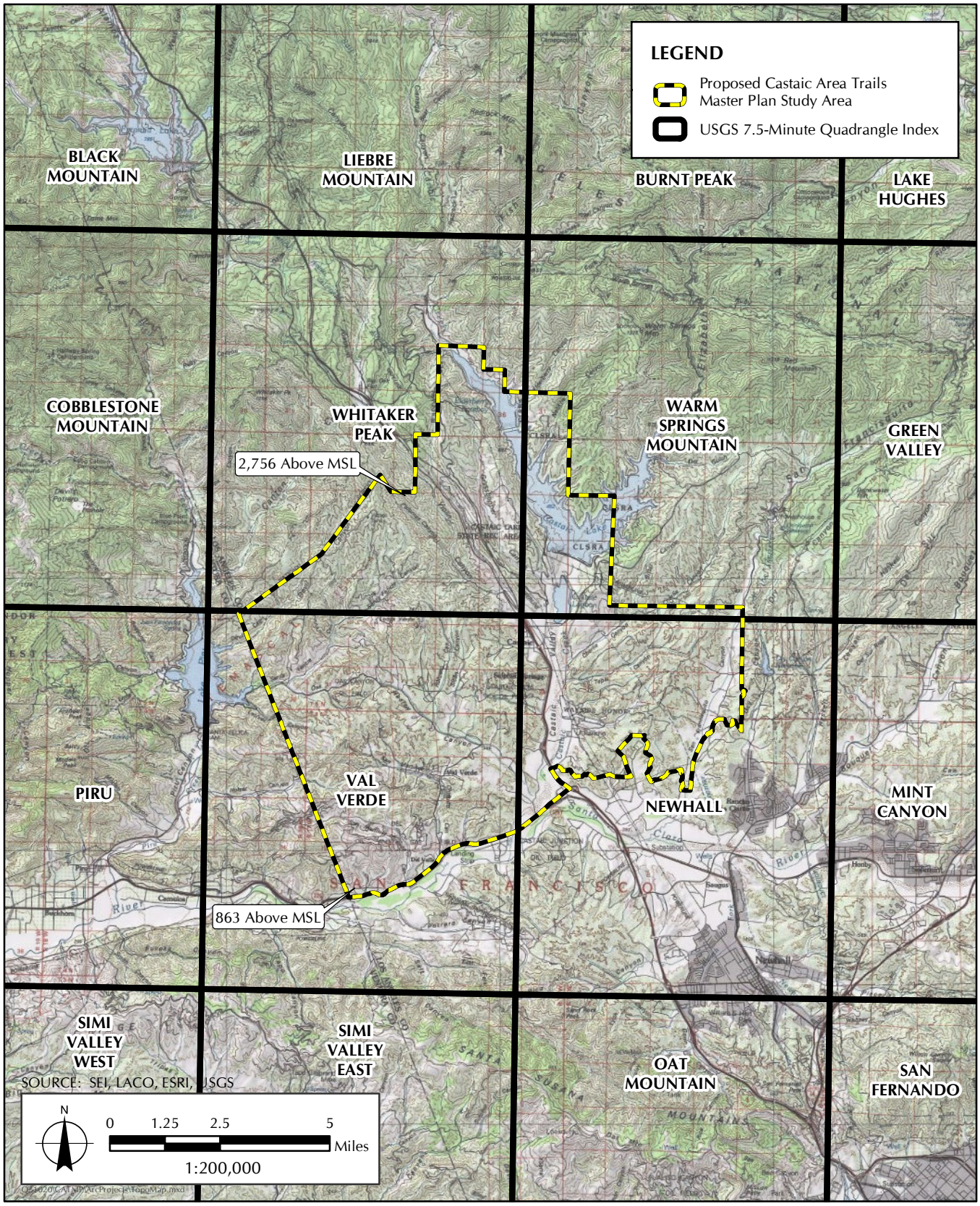

FIGURE 3

USGS 7.5-Minute Quadrangle Index

Sapphos environmental inc.

January 27, 2016
Job Number: 1020-085
Proposed Castaic Lake Trails Master Plan Project

Joseph Ontiveros
Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. BOX 487
San Jacinto, CA 92581
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext. 4137

SUBJECT: Request for Information Regarding Native American Resources in the Vicinity of the Proposed Castaic Lake Trails Master Plan Project

Dear Mr. Ontiveros:

Sapphos Environmental, Inc. hereby requests additional information with regard to Native American cultural resources in the vicinity of the proposed Castaic Lake Trails Master Plan Project property located in Santa Clarita Valley, California.

A Native American Heritage Commission (NAHC) Sacred Lands File record search was conducted for the proposed project on January 20, 2016.[1] The NAHC response to the request stated, "A search of the SFL was completed for the USGS quadrangle information provided with negative results."[2] The NAHC response identified five Native American individuals, of whom you are one, to be contacted for further information with regard to the presence of cultural resources in the proposed project area.

The proposed project study area encompasses approximately 78 square miles (approximately 50,000 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated Los Angeles County. The proposed project study area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 1, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[3,4,5,6]

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[1] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email letter response to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA.

[2] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email letter response to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA.

[3] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[4] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[6] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

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TEL 626.683.3547
FAX 626.683.3548

Billing Address:
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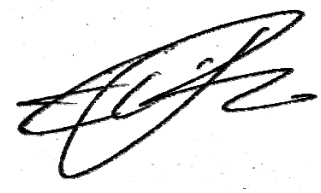
Sierra Madre, CA 91025
Web site:
www.sapphosenvironmental.com

Thank you for your assistance. Sapphos Environmental, Inc. looks forward to receiving any information or comments you may have regarding Native American cultural resources in the vicinity of the proposed project property. Should there be any questions or concerns, please contact Mr. Eugen Ruzi by phone at (626) 683-3547 ext. 109 or by e-mail at eruzi@sapphosenvironmental.com.

Respectfully submitted,

SAPPHOS ENVIRONMENTAL, INC.



Eugen Ruzi
Archaeological Resources Coordinator

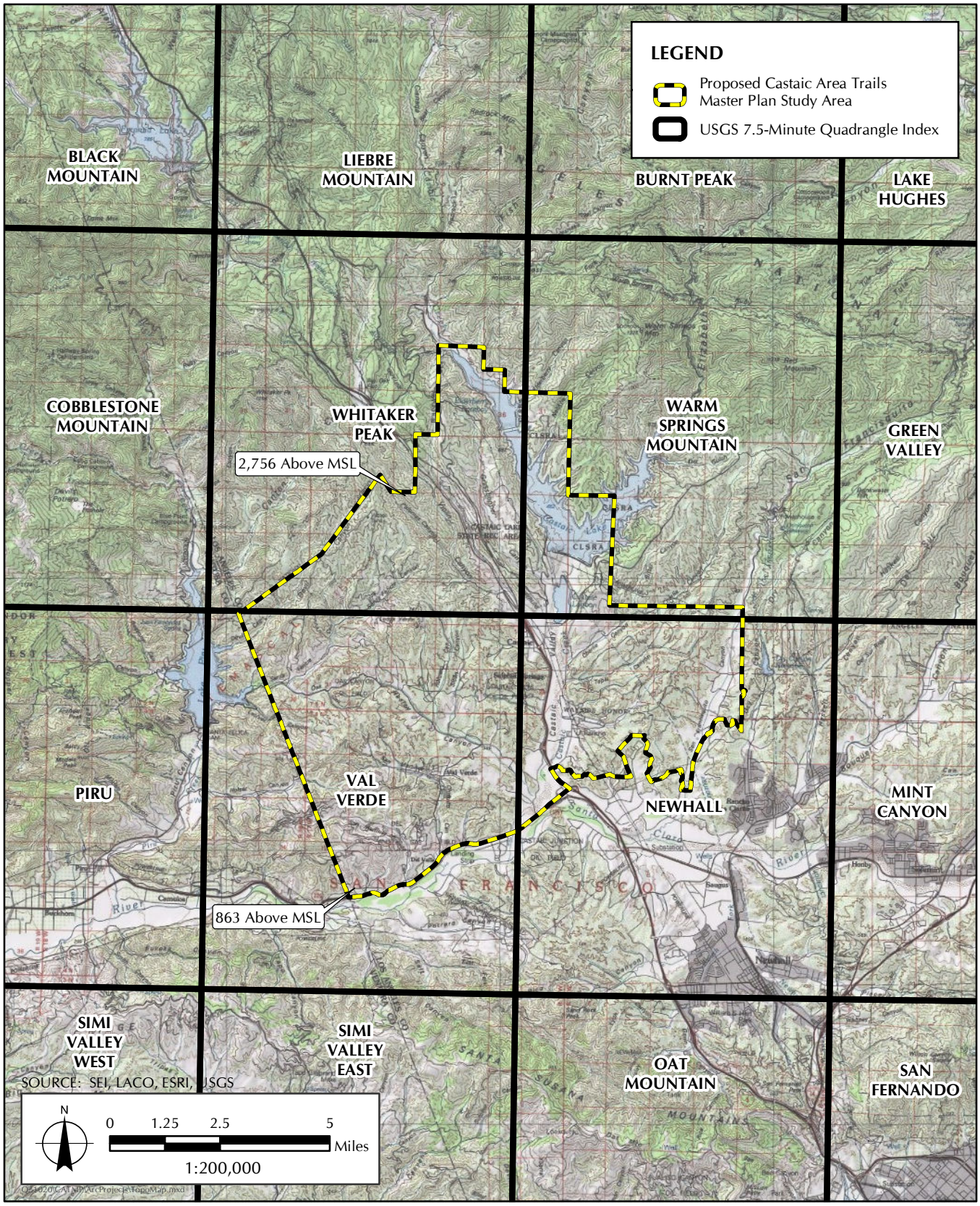


FIGURE 3

USGS 7.5-Minute Quadrangle Index

Sapphos environmental inc.

January 27, 2016
Job Number: 1020-085
Proposed Castaic Lake Trails Master Plan Project

Rudy Ortega Jr.
President
Fernandeno Tataviam Band of Mission Indians
1019 2nd Street
San Fernando, CA 91340
(818) 837-0794

SUBJECT: Request for Information Regarding Native American Resources in the Vicinity of the Proposed Castaic Lake Trails Master Plan Project

Dear Mr. Ortega:

Sapphos Environmental, Inc. hereby requests additional information with regard to Native American cultural resources in the vicinity of the proposed Castaic Lake Trails Master Plan Project property located in Santa Clarita Valley, California.

A Native American Heritage Commission (NAHC) Sacred Lands File record search was conducted for the proposed project on January 20, 2016.[1] The NAHC response to the request stated, "A search of the SFL was completed for the USGS quadrangle information provided with negative results."[2] The NAHC response identified five Native American individuals, of whom you are one, to be contacted for further information with regard to the presence of cultural resources in the proposed project area.

The proposed project study area encompasses approximately 78 square miles (approximately 50,000 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated Los Angeles County. The proposed project study area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 1, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[3,4,5,6]

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[2] Totton, Gayle, Native American Heritage Commission, Sacramento, CA. 20 January 2016. Email letter response to Eugen Ruzi, Sapphos Environmental, Inc., Pasadena, CA.

[3] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

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[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

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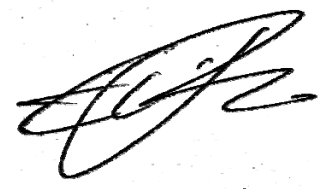
TEL 626.683.3547
FAX 626.683.3548

Billing Address:
P.O. Box 655
Sierra Madre, CA 91025
Web site:
www.sapphosenvironmental.com

Thank you for your assistance. Sapphos Environmental, Inc. looks forward to receiving any information or comments you may have regarding Native American cultural resources in the vicinity of the proposed project property. Should there be any questions or concerns, please contact Mr. Eugen Ruzi by phone at (626) 683-3547 ext. 109 or by e-mail at eruzi@sapphosenvironmental.com.

Respectfully submitted,

SAPPHOS ENVIRONMENTAL, INC.



Eugen Ruzi
Archaeological Resources Coordinator

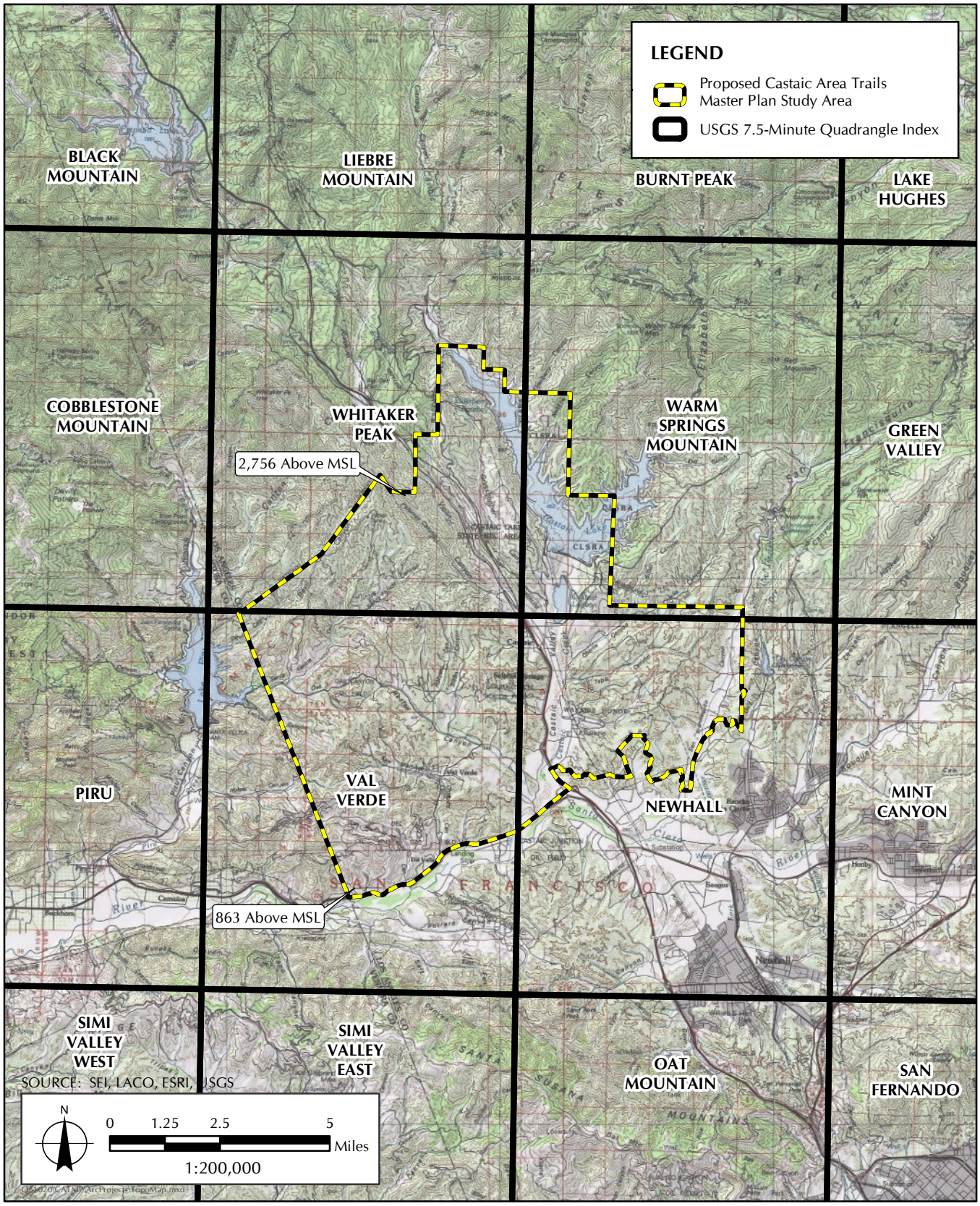


FIGURE 3

USGS 7.5-Minute Quadrangle Index

Sapphos environmental inc.

January 27, 2016
Job Number: 1020-085
Proposed Castaic Lake Trails Master Plan Project

Lynn Valbuena
Chairwoman
San Manuel Band of Mission Indians
26569 Community Center Serrano
Highland, CA 92346
(909) 864-8933

SUBJECT: Request for Information Regarding Native American Resources in the Vicinity of the Proposed Castaic Lake Trails Master Plan Project

Dear Ms. Valbuena:

Sapphos Environmental, Inc. hereby requests additional information with regard to Native American cultural resources in the vicinity of the proposed Castaic Lake Trails Master Plan Project property located in Santa Clarita Valley, California.

A Native American Heritage Commission (NAHC) Sacred Lands File record search was conducted for the proposed project on January 20, 2016.[1] The NAHC response to the request stated, "A search of the SFL was completed for the USGS quadrangle information provided with negative results."[2] The NAHC response identified five Native American individuals, of whom you are one, to be contacted for further information with regard to the presence of cultural resources in the proposed project area.

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FAX 626.683.3548

Billing Address:
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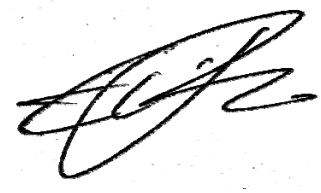
Sierra Madre, CA 91025
Web site:
www.sapphosenvironmental.com

Thank you for your assistance. Sapphos Environmental, Inc. looks forward to receiving any information or comments you may have regarding Native American cultural resources in the vicinity of the proposed project property. Should there be any questions or concerns, please contact Mr. Eugen Ruzi by phone at (626) 683-3547 ext. 109 or by e-mail at eruzi@sapphosenvironmental.com.

Respectfully submitted,

SAPPHOS ENVIRONMENTAL, INC.



Eugen Ruzi
Archaeological Resources Coordinator

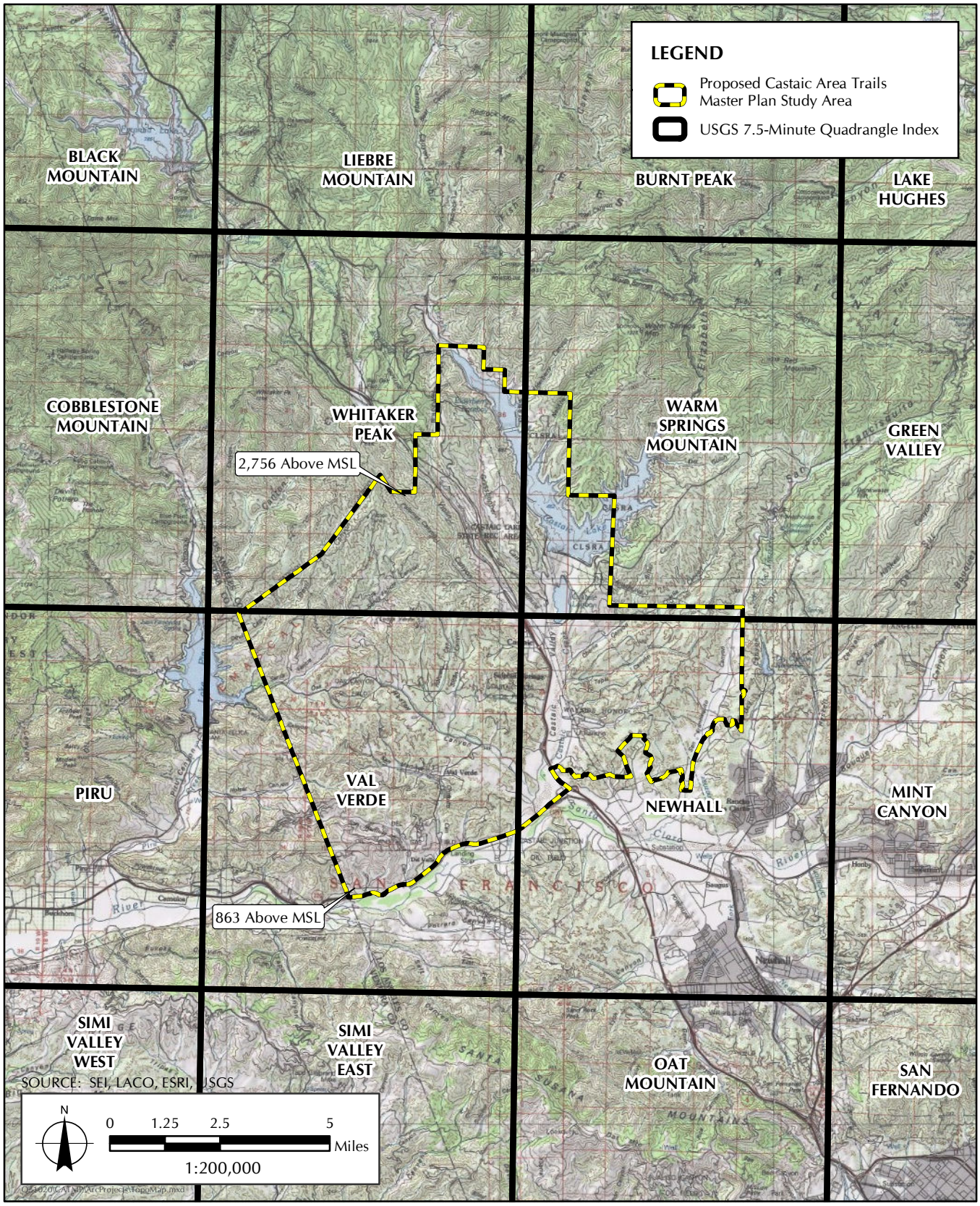


FIGURE 3

USGS 7.5-Minute Quadrangle Index

Sapphos
environmental inc.

January 27, 2016
Job Number: 1020-085
Proposed Castaic Lake Trails Master Plan Project

John Valenzuela,
Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, CA 91322
tsen2u@hotmail.com
(760) 885-0955

SUBJECT: Request for Information Regarding Native American Resources in the Vicinity of the Proposed Castaic Lake Trails Master Plan Project

Dear Mr. Valenzuela:

Sapphos Environmental, Inc. hereby requests additional information with regard to Native American cultural resources in the vicinity of the proposed Castaic Lake Trails Master Plan Project property located in Santa Clarita Valley, California.

A Native American Heritage Commission (NAHC) Sacred Lands File record search was conducted for the proposed project on January 20, 2016.[1] The NAHC response to the request stated, "A search of the SFL was completed for the USGS quadrangle information provided with negative results."[2] The NAHC response identified five Native American individuals, of whom you are one, to be contacted for further information with regard to the presence of cultural resources in the proposed project area.

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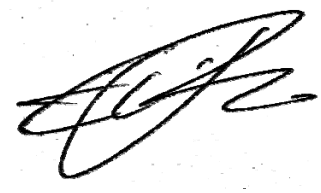
Thank you for your assistance. Sapphos Environmental, Inc. looks forward to receiving any information or comments you may have regarding Native American cultural resources in the vicinity of the proposed project property. Should there be any questions or concerns, please contact Mr. Eugen Ruzi by phone at (626) 683-3547 ext. 109 or by e-mail at eruzi@sapphosenvironmental.com.

Respectfully submitted,

SAPPHOS ENVIRONMENTAL, INC.



Eugen Ruzi
Archaeological Resources Coordinator

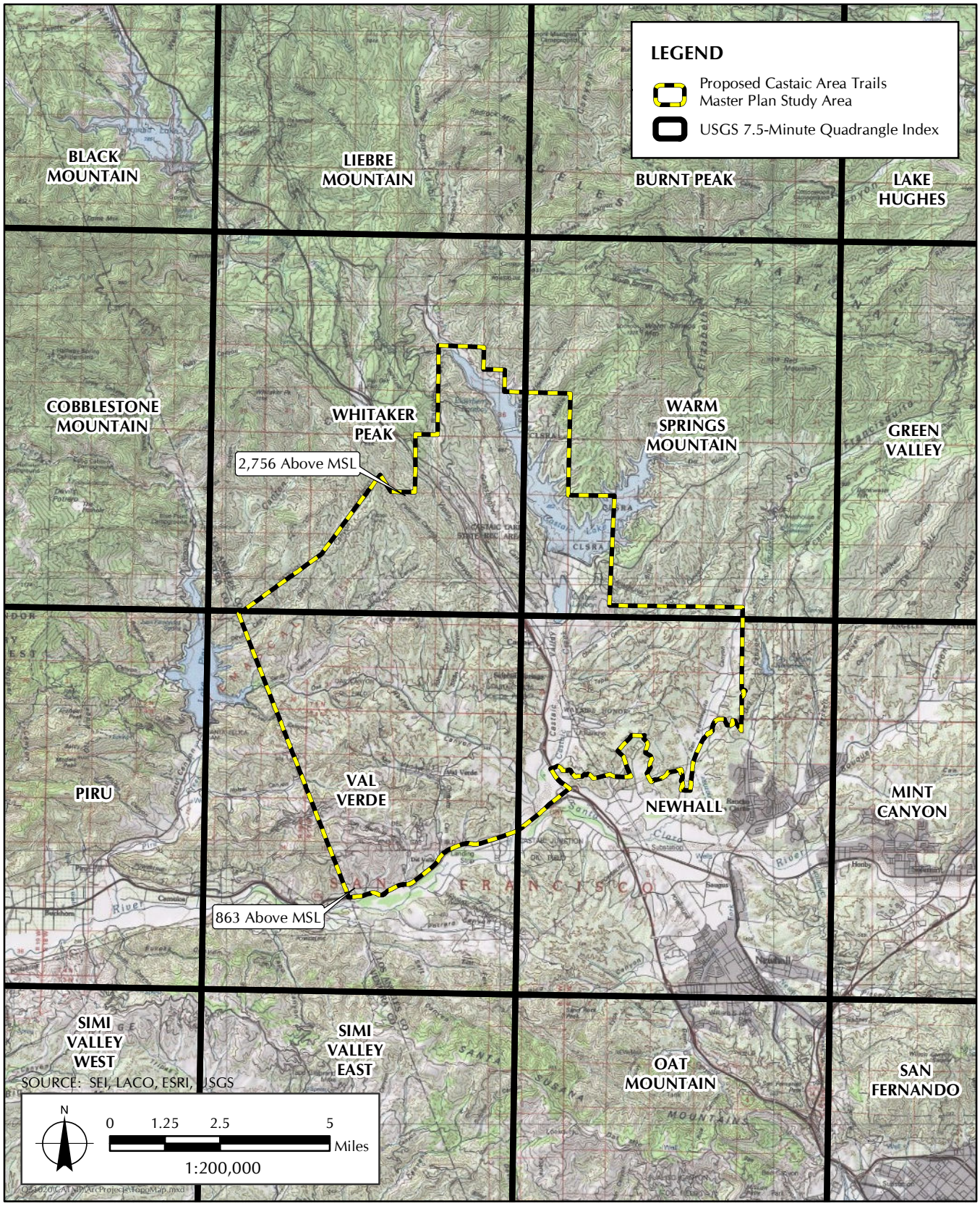


FIGURE 3

USGS 7.5-Minute Quadrangle Index

From:	Caitlin Gulley
To:	Gino Ruzi
Subject:	Fwd: Tribal Consultation: Castaic Lake Trails Master Plan Project
Date:	Tuesday, February 09, 2016 2:12:02 PM

Fernandeño Tataviam Band of Mission Indians

Tribal Historic & Cultural Preservation

February 9, 2016

Eugen Ruzi
Archaeological Resources Coordinator
Sapphos Environmental Inc.
430 North Halstead Street
Pasadena, CA 91107

RE: Castaic Lake Trails Master Plan Project

Eugin Ruzi,

Thank you for your invitation to consult on the project listed above. The Fernandeño Tataviam Band of Mission Indians (Tataviam) would like it noted in your report that (1) we find the project area to be of extreme risk to cultural and tribal resources and (2) we could like to consult with the Lead Agency regarding project mitigation.

Sincerely,

--
***Caitlin Gulley**, Director*
Tribal Historic and Cultural Preservation Department
Cell: (661) 433-0599
Office: (818) 837-0794
cgulley@tataviam-nsn.us

Phone: (818) 837-0794 Ext. 208
Website: http://www.tataviam-nsn.us

This e-mail message is confidential, intended only for the named recipient(s) above and may contain information that is privileged, attorney work product or exempt from disclosure under applicable law. If you have received this message in error, or are not the named recipient(s), please immediately notify the sender by reply-email and delete this e-mail from your computer. Also, neither this message nor any attachments to it constitute an offer of any kind, and to the extent this communication, or any other communication in connection herewith, is in the context of negotiations regarding a possible agreement or transaction, in no event shall Fernandeno Tataviam Band of Mission Indians be bound to anything without a final, signed contract (it being understood that in all cases Fernandeno Tataviam Band of Mission Indians shall have the absolute right to terminate any discussions or negotiations at any time and for any reason without any liability whatsoever). Thank you.

--
***Caitlin Gulley**, Director*
Tribal Historic and Cultural Preservation Department
Cell: (661) 433-0599
Office: (818) 837-0794
cgulley@tataviam-nsn.us

Fernandeño Tataviam Band of Mission Indians
1019 Second Street
San Fernando, California 91340
Phone: (818) 837-0794 Ext. 208
Website: http://www.tataviam-nsn.us

This e-mail message is confidential, intended only for the named recipient(s) above and may contain information that is privileged, attorney work product or exempt from disclosure under applicable law. If you have received this message in error, or are not the named recipient(s), please immediately notify the sender by reply-email and delete this e-mail from your computer. Also, neither this message nor any attachments to it constitute an offer of any kind, and to the extent this communication, or any other communication in connection herewith, is in the context of negotiations regarding a possible agreement or transaction, in no event shall Fernandeno Tataviam Band of Mission Indians be bound to anything without a final, signed contract (it being understood that in all cases Fernandeno Tataviam Band of Mission Indians shall have the absolute right to terminate any discussions or negotiations at any time and for any reason without any liability whatsoever). Thank you.

February 25, 2016

Attn: Eugen Ruzi, Archaeological Resources Coordinator
Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, CA 91107

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

RE: Proposed Castaic Lake Trails Master Plan Project

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project(s) has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. At this time the Soboba Band does not have any specific concerns regarding known cultural resources in the specified areas that the project encompasses, but does request that the appropriate consultation continue to take place between the tribes, project proponents, and government agencies.

Also, working in and around traditional use areas intensifies the possibility of encountering cultural resources during any future construction/excavation phases that may take place. For this reason the Soboba Band of Luiseño Indians requests that approved Native American Monitor(s) be present during any future ground disturbing proceedings, including surveys and archaeological testing, associated with this project. The Soboba Band recommends that you contact Gabrieleño Tribal Consultants, who are closer to the project area. Please feel free to contact me with any additional questions or concerns.

Sincerely,

Joseph Ontiveros
Cultural Resource Director
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and Sapphos Environmental, Inc. No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

From:	Daniel McCarthy
To:	Gino Ruzi
Subject:	FW: Castaic Lake Trails Master Plan scoping response
Date:	Tuesday, March 01, 2016 4:11:10 PM

Second try

From: Daniel McCarthy
Sent: Tuesday, March 01, 2016 4:09 PM
To: 'eruzi@sapposenvironmental.com'
Subject: Castaic Lake Trails Master Plan scoping response

Eugen,

We received your scoping inquiry, dated January 27, 2016, regarding the proposed Castaic Lake Trails master Plan. Thank you for the opportunity to review and respond. The project is located outside of the Tribe's ancestral territory. Therefore, we refer you to other tribes whose ancestral territories do include the proposed project location.

Thank you,
Leslie Mouriquand MA, RPA

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Sapphos environmental inc.

FILE: 2.7 1020-085

CONTACT REPORT FORM

DATE: 4/1/2016

PERSON: Rob Wood

COMPANY: Native American Heritage Commission

Phone: (916) 373-3711 **Fax:** (916) 373-5471

CONTACTED BY: Eugen Ruzi

FORM OF CONTACT: Phone Call

SUMMARY: Mr. Wood was contacted for advice related to tribal consultation efforts regarding Castaic Area Multi-Use Trails Plan. He was asked if it was necessary to include the Gabrieleno groups into the consultation efforts for this project, as it was suggested by the Soboba Band of Luiseño Indians. Mr. Wood advised we consult only with the Native American groups listed in the initial NAHC response letter.

ACTION ITEMS: List any action items here.

None

Appendix E

Geology and Soils Analysis

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan

MEMORANDUM FOR THE RECORD
2.6 1020-085.M10

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins)

FROM: Sapphos Environmental, Inc.
(Ms. Laura Male)

Wilson Geosciences, Inc.
(Mr. Kenneth Wilson)

SUBJECT: Results of the Geology and Soils Analysis for the Castaic Area Multi-Use Trails Plan

FIGURES:

1 Regional Vicinity Map
2 Local Vicinity Map
3 Multi-Use Trails Plan Topography
4 Topographic Map with United States Geological Survey 7.5-minute Quadrangle Index
5 Multi-Use Trails Plan Area Geology
6 Landslides and Areas of Significant Grading
7 Multi-Use Trails Plan Area Hydrology Map
8 Earthquake Fault Activity
9 Earthquake-induced Landslides and Liquefaction
10 Oil Wells in the Multi-Use Trails Plan Area

APPENDICES

A. Soil Information for All Uses
B. Engineering Properties—Angeles National Forest Area, California
C. Engineering Properties—Antelope Valley Area, California

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430 North Halstead Street
Pasadena, CA 91107
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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the evaluation of geology and soils that was undertaken in support of the proposed Castaic Area Multi-Use Trails Plan (proposed project), in support of the County of Los Angeles serving in the capacity of a Lead Agency, pursuant to the California Environmental Quality Act (CEQA). Based on the results of the records and archival research and map review, the construction, recreational use, and maintenance activities associated with the proposed project would have the potential to result in impacts to geology and soils that would be mitigated to below the level of significance.

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

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Although the Castaic project area is not located within a designated Alquist-Priolo zone, the San Gabriel and San Cayetano/Holser/Del Valle faults are fault zones of concern to the Castaic project area with regard to ground rupture. Any facilities that may be habitable for extended periods should not be built over or within 50 feet of the fault traces. Active and potentially active faults may be sources of large earthquakes that would produce severe ground shaking within the Castaic project area. Local active strike-slip, reverse and thrust faults (e.g. San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults) and more distant buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park) have this potential as well. Severe shaking can be very destructive to narrow ridgelines and steep slopes, causing severe cracking and slope failures. Therefore, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, requiring implementation of Mitigation Measure GEO-1.

ii) Strong seismic ground shaking?

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The San Gabriel and San Cayetano/Holser/Del Valle faults are fault zones of concern to the Castaic project area with regard to strong seismic ground shaking as a result of the potential for Magnitude 6 to 7 events. Active and potentially active faults may be sources of large earthquakes that would produce severe ground shaking within the Castaic project area. Local active strike-slip, reverse and thrust faults (e.g. San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults) and more distant buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park) have this potential as well. Severe shaking can be very destructive to narrow ridgelines and steep slopes, causing severe cracking and slope failures. Therefore, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, requiring implementation of Mitigation Measure GEO-1.

iii) Seismic-related ground failure, including liquefaction and lateral spreading?

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure. The expected level of ground shaking in the Castaic project area is high enough to initiate liquefaction as a result of expected high seismic shaking levels, areas of shallow groundwater, and cohesionless sands. As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction and lateral spreading, requiring implementation of Mitigation Measure GEO-1.

iv) Landslides?

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. An estimated 40 to 50 percent of the mountains and hills of the Castaic project area are potential earthquake-induced landslide areas. These areas correspond to bedrock and to a lesser extent older alluvium with steep slopes. Landslide movement may occur along bedding planes within these formations, as rocks dislodged from exposures on steep slopes, or as surficial failures of weathered rock and soil/colluvium. Such movement could cause rock masses to dislocate and damage overlying facilities and facilities nearby and downslope from these bedrock and older alluvium areas. As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismically induced landslides, requiring implementation of Mitigation Measure GEO-1.

b) Result in substantial soil erosion or the loss of topsoil?

The proposed project would result in significant impacts to geology and soils in regard to resulting in substantial soil erosion or the loss of topsoil. The Castaic project area has numerous primary and secondary drainages. West of Castaic Valley and the I-5 Freeway the primary drainages from north to south include: Violin, Palomas, Santa Felicia, Devil, Romero, Sloan, Hasley, Oak, Lechier, San Martinez Chiquito, Holser, and San Martinez Grande. These empty into either Castaic Valley or the Santa Clara River. East of Castaic Valley and the I-5 Freeway from north to south are: Grasshopper, Charlie, Tapia, Wayside, and San Francisquito Canyons, all of which also empty into either Castaic Valley or the Santa Clara River. Within the Castaic project area, most drainage areas form relatively narrow canyons at higher elevations and transition to the broader floodplains. With regard to drainage area size, the larger drainages in the Castaic project area are: Grasshopper, Violin, and Palomas from north to south; Romero and Hasley from west to east; San Martinez Grande/Chiquito from west to east to south; Charlie, Tapia, Wayside, and San Francisquito Canyons from east to west; and Castaic Valley from north to south. All eventually empty into the Santa Clara River. Rainfall events may result in erosion or the loss of topsoil in these drainages. As a result, the proposed project may result in substantial soil erosion or the loss of topsoil, requiring implementation of Mitigation Measure GEO-1.

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

The proposed project would result in significant impacts to geology and soils in regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. Oil field activity in the project area could lead to local subsidence that could manifest as cracks and areas of ground settlement. However, due to the likely limited extent of trails in these areas, to the years over which pumping has already occurred and to the relatively low level of oil extraction, this will have a minimal impact. Affected areas can be repaired to level ground and eliminate ground cracks that may form. As a result, the proposed project may result in trails or facilities that may be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse, requiring implementation of Mitigation Measure GEO-1.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The proposed project would result in significant impacts to geology and soils in regard to being located on expansive soil. The proposed project may result in the placement of trails or structures in areas of expansive soil. Surface subsidence/settlement may occur in the Castaic project area where it is found to have soil susceptible to expansion/contraction (very clay-rich soils) and possibly hydroconsolidation (fine-grained granular soils). When present, moderate to high expansion indices indicate that there is a substantial amount of clay in the soils and repeated episodes of wetting and drying will cause distress to structures in contact with such soils. As a result, requiring implementation of Mitigation Measure GEO-1.

e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?

The proposed project would result in significant impacts to geology and soils in regard to having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater. The proposed project may result in having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater. The proposed project plans for restroom facilities at trailheads that may require siting within soil types that would not support onsite water treatment systems, requiring implementation of Mitigation Measure GEO-1.

f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element?

The proposed project would result in less than significant impacts to geology and soils in regard to conflicts with the Hillside Management Area Ordinance or hillside design standards in the County General Plan. The Los Angeles County Hillside Management Ordinance applies to areas greater than 25 percent slope. Of the total of approximately 48,106 acre Castaic project area, approximately 1,926 acres, or 4 percent of the total Castaic project area, consists of slopes greater than 25 percent. Portions of proposed recreational trails may cross through the areas with a greater than 25 percent slope. Trails that cross through these areas would be subject to the requirements

and design standards of the Hillside Management Ordinance and hillside design standards in the Conservation and Open Space element of the General Plan. Specifically, sensitive hillside design measures (2.1 through 2.12) would be applied to the trail and facilities (e.g., restrooms). Further, the Hillside Management Ordinance requires that all new development in areas over 25 percent obtain a conditional use permit as part of the entitlement process. Therefore, the proposed project would not result in in conflict with the Hillside Management Area Ordinance or the hillside design standards in the Conservation and Open Space Element of the County's General Plan.

Mitigation Measure GEO-1: A geotechnical and engineering geology investigation shall be conducted for the Proposed Project, based on preliminary design plans (showing trail and restroom locations), by a licensed geotechnical engineer and a licensed engineering geologist in the State of California. The resulting Geotechnical and Engineering Geology Report and Erosion Control Plan shall summarize the results of field investigations, laboratory testing, and geotechnical/geologic analysis regarding: (1) active and potentially active faults, (2) seismic ground shaking, (3) seismic related ground failure, (4) landslides, (5) soil erosion, (6) unstable geologic and soil units, (7) expansive soils, (8) wastewater disposal characteristics, and (9) the effects of hillside ground slope on trail/restroom design and construction. The technical data, analyses, conclusions, and recommendations shall be considered and adopted in the design and construction of the project facilities based on the review and approval by the County of Los Angeles Department of Public Works and County of Los Angeles Department of Parks and Recreation. Adherence to the approved design and construction recommendations shall be verified by review and approval of the final design. Construction site inspections shall be conducted by, and in coordination with, the project geotechnical engineer and engineering geologist. All activities shall be consistent with the County of Los Angeles Trails Manual, and shall adhere to the standards and requirements in the California Building Code (California Code of Regulations, Title 24), Los Angeles County Building Code, Title 26, and/or professional engineering standards appropriate for such construction within the County. The County of Los Angeles Department of Public Works, Building and Safety Division, shall enforce conformance with these design standards through plan review and approval, prior to the issuance of building permits for any facility.

INTRODUCTION

The objective of this Geology and Soils analysis is to provide a level of technical and regulatory background sufficient to allow the identification of trail planning concerns and constraints related to geologic, seismic, and soils conditions. Consideration of this background information should extend to trails and all trail related facilities within the Castaic project area. This environmental analysis was performed using existing published information. No new studies or analyses were conducted and no site- or area-specific studies (within or immediately adjacent to the proposed project) were used for this programmatic-level evaluation.

LOCATION

The Castaic project area encompasses approximately 78 square miles (approximately 49,920 acres) surrounding the Castaic Valley area north of the Santa Clarita Valley in the northwestern portion of unincorporated County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Castaic Valley is surrounded by the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains to the south. These mountains are within the Transverse Ranges, a group of east-west trending mountains generally separating the San Gabriel, San Fernando, and Los Angeles basins on the south from the Mojave Desert, Central Valley, and Coast Ranges on the north. The Castaic project area is composed of generally mountain, hill, and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*).

The Castaic project area is located in the northwestern unincorporated area of Los Angeles County, California (see Figure 1). The Castaic project area contains approximately 78 square miles (~49,920 acres or ~2,175,000,000 square feet), and the northern boundary is defined by the northern limits of Castaic Lake. The southern boundary is defined by the Santa Clara River. The western boundary is defined by the Los Angeles-Ventura County line. The eastern boundary is defined by the eastern edge of San Francisquito Canyon (Figure 3, *Multi-Use Trails Plan Topography*).

The Castaic project area is located on the U.S. Geological Survey (USGS) 7.5-minute series Val Verde (USGS, 1995a), Newhall (USGS, 1995b), Warm Springs Mountain (USGS, 1995c), and Whitaker Peak (USGS, 1995d) topographic quadrangles. The elevation of the Castaic project area ranges from 2,756 feet above mean sea level (amsl) to 863 feet amsl (Figure 4, *Topographic Map with United States Geological Survey 7.5-minute Quadrangle Index*).

The Castaic project area encompasses a distinct portion of the existing trail / unpaved road system in the hills and mountains surrounding the centrally located Castaic Valley. On the west, the Castaic project area is defined by the Ventura County line and on the east by the San Francisquito Canyon. Some trails exist formally (e.g., national, state, and county parks) or have been defined less formally by public input, past usage, and aerial photograph interpretation (Figure 5, *Multi-Use Trails Plan Area Geology*).

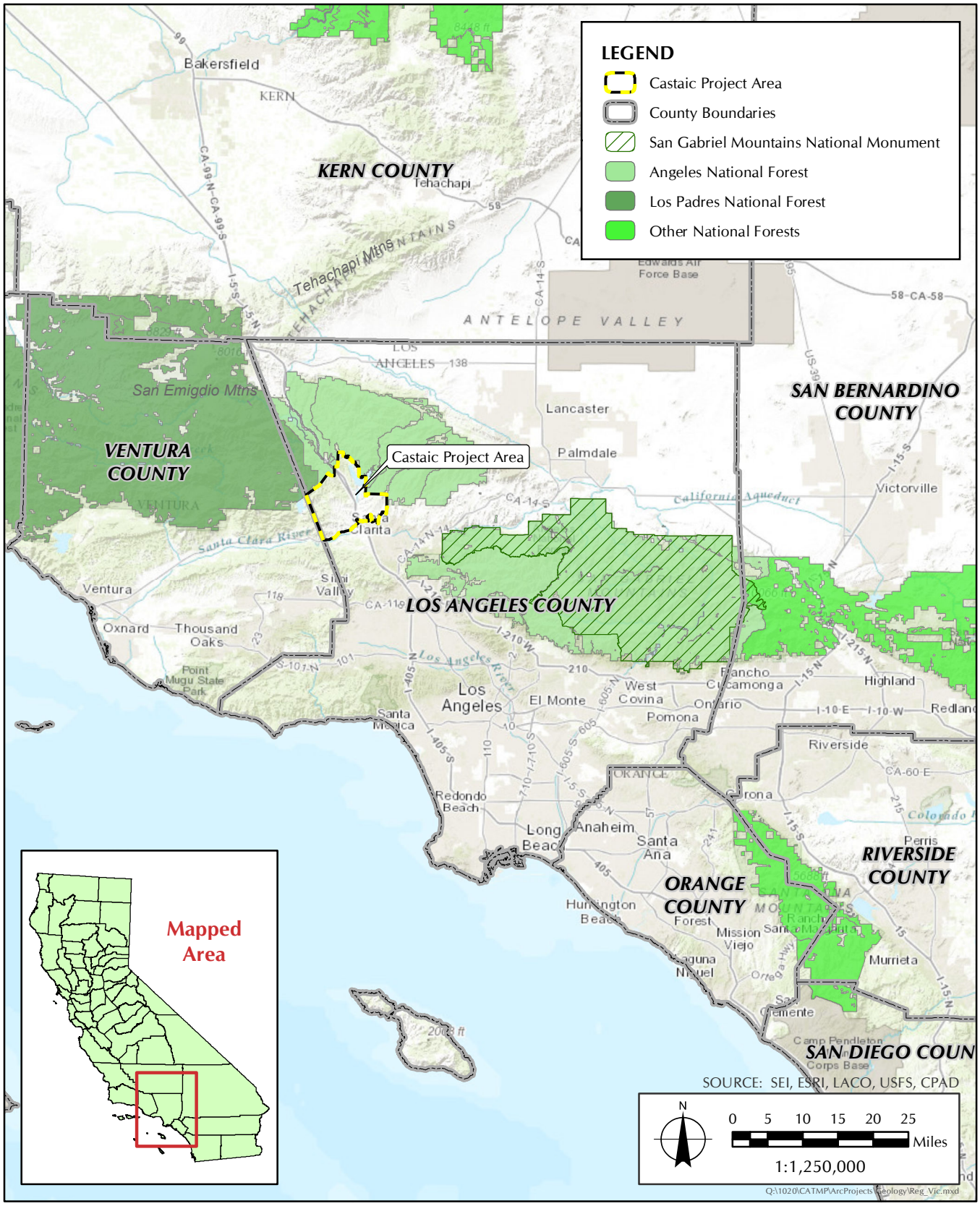


FIGURE 1

Regional Vicinity Map

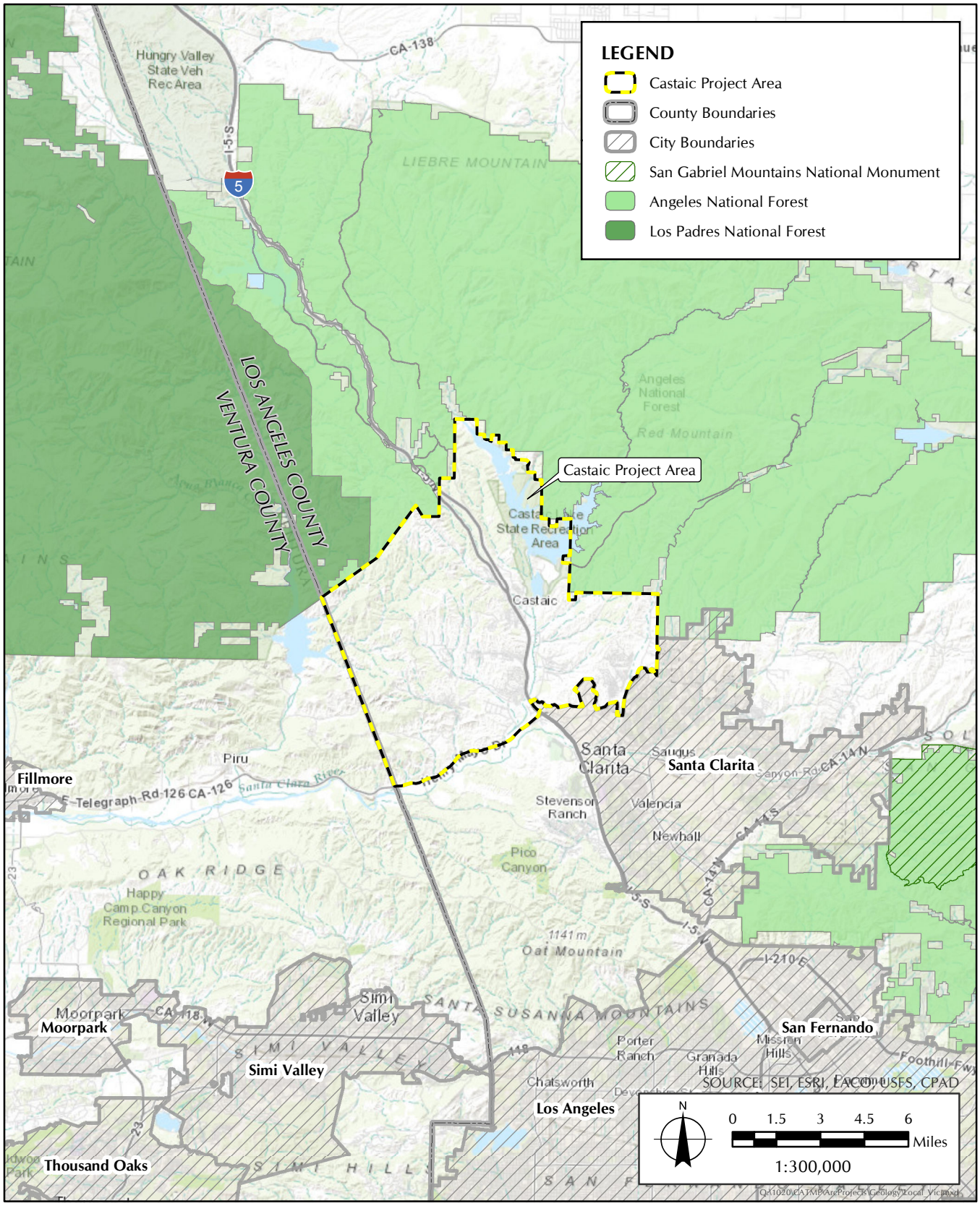


FIGURE 2

Local Vicinity Map

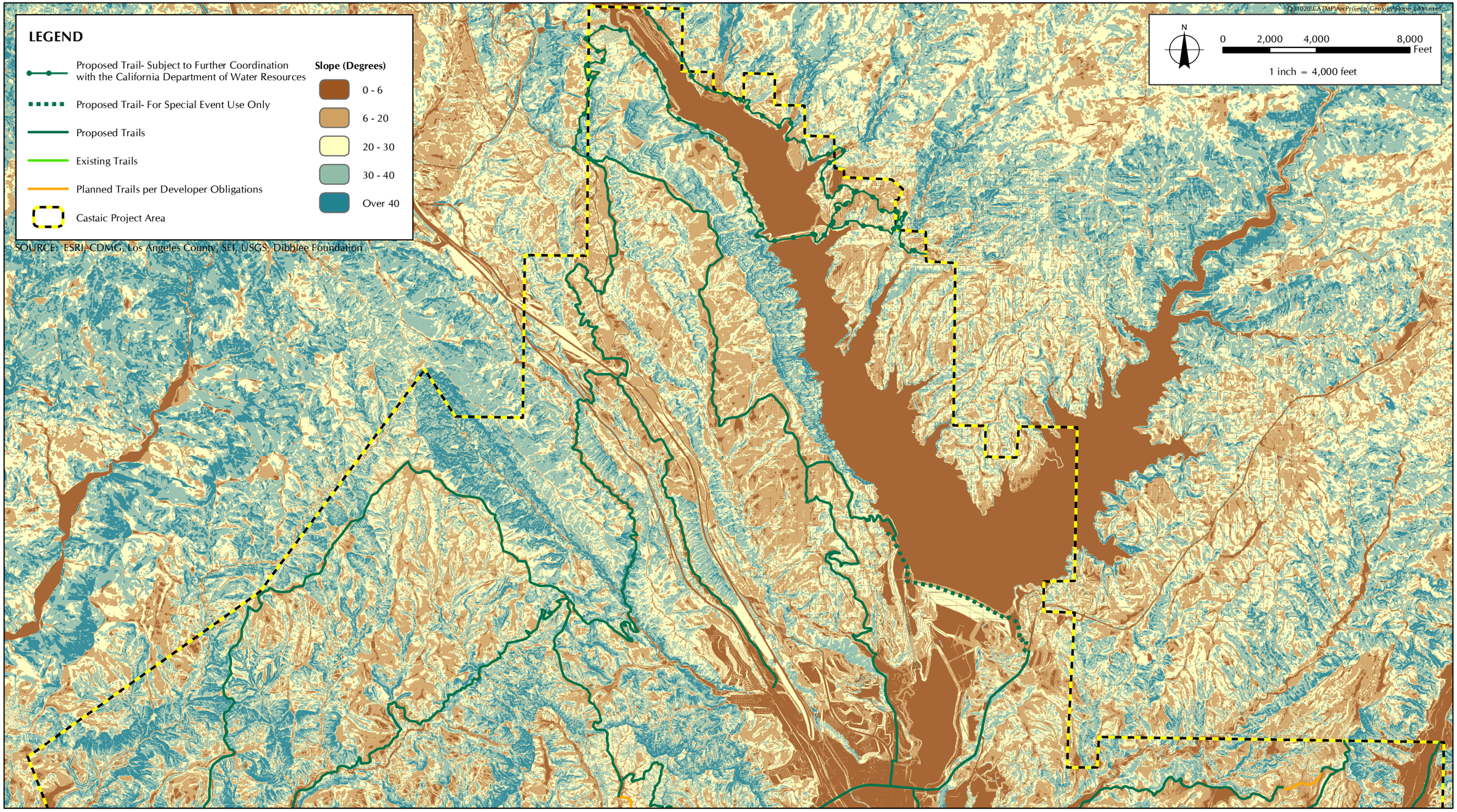


FIGURE 3A

Multi-Use Trails Plan Topography- North

FIGURE 3B

Multi-Use Trails Plan Topography- South

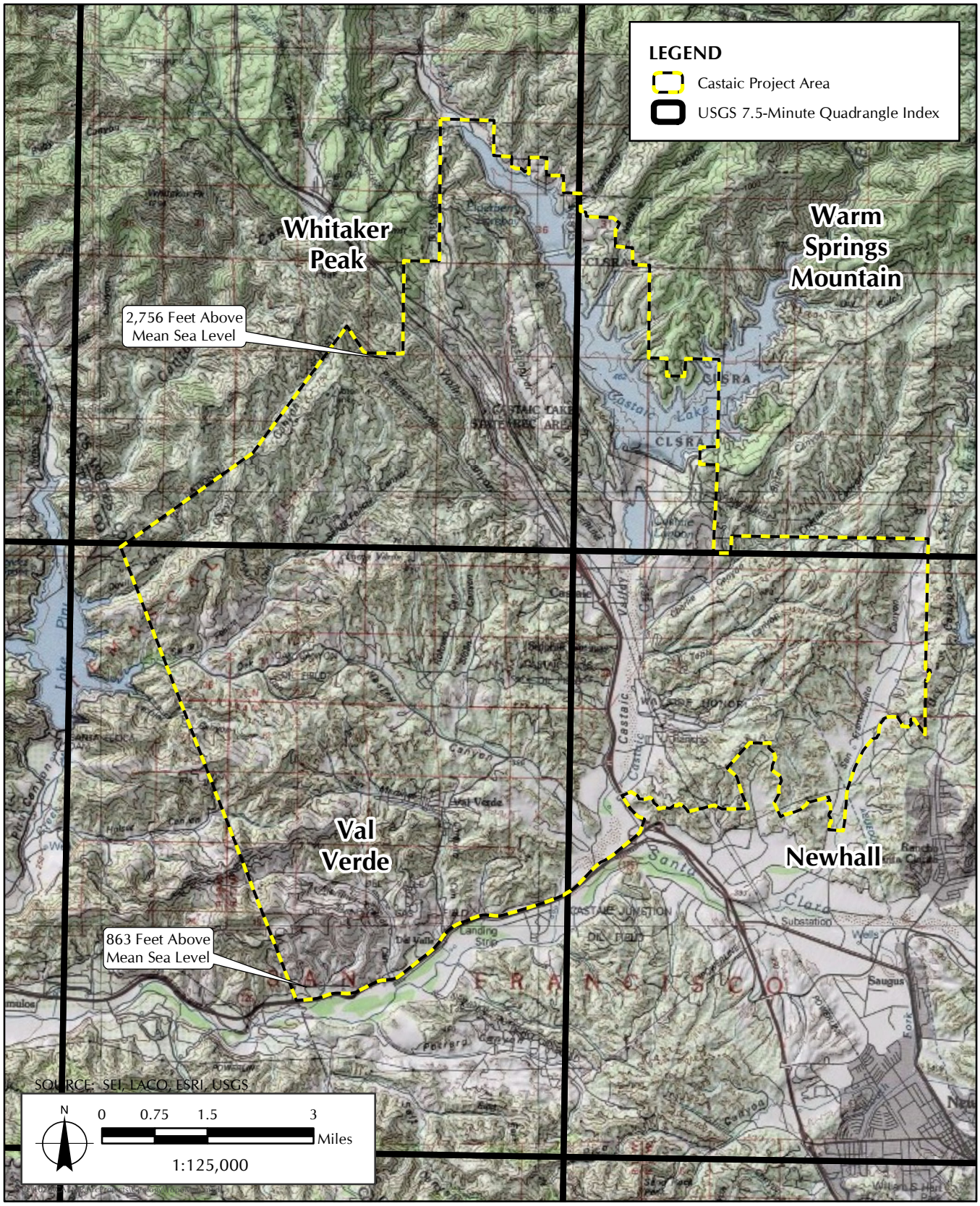


FIGURE 4A

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

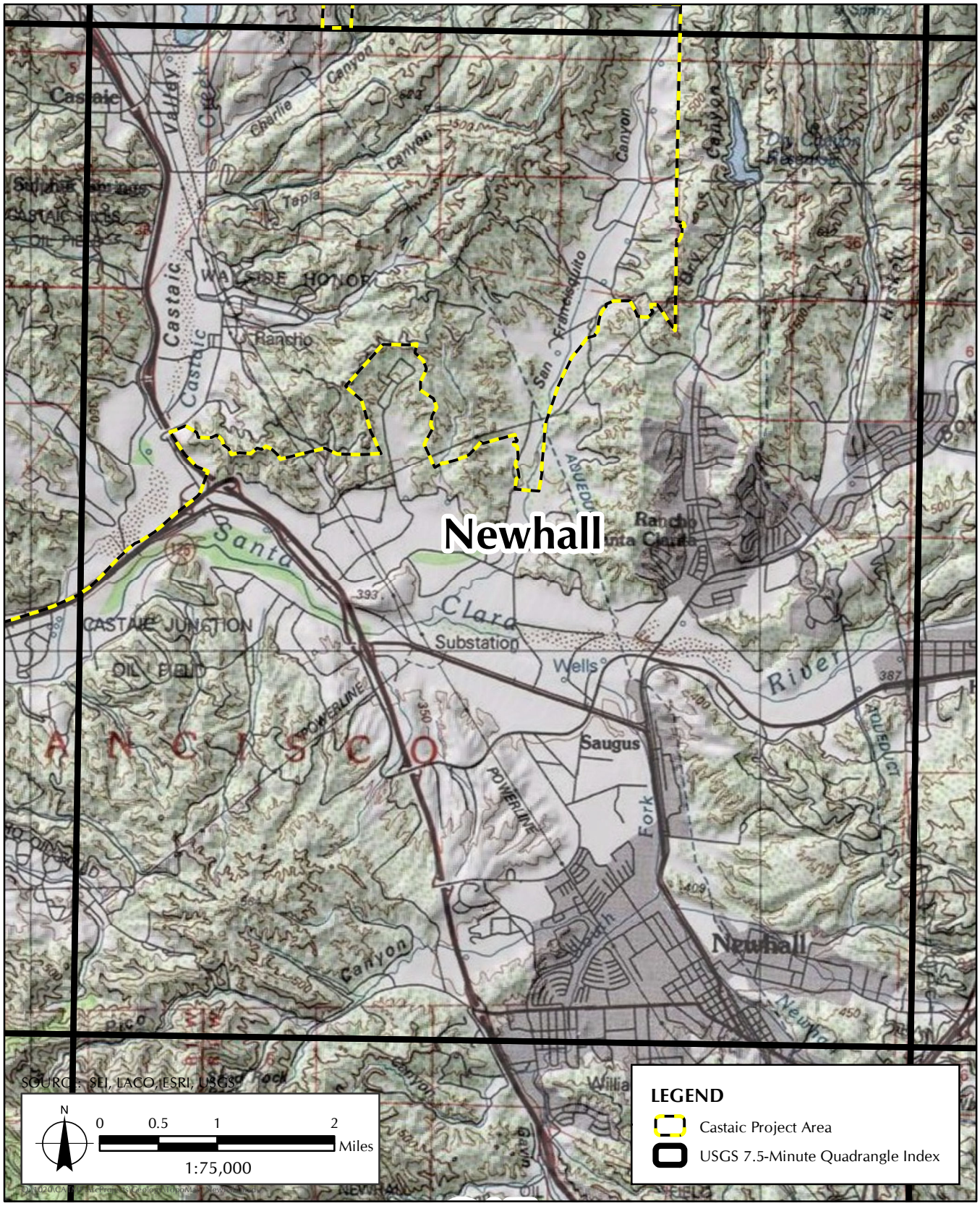


FIGURE 4B

Topographic Map with United States Geological Survey
7.5 Minute Quadrangle Index - Newhall Quadrangle

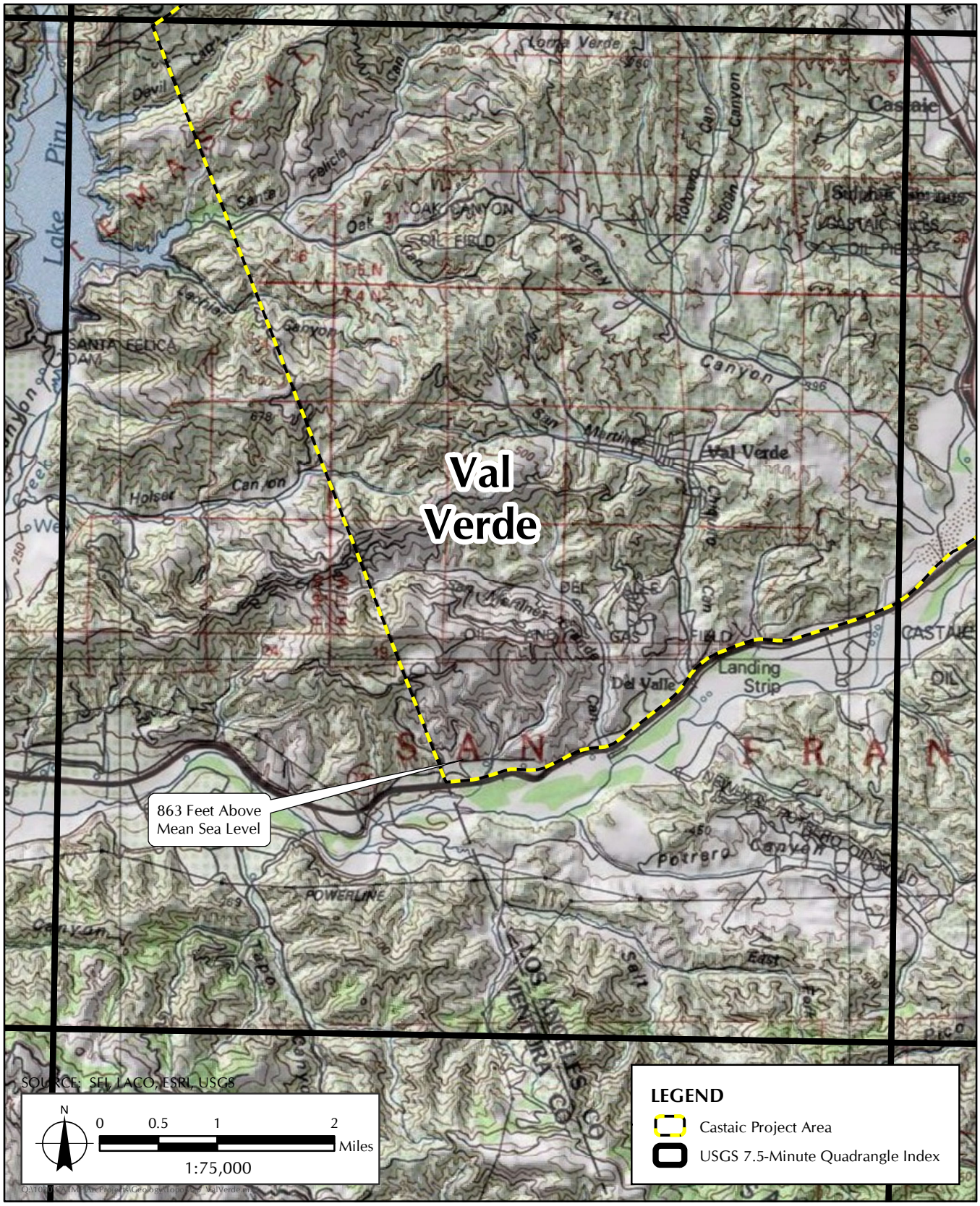


FIGURE 4C

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index - Val Verde Quadrangle

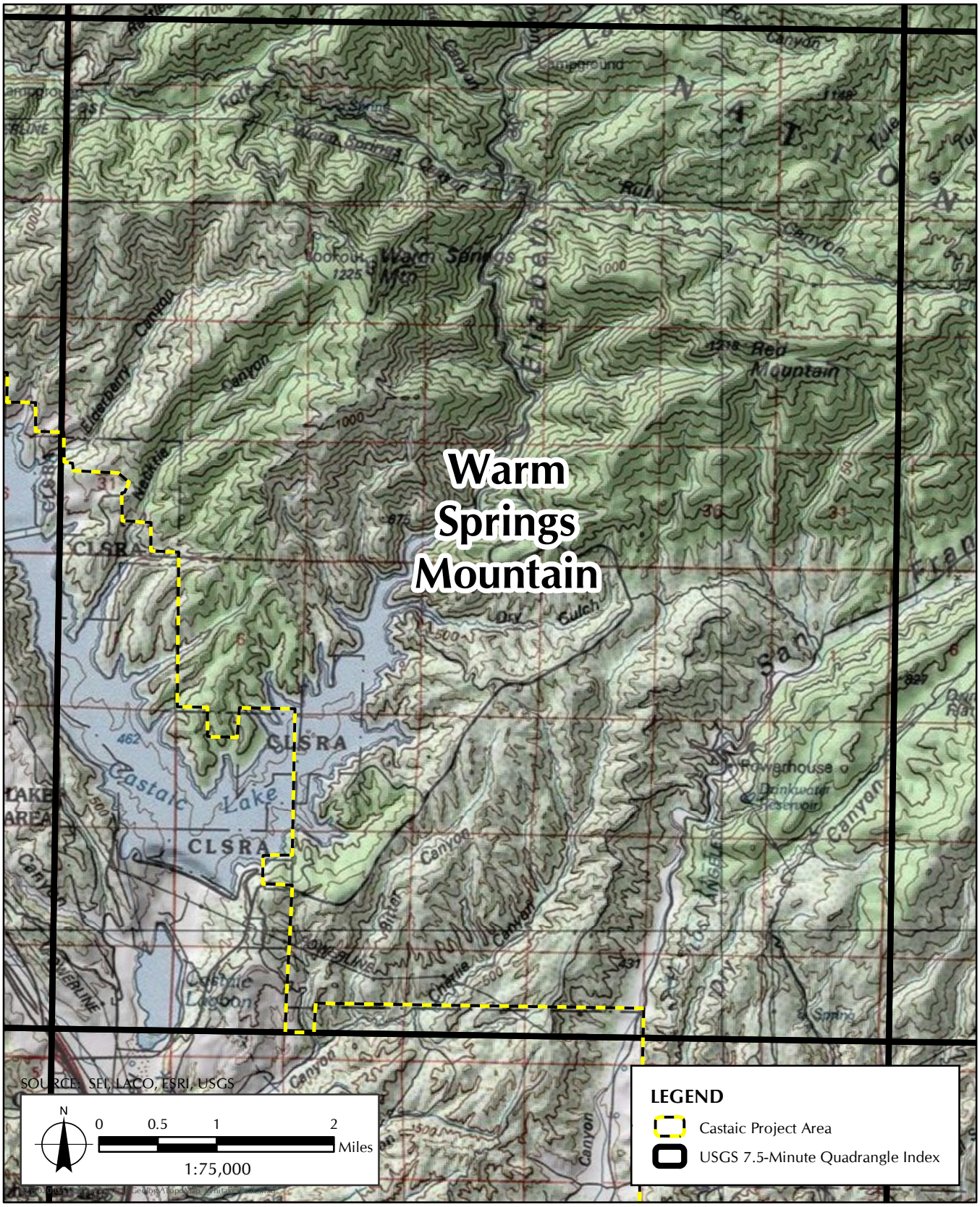


FIGURE 4D

Topographic Map with United States Geological Survey
7.5 Minute Quadrangle Index - Warm Springs Mountain Quadrangle

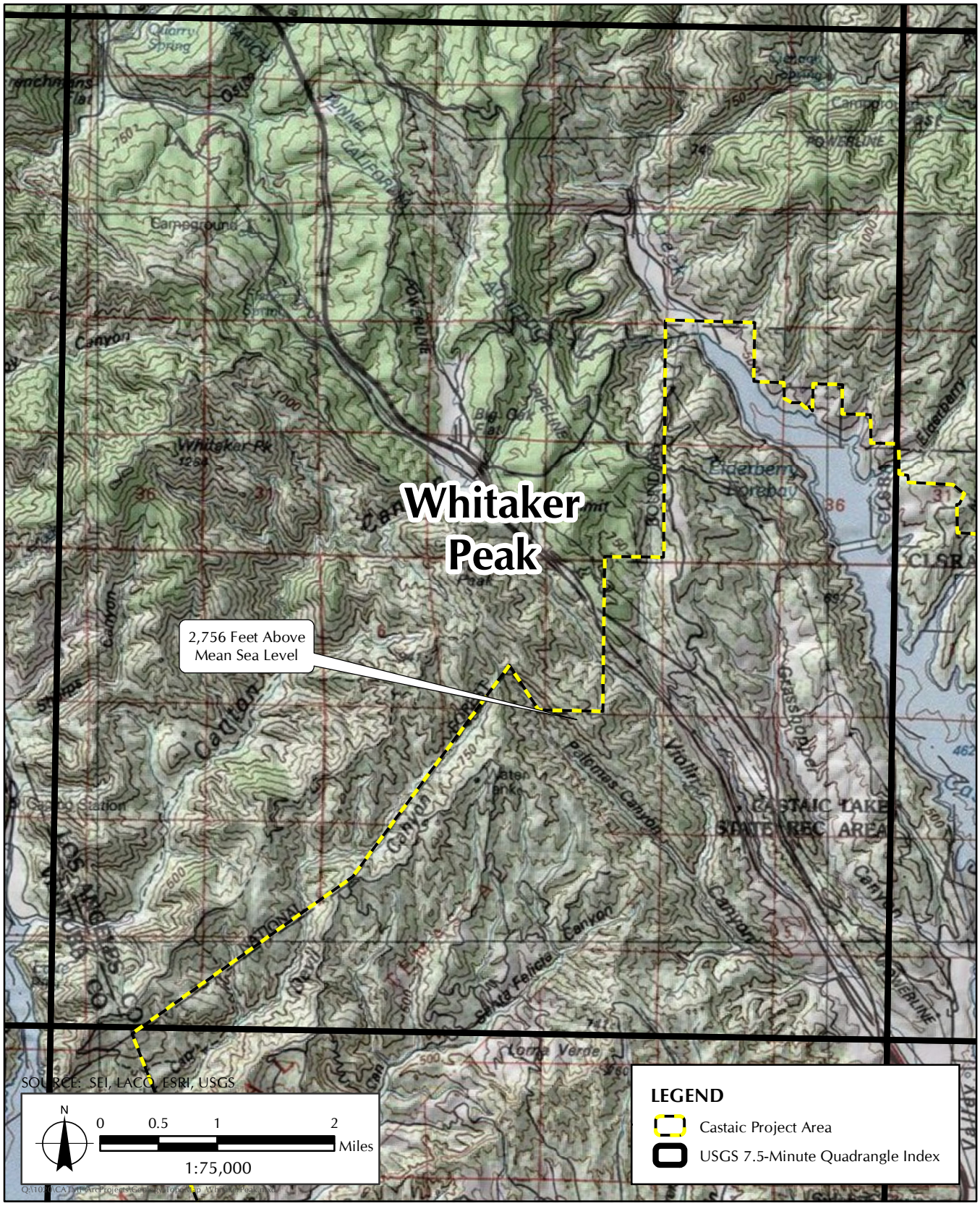


FIGURE 4D

Topographic Map with United States Geological Survey
7.5 Minute Quadrangle Index - Warm Springs Mountain Quadrangle

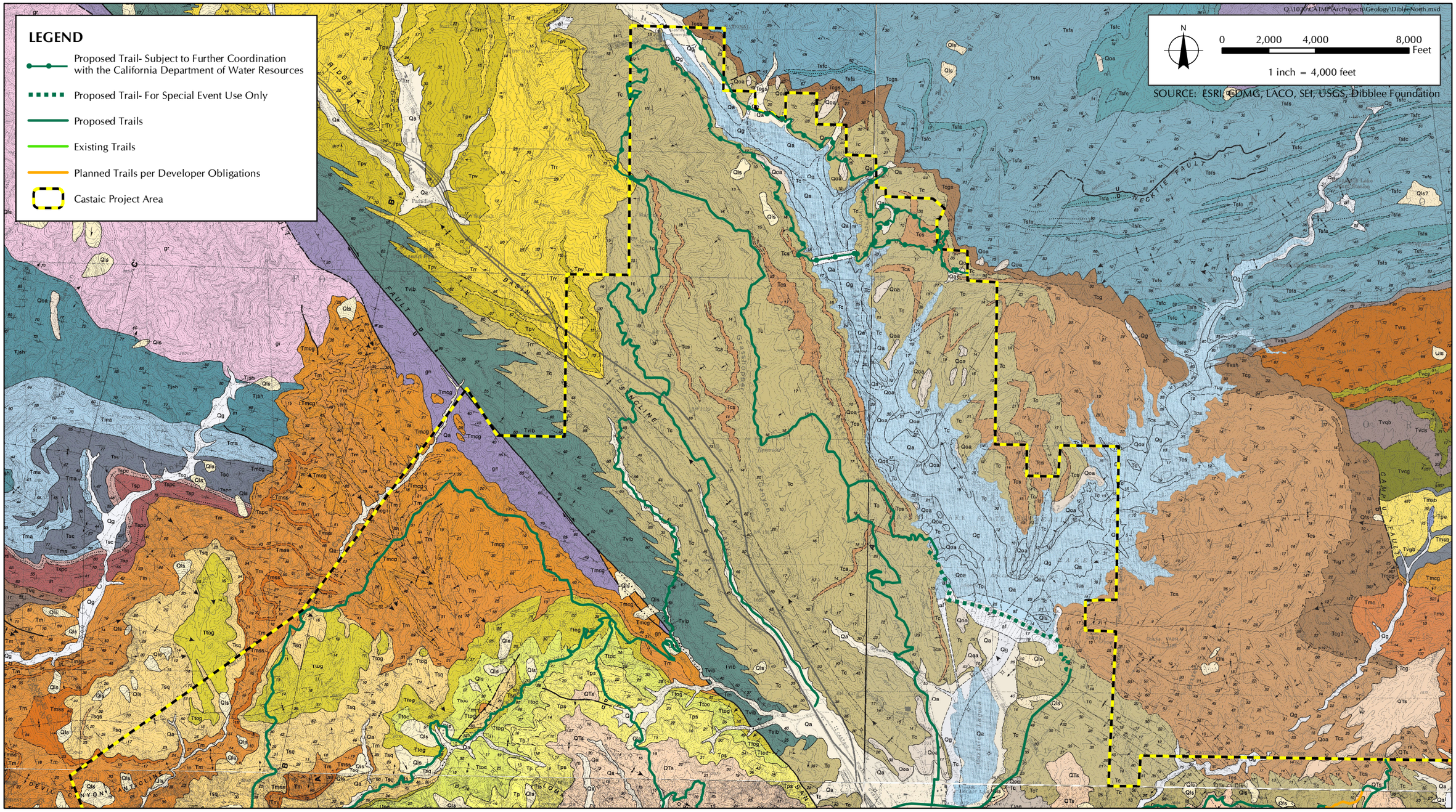


FIGURE 5A

Multi-Use Trails Area Geology - North

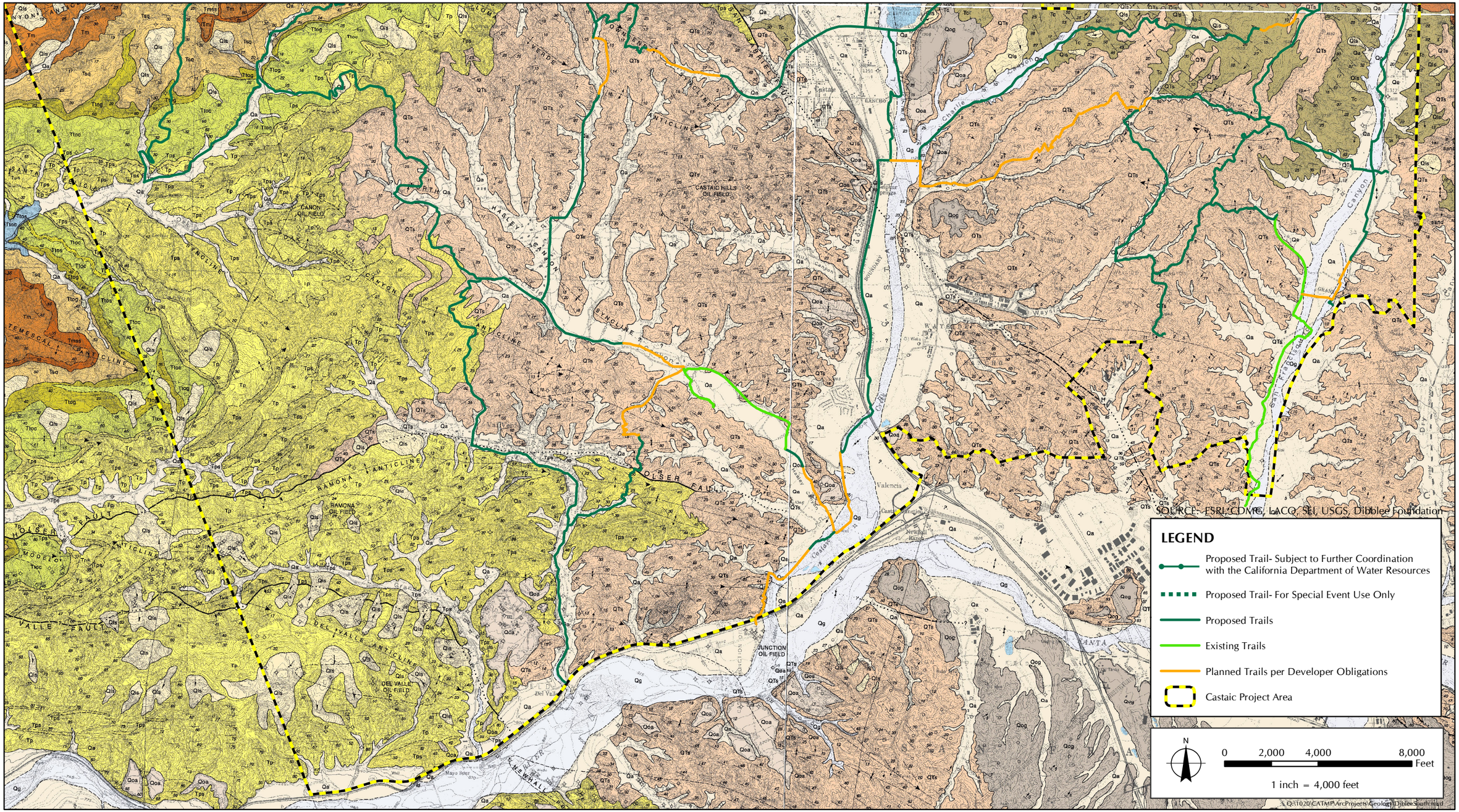


FIGURE 5B

Multi-Use Trails Area Geology - South

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area. The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[1] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

[1] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[2]

REGULATORY SETTING

Federal

The model building code that is predominantly adopted in the United States is the International Building Code (IBC) from the International Code Council (ICC), a nongovernmental organization. The ICC produces other model codes such as the International Residential Code (IRC). The IBC and its companion ICC documents form the basis of the building codes in most states and have been adopted by local governments within all states.

The National Earthquake Hazards Reduction Program (NEHRP) supports the development of seismic provisions in building codes. The *NEHRP Recommended Seismic Provisions for New Buildings and Other Structures* (FEMA, 2015) presents state of the art earthquake engineering research and practices in a form that is usable by the engineering community and provides a nationally applicable resource document for all model codes and standards. The 2015 NEHRP Provisions have adopted by reference the American Structural Engineers Association (ASCE) / Structural Engineering Institute (SEI) standard *ASCE/SEI 7*-10: *Minimum Design Loads for New Buildings and Other Structures* as the baseline. A 2014 series of National Seismic Hazard Maps by the USGS shows the severity of expected earthquake shaking for a particular level of probability; for example, levels of earthquake shaking that have a 2-in-100 chance of being exceeded in a 50-year period. The time period of 50 years is commonly used because it represents a typical building lifetime, while the 2 percent probability level is usually considered an acceptable hazard level for the building codes. Maps also show seismic shaking levels using a number of different measures that apply to designing earthquake-resistant buildings of different heights, which respond to different frequencies of ground motion.

[2] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

State

Building Codes

Development in the State of California is governed by the 2013 California Building Code (California Building Standards Commission, 2016). These regulations include provisions for site work, demolition, and construction, which include excavation and grading, as well as provisions for foundations, retaining walls, and expansive and compressible soils. The 2014 County of Los Angeles Building Code amendments are based on the 2013 CBC and the 2012 IBC. Building regulations are adopted by reference and incorporated into Title 26 of the Los Angeles County Code as Sections 119.1.2 through 119.1.14, respectively of Chapter 1 of Title 26 of the Los Angeles County Code. Standard residential, commercial, and light industrial construction is governed by the CBC, which the County may amend. The 2013 CBC (defined in CCR Part 2 of Title 24 of the California Administrative Code) includes additions to the previous building code that make it more stringent, particularly with regard to seismic and earthquake conditions for critical structures such as essential facilities, public schools, and hospitals.

The Los Angeles County Building Official may require an engineering geology and/or soils engineering report when the Building Official believes they are essential for the evaluation of the safety of the site. Either or both reports shall discuss hazard from landslide, settlement, or slippage and shall make a finding regarding the potential effects of the proposed work on stability outside the Castaic project area.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Geologic Hazards Zone Act was enacted by the State of California in 1972 to address the hazard and damage caused by surface fault rupture during an earthquake. The act has been amended 10 times and renamed the Alquist-Priolo Earthquake Fault Zoning Act, effective January 1, 1994. The act, revised in 2007, defines an active fault as one which has had surface displacements within Holocene time (about the last 11,000 years). Initially, faults were defined in the Alquist-Priolo Act as "potentially active", and were zoned if they showed evidence of surface displacement during Quaternary time (last 1.6 million years). Beginning in 1977, evidence of Quaternary surface displacement was no longer used as a criterion for zoning. Since 1975, the State of California defined the terms "sufficiently active" and "well defined" for application in zoning faults. These two terms constitute the present criteria used by the State Geologist in determining if a given fault should be zoned under the 2007 Alquist-Priolo Act (Hart, E.W., and W. A. Bryant, 2007) and are defined as follows:

> Sufficiently active - A fault is deemed sufficiently active if there is evidence of Holocene surface displacement along one or more of its segments or branches. Holocene surface displacement may be directly observable or inferred; it need not be present everywhere along a fault to qualify that fault for zoning.
>
> Well-defined - A fault is considered well-defined if its trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The fault may be identified by direct observation or by indirect methods (e.g., geomorphic evidence; Appendix C). The critical consideration is that the fault, or some part of it, can be located in the field with sufficient precision and confidence to indicate that the required site specific investigations would meet with some success.

The act requires the State Geologist to establish earthquake fault zones (EFZs) along known active faults in the state. Cities and counties that include EFZs are responsible to regulate most development projects within the EFZs, as described in the act, but may enact regulations that are more stringent. Certain smaller residential developments can be exempt. The San Gabriel fault is zoned in a portion of the Castaic project area.

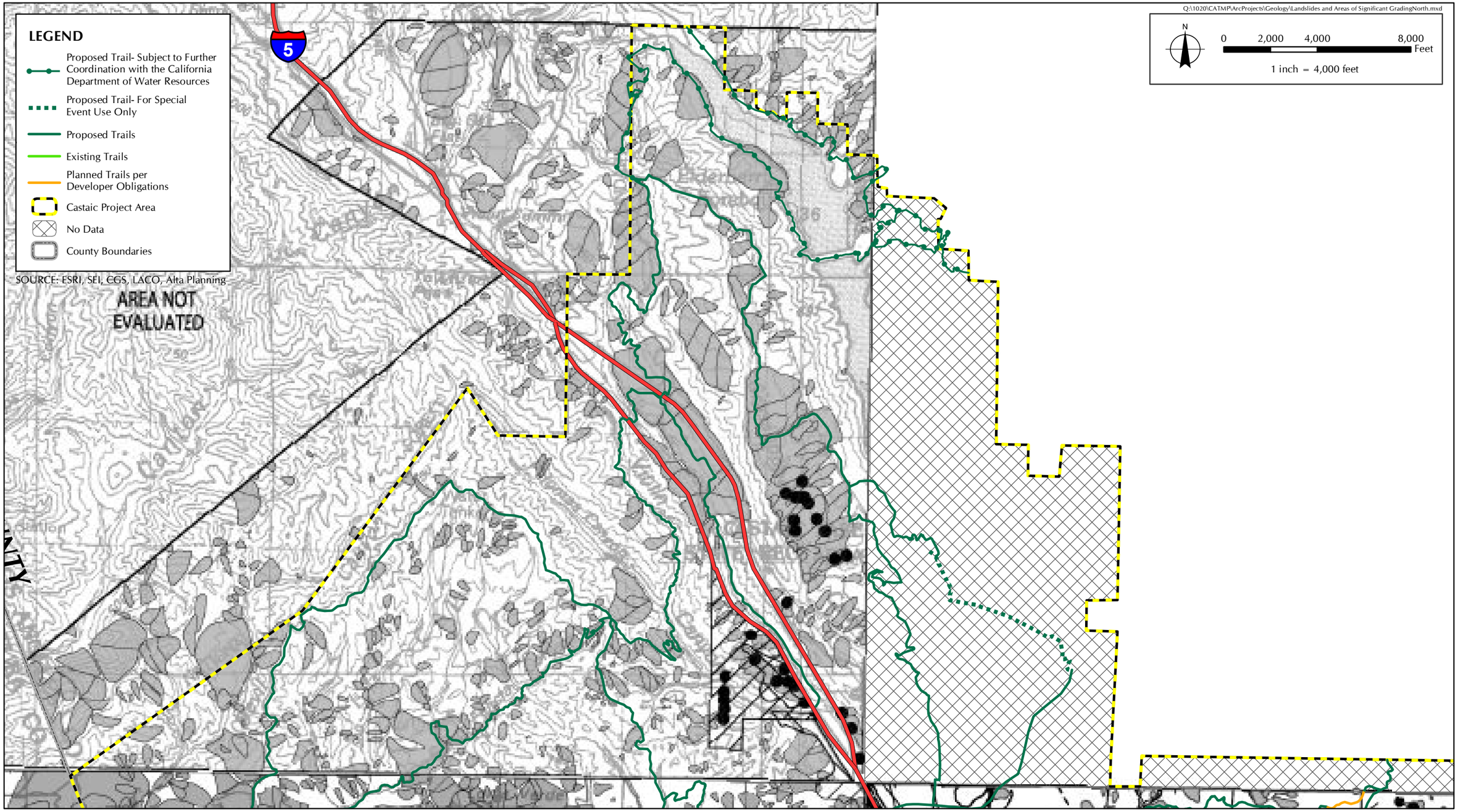
Seismic Hazards Mapping Act

The Seismic Hazard Mapping Act (SHMA) of 1990 was enacted, in part, to address seismic hazards not included in the Alquist-Priolo Act, including strong ground shaking, landslides, and liquefaction. Under this act, the State Geologist is assigned the responsibility of identifying and mapping seismic hazards zones.

The State of California Geologic Survey (CGS) has also adopted seismic design provisions in Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, on March 13, 1997 (revised 2008). The CGS provides guidance with regard to seismic hazards under the Seismic Hazards Mapping Act; seismic hazard zones are to be identified and mapped to assist local governments in planning and development purposes. The intent of this publication is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, as well as other hazards caused by earthquakes. Lead agencies with the authority to approve development projects shall ensure the following:

> The geotechnical report shall be prepared by a registered civil engineer [practicing the in field of geotechnical engineering] or certified engineering geologist, having competence in the field of seismic hazard evaluation and mitigation. The geotechnical report shall contain site-specific evaluations of the seismic hazard affecting the project, and shall identify portions of the project site containing seismic hazards. The report shall also identify any known off-site seismic hazards that could adversely affect the site in the event of an earthquake.
>
> Prior to approving the project, the lead agency shall independently review the geotechnical report to determine the adequacy of the hazard evaluation and proposed mitigation measures and to determine the requirements of Section 3724(a) above, are satisfied. Such reviews shall be conducted by a certified engineering geologist or registered civil engineer, having competence in the field of seismic hazard evaluation and mitigation.

The County and City of Los Angeles have been mapped pursuant to the SHMA and there are zones of required investigation for liquefaction and earthquake-induced landslide hazards in and adjacent to the Castaic project area (Figure 6, *Landslides and Areas of Significant Grading*).



Shear test sample location

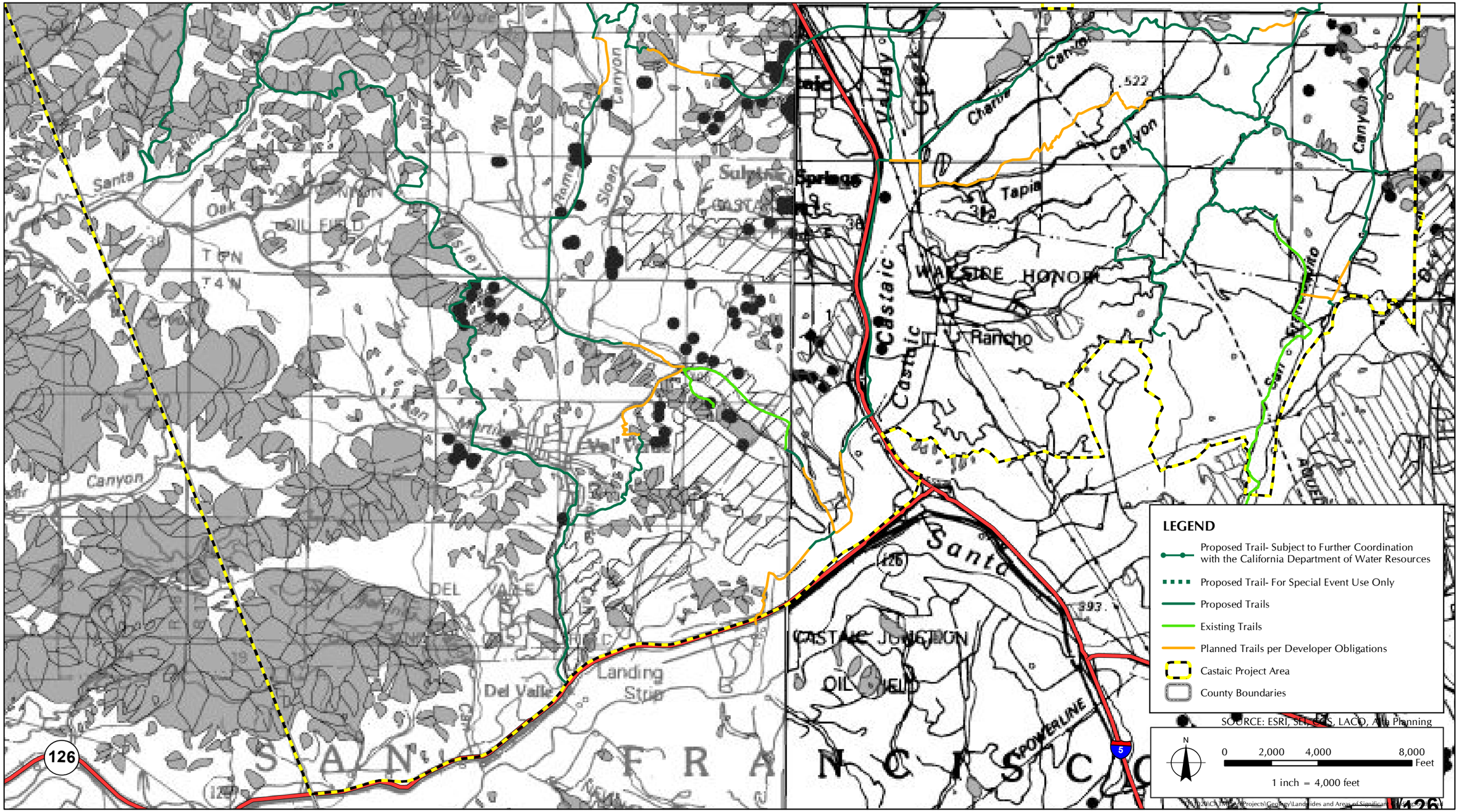
Landslide

Area of significant grading

Tract report with multiple shear tests

FIGURE 6A

Landslides and Areas of Significant Grading- North



Shear test sample location

Landslide

Area of significant grading

Tract report with multiple shear tests

FIGURE 6B

Landslides and Areas of Significant Grading- South

California Environmental Quality Act

The 1970 CEQA ensures that local agencies consider and review the environmental impacts of projects within their jurisdictions. CEQA requires that an environmental document be prepared for projects that are judged in an Initial Study to have potentially significant effects on the environment. Environmental documents must consider and analyze, as deemed appropriate, geologic, soil, and seismic hazards. If impacts are considered potentially significant, recommendations for mitigation measures are made to reduce geologic and seismic hazards to less than significant. This allows early public review of development projects and provides lead agencies the authority to regulate development projects in the early stages of planning.

Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act (effective June 1, 1998), requires "that sellers of real property and their agents provide prospective buyers with a 'Natural Hazard Disclosure Statement' when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone."

The SHMA specifies two ways in which this disclosure can be made:

In all transactions that are subject to Section 1103 of the Civil Code, the disclosure required by subdivision (a) of this section shall be provided by either of the following means:

1) The Local Option Real Estate Transfer Disclosure Statement as provided in Section 1102.6a of the Civil Code
2) The Natural Hazard Disclosure Statement as provided in Section 1103.2 of the Civil Code

The Local Option Real Estate Disclosure Statement can be substituted for the Natural Hazards Disclosure Statement if it contains substantially the same information and substantially the same warning as the Natural Hazards Disclosure Statement. Both the APEFZ Act and the SHMA require that real estate agents, or sellers of real estate acting without an agent, disclose to prospective buyers that the property is located in an APEFZ or SHMZ. There are APEFZ and SHMZ hazards within the Castaic project area.

Local

County of Los Angeles

General Plan Safety Element

California State Law (Government Code 65300) requires that each city and county prepare and adopt a comprehensive, long-term general plan for its physical development. It must contain seven mandatory elements including land use, circulation, housing, conservation, open space, noise, and safety. California Government Code Section 65302.g requires that a general plan contain a "safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mud slides and landslides; subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires." The October 6,

2015, General Plan updates the adopted 1990 Los Angeles County Safety Element; the safety element outlines the above issues and covers the Castaic project area. Proposed activities within the Castaic project area must consider the public health and safety, as well as the safety of County facilities developed in the context of the currently applicable Safety Element.

General Plan Hillside Management Areas and Hillside Design Guidelines

The Hillside Management Areas (HMAs) are defined in the General Plan specifically for the Castaic Community Standards District (CSD) (County of Los Angeles, 2014). Within HMAs there are designated significant primary and secondary ridgelines many of which cross proposed trails within the Castaic project area. Hillside Design Guidelines have been established that are divided into five major design categories containing a variety of sensitive hillside design measures and a corresponding checklist. One of the categories is Grading and Facilities, which has 12 items in the checklist (2.1 through 2.12). Most of these measures would apply more directly to developments with grading disturbance over a somewhat contiguous area (e.g., several acres for residential or commercial uses) and having facilities/buildings within the disturbed areas. These measures could be applied to trails.

Los Angeles County Trails Manual

The adopted May 17, 2011, Los Angeles County Trails Manual outlines various issues affecting trail feasibility (Section 2.5) including geology and soils. Factors include soil erosion, earthquake faults, geologic formation characteristics, slope stability, landslides, and slope gradient. These factors can also affect design methods, construction techniques, and trail maintenance. The stated purpose of the Trails Manual is "to provide guidance to County departments, specifically LACO-DPR, that interface with trail planning, design, development, and maintenance of hiking, equestrian, and mountain biking recreational trails, while addressing physical and social constraints and opportunities associated with the diverse topographic and social conditions that occur in the unincorporated territory of the County. LACO-DPR will use the planning process delineated in the Trails Manual in considering the development of future trails." The Trails Manual was adopted by the Los Angeles County Board of Supervisors on May 17, 2011.

EXISTING CONDITIONS

Geologic Units and Structure in the Castaic Valley and Surrounding Area

Geologic Units

The Castaic project area is located north of the Santa Susana Mountains beginning at the Santa Clara River on the south and extending northward into the foothills of the San Emigdio and Sierra Pelona Mountains. Overall, the Castaic project area is roughly 11.5 miles wide by 12.5 miles high. This portion of the mountains surrounding Castaic Valley rise locally to approximately 3,184 feet amsl (Townsend Peak) with the base of the mountains in the Castaic project area at an elevation of approximately 900 to 1,200 feet amsl along the north edge of the Santa Clara River (USGS, 1995a, 1995b, 1995c, and 1995d).

The mountains immediately surrounding Castaic Valley are underlain by a thick (several thousand feet) sequence of Quaternary, Tertiary and Mesozoic-Precambrian age bedrock, primarily sedimentary with minor igneous and metamorphic bedrock areas not within the Castaic project area. Bedrock is overlain by younger and older alluvial deposits. From oldest to youngest, these

bedrock formations include the quartz diorite-gneiss complex, and the San Francisquito, Castaic, Ridge Basin Group, Monterey/Mint Canyon, Sisquoc/Castaic, Towsley, Pico, and Saugus Formations that are underlain by crystalline basement (Dibblee, 1993, 1996, 1997a, and 1997b). Each bedrock formation is comprised of rock layers alternating between sandstone, claystone, siltstone, shale, and conglomerate. Table 4, *Approximate Trail Lengths within Each Geologic Unit*, represents a very rough estimate of both the area represented by each formation within the Castaic project area (right column), and the miles and percentage of total trail overlying each formation (second and third columns, respectively).

Quaternary (Holocene through early Pleistocene) landslide, stream channel, and older surficial deposits cover the Tertiary bedrock formations. Holocene stream channel deposits cover nearly one-quarter of the Castaic project area at the edges of the hills and mountains, in the bottom of canyons, and on some slopes, and underlie approximately one-quarter of the proposed trails. Older surficial deposits cover very small areas along the edges of Castaic Valley between the valley floor and the hills. These alluvial deposits consist predominantly of sand, silt, and gravel/boulders, along with smaller amounts of clay-rich materials. Landslide deposits are scattered throughout the area and form a very small portion of the overall deposits. They consist of bedrock and surficial deposits that have moved downslope by gravity and are inherently unstable.

Geologic Structure

Geologic structure includes folding, tilting, and faulting of the geologic units. The low hills and mountains surrounding the Castaic Valley are tectonically active and have been subject to these structural effects for millions of years. Previous geologic mapping (Dibblee, 1993, 1996, 1997a, and 1997b) indicates numerous generally east-west trending named and unnamed fold structures (anticlines [up-folds] and synclines [down-folds]) within the Castaic project area. From north to south these are: Ridge Basin Syncline, Town Syncline, Loma Verde Anticline, North Hasley Canyon Syncline, Oak Canyon Anticline, Santa Felicia Syncline, and Ramona Anticline. Therefore, the geologic structure is very complex with numerous faults (discussed below), fractures, and disturbed bedrock layers. Bedrock formation bedding (dip) angles are generally to the north and south, and range from very shallow, less than 20 degrees into and out of slopes, to vertical (90 degrees). Due to the relatively recent nature of tectonic activity, even the older alluvium units may be folded and faulted. Often fault zones form highly fractured zones in bedrock that are weaker than adjacent unfaulted materials. The orientation of these fractures cannot be easily predicted and can affect local slope stability.

TABLE 4
APPROXIMATE TRAIL LENGTHS WITHIN EACH GEOLOGIC UNIT (DIBBLEE AND OTHERS)

Formation Name (Map Symbol) (Age)	Estimated Trail in Each Formation		Formation Description (Very Rough Percentage of Aerial Coverage of Each Formation within the Multi-Use Trails Area)
	Length in Miles (+/–10%)	Percent of Total Trail	
Alluvium (Qa/Qg) and Artificial fill (af) (Holocene)	22	28	Gravel and sand, generally loose to medium dense; af is a very small portion of the overall length for this formation (≤25%)
Landslide Deposits (Qls) (Holocene)	1	1.5	Variable depending upon the underlying bedrock formation, generally siltstone, sandstone, and claystone/shale (≤1% based on Dibble and others; CDMG maps show ≤15%)
Older Dissected Surficial Sediments (Qoa) (Pleistocene)	0	0	Gravel with sand (≤1%)
Saugus Formation (QTs) (Pliocene)	24	31	Light gray pebble conglomerate, sandstone, and minor siltstone (includes a small percentage of claystone) (≤35%)
Pico Formation (Tp) (Pliocene)	4	5	Gray siltstone and claystone, crumbly and light gray to tan sandstone, fine to medium grained and thickly bedded (≤25%)
Towsley Formation (Tto) (Pliocene-Miocene)	4	5	Gray claystone and siltstone, vaguely bedded, crumbly and a basal gray conglomerate with rounded cobbles (≤10%)
Castaic and Sisquoc Formations (Tc/Ts) (Pliocene-Miocene)	18	23	Gray clay shale with thin sandstone beds, and gray-brown bedded clay shale, crumbly where weathered with white fine grained sandstone (≤10%)
Monterey and Mint Canyon Formations (Tm/Tmc) (Miocene)	4	5	Gray conglomerate, crudely bedded, with rounded to subrounded pebbles, cobbles, and some boulders, and white shale, thinly bedded and calcareous (≤15%)
Castaic Formation (Tc) (Miocene)	1	1.5	Gray clay shale or claystone, thinly bedded, crumbly, with white sandstone, and interbedded gray breccia, crudely bedded with gneiss and granite rocks to 5-feet (≤5%)
Ridge Basin Group (Tvb) (Miocene)	0	0	Gray clay shale, claystone, and siltstone with gray breccia (see Tc above) (≤1%)
San Francisquito Formation (Tsf) (Paleocene-Cretaceous)	0	0	Sandstone, clay shale, siltstone, and conglomerate (≤1%)
Quartz Diorite - Gneiss Complex (qd/gn) (Late Mesozoic-Precambrian)	0	0	Light to medium gray quartz diorite and gneiss, medium grained, fractured, weathered, moderately hard to very hard (≤5%)
	78	100	

Geologic Conditions

The review of available documents describing the geology of the Castaic project area indicates the Castaic project area is underlain by (1) younger Quaternary-age (Holocene) alluvium/surficial sediments (map symbols Qa and Qg-Holocene), (2) landslide deposits (Qls-Holocene), (3) older Quaternary-age (Holocene-Pleistocene) alluvium/surficial sediments (Qoa and Qos), (4) Quaternary-age (Pleistocene) soft bedrock formations (QTs), (5) Tertiary-age hard to very hard sedimentary bedrock formations, and (6) an older (Cretaceous to Precambriam) hard to very hard sedimentary, plutonic, and metamorphic bedrock formations (Dibblee, 1993, 1996, 1997a, and 1997b; Table 4). The young alluvium and landslide deposits are estimated to make up less than 25 percent (Qa <25 and Qls <1) of the Castaic project area, while older alluvium is estimated to make up less than 1 percent and soft bedrock less than 70 percent of the deposits, with the Cretaceous to Precambrian harder bedrock formation making up the remaining less than 5 percent of the Castaic project area. These are very rough approximations.

Most geologic formations are covered by some thickness of soil and colluvium that can range from several inches to several feet. Some soils within the Castaic project area have been modified and disturbed by grading and earthmoving associated with development; however, most soils are undisturbed in the Castaic project area. Available soil maps and reports suggest that most soil materials in the Castaic project area are rich in sand, clay, and silt, with much smaller amounts of gravel- and cobble-rich deposits. A very small percentage of artificial fill is found in the Castaic project area associated with man-made structures (e.g., the Interstate-5 [I-5] and the Castaic Dam) and few, if any, large deposits are present in the hillside and mountainous areas. Areas of active or former drilling operations associated with the oil fields would have local areas of artificial fill.

The geologic units are described briefly below from youngest through oldest formations. This analysis uses unit names and symbols from Dibblee (1993, 1996, 1997a, 1997b). The California Division of Mines and Geology (CDMG, currently CGS) seismic hazard maps (1997a, 1997b, 1998, 2002a, 2002b, 2003a, 2003b) have detail in their subdivision of the surficial/alluvial formations and used different symbols for these same units.

Quaternary Formations

af – Artificial Fill. Artificial fill is found along the I-5, and SR-126, around small business or residential areas, at three crossings of the I-5, likely in some canyon bottoms, and along roads and trails where grading was necessary for construction. These fills may be engineered and compacted to modern standards where associated with engineered facilities or may be undocumented with unknown properties in other areas. In general, it can be expected that the engineered fill materials will be predominantly sand, silt, and fine gravel due to the ease of compaction and resulting stability. Locally present undocumented fills may contain larger materials (cobble, boulders) and trash (organic matter, metal, concrete, wood, etc.). These materials would not be suitable for use in future trail development projects.

Qls – Landslide Deposits. Landslide deposits are present within the Castaic project area bedrock formations and are considered unstable masses. These deposits result from mass movements of bedrock materials downslope due to some or all of (1) out-of-slope bedding planes, (2) weak material properties, and (3) steep slopes. Existing maps (Dibblee, 1993, 1996, 1997a, and 1997b; CDMG, 1997a, 1997b, 1998, 2002a, 2002b, 2003a, 2003b; Wilson and others, 1997; Table 4) show numerous landslides within the Pico, Sisquoc, Towsley, Castaic, Monterey/Mint Canyon, and Saugus Formations described below. Many of these landslide masses have their upper areas

located immediately below prominent ridgelines with some crossing existing roads or trails. The CDMG seismic hazard maps referenced above show landslides from various sources and indicate a far greater number of landslides than Dibblee. Since the sources vary, there is not complete agreement between the two maps.

Qa and Qg – Young Alluvial Deposits (Holocene). The Qa and Qg deposits exist within the Castaic project area along major and minor canyons (e.g., Castaic Valley, Charlie, Tapia, Villa, Violin, Sloan, San Francisquito, Palomas, Martinez, Hasley, Wayside, San Martinez Grande Canyons, and the Santa Clara River). The map view of these deposits typically exhibits irregular linear ribbons of varying width, many of which are crossed or followed by proposed trails. Qa and Qg deposits generally consist of unconsolidated bouldery, cobbley, gravelly, sandy, or silty alluvial deposits on inactive and recently active alluvial fans.

Qoa and Qos – Older Alluvial Deposits (Late-Middle Pleistocene). Qoa is the undifferentiated older alluvial fan deposits and Qos is the older sandy alluvium derived from the Saugus Formation. These deposits occur from Castaic Dam south along both sides of the I-5 associated with and overlying the Saugus Formation within the Castaic project area (e.g., near the mouths of Charlie, Tapia, Villa, and Hasley Canyons). The map view of these deposits typically shows relatively small, irregular masses, some of which are crossed by trails near these canyons in the central portion of the Castaic project area (Dibblee, 1993, 1996, 1997a, and 1997b). Qoa consists largely of calcite (caliche) cemented angular fragments of bedrock from the Castaic and Saugus Formations, as well as silt and sand deposits on incised alluvial fans; surfaces can show moderately to well-developed pedogenic soils.

Tertiary Bedrock Formations

QTs – Saugus Formation (Pliocene). QTs (Saugus Formation) is the most abundant single geologic unit and is found over most of the Castaic project area south of Castaic Dam and east of approximately Martinez and Hasley Canyons. The formation consists of slightly consolidated, poorly sorted, coarse-grained, cross-bedded sandstone and pebble conglomerate with lesser amounts of soft siltstone and claystone overlying Pico Formation.

Tp/Tps – Pico Formation (Pliocene). Pico Formation consists of white to light gray poorly cemented fine- to very fine-grained sandstone (Tps) and claystone-siltstone (Tp). It is found in the western and northwestern portions of the Castaic project area associated with Sisquoc and Monterey Formations as described below. The main distribution of Pico is in Santa Felicia, Oak, Hosler, Martinez, and Santa Martinez Canyons, and in the upper portions of Romero and Hasley Canyons.

Ttog/Ttoc – Towsley Formation (Early Pliocene – Late Miocene). The Towsley Formation (Ttog/Ttoc) is found in mainly north and just south of Santa Felicia and Canton Canyons, and just south of Violin Canyon in the northwest and central portions of the Castaic project area. Ttoc consists of predominantly gray to brown thin-bedded claystone and siltstone, contains interbeds of very fine-grained to coarse-grained sandstone. Ttog gray conglomerate, poorly to moderately cemented with pebbles and cobbles.

Tsq/Tc – Sisquoc and Castaic Formations (Miocene). The Sisquoc (Tsq) and Castaic (Tc) Formations are found in extensive exposures around Castaic Lake, between Castaic Lake and I-5, and in the west-central area adjacent to Devil and Santa Felicia Canyons. Overall this represents the northern and western portions of the Castaic project area. Sisquoc Formation consists of a dark

gray to brownish gray clay-rich shale that weathers to gravel- and cobble-size rock fragments. This portion of the Castaic Formation consists of gray clay shale with thin sandstone beds.

Tm/Tmc – Monterey and Mint Canyon Formations (Late to Middle Miocene). The Monterey (Tm) and Mint Canyon (Tmc) Formations consist of dark gray brown siliceous shale that is hard, brittle, fractured and contains chert. Tm is exposed just east of the National Forest boundary along Devil and Palomas Canyons in the northwestern Castaic project area.

Tpv/Trr/Tc – Ridge Basin Group and Castaic Formation (Late Miocene). The Ridge Basin Group (Tpv/Trr) and Castaic Formation (Tc/Tcs/Tcgs) are composed of clay shale, claystone, sandstone, some conglomerate, and areas of the Violin Breccia (Tvib) with quartz diorite and gneiss rock fragments up to 6 feet in diameter. Exposures of Tvib are limited to the area southwest of the I-5 freeway and Tc is found in isolated exposures southeast of Castaic Lake to the east boundary of the Castaic project area.

Tsf – San Francisquito Formation (Late Cretaceous to Paleocene). The San Francisquito Formation (Tsf/Tsfa/Tsfc) is found in limited exposures in the far northern/northwestern edges of the Castaic project area. Tsf is a claystone, sandstone, and conglomerate in a gray sandstone matrix.

qd/gn – Quartz Diorite – Gneiss Compex (Precambrian to late Mesozoic). The Quartz Diorite – Gneiss Complex (qd/gn) consists of a light to dark gray banded gneissthat extends into the northwestern portion of the Castaic project area from the National Forest boundary along the southwest side of Palomas Canyon.

USDA Soil Classifications

There are nearly 60 U.S. Department of Agriculture (USDA) soil classification types within the Castaic project area (USDA, 2016). Considering only those soils comprising more than one percent of the Castaic project area (representing over 90 percent of the area) reduces the number of soils to 18. Further considering only those soils above 4% reduces the number of soil units to eight (representing 78 percent of the area). The eight (by soil symbol, name, and approximate portions of the 78 percent area) that comprise most of the area are:

- CmE Castaic-Balcom silty clay loams, 15 to 30 percent slopes (4.2 percent)
- CmF Castaic-Balcom silty clay loams, 30 to 50 percent slopes (11.9 percent)
- CmF2 Castaic-Balcom silty clay loams, 30 to 50 percent slopes, eroded (14.5 percent)
- CmG2 Castaic-Balcom silty clay loams, 50 to 65 percent slopes, eroded (4.7 percent)
- CnG3 Castaic and Saugus soils, 30 to 65 percent slopes, severely eroded (8.4 percent)
- HcC Hanford sandy loam, 2 to 9 percent slopes (4.9 percent)
- MhF2 Millsholm rocky loam, 30 to 50 percent slopes, eroded (5.2 percent)
- ScF2 Saugus loam, 30 to 50 percent slopes, eroded (24.2 percent)

The USDA website can provide general ratings (limitations and no limitations) for trail suitability that are based on the properties of each soil type that affect trafficability and erodibility. The properties are "stoniness", depth to a water table, ponding, flooding, slope, and the texture of the surface layer. An erosion factor K is provided to indicate the susceptibility of a soil to sheet and rill

erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. The estimates are modified by the presence of rock fragments. In general, the Castaic project area soils indicate substantial trail related limitations due to slope and the soil texture.

An attempt at a rough correlation between soil type and geologic unit indicates that while the soil units do cross geologic contact lines in a significant way, the following correlation should be valuable in determining the most common relationships.

- Tps and Tc correlate most to CmE (4.2 percent)
- Tps and Tp correlate most to CmF (11.9 percent)
- QTs correlates most to CmF2 (14.5 percent)
- Tps correlates most to CmG2 (4.7 percent)
- Tps and Tc correlate most to CnG3 (8.4 percent)
- Qa correlates most to HcC (4.9 percent)
- Tps and Tc correlate most to Mh (5.2 percent)
- QTs correlates most to ScF2 (24.2 percent)

Since Tp/Tps (Pico) and Tc (Castaic) occupy higher ground than QTs (Saugus) and Qa (young alluvium). It appears weathering products, past alluvial fan/wash formation, and subsequent erosion/down-cutting have led to the formation of rather homogeneous older, finer grained soils over Tp/Tps/Tc and the other older formations. In contrast, younger coarser grained soils former over QTs and Qa. The soil units making up the >1 percent and <4 percent coverage are nearly all in the shallower (0 to 9 percent) sloping areas.

Surface Subsidence and Settlement

Surface subsidence/settlement may occur in the Castaic project area where it is found to have soil susceptible to expansion/contraction (very clay-rich soils) and possibly hydroconsolidation (fine-grained granular soils). When present, moderate to high expansion indices indicate that there is a substantial amount of clay in the soils and repeated episodes of wetting and drying will cause distress to structures in contact with such soils. Consolidation (and long-term settlement) is most prominent in clay-rich and silt-rich soils, resulting from loading pressure created by overlying structures, including buildings or artificial fill. This added weight could collapse internal void spaces within the soils, squeeze out the water, and reduce the soil volume causing overlying structures to settle and possibly become damaged. This consolidation and settlement can be much more dramatic under severe seismic shaking (dynamic settlement). Hydroconsolidation will also lead to settlement, but includes the addition of water into the soil structure causing more rapid and more substantial settlements. Based on the generally clayey nature of the surface soils, it is concluded that expansion indices should be moderate to high. Non-engineered artificial fill and younger alluvial deposits are likely poorly consolidated and could be subject to hydroconsolidation.

Topography, Slopes, and Major Drainage Courses

The Castaic project area is covered by four USGS 15-minute quadrangle maps; clockwise from the northeast these are the Val Verde (1995a), Newhall (1995b), Warm Springs Mountain (1995c), and Whitaker Peak (1995d) maps. Surface elevations in the Castaic project area range from approximately 2,756 feet above mean sea level (amsl) at Townsend Peak, to approximately 863

feet amsl at the Ventura County line and the Santa Clara River at the south edge of the Castaic project area. The Castaic project area drains to the south, west, and east. These drainages are shown on Figure 7, *Multi-Use Trails Plan Area Hydrology Map*.

The Castaic project area has numerous primary and secondary drainages. West of Castaic Valley and the I-5 Freeway the primary drainages from north to south include: Violin, Palomas, Santa Felicia, Devil, Romero, Sloan, Hasley, Oak, Lechier, San Martinez Chiquito, Holser, and San Martinez Grande. These empty into either Castaic Valley or the Santa Clara River. East of Castaic Valley and the I-5 Freeway from north to south are: Grasshopper, Charlie, Tapia, Wayside, and San Francisquito Canyons all of which also empty into either Castaic Valley or the Santa Clara River.

Each of these canyons has corresponding ridgelines separating the adjacent canyons. Many of these ridgelines have been classified as significant primary or secondary ridgeline within the Hillside Management Area defined for the Castaic CSD. Ground surface slopes in the Castaic project area are relatively steep with most greater than 20 percent in the upper elevation hills and mountains, reaching greater than 40 percent adjacent to ridges. Slopes in the lowest foothills immediately adjacent to the mountains, in canyons, valley and active drainages designated above are generally less than 20 percent and predominantly less than 6 percent (e.g., Castaic Valley and Violin, Hasley, San Martinez Grande, and San Francisquito Canyons). Sensitive hillside design measures (2.1 through 2.12) would be applied to the trail and facilities (e.g., restrooms) designs to minimize the impact on the ridgelines.

Within the Castaic project area, most drainage areas form relatively narrow canyons at higher elevations and transition to the broader floodplains. With regard to drainage area size (USGS, 1995a, 1995b, 1995c, and 1995d), the larger drainages in the Castaic project area are: Grasshopper, Violin, and Palomas from north to south; Romero and Hasley from west to east; San Martinez Grande/Chiquito from west to east to south; Charlie, Tapia, Wayside, and San Francisquito Canyons from east to west; and Castaic Valley from north to south. All eventually empty into the Santa Clara River.

Faulting, Earthquakes, and Ground Shaking Potential

Plate tectonics and the forces that cause these plates to move within the earth's crust affect all of southern California geology and seismicity. Faults are formed at the plate boundaries and other stress points within tectonic plates. Faults adjacent to, within, and beneath the County and City of Los Angeles and San Fernando Valley areas may be classified as inactive, potentially active, or active (CGS, 2010). Faults classified as inactive (black lines with no demonstrated movement in the past 2 million years) are of no present concern as earthquake sources and are not discussed further. Potentially active faults (green) show evidence of Quaternary movement and may be possible sources of large earthquakes (magnitude [M] 6.0 to 7.0), but no data are known to conclusively demonstrate Holocene (within the past 10,000 to 1,200 years) fault movement. Active faults (orange and red [historically active]) are of most concern for earthquake generation and fault rupture potential since they have documented Holocene fault movement or are clearly associated with historic seismicity. APEFZ maps delineate active faults and potentially active faults considered by the state to be “sufficiently active” and “well-defined.” Fault Rupture Study Areas (FRSA) are defined by the City of Los Angeles in addition to the APEFZs where fault rupture potential is a concern, but less well known than required for the APEFZ designation process.

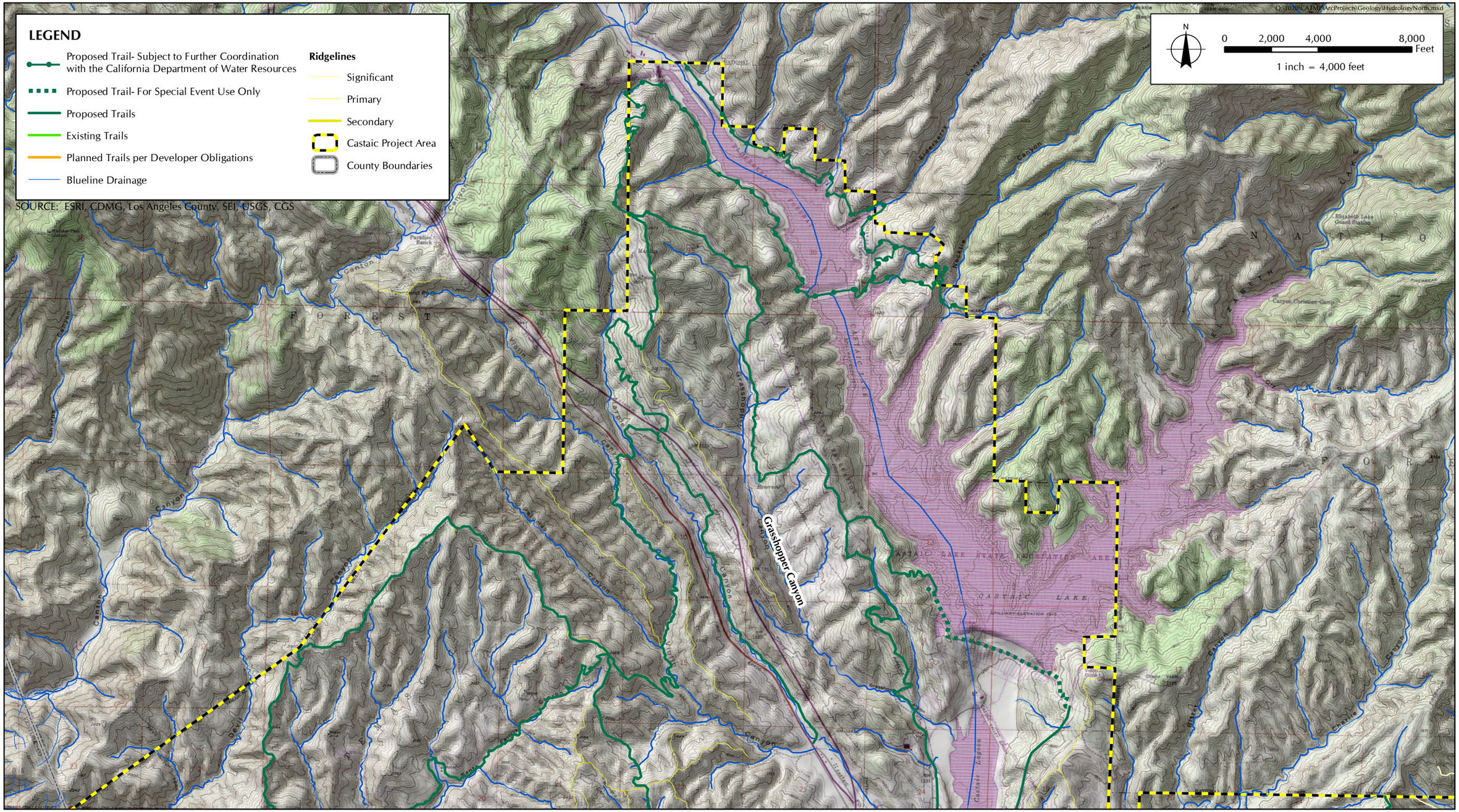


FIGURE 7A

Multi-Use Trails Plan Area Hydrology Map- North

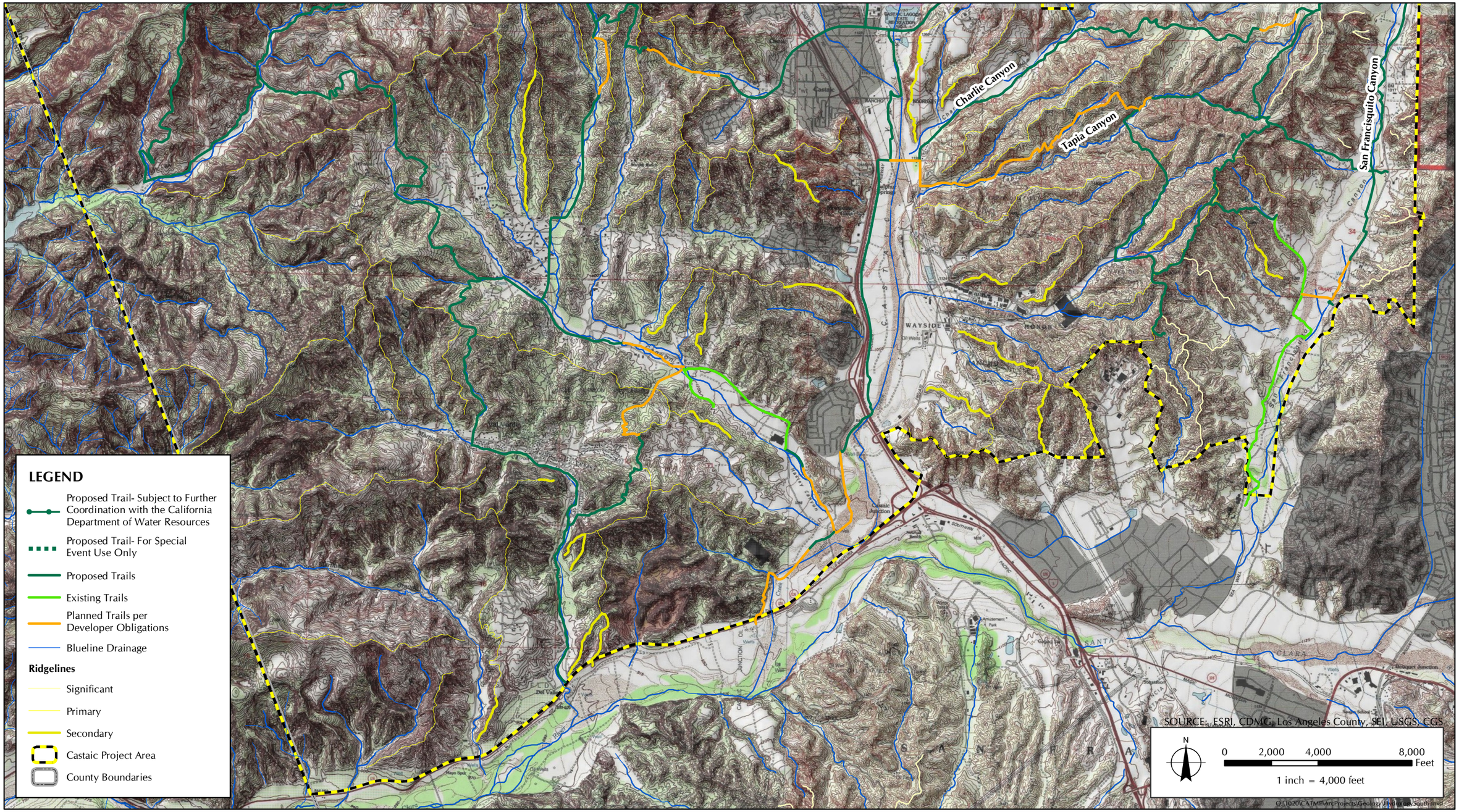


FIGURE 7B

Multi-Use Trails Plan Area Hydrology Map- South

Numerous regional and local faults contribute to the earthquake ground shaking potential for the Castaic project area. Faults along rocks that slip horizontally past one another are strike slip faults (e.g., San Andreas, San Jacinto, Elsinore, Newport-Inglewood), while mainly vertical movement is found along normal, as well as reverse and thrust faults (e.g., Santa Susana, Sierra Madre-San Fernando, Santa Monica-Hollywood, Palos Verdes, Raymond, Verdugo). Abrupt movements along faults cause earthquakes deep in the crust and may result in subsurface fault rupture or surface deformation (folding) along buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park). Mountains built by these processes include the Transverse Ranges (e.g., Santa Susana, San Emigdio, Topatopa, San Gabriel, San Bernardino) and the Peninsular Ranges (e.g., Santa Ana, San Joaquin Hills, Palos Verdes Hills, Signal Hill). This seismo-tectonic setting has been a part of the evolution of the Los Angeles County landscape for the past 5 million years or so.

Surface faults of most concern for the Castaic project area with respect to strong ground shaking are the San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults. Other smaller faults, such as the Pine Mountain, Big Pine, Santa Ynez, and Clearwater, are of lesser concern due to their lower likelihood of independently generating moderate to large earthquakes. Because they are buried, there remains more uncertainty with regard to the earthquake characteristics of blind thrust faults (e.g., Puente Hills and Northridge Hills). Since the San Fernando, Garlock, White Wolf, San Gabriel, and San Andreas faults are within or very near the Castaic project area, they are considered the most significant for potential ground rupture and differential uplift. The San Gabriel and San Cayetano/Holser/Del Valle faults pass through the Castaic project area. The potential for earthquake activity and ground rupture, though possible, are not likely for the San Gabriel and San Cayetano/Holser faults (see Figure 8, *Earthquake Fault Activity*).

The San Gabriel and San Cayetano/Holser faults, as delineated by the CGS (2010)), are the only fault zones of concern to Castaic project area with regard to ground rupture. The fault zones within or very near the Castaic project area, which are considered as potential ground rupture or earthquake ground shaking hazards, are discussed briefly below.

San Gabriel Fault

The San Gabriel fault zone is a right-lateral strike slip fault that traces a long arcuate path through the Transverse ranges. It is at least 72 kilometers long. Several echelon strands, in zones up to 0.5 kilometer wide, comprise this fault zone, which crosses the Castaic project area. Both Late Quaternary (between Newhall and Big Tujunga Canyon) and Holocene (near Castaic) fault offsets have been documented along various segments (Ziony and Yerkes, 1985). The A-P fault zone portion of the San Gabriel fault passes through the Castaic project area located within the southeastern-most portion between Castaic Valley and San Francisquito Canyon (CGS, 1995). An average slip rate of 1 to 5 millimeters (mm) per year is estimated by the Southern California Earthquake Center (2016), and the fault is capable of an M7.2 earthquake.

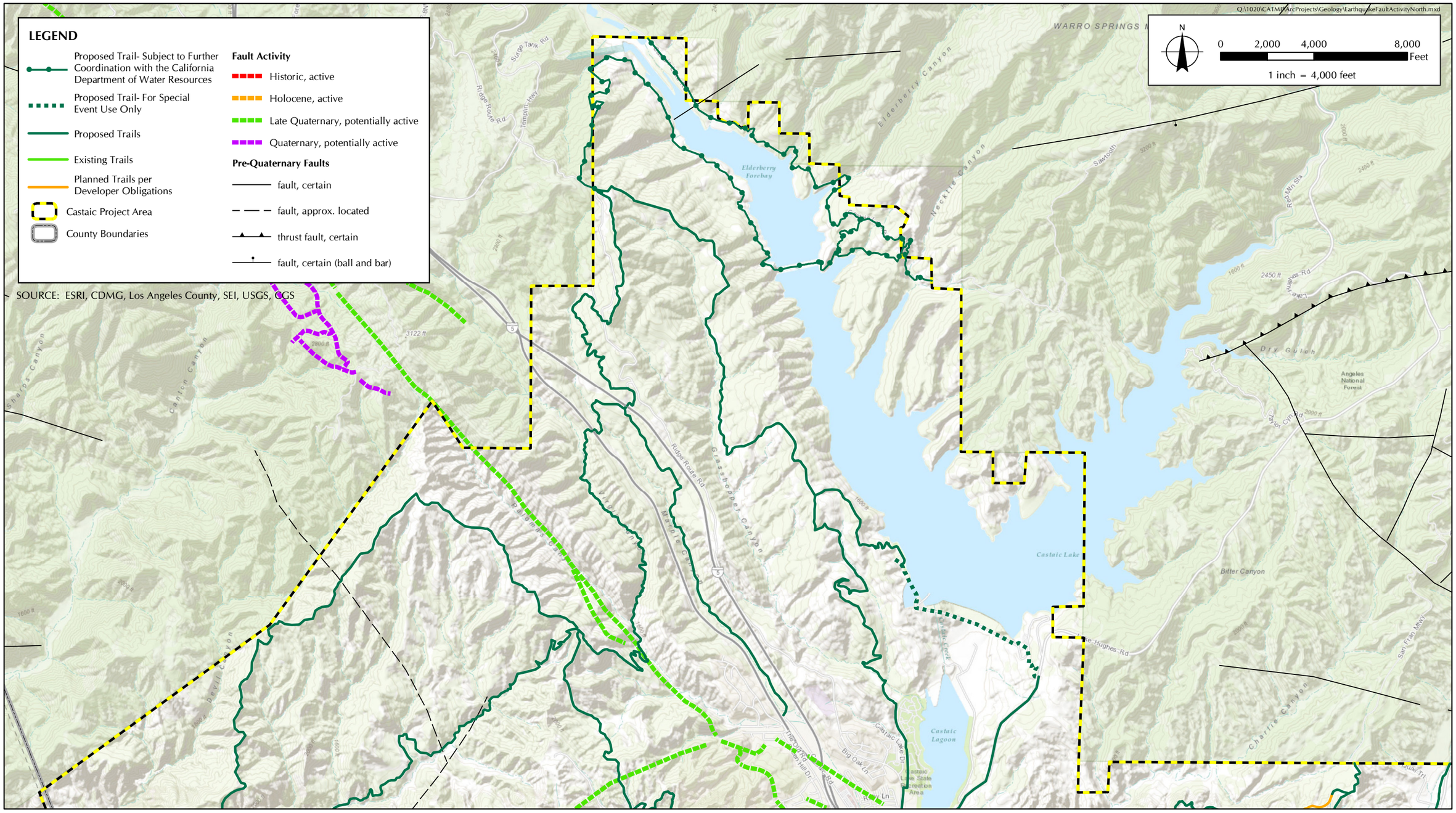


FIGURE 8A

Earthquake Fault Activity- North

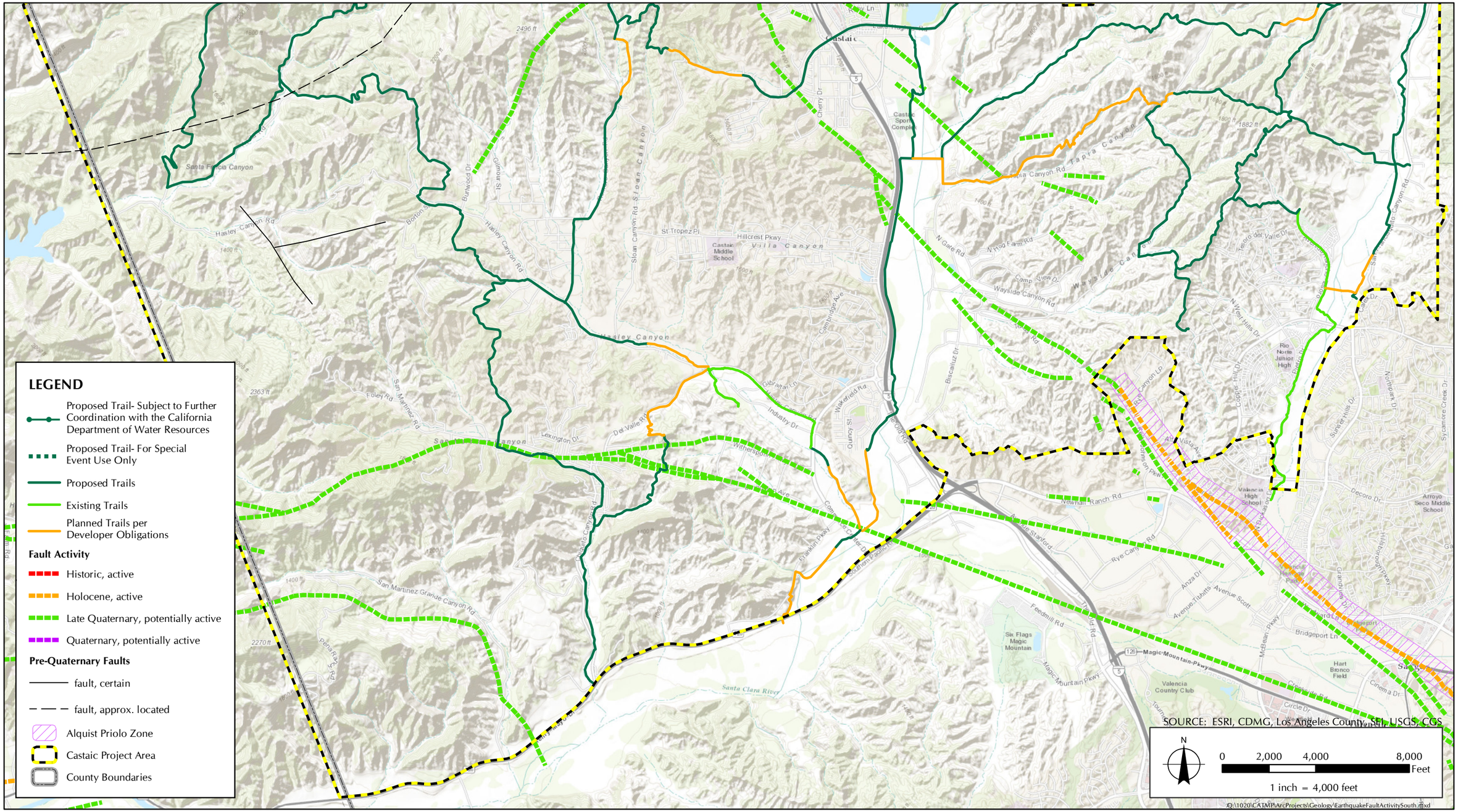


FIGURE 8B

Earthquake Fault Activity- South

Sierra Madre-San Fernando Fault

The Sierra Madre-San Fernando fault zone trends nearly east-west through the southern Transverse Ranges. The San Fernando segment is about 18 kilometers long and is one of five major strands comprising the overall Sierra Madre fault zone. The site is approximately 12 miles northwest of this fault zone. This segment of the fault zone is the source of the 1971 M6.6 San Fernando earthquake. An average slip rate of 1 to 3 mm per year and a future earthquake magnitude range of 6.7 for the San Fernando segment of the Sierra Madre fault zone are estimated by the CGS (2004b) for this A-P fault zone.

San Andreas Fault Zone (Mojave and 1857 Rupture Segments)

The San Andreas fault zone is considered the boundary between two major crustal plates (Pacific and North American). Historic earthquakes along the San Andreas fault zone have caused extensive surface rupture and major damage to structures and engineered facilities. The San Andreas fault zone (Mojave and 1857 Rupture segments) is located about 13 miles northeast of the site. The overall fault zone trends generally northwest for almost the entire length of California, from Cape Mendocino south to beyond the Mexican border. These two segments of the fault are approximately 103 and 345 kilometers long, respectively, extending north from Cajon Pass. Past work estimated the recurrence interval for an M8.0 earthquake along the entire fault zone is between 50 and 200 years, and a 140- to 200-year recurrence interval for major (M7.0 to 7.9) to great (M8.0 or larger) earthquakes along the southern fault zone segment. The 1857 M8.0 Fort Tejon earthquake was the last "great" earthquake along the San Andreas fault zone near Southern California. An average slip rate of about 30 mm per year (+/– 7 mm) and a future earthquake magnitude range of 7.4 and 7.8 for the Mojave and 1857 Rupture segments of the San Andreas fault are estimated by the CGS (2004b).

San Cayetano/Holser/Del Valle Fault Zone

The San Cayetano is a north-dipping reverse/thrust fault, is approximately 45 kilometers long, has a seismic slip rate of between 1.3 and 9 mm/year, ruptured less than 5,000 years ago, and is capable of producing an M6.5 to 7.3 earthquake. The fault lies west of the project area and appears to merge with the Holser and DelValle faults that are within the Castaic project area.

The Del Valle and Holser faults appear to be eastward extensions of the San Cayetano fault. The Del Valle fault trends eastward from the Los Angeles-Ventura County line and turns southward before crossing San Martinez Grande Canyon. The eastward-trending part of the fault trace is a southward dipping reverse fault and the southward-trending part is thought to be a tear fault. To the north of the Del Valle the Holser fault is a southward dipping that can be traced to Castaic Valley and is inferred to intersect the San Gabriel fault. The Holser fault is also a north dipping reverse fault and is approximately 20 kilometers long. An average slip rate Holser fault is 0.4 mm per year (+/–0.4 mm), and future earthquake of 6.5 are estimated for this fault zone (CGS, 2004b).

Surface Faulting / Ground Rupture Hazard

The anticipated (average) amount of surface fault rupture on any given fault trace for the maximum earthquake can be inferred from measurements of offsets caused by past earthquakes. In general, these estimates range from 0 to about 1 foot for magnitudes under 6.0 and from 1 foot to 10 feet or more for magnitudes between 6.0 and 7.5. Many variables affect the amount of surface rupture, including the depth of the earthquake hypocenter where the strain energy is released. Site-specific

study is normally conducted to refine such estimates for a fault segment at a given project site.

The estimated earthquakes for Holser and Del Valle faults suggest a potential for 3 to 6 feet of vertical and lesser horizontal surface displacements. An estimate of the range of displacements for the San Gabriel fault would be larger, potentially as much as 10 to 20 feet. Lacking specific analysis, these offsets are considered representative of similar active reverse faults and strike slip faults in the vicinity of the Castaic project area. In addition, smaller disruptions from co-seismic uplift, ground tilting, and ground disturbance could result.

Earthquakes and Potential Ground Shaking

Violent shaking occurs not only next to the earthquake's epicenter, but for many miles in all directions. The Modified Mercalli Intensity (MMI) Scale is a qualitative scale of how earthquakes are felt by people and how they affect buildings. It is a 12-point scale ranging from Intensity I, which is rarely felt by people, to Intensity XII, where damage to structures is total and objects are thrown into the air. An acceleration of 0.35 to 0.65g corresponds roughly to an intensity of VIII on the MMI Scale (Wald and others, 1999). Several earthquakes in the region within the last 200 years are estimated to have caused Intensity VIII ground shaking on the site. In an Intensity VIII earthquake damage is slight in specially designed structures; ordinary substantial buildings are damaged considerably and partially collapse; and damage is great in poorly built structures. Historic earthquakes in the region estimated to have caused significant ground shaking on the site include the M7.5 1952 Kern County/Tehachapi Earthquake, the M6.6 1971 Sylmar Earthquake, and the M6.7 1994 Northridge Earthquake.

Based on the fault discussed above and a review of estimates from seismic hazard mapping for California (CGS, 2016) the Castaic project area peak ground acceleration (PGA; what is experienced by a particle on the ground) with a 10 percent chance that this acceleration may be exceeded within a 50-year period for the central portion of the Castaic project area, is approximately 0.52g (g = the force of gravity) considering typical soft bedrock ground conditions of the area.

Groundwater

The vast majority of the Castaic project area is underlain by bedrock formations that store and transmit groundwater in permeable sedimentary beds such as sandstone, conglomerate, and siltstone, and through fractures caused by faulting, uplift, and folding of these older units. The saturated bedrock layers usually produce springs and seeps in the hillsides and higher canyon areas or discharge into the larger canyon alluvial materials. In the larger drainages alluvial sand, gravel, and silt store and transmit water laterally down gradient toward the centrally located Castaic Valley and the Santa Clara River on the south.

Historically highest groundwater depths are summarized by the CDMG (1997a, 1997b, 1998, 2002a, 2002b, 2003, and 2003b) in studies to evaluate the liquefaction potential in the Castaic project area; these data do not continue into the bedrock or narrower canyon alluvial areas. Water levels in the Castaic project area vary generally between zero and 25 feet, but predominantly are around 10 feet deep. These data do not preclude the possibility that some localized shallow "perched" groundwater could be encountered in areas immediately adjacent to the San Gabriel, Holser, and Del Valle faults. It is most likely that "perched" water zones would be associated with springs or seeps, and occurrences of water in these areas would be seasonal. Such occurrences would not likely be significant on ridgelines.

It is understood that trail-related facilities would include restrooms that would rely on natural soil seepage and infiltration potential. The alluvial/existing drainage areas will nearly all have groundwater in the 10- to 20-foot depth range suggesting that local contamination of seepage could reach the groundwater surface. Bedrock and older alluvial deposits are elevated above the existing drainages with groundwater correspondingly deeper or not present at all due to the low material permeabilities. Restroom facilities should be planned in locations away from the existing drainages and at elevations several tens of feet above these drainage elevations.

Liquefaction, Earthquake Induced Landslides, and Mudflow

Liquefaction

Liquefaction occurs when saturated, cohesionless (low relative density) materials (usually sand or silty sand) are transformed from a solid to a near liquid state. This phenomenon occurs when moderate to severe seismic ground shaking causes pore-water pressure to increase. The expected level of ground shaking in the Castaic project area is high enough to initiate liquefaction. Liquefaction can cause overlying structures (e.g., bridges, buildings, storage tanks) to settle non-uniformly, and buried structures (e.g., fuel tanks, pipelines) to float. In either situation, severe damage to the structure is highly likely.

In addition to sufficiently high seismic shaking levels, the two other key conditions conducive to liquefaction, shallow groundwater and cohesionless sands, are potentially present within several portions of the Castaic project area. It is generally considered that there is a low potential (although there may be some) for liquefaction where water is greater than about 40 feet below the ground surface; there is a very high potential where less than 10 feet.

There are three maps showing potential liquefaction areas in the Castaic project area (CDMG, 1998, 2002a, and 2003a), with no coverage of the Warm Springs quadrangle covering the northeast area. The representation of liquefaction potential presented on Figure 9, *Earthquake-Induced Landslides and Liquefaction* (CDMG, 1997a, 1997b), considers the maps prepared by the CDMG (green shading); the line designating liquefaction areas corresponds to the 40-foot groundwater depth contour, although groundwater is not shown to be less than 25-feet deep as historic highs. Figure 9 shows the more extensive areas in and adjacent to the Castaic Valley and the Santa Clara River Valley, as well as the more limited areas of liquefaction potential in the primary canyons Hasley, Romero, Santa Felicia, San Martinez Chiquito and Grande, and San Francisquito discussed earlier.

Earthquake-Induced Landslides and Mudflow

Much (an estimated 40 to 50 percent) of the mountains and hills of the Castaic project area have the potential earthquake-induced landslide areas. These areas correspond to bedrock and to a lesser extent older alluvium with steep slopes (Figure 9). Landslide movement may occur along bedding planes within these formations, as rocks dislodged from exposures on steep slopes, or as surficial failures of weathered rock and soil/colluvium. Such movement could cause rock masses to dislocate and damage overlying facilities and facilities nearby and downslope from these bedrock and older alluvium areas.

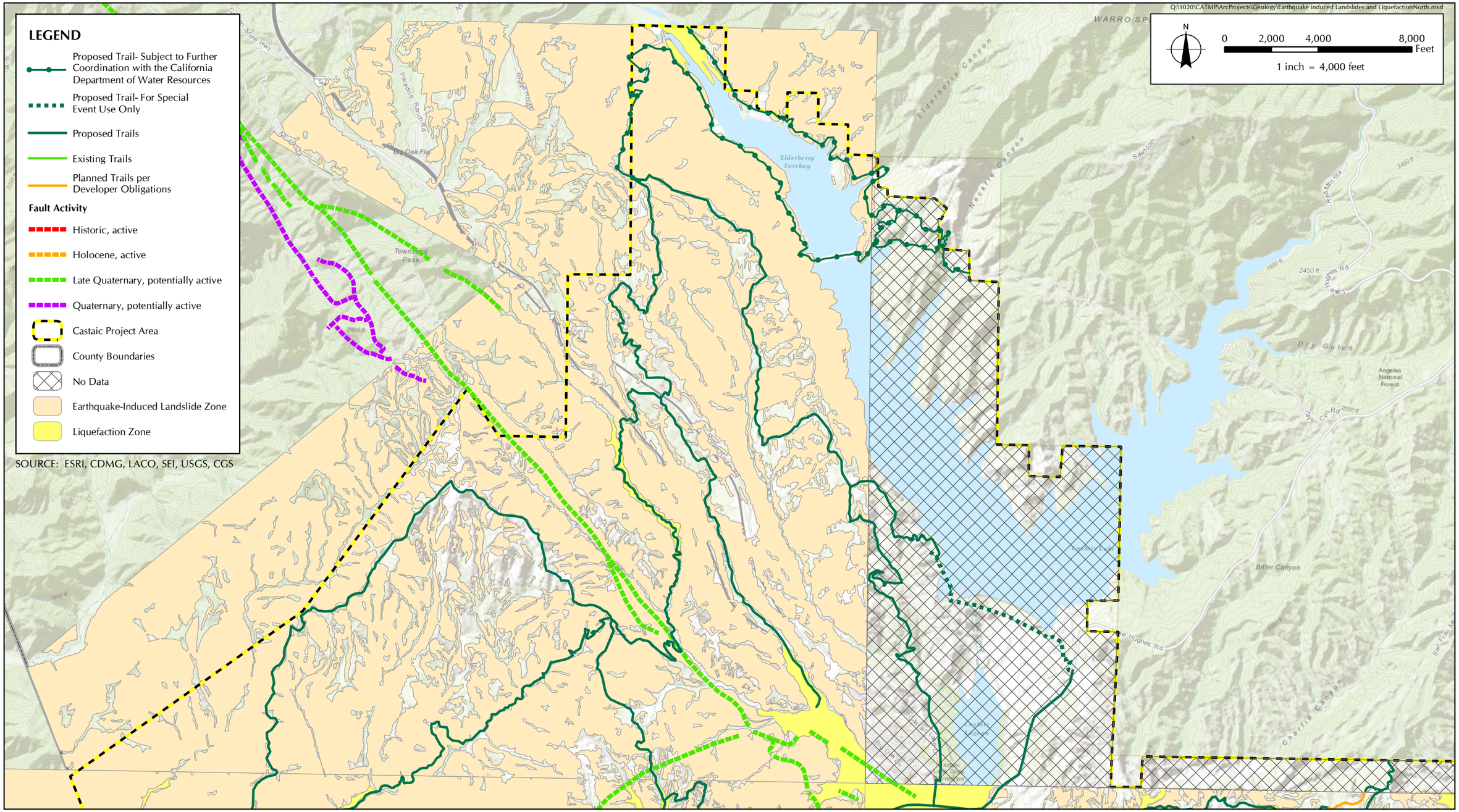


FIGURE 9A

Earthquake-induced Landslides and Liquefaction (CDMG, 1997, etc.) - North

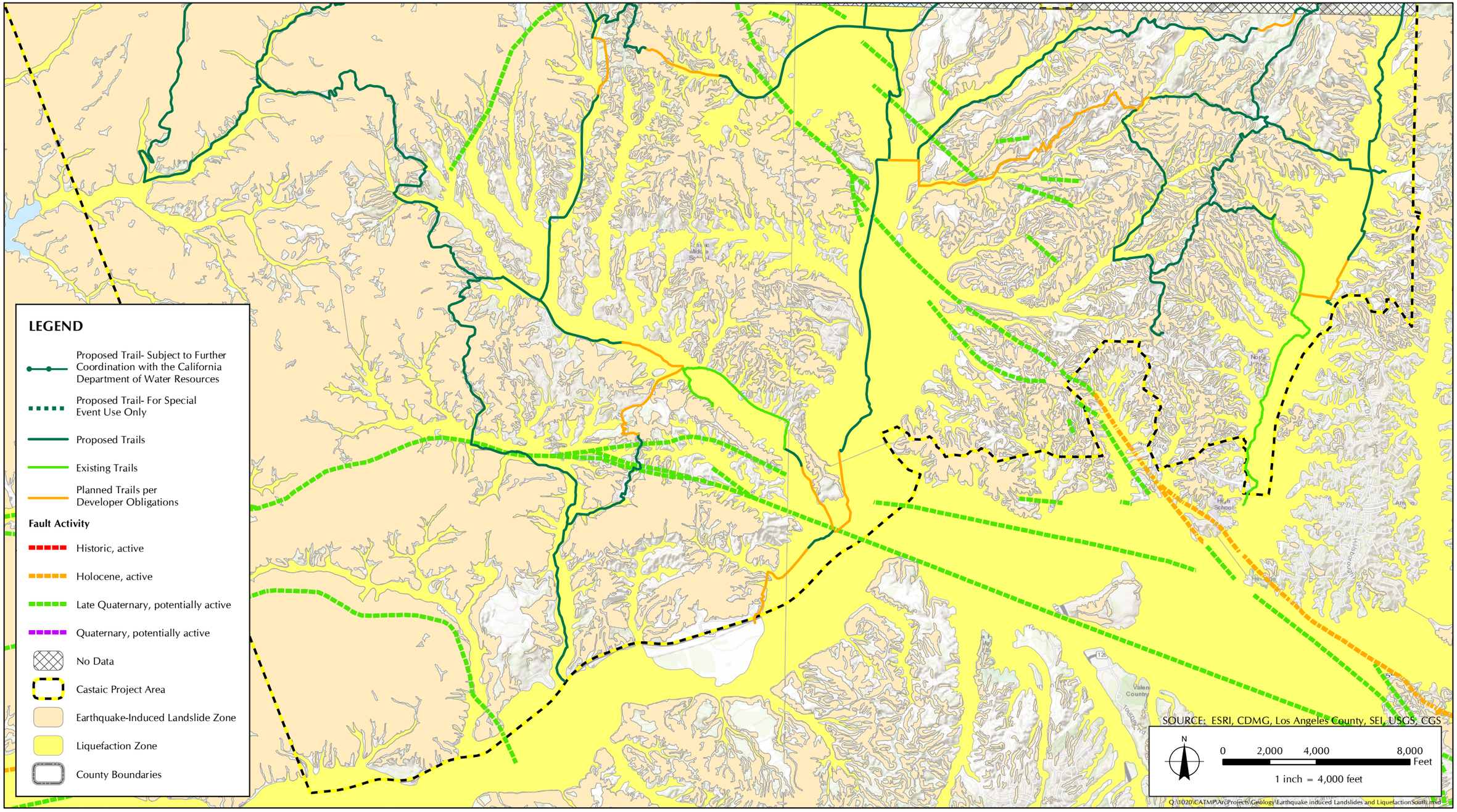


FIGURE 9B

Earthquake-induced Landslides and Liquefaction South (CDMG, 1997, etc.)

Oil Fields

This area around Castaic Valley has a long history of oil and gas exploration and some subsequent development. The first wells in the area were drilled in the early 1900s. Many attempts to find commercial crude oil reserves were unsuccessful and wells that were not economical were plugged and abandoned. Unsuccessful exploratory holes were abandoned as "dry holes." It is possible that not all wells and dry holes within the Castaic project area were documented during the early development history and that not all have been properly abandoned.

Portions of the Castaic project area overlie state designated oil fields, many of which are associated with the synclinal and anticlinal geologic structure discussed above. In the Castaic project area area, there are the Ramona/Ramona North, the De Valle, the Castaic Junction, the Oak Canyon, the Hasley Canyon, the Castaic Hills, the Tapia, the Wayside Canyon, and the Honor Rancho Oil Fields (Figure 10, *Oil Wells in the Multi-Use Trails Plan Area*). The designated oil field boundaries, the areas of production and major drilling, specifically underlie the Castaic project area, as depicted by the State Division of Oil, Gas, and Geothermal Resources (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources [DOGGR] website, 2016). Each of these oil fields is associated with structural features (e.g., anticlines or elongated domes) that trap petroleum and related compounds (crude oil and natural gas). Honor Rancho, in addition to oil production, also serves as an underground natural gas storage facility (28 billion cubic feet) for Southern California Gas Company and has approximately 40 active gas wells in the lower one-third of the field.

Figure 10 shows the approximate outline of the designated administrative oil field boundaries and the classifications of wells associated with each oil field (DOGGR website, 2016). Most wells are within the Del Valle and Honor Rancho Oil Fields, with substantial wells in the Ramona, Oak Canyon, and Castaic Hills. There are fewer in the Ramona North, Hasley Canyon, Tapia, Wayside, and Castaic Junction. Although some minor surface subsidence and ground settlement may have occurred related to oil extraction, its distribution across a broad area is likely to have limited its potential effects and no substantial effects are known to have occurred. Similarly, the potential for future surface subsidence effects from oil extraction is considered very low.

Wells are classified as active, buried, inactive, new, plugged, and unknown. Most of the wells are plugged, and the second most common are inactive. There are a few unknown, buried, and new wells. Abandoned wells and dry holes (inactive and plugged) can represent potential hazards for areas with nearby buildings and occupants. Prior to regulations, many early wells and dry holes were plugged with telephone poles, railroad ties, or other debris before being buried. These holes represent potential vertical migration pathways for crude oil, methane, H_2S, and other compounds. In undeveloped areas, these holes may be an attractive nuisance that could pose a risk from these contaminants for nearby areas. DOGGR regulates drilling and abandonment of wells and dry holes. DOGGR regulations evolved over time to address problems and hazards identified in older wells. As a result, there are fewer problems associated with recently plugged wells and dry holes. Nevertheless, even when a well is plugged in accordance with DOGGR regulations, leaks can occur later.

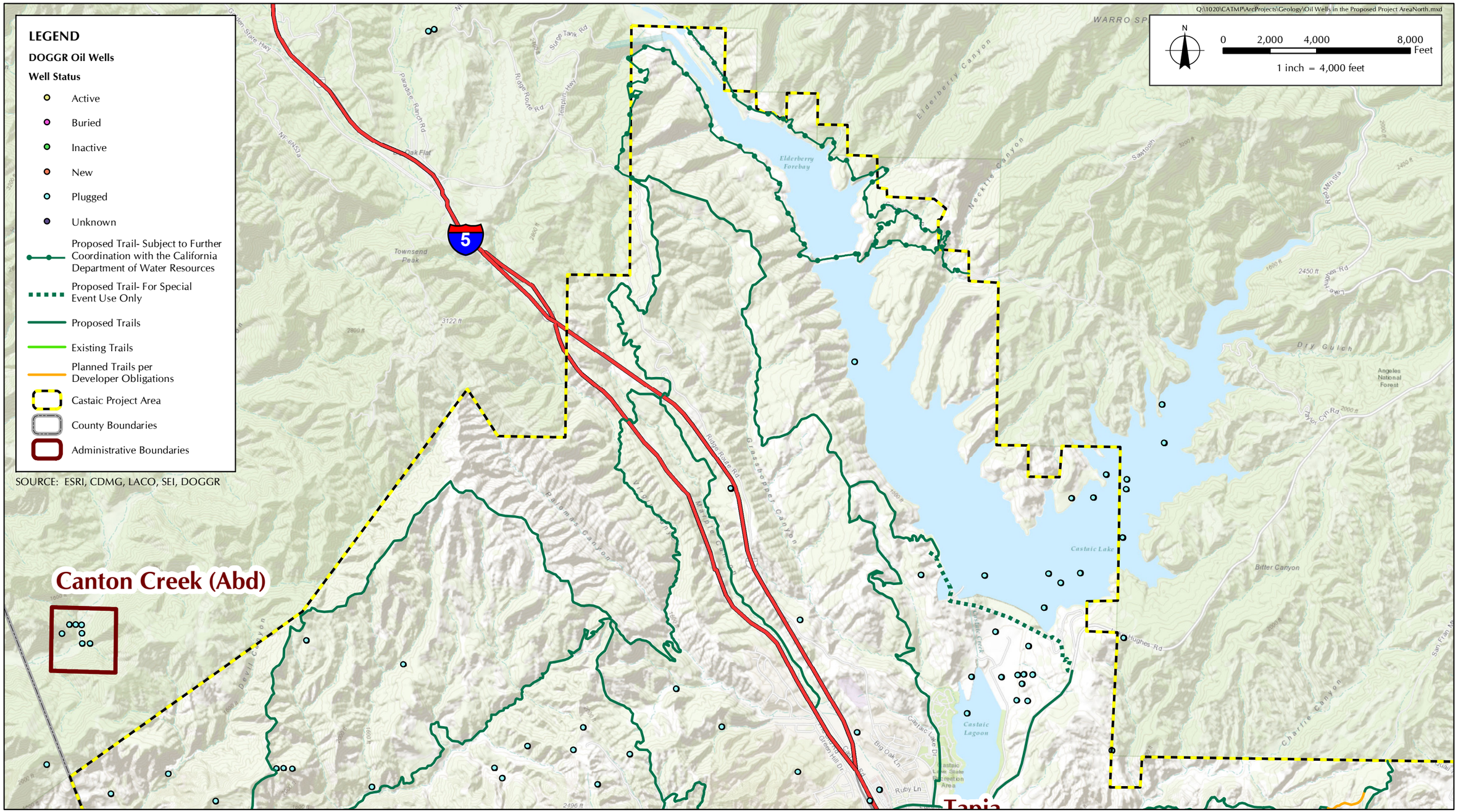


FIGURE 10A

Oil Wells in the Multi-Use Trails Plan Area- North

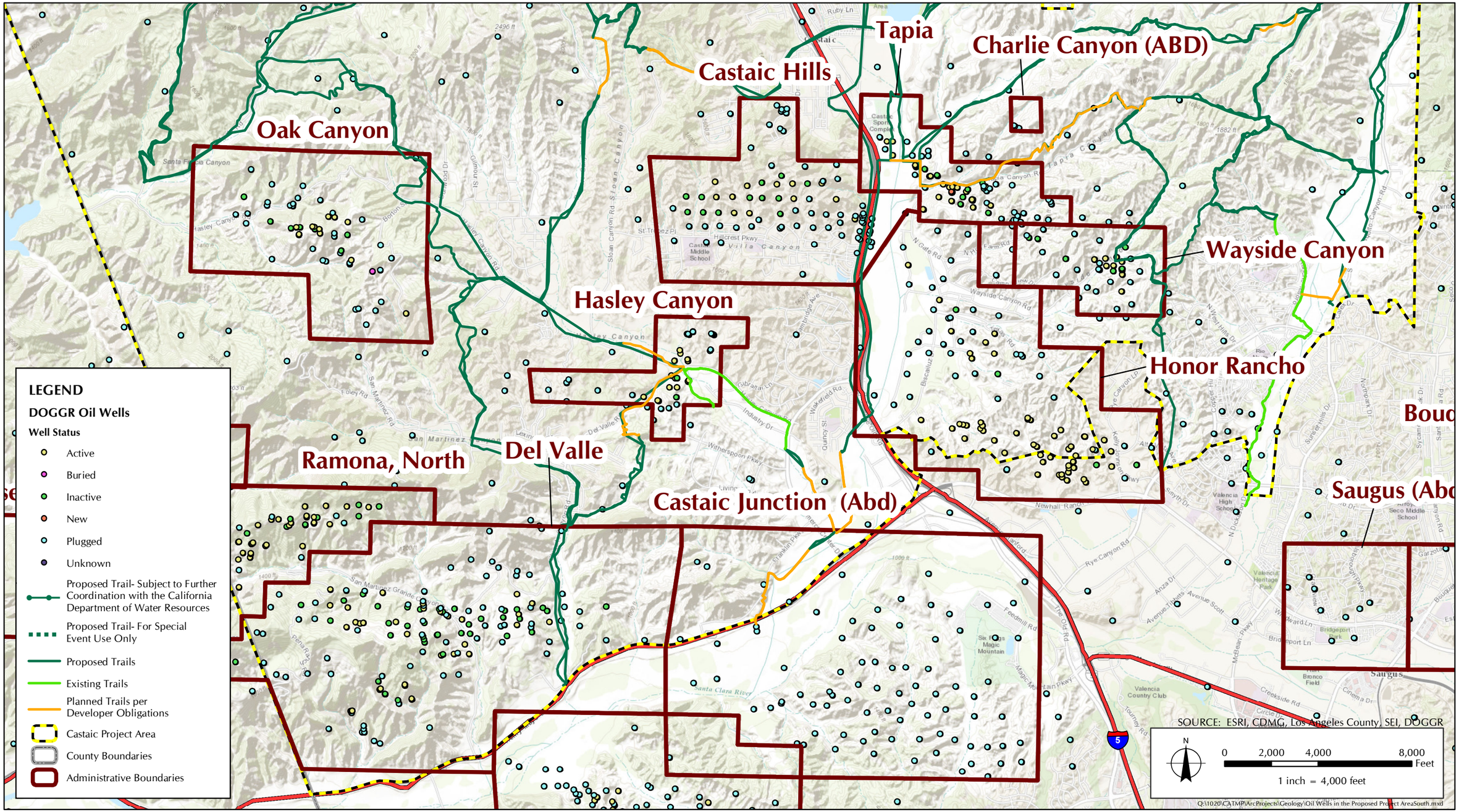


FIGURE 10B

Oil Wells in the Multi-Use Trails Plan Area- South

CONCLUSIONS, RECOMMENDATIONS, AND CONSIDERATIONS FOR TRAIL PLANNING

Faulting and Earthquakes, Seismic Ground Shaking, Seismic-Related Ground Failure, and Landslides

The proposed project would result in significant impacts to geology and soils in regard to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides. Although the Castaic project area is not located within a designated Alquist-Priolo zone, the San Gabriel and San Cayetano/Holser/Del Valle faults are fault zones of concern to the Castaic project area with regard to ground rupture. It is possible that fault movement of a few inches to several feet could occur with potential M6 to 7 events. This should be less of a suitability and design issue with regard to trails and more of a post-earthquake maintenance issue. Any facilities that may be habitable for extended periods should not be built over or within 50 feet of the fault traces.

Active and potentially active faults (red, orange, and green) may be sources of large earthquakes (M6.0 to 7.0) that would produce severe ground shaking within the Castaic project area. Local active strike-slip, reverse and thrust faults (e.g. San Fernando, Oak Ridge, San Cayetano/Holser/Del Valle, Garlock, White Wolf, San Gabriel, and San Andreas faults) and more distant buried (blind) thrust faults (e.g., Northridge Hills, Puente Hills, and Elysian Park) have this potential. Severe shaking can be very destructive to narrow ridgelines and steep slopes, causing severe cracking and slope failures. Trail designs can accommodate such shaking to some degree, but as with fault rupture this should be less of a suitability and design issue with regard to trails and more of a post-earthquake maintenance issue. The expected level of ground shaking in the Castaic project area is high enough to initiate liquefaction as a result of there being expected high seismic shaking levels, areas of shallow groundwater, and cohesionless sands. As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction and lateral spreading. An estimated 40 to 50 percent of the mountains and hills of the Castaic project area are potential earthquake-induced landslide areas. These areas correspond to bedrock and to a lesser extent older alluvium with steep slopes. Landslide movement may occur along bedding planes within these formations, as rocks dislodged from exposures on steep slopes, or as surficial failures of weathered rock and soil/colluvium. Such movement could cause rock masses to dislocate and damage overlying facilities and facilities nearby and downslope from these bedrock and older alluvium areas. As a result, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismically induced landslides. Therefore, the proposed project may result in the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides, thus requiring mitigation measures.

Soil Erosion

The proposed project would result in significant impacts to geology and soils in regard to resulting in substantial soil erosion or the loss of topsoil. The Castaic project area has numerous primary and secondary drainages. West of Castaic Valley and the I-5 Freeway the primary drainages from north to south include: Violin, Palomas, Santa Felicia, Devil, Romero, Sloan, Hasley, Oak, Lechier, San Martinez Chiquito, Holser, and San Martinez Grande. These empty into either Castaic Valley or the Santa Clara River. East of Castaic Valley and the I-5 Freeway from north to south are: Grasshopper,

Charlie, Tapia, Wayside, and San Francisquito Canyons all of which also empty into either Castaic Valley or the Santa Clara River. Within the Castaic project area, most drainage areas form relatively narrow canyons at higher elevations and transition to the broader floodplains. With regard to drainage area size, the larger drainages in the Castaic project area are: Grasshopper, Violin, and Palomas from north to south; Romero and Hasley from west to east; San Martinez Grande/Chiquito from west to east to south; Charlie, Tapia, Wayside, and San Francisquito Canyons from east to west; and Castaic Valley from north to south. All eventually empty into the Santa Clara River. Rainfall events may result in erosion or the loss of topsoil in these drainages. As a result, the proposed project may result in substantial soil erosion or the loss of topsoil and mitigation will be required.

Geologic Units

The proposed project would result in significant impacts to geology and soils in regard to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. Based on a review of available documents describing the geology of the Castaic project area, it is underlain by (1) younger Quaternary-age (Holocene) artificial fill/alluvium/surficial sediments (map symbols af, Qa and Qg-Holocene), (2) landslide deposits (Qls-Holocene), (3) older Quaternary-age (Holocene-Pleistocene) alluvium/surficial sediments (Qoa and Qos), (4) Quaternary-age (Pleistocene) soft bedrock formations (QTs), (5) Tertiary-age hard to very hard sedimentary bedrock formations, (6) an older (Paleocene-Cretaceous) hard to very hard sedimentary bedrock formation, and (7) quartz diorite-gneiss complex (Dibblee, 1993, 1996, 1997a, and 1997b). Artificial fill may be present in selected areas not yet mapped. With this large variation in geologic units, the relative difficulty of excavation, the suitability for safe trail or roadway surfaces, the stability of construction slopes, and the suitability of excavated materials for use as backfill will also vary. It is believed that all units except artificial fill and young alluvium should meet minimum requirements for the items listed.

Geologic Structure

Geologic structure includes folding, tilting, and faulting of the geologic units. The geologic structure is very complex with numerous faults, folds, fractures and disturbed bedrock layers with bedding (dip) angles range from very shallow (less than 20 degrees), into and out of slope, to vertical (90 degrees). This indicates that the orientation and height of natural slopes will control in many cases the preferred trail path and gradient, that is, certain orientations and heights may exposed unfavorable bedding, fault features, and fracture planes that may render a slope unstable and, therefore, unsafe. It is expected that most proposed graded slopes will not be extensive in height or width so that this project-induced slope stability concern should be limited. However, where these unfavorable conditions cannot be avoided it will be necessary to design and construct stabilization features (e.g., reduced slope angle, retaining structure, slope reorientation) to overcome these potential instabilities.

Surface Subsidence and Settlement

Oil field activity in the Castaic project area could lead to local subsidence that could manifest as cracks and areas of ground settlement. Due to the likely limited extent of trails in these areas, to the years over which pumping has already occurred and to the relatively low level of oil extraction, this will have a minimum impact. Affected areas can be repaired to level ground and eliminate ground cracks that may form.

As a result, the proposed project may result trails or facilities that may be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Expansive Soil

The proposed project would result in significant impacts to geology and soils in regard to being located on expansive soil. The proposed project may result in the placement of trails or structures in areas of expansive soil. Surface subsidence/settlement may occur in the Castaic project area where it is found to have soil susceptible to expansion/contraction (very clay-rich soils) and possibly hydroconsolidation (fine-grained granular soils). When present, moderate to high expansion indices indicate that there is a substantial amount of clay in the soils and repeated episodes of wetting and drying will cause distress to structures in contact with such soils.

Groundwater, Wastewater, Liquefaction, and Landslides/Mudflows

The proposed project would result in significant impacts to geology and soils in regard to having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater. The vast majority of the Castaic project area is underlain by bedrock formations that store and transmit groundwater in permeable sedimentary beds such as sandstone, conglomerate, and siltstone and through fractures caused by faulting, uplift, and folding of these older units. This flow can produce springs and seeps in the hillsides and higher canyon areas or discharge into the larger canyon alluvial materials. The larger canyon alluvial deposits are subject to liquefaction. Mapped landslides are common throughout the Castaic project area and the steeper slopes are subject to mudflows and earthquake-induced slope failures. Areas where landslides are mapped provide the most concern for suitability and the most difficulty for design and construction. To fully protect trails and roadways and prevent failures, extensive stabilization can be required; this suggests that avoidance is the most prudent option. Mudflow areas are more difficult to predict and mitigation would be through avoidance or upslope structure to capture or deflect the debris. Liquefaction is only an issue for larger or habitable structures. Design and location of restroom facilities must consider groundwater depth and proximity to potentially shallow groundwater in existing drainages. The proposed project may result in having soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater. The proposed project plans for restroom facilities at trailheads that may require siting within soil types that would not support onsite water treatment systems.

Oil Fields and Wells

Portions of the Castaic project area overlie state-designated oil fields, specifically the Ramona/Ramona North, De Valle, Castaic Junction, Oak Canyon, Hasley Canyon, Castaic Hills, Tapia, Wayside Canyon, and Honor Rancho Oil Fields, that have abandoned wells and dry holes, plus in Honor Rancho gas injection and extraction wells. Prior to regulations, many early wells and dry holes were plugged with telephone poles, railroad ties, or other debris before being buried. These holes represent potential vertical migration pathways for crude oil, methane, H_2S, and other compounds. It is likely, due to the open space nature of the proposed project, that there would be limited opportunity for exposure to the named hazards. In undeveloped areas, these holes may be an attractive nuisance that could pose a risk from these contaminants for nearby areas. However, it would be advisable to avoid these oil field areas and to provide signage warning of the dangers.

Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) Or Hillside Design Standards

The proposed project would result in less than significant impacts to geology and soils in regard to conflicts with the Hillside Management Area Ordinance or hillside design standards in the County General Plan. The Los Angeles County Hillside Management Ordinance applies to areas greater than 25 percent slope. Of the total of approximately 48,106 acre Castaic project area, approximately 1,926 acres, or 4 percent of the total Castaic project area consists of slopes greater than 25 percent. Ground surface slopes in the Castaic project area are relatively steep with most greater than 20 percent in the upper elevation hills and mountains, reaching greater than 40 percent adjacent to ridges. Slopes in the lowest foothills immediately adjacent to the mountains, in canyons, valley and active drainages designated above are generally less than 20 percent and predominantly less than 6 percent (e.g., Castaic Valley and Violin, Hasley, San Martinez Grande, and San Francisquito Canyons). Portions of proposed recreational trails may cross through the areas with a greater than 25 percent slope. As a result, trails that cross through these areas would be subject to the requirements and design standards of the Hillside Management Ordinance and hillside design standards in the Conservation and Open Space element of the General Plan. Specifically, sensitive hillside design measures (2.1 through 2.12) would be applied to the trail and facilities (e.g., restrooms). Further, the Hillside Management Ordinance requires that all new development in areas over 25 percent obtain a conditional use permit as part of the entitlement process. Therefore the proposed project would not result in in conflict with the Hillside Management Area Ordinance or the hillside design standards in the Conservation and Open Space Element of the County's General Plan.

Topography, Slopes, Significant Ridgelines, and Major Drainage Courses

Surface elevations in the Castaic project area range from approximately 2,756 feet amsl at Townsend Peak to approximately 863 feet amsl adjacent to the Santa Clara River at the south edge of the Castaic project area. The Castaic project area consists mainly of narrow ridges and moderate- to steep-walled canyons. The Castaic project area drains to the south, east, and west. Locally, topographic relief can vary from near vertical slopes to just gentle slopes of just a few degrees. The area has numerous blue line streams, but surface drainage flow is predominantly during rain events with few areas having continuous flow from springs. The combination of high relief, locally steep slopes, and erosion from rain events will contribute to inherently unstable areas particularly on narrow ridges and steep side slopes below these ridges. As with the geologic structure and structural features, where these slope conditions cannot be avoided it will be necessary to design and construct stabilization features (e.g., combined cut/fill slopes in difficult areas with retaining structures) to overcome these potential instabilities. Consideration of significant ridgelines should be made when designing cuts, fills, retaining structures, bridges or boardwalks, and where trails cut through a continuous ridgeline.

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The soils information below was extracted from a full report for all soils within the Castaic Multi-Use Trails Area. Only those predominant soils with greater than 4 percent areal coverage (~80% of all soils present) were selected for presentation here.

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting,

and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates

determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx? content=17757.wba).

Map Unit Symbol and Soil Name (Approximate % of Trails Area)	% of Map Unit	Hydrologic Group	Depth	USDA Texture	Classification		Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	> 10 Inches	3–10 Inches	4	10	40	200		
CmE—Castaic-Balcom silty clay loams, 15 to 30 percent slopes (4.2%)														
Castaic	50	C	0-9	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			9-26	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			26-30	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Balcom	40	C	0-10	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			10-28	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			28-32	Weathered bedrock	—	—	—	—	—	—	—	—	—	—

Map Unit Symbol and Soil Name (Approximate % of Trails Area)	% of Map Unit	Hydrologic Group	Depth	USDA Texture	Classification		Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	> 10 Inches	3–10 Inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
CmF—Castaic-Balcom silty clay loams, 30 to 50 percent slopes (11.9%)														
Castaic	50	C	0-11	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			11-28	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			28-32	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Balcom	40	C	0-10	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			10-28	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			28-32	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
CmF2—Castaic-Balcom silty clay loams, 30 to 50 percent slopes, eroded (14.5%)														
Castaic	50	C	0-9	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			9-26	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			26-30	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Balcom	40	C	0-7	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			7-25	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			25-29	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
			In				*Pct*	*Pct*					*Pct*	
CmG2—Castaic- Balcom silty clay loams, 50 to 65 percent slopes, eroded (4.7%)														

Map Unit Symbol and Soil Name (Approximate % of Trails Area)	% of Map Unit	Hydrologic Group	Depth	USDA Texture	Classification		Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	> 10 Inches	3–10 Inches	4	10	40	200		
Castaic	50	C	0-9	Silty clay loam	ML	A-7	0-0-0	0-0-0	95-98-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			9-26	Silty clay loam	ML	A-7	0-0-0	0-0-0	95-98-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			26-30	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Balcom	40	C	0-7	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			7-25	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-85-95	65-75-85	40-45-50	10-15-20
			25-29	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
CnG3—Castaic and Saugus soils, 30 to 65 percent slopes, severely eroded (8.4%)														
Castaic	45	C	0-9	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			9-26	Silty clay loam	ML	A-7	0-0-0	0-0-0	90-95-100	85-90-95	70-83-95	65-75-85	40-45-50	10-15-20
			26-30	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Saugus	35	B	0-8	Loam	SM	A-2	0-0-0	0-0-0	80-90-100	75-80-85	45-55-65	20-28-35	0-0 -0	NP
			8-40	Loam, sandy loam	SM	A-2	0-0-0	0-0-0	80-90-100	75-80-85	45-55-65	20-28-35	0-0 -0	NP
			40-44	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
			In				*Pct*	*Pct*					*Pct*	
HcC—Hanford sandy loam, 2 to 9 percent slopes (4.9%)														
Hanford	85	A	0-8	Sandy loam	SM	A-2, A-4	0-0-0	0-0-0	85-93-100	75-88-100	50-63-75	25-38-50	20-25-30	NP-3 -5
			8-70	Fine sandy loam, sandy loam	SM	A-2, A-4	0-0-0	0-0-0	85-93-100	75-88-100	50-63-75	25-38-50	20-25-30	NP-3 -5
MhF2—Millsholm rocky loam, 30 to 50 percent slopes, eroded (5.2%)														
Millsholm	85	D	0-16	Loam	CL-ML, ML	A-4	0-0-0	0-0-0	80-90-100	75-88-100	70-83-95	50-63-75	25-30-35	5-8 -10

Map Unit Symbol and Soil Name (Approximate % of Trails Area)	% of Map Unit	Hydrologic Group	Depth	USDA Texture	Classification		Fragments		Percentage Passing Sieve Number				Liquid Limit	Plasticity Index
					Unified	AASHTO	> 10 Inches	3–10 Inches	4	10	40	200		
			16-20	Unweathered bedrock	—	—	—	—	—	—	—	—	—	—
ScF2—Saugus loam, 30 to 50 percent slopes, eroded (24.2%)														
Saugus	85	B	0-15	Loam	SM	A-2, A-4	0-0-0	0-0-0	90-95-100	85-90-95	45-55-65	25-38-50	0-0-0	NP
			15-42	Loam, sandy loam	SM	A-2, A-4	0-0-0	0-0-0	90-95-100	85-90-95	45-55-65	25-38-50	0-0-0	NP
			42-46	Weathered bedrock	—	—	—	—	—	—	—	—	—	—

Appendix F

Hydrology and Water Quality Assessment

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan Project

MEMORANDUM FOR THE RECORD
2.6 1020-085.07

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, and Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc.
(Ms. Laura Male and Mr. Jeffrey Rex)

SUBJECT: Castaic Area Multi-Use Trails Plan Hydrology and Water Quality Assessment

FIGURES:
1. Regional Vicinity Map
2. Local Vicinity Map
3. Topographic Map with USGS 7.5-minute Quadrangle Index
4. Castaic Area Multi-Use Trails Plan
5. Study Area Hydrology
6. Groundwater Basins
7. 100-Year Flood Plain
8. Santa Clarita Valley Sanitation District

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the programmatic evaluation of the potential for the proposed Castaic Area Multi-Use Trails Plan (proposed project) to result in significant impacts to hydrology and water quality in accordance with Appendix G of the State California Environmental Quality Act (CEQA) Guidelines[1] in support of the County of Los Angeles serving in the capacity of a Lead Agency, pursuant to the California Environmental Quality Act. Based on the results of the records and archival research and map review conducted by Sapphos Environmental, Inc., the construction, recreational use, and maintenance activities associated with the proposed project, would have the potential to result in impacts to hydrology and water quality that would be mitigated to below the level of significance with mitigation measures. The scope of evaluation of hydrology and water quality includes water quality standards and discharge requirements, groundwater recharge areas; natural drainages in relation to erosion and flood conveyance; stormwater drainage systems; water quality; 100-year floodplain; and potential for seiche, tsunami, or mudflows.

Water Quality Standards and Discharge Requirements

Construction or maintenance of trails that require grading in excess of 1 acre have the potential to violate water quality standards, particularly in relation to total dissolved sediments and be subject to General Construction Permit. Impacts would be reduced to below the level of significance through preparation and implementation, of a Stormwater Pollution Prevention Plan (SWPPP). In addition, construction or maintenance of trails that require grading in a Significant Ecological Area (SEA) have the potential to violate water quality standards in a manner that would be deleterious for native fish and wildlife. Impacts would be reduced to below the level of significance through compliance with the County's LID ordinance, requiring the use of two Best Management Practices (BMP). Implementation of BMPs, required pursuant to the County's LID Ordinance, would be expected to reduce impacts to below the level of significance.

Recreation is an allowable use pursuant to the Basin Plan; therefore, the proposed project would be consistent with the Basin Plan.

Groundwater Recharge Areas

There would be no significant impacts to groundwater recharge or groundwater quality. The depth to groundwater within the Santa Clara River Valley Groundwater Basin has been reported at 10 to 100 feet below the ground surface in the Castaic project area. There would be no anticipated impact on groundwater recharge or quality from the near surface grading required to accommodate new trails and improvements to existing trails.[2]

Natural Drainages in Relation to Erosion and Flood Conveyance

The discharge of dredged or fill materials into wetlands and "waters of the United States" or the alteration of a natural drainage subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act and/or subject to the jurisdiction of the California Department of Fish and Wildlife pursuant to Section 1600 of the State Fish and Game

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[1] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

Code would have the potential to result in or erosion of compromise the natural flood conveyance functions, constituting a significant impact. Conformance with the mitigation measures required to use a Nationwide Permit, or obtain an individual permit under Section 404 of the Clean Water Act, or a Lake and Streambed Alteration Agreement under Section 1600 of the State Fish and Game Code would reduce impacts to below the level of significance. Impacts would be further reduced to below the level of significance through compliance with the County's LID ordinance, requiring the use of two Best Management Practices. Implementation of BMPs, required pursuant to the County's LID Ordinance, would be expected to reduce impacts to below the level of significance.

Increase Habitat for Mosquitoes and Other Vectors that Transmit Diseases

There would be no anticipated impact related to increasing habitat for mosquitoes or other vectors that transmit diseases. The proposed project would not add water features or create conditions in which standing water would accumulate or that would increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use. Additionally Los Angeles County has a "pack it in…pack it out" policy that would further deter increased habitat for mosquitoes and other vectors that transmit diseases. This common saying is a simple yet effective way to get hikers to take their trash home with them. Hikers are encouraged to carry out the extra food and packaging materials that they carried in with them.

Stormwater Drainage Systems

There would be no anticipated impact to existing stormwater drainage systems. The proposed project would be required to be designed in accordance with the recommendations of the County Trails Plan. The plan requires the use of erosion control devices. The proposed project would consist of primarily natural pervious surfaces and would not be expected to increase stormwater runoff.

Generate Construction or Post-Construction Runoff that would Violate Applicable Stormwater NPDES Permits or Otherwise Significantly affect Surface Water or Groundwater Quality

The proposed project would not be expected to generate construction or post-construction runoff that would violated existing NPDES permits or otherwise significant affect surface water or groundwater quality. The proposed project would be required to be designed in accordance with the recommendations of the County Trails Plan. The plan requires the use of erosion control devices Construction or maintenance of trails that require grading in excess of 1 acre have the potential to violate water quality standards, particularly in relation to total dissolved sediments and be subject to General Construction Permit. Impacts would be reduced to below the level of significance through preparation, and implementation, of a Stormwater Pollution Prevention Plan (SWPPP). Impacts would be reduced to below the level of significance through compliance with the County's LID ordinance, requiring the use of two Best Management Practices. Implementation of BMPs, required pursuant to the County's LID Ordinance, would be expected to reduce impacts to below the level of significance.

Water Quality

Construction or maintenance of trails that require grading in excess of 1 acre have the potential to violate water quality standards, particularly in relation to total dissolved sediments and be subject to General Construction Permit. Impacts would be reduced to below the level of significance

through preparation, and implementation, of a Stormwater Pollution Prevention Plan (SWPPP). There are no impaired water bodies within the proposed project boundary.

Recreation is an allowable use pursuant to the Basin Plan; therefore, the proposed project would be consistent with the Basin Plan.

Use Onsite Wastewater Treatment Systems in Areas with Known Geological Limitations

There would be no impact related to the use of onsite wastewater treatment systems in areas of known geological systems. The proposed project would not use onsite wastewater treatment systems in areas with known geological limitations or in close proximity to surface water.

Place Housing within a 100-Year Flood Hazard Area

The proposed project would have no impacts related to placing housing with a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain, because the proposed project does not include the construction of new or relocation of existing housing.

Seiche, Tsunami, or Mudflows

The proposed project is not expected to increase the risk and hazard to individuals within areas that lie within the vicinity of coastal waters of being subject to a seiche or tsunami. Therefore, implementation of the proposed project would not be expected to result in significant impacts to hydrology and water quality in relation to seiche, tsunamis, and mudflows.

INTRODUCTION

This Memorandum for the Record (MFR) provides the County of Los Angeles Department of Parks and Recreation (County) with the requisite information to understand the level of impact on hydrology and water quality anticipated for designation, construction, operation and maintenance of trails proposed in the proposed project at a programmatic level of detail. The proposed designation, improvement, operation, and maintenance of the trail segment constitute a project pursuant to the California Environmental Quality Act (CEQA). This MFR provides the requisite information related to hydrology and water quality to support the County's decision-making process in relation to the proposed project: regulatory framework, existing conditions, thresholds of significance, and the consideration of the potential for direct, indirect, and cumulative impacts in accordance with Appendix G of the State CEQA Guidelines.[3] The scope of analysis considered the potential for impacts on hydrology and water quality.

PURPOSE

The purpose of this MFR is to support the County in the development of a multi-use trail plan that would minimize the impacts on the surrounding community, Native Americans most likely descendants identified by the Native American Heritage Commission. It is understood that the County expects to move forward with the proposed project and seeks funding for construction, operation, and maintenance of the proposed project. This MFR provides the requisite information related to impacts on cultural resources to support the County's decision-making process in relation to the proposed project. The evaluation of the potential for the proposed project to result in significant impacts to noise cultural resources was undertaken in accordance with Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines and the Los Angeles County General Plan. This MFR presents the results of these efforts and provides impact analyses for the designation, construction, use and maintenance, of the multi-use trail segments.

LOCATION

The Castaic project area encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley in the northwestern portion of unincorporated County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties.[4] The Castaic project area is composed of generally mountainous and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area, which is located in the Fifth Supervisorial District, includes a portion of the County-managed Castaic Lake State Recreation Area.

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[3] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[4] U.S. Geological Survey. Accessed 4 January 2016. TopoView. Available at: http://ngmdb.usgs.gov/maps/TopoView/viewer/#11/34.5626/-118.5353

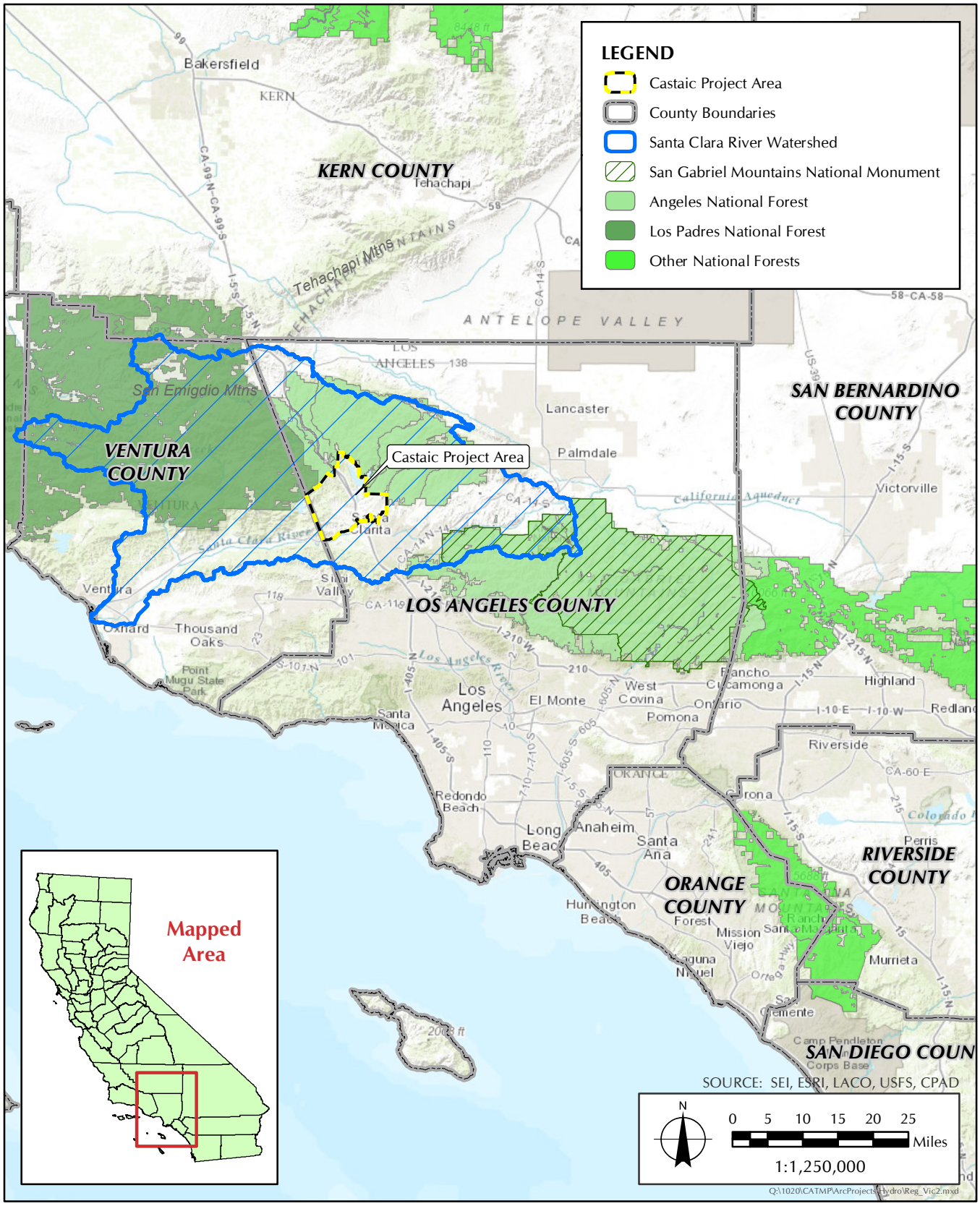

FIGURE 1

Regional Vicinity Map

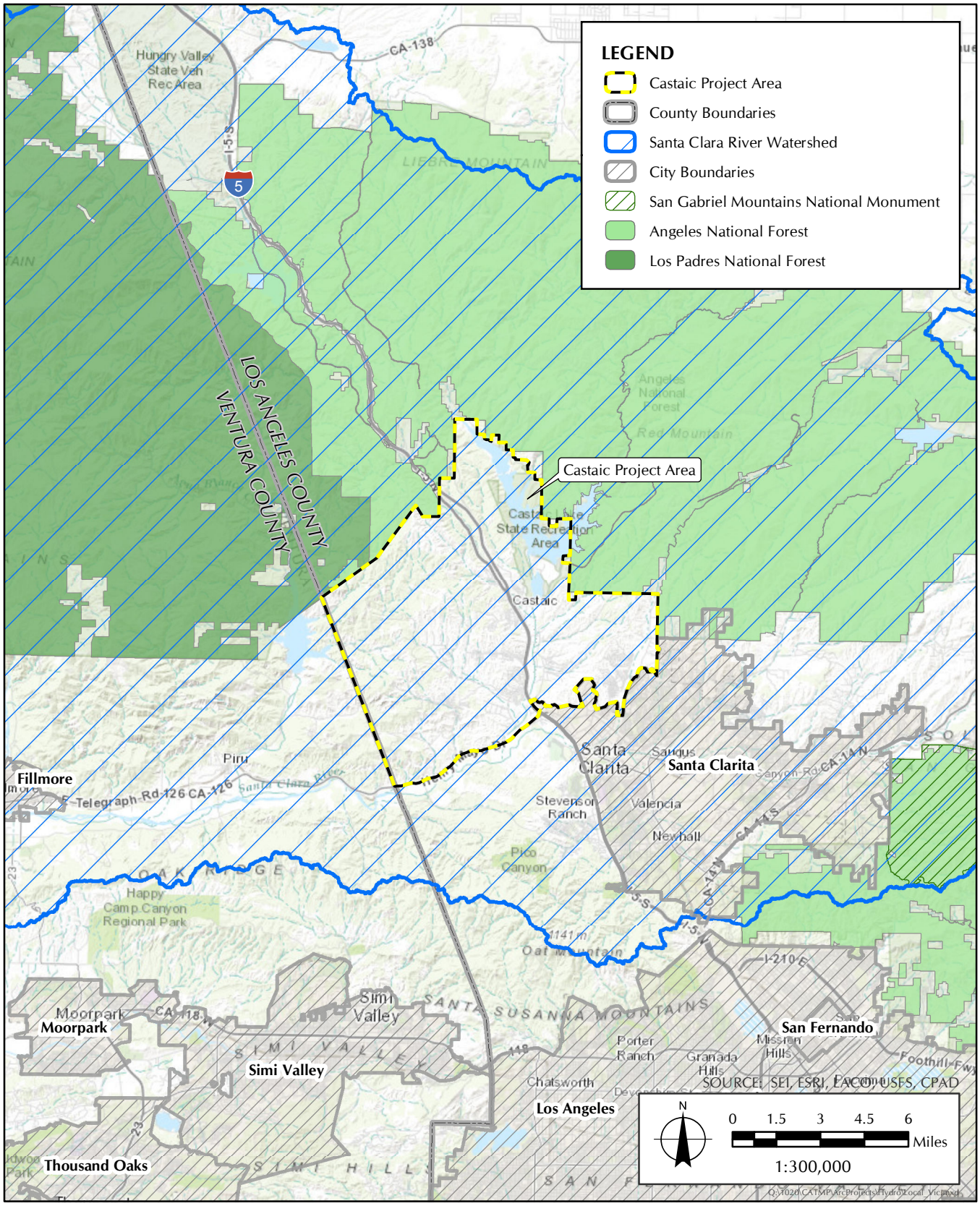

FIGURE 2

Local Vicinity Map

The Castaic project area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Newhall, and Val Verde topographic quadrangles (Figure 3, *Topographic Map with USGS 7.5-Minute Quadrangle Index*).[5,6,7,8] The elevation of the Castaic project area ranges from 2,756 feet above mean sea level (MSL) near the northern edge of the Castaic project area between Violin Canyon and Palomas Canyon, to 863 feet above MSL near the Santa Clara River at the southwestern corner of the Castaic project area. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area (Figure 4, *Castaic Area Multi-Use Trails Plan*). The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

[5] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Whitaker Peak, California, Topographic Quadrangle. Reston, VA.

[6] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Warm Springs Mountain, California, Topographic Quadrangle. Reston, VA.

[7] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Newhall, California, Topographic Quadrangle. Reston, VA.

[8] U.S. Geological Survey. 4 January 2016. 7.5-Minute Series, Val Verde, California, Topographic Quadrangle. Reston, VA.

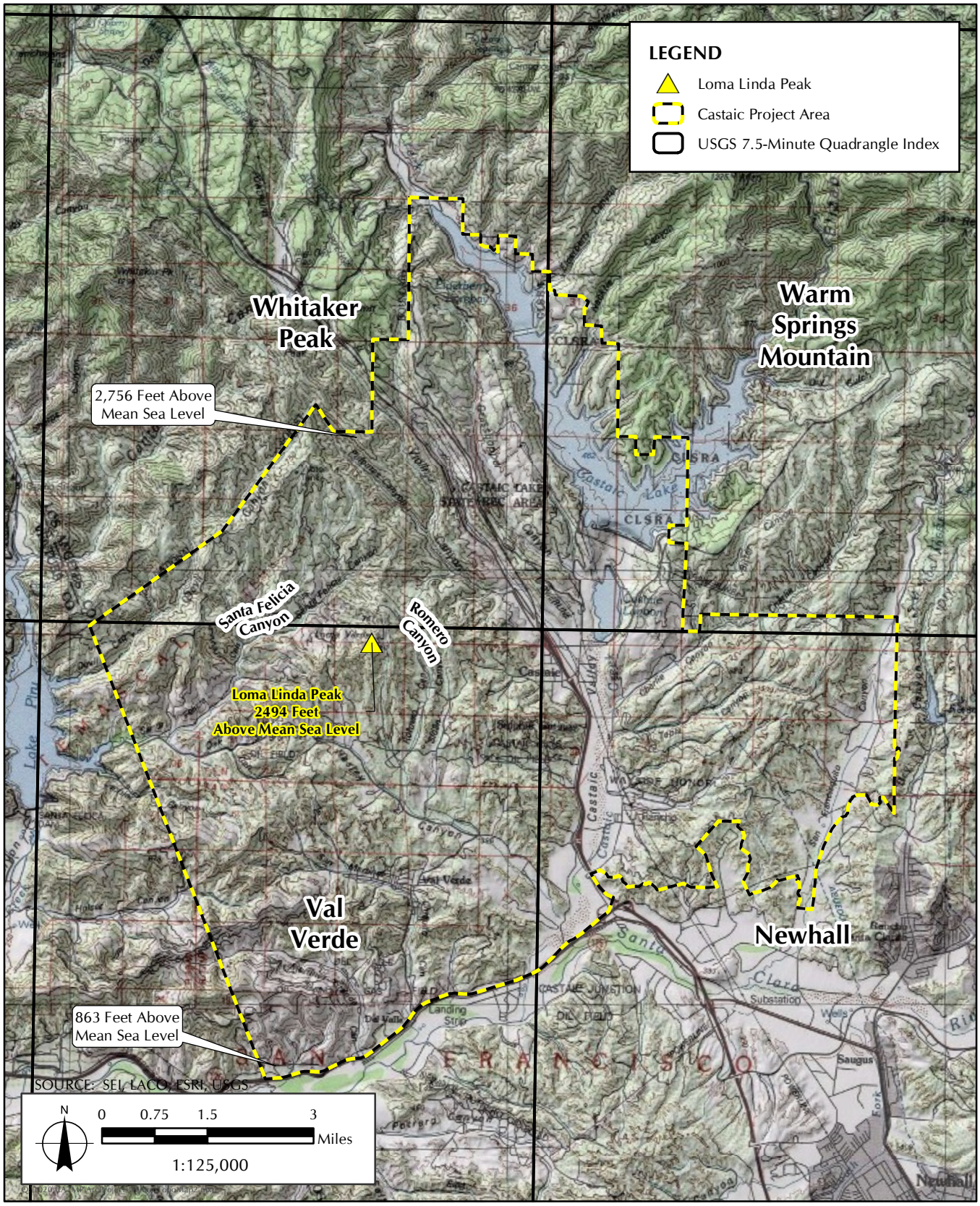

FIGURE 3

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

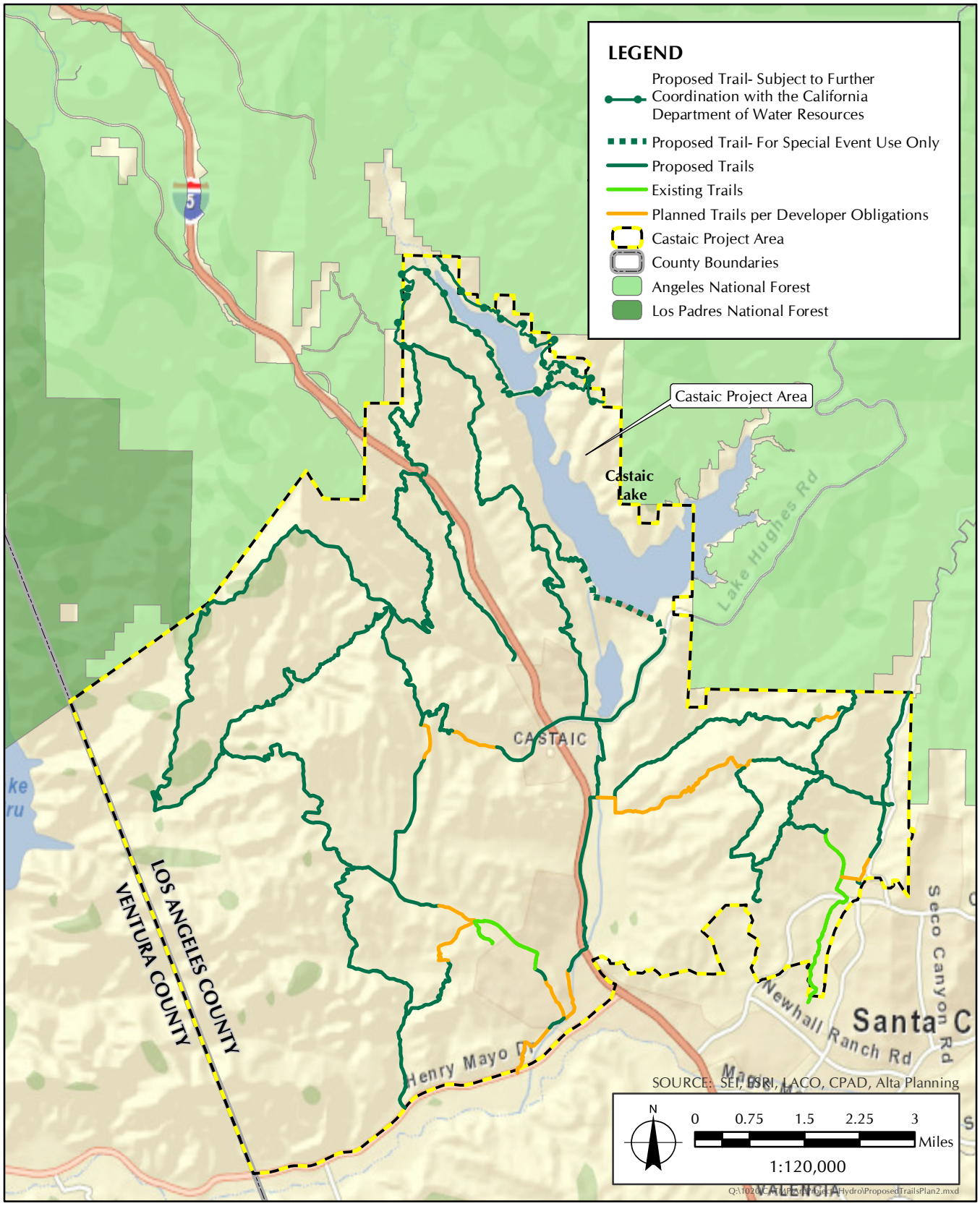

FIGURE 4

Castaic Area Multi-Use Trails Plan

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[9] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)

[9] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[10]

[10] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at:

REGULATORY FRAMEWORK

Federal

Clean Water Act, Sections 401 and 404

Section 401 of the Clean Water Act of 1972 (CWA) established the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, the U.S. Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit is obtained. The EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit. In California, Section 401 of the federal CWA is administered and enforced by the SWRCB, which develops regulations to implement water-quality control programs mandated at the federal and state levels. To implement these programs, California has nine RWQCBs. The Trail Planning Study Area is located within the jurisdiction of the Los Angeles RWQCB.

Section 404 of the CWA establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACE) administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions.

Clean Water Act

This law was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters by regulating point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. This includes the creation of the National Pollutant Discharge Elimination System (NPDES), a program that requires states to establish discharge standards specific to water bodies.

Section 303(d) of the CWA requires states to identify and establish a list of water bodies for which technology-based NPDES effluent limitations required by the CWA are not stringent enough to attain and maintain applicable water quality standards. Those water bodies on the 303(d) list are termed "impaired water bodies." For each impaired water body, states are required to develop a total maximum daily load (TMDL), which is the pollutant limit a water body can receive and still attain water quality standards. Any pollution above the maximum TMDL has to be "budgeted," meaning that the residual pollution is allocated for reduction among the various sources of the pollutant in order to regain the beneficial uses of the water body.

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https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

State

Section 1602 of the State Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state, or local government agency, or public utility that proposes an activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. The Agreement includes reasonable conditions necessary to protect those resources and must comply with the California Environmental Quality Act (CEQA). The entity may proceed with the activity in accordance with the final Agreement.

California Porter-Cologne Water Quality Act

This California state law provides a comprehensive water quality management system for the protection of California waters. Porter-Cologne designated the State Water Resources Control Board (SWRCB) as the ultimate authority over state water rights and water quality policy and also established nine Regional Water Quality Control Boards (RWQCBs) to oversee water quality on a day-to-day basis at the local/regional level, including preparation and implementation of the Water Quality Control Plan (Basin Plan).

The Basin Plans contain water quality standards that are the basis for each RWQCBs' regulatory programs. The water quality standards consist of up to 24 designated beneficial uses (e.g., municipal and domestic supply, wildlife habitat, recreation, and groundwater recharge) for individual surface water bodies and groundwater, as well as the water quality objectives to be maintained or attained to protect those beneficial uses. The Basin Plans also contain waste discharge prohibitions and other implementation measures to achieve water quality objectives. Water quality control measures include TMDLs required by the federal CWA.

Water Code Section 8100

This code provides that each county board of supervisors may appropriate and expend money from the general fund of a county for any of the following purposes in connection with streams or rivers:

- The construction of works, improvements, levees, or check dams to prevent overflow and flooding
- The protection and reforestation of watersheds

- The conservation of the floodwaters
- The making of all surveys, maps, and plans necessary to carry out any work, construction, or improvement authorized by this article
- The carrying out of any work, construction, or improvement authorized by this article outside the county if the rivers or stream affect flow in or through more than one county

Regional

Water Quality Control Plan for the Los Angeles Region

The Los Angeles RWQCB has prepared a Water Quality Control Plan for the Los Angeles Region (Basin Plan), which includes the Coastal Watersheds of Los Angeles and Ventura Counties. The first essentially complete Basin Plan, which was established under the requirements of California's 1969 Porter-Cologne Water Quality Control Act (Section 13000 [Water Quality] et seq. of the California Water Code), was adopted in 1975 and revised in 1984. The latest version was adopted in 1994.

The Los Angeles RWQCB is involved is the regulation of a number of activities that are relevant to the Multi-Use Trails Plan:

- Prepares, monitors compliance with, and enforces Waste Discharge Requirements, including NPDES Permits;
- Implements and enforces local storm water control efforts;
- Enforces water quality laws, regulations, and waste discharge requirements;
- General Construction Activity Storm Water Discharges

Storm water discharges that are composed entirely of runoff from qualifying construction activities may require regulation under the General Construction Activity Storm Water Permit issued by the SWRCB. Construction activities that qualify include clearing, grading, excavation, reconstruction, and dredge-and-fill activities that result in the disturbance of at least 1 acre and less than 5 acres of total land area.

Local

Los Angeles County General Plan 2035

The Trail Planning Study Area is located within unincorporated Los Angeles County and is subject to the County of Los Angeles General Plan 2035.

Goal C/NR 5: Protected and useable local surface water resources.

- **Policy C/NR 5.1:** Support the LID philosophy, which seeks to plan and design public and private development with hydrologic sensitivity, including limits to straightening and channelizing natural flow paths, removal of vegetative cover, compaction of soils, and distribution of naturalistic BMPs at regional, neighborhood, and parcel-level scales.

- **Policy C/NR 5.2:** Require compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits.
- **Policy C/NR 5.3:** Actively engage with stakeholders in the formulation and implementation of surface water preservation and restoration plans, including plans to improve impaired surface water bodies by retrofitting tributary watersheds with LID types of BMPs.
- **Policy C/NR 5.4:** Actively engage in implementing all approved Enhanced Watershed Management Programs/Watershed Management Programs and Coordinated Integrated Monitoring Programs/Integrated Monitoring Programs or other County-involved TMDL implementation and monitoring plans.
- **Policy C/NR 5.5:** Manage the placement and use of septic systems in order to protect nearby surface water bodies.
- **Policy C/NR 5.6:** Minimize point and non-point source water pollution.
- **Policy C/NR 5.7:** Actively support the design of new and retrofit of existing infrastructure to accommodate watershed protection goals, such as roadway, railway, bridge, and other—particularly—tributary street and greenway interface points with channelized waterways.

Goal C/NR 6: Protected and usable local groundwater resources.

- **Policy C/NR 6.1:** Support the LID philosophy, which incorporates distributed, post-construction parcel-level stormwater infiltration as part of new development.
- **Policy C/NR 6.2**: Protect natural groundwater recharge areas and regional spreading grounds.
- **Policy C/NR 6.3:** Actively engage in stakeholder efforts to disperse rainwater and stormwater infiltration BMPs at regional, neighborhood, infrastructure, and parcel-level scales.
- **Policy C/NR 6.4:** Manage the placement and use of septic systems in order to protect high groundwater.
- **Policy C/NR 6.5:** Prevent stormwater infiltration where inappropriate and unsafe, such as in areas with high seasonal groundwater, on hazardous slopes, within 100 feet of drinking water wells, and in contaminated soils.

Goal C/NR 7: Protected and healthy watersheds.

- **Policy C/NR 7.1:** Support the LID philosophy, which mimics the natural hydrologic cycle using undeveloped conditions as a base, in public and private land use planning and development design.
- **Policy C/NR 7.2:** Support the preservation, restoration and strategic acquisition of available land for open space to preserve watershed uplands, natural streams, drainage paths, wetlands, and rivers, which are necessary for the healthy function of watersheds.
- **Policy C/NR 7.3:** Actively engage with stakeholders to incorporate the LID philosophy in the preparation and implementation of watershed and river master plans, ecosystem restoration projects, and other related natural resource conservation aims, and support the implementation of existing efforts, including Watershed Management Programs and Enhanced Watershed Management Programs.

- **Policy C/NR 7.4:** Promote the development of multi-use regional facilities for stormwater quality improvement, groundwater recharge, detention/attenuation, flood management, retaining non-stormwater runoff, and other compatible uses.

Goal S 2: An effective regulatory system that prevents or minimizes personal injury, loss of life, and property.

- **Policy S 2.1:** Discourage development in the County's Flood Hazard Zones.
- **Policy S 2.2:** Discourage development from locating downslope from aqueducts.
- **Policy S 2.3:** Consider climate change adaptation strategies in flood and inundation hazard planning.
- **Policy S 2.4:** Ensure that developments located within the County's Flood Hazard Zones are sited and designed to avoid isolation from essential services and facilities in the event of flooding.
- **Policy S 2.5:** Ensure that the mitigation of flood related property damage and loss limits impacts to biological and other resources.
- **Policy S 2.6:** Work cooperatively with public agencies with responsibility for flood protection, and with stakeholders in planning for flood and inundation hazards.
- **Policy S 2.7:** Locate essential public facilities, such as hospitals and fire stations, outside of Flood Hazard Zones, where feasible.

Los Angeles County Flood Control Act

This act was adopted by the state legislature in 1915. The act established the Los Angeles County Flood Control District (LACFCD) and empowered it to provide flood protection, water conservation, recreation, and aesthetic enhancement within its boundaries. The LACFCD is governed, as a separate entity, by the County of Los Angeles Board of Supervisors. In 1985, the responsibilities and authority vested in the LACFCD were transferred to the County of Los Angeles Department of Public Works (DPW).

Los Angeles County Trails Manual

The Trails Manual outlines various issues affecting trail feasibility (Section 2.5), including hydrology and water quality. Factors include soil erosion, surface runoff, flooding, slope gradient, and water quality. These factors can also affect design methods, construction techniques, and trail maintenance. The stated purpose of the Trails Manual is "to provide guidance to County departments, specifically Los Angeles County Department of Parks and Recreation (LACO-DPR), that interface with trail planning, design, development, and maintenance of hiking, equestrian, and mountain biking recreational trails, while addressing physical and social constraints and opportunities associated with the diverse topographic and social conditions that occur in the unincorporated territory of the County. LACO-DPR will use the planning process delineated in the Trails Manual in considering the development of future trails."

Santa Clarita Valley Area Plan

The Trail Planning Study Area is located within the unincorporated portion of the Santa Clarita Valley and is subject to the 2012 Santa Clarita Valley Area Plan. Relevant guiding principles stated in the Santa Clarita Valley Area Plan include:

Environmental Resources.

- **11.** New development shall be designed to improve energy efficiency, reducing energy and natural resource consumption by such techniques as … capture of storm runoff on-site, … native and drought-tolerant landscape.

Objective LU-7.3: Protect surface and ground water quality through design of development sites and drainage improvements.

- **Policy LU-7.3.1:** Promote the use of permeable paving materials to allow infiltration of surface water into the water table.
- **Policy LU-7.3.2:** Maintain stormwater runoff onsite by directing drainage into rain gardens, natural landscaped swales, rain barrels, permeable areas and use of drainage areas as design elements, where feasible and reasonable.
- **Policy LU-7.3.3:** Seek methods to decrease impermeable site area where reasonable and feasible, in order to reduce stormwater runoff and increase groundwater infiltration, including use of shared parking and other means as appropriate.
- **Policy LU-7.3.4:** Implement best management practices for erosion control throughout the construction and development process
- **Policy LU-7.3.5:** Limit development within flood-prone areas to minimize downstream impacts.
- **Policy LU-7.3.6:** Support emerging methods and technologies for the on-site capture, treatment, and infiltration of stormwater and greywater, and amend the County Code to allow these methods and technologies when they are proven to be safe and feasible.

Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)

The project is in Los Angeles County and is subject to Low Impact Development standards outlined in L.A. County Code, Title 12, Chapter 12.84. The purpose of the standards is:

- To lessen the adverse impacts of stormwater runoff from development and urban runoff on natural drainage systems, receiving waters and other water bodies
- Minimize pollutant loadings from impervious surfaces by requiring development projects to incorporate proper designed, technically appropriate BMPs and other LID strategies.
- Minimize erosion and other hydrologic impacts on natural drainage systems by requiring development projects to incorporate properly designed, technically appropriated hydromodification control development principles and technologies.

The LID standards of this chapter include:

- Mimic undeveloped stormwater runoff rates and volumes in any storm event up to and including the Capital Flood;
- Prevent pollutants of concern from leaving the development site in stormwater as the result of storms, up to and including a Water Quality Design Storm Event; and
- Minimize hydromodification impacts to natural drainage systems.

Newhall Ranch Specific Plan

A portion of the Trail Planning Study Area is located within the Newhall Ranch area and is subject to the Newhall Ranch Specific Plan. There are two Resource Conservation Objectives within the Newhall Ranch Specific Plan that relate to hydrology and water quality:

- **Resource Conservation Objective 1:** Protect wetland and endangered species in the Santa Clara River.
- **Resource Conservation Objective 2:** Preserve the Santa Clara River Corridor and adjacent uplands containing significant natural resources for their resource value, Open Area, and recreational use.

Northlake Specific Plan

A portion of the Trail Planning Study Area is located within the Northlake Specific Plan area. However, there are no goals or policies within this specific plan that pertain to hydrology and water quality. Therefore, this plan is not applicable to the Proposed project.

EXISTING CONDITIONS

The information is organized consistent with the Hydrology and Water Quality Section of Appendix G to the State California Environmental Quality Act (CEQA) Guidelines.

Surface Water

Rainfall in the Proposed project study area drains to the Santa Clara River watershed (Figure 1 and Figure 5, *Study Area Hydrology*). The Proposed project study area is within the South Coast Hydrological Region and under the jurisdiction of the Los Angeles RWQCB. The Proposed project study area is primarily mountainous with surfaces formed by erosion from wind, water, and structural features of the rock.

Castaic Creek is a major tributary of the Santa Clara River and falls within the East Subbasin of the Santa Clara Watershed. Castaic Creek is a south-trending creek originating near Liebre Mountain that confluences with the Santa Clara River downstream of the City of Santa Clarita. The Castaic Lake Reservoir is located on Castaic Creek.[11]

The East Subbasin has a surface area of 66,200 acres (103 square miles). The surface is drained by the Santa Clara River, Bouquet Creek, and Castaic Creek. Discharge from the subbasin is through pumping for municipal and irrigation uses, uptake by plants, and outflow to the Santa Clara River in the western part of the subbasin. Groundwater flow in the subbasin is southward and westward and follows the course of the Santa Clara River. The subbasin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies virtually the entire Upper Santa Clara River area (*Black & Veatch*, 2005). Groundwater in the alluvial aquifer varies from calcium bicarbonate character in the east to calcium sulfate character in the western part of the subbasin. Nitrate content decreases to the west and TDS content increases from about 550 to 600 mg/l in the

[11] California Public Utilities Commission. December 2004. *Antelope Transmission Project – Segment 1 Proponent's Environmental Assessment*. Available at: http://www.cpuc.ca.gov/Environment/info/aspen/antelopepardee/pea/pea04-09.pdf

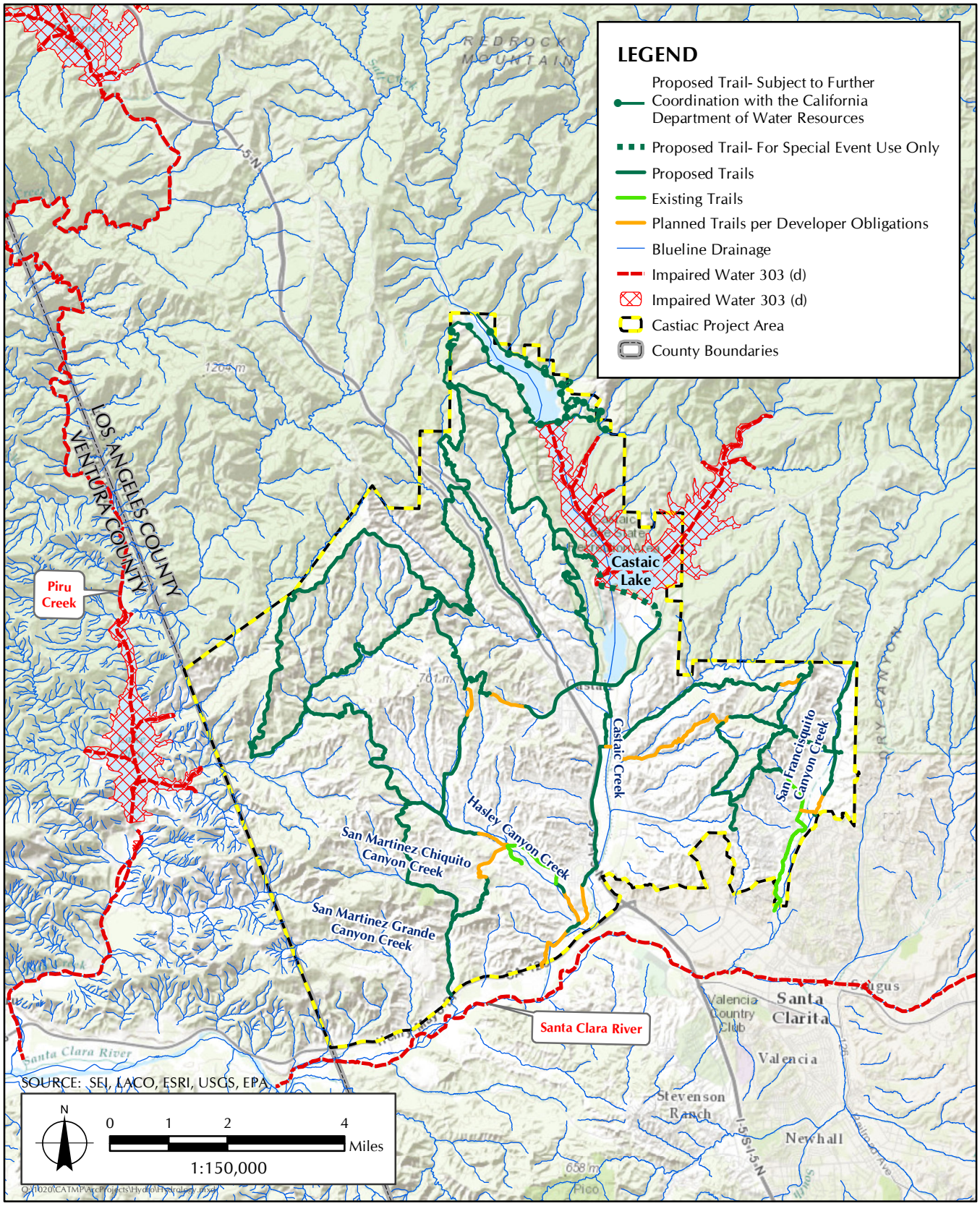

FIGURE 5

Study Area Hydrology

east to about 1,000 mg/l in the west. Groundwater in the Saugus Formation aquifer is of calcium bicarbonate character in the southeast, calcium sulfate in the central, and sodium bicarbonate in the western parts of the subbasin. TDS content in the Saugus Formation aquifer ranges from about 500 to 900 mg/l (CDWR website). Most local wells draw water from the Alluvial Aquifer. A smaller portion of the Valley's water supply is drawn from the Saugus Formation, a much deeper aquifer than the Alluvial Aquifer.[12]

The Castaic Lake Reservoir was completed in 1973 as part of the California State Water Project and stores water transported from northern California for use by state water contractors in southern California. It has a storage capacity of approximately 323,700 acre-feet.[13]

Surface Water Quality

The Proposed project study area is located within the Basin Plan for the Los Angeles RWQCB. The development and implementation of the Basin Plan is a requirement under the federal CWA and is a resource for the use of water and/or discharge of wastewater within the Los Angeles RWQCB boundaries, as well as providing valuable information to the public about local water quality issues. The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan (1) designates beneficial uses for surface and ground waters, (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and (3) describes implementation programs to protect all waters in the region. In addition, the Basin Plan incorporates (by reference) all applicable state and regional board plans and policies and other pertinent water quality policies and regulations.

Groundwater

The Castaic project area is underlain by the Santa Clara River Valley Groundwater Basin, (Figure 6, *Groundwater Basins*). The Santa Clara River Valley East subbasin is bordered on the north by the Piru Mountains, on the west by impervious rocks of the Modelo and Saugus Formations and a constriction in the alluvium[14] on the south by the Santa Susana Mountains, and on the south and east by the Gabriel Mountains. The surface is drained by the Santa Clara River, Bouquet Creek, and Castaic Creek. Average annual precipitation ranges from 14 to 16 inches.

Groundwater is found in alluvium, terrace deposits, and Saugus Formation. Groundwater in the subbasin is generally unconfined in the alluvium, but may be confined, semi-confined, or unconfined in the Saugus Formation.[15]

Groundwater levels in the alluvium has been relatively stable during about 1970 through 2000.[16] During this period, depth to groundwater varied from about 13 to 37 feet in the western 10 to 50

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[12] California Public Utilities Commission. December 2004. *Antelope Transmission Project – Segment 1 Proponent's Environmental Assessment*. Available at: http://www.cpuc.ca.gov/Environment/info/aspen/antelopepardee/pea/pea04-09.pdf

[13] California Public Utilities Commission. December 2004. *Antelope Transmission Project – Segment 1 Proponent's Environmental Assessment*. Available at: http://www.cpuc.ca.gov/Environment/info/aspen/antelopepardee/pea/pea04-09.pdf

[14] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

[15] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

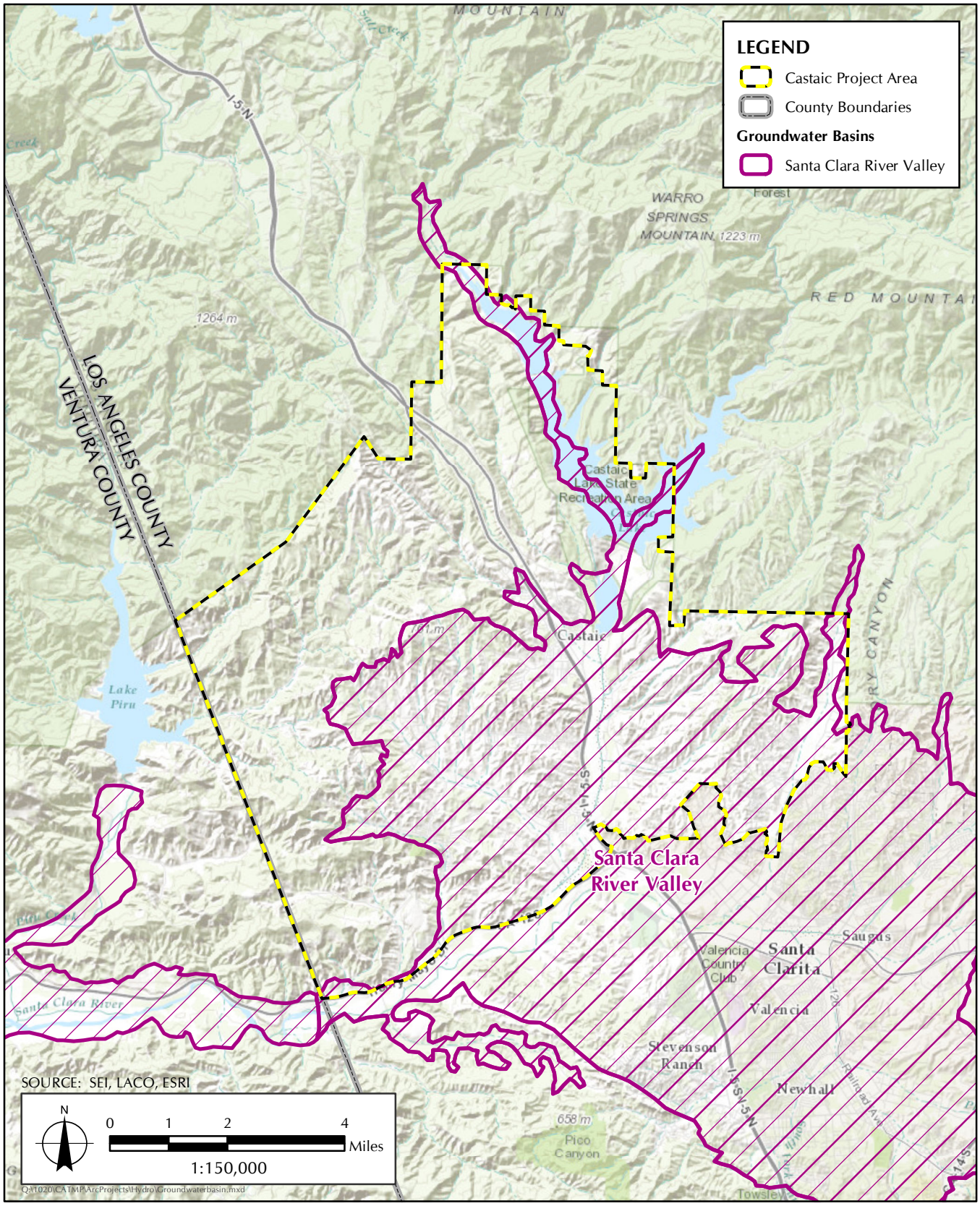

FIGURE 6

Groundwater Basins

feet in the central, and 15 to 100 feet in the eastern parts of the subbasin.[17] Water levels tend to follow long-term precipitation patterns by dropping during periods of low rainfall and recovering during periods of high rainfall. Groundwater levels in the Saugus Formation have been essentially constant during 1970 through 2000 (Upper Santa Clara Valley Water Committee 2002). Groundwater flow in the subbasin is southward and westward and follows the course of the Santa Clara.[18]

The groundwater storage capacity of the alluvial aquifer is about 240,000 af and the Saugus Formations aquifer is at least 1,650,000 af.[19]

Groundwater in storage in the alluvial aquifer during the historical high in 1945 is estimated to have been about 201,000 af and during Spring 2000 was about 161,000 af (*Slade*, 2002). Groundwater in storage in the Saugus Formation during Spring 2000 is estimated to be about 1,650,000 af.[20]

Recent study has determined a normal year operational yield of 30,000 to 40,000 af/yr for the alluvial aquifer and 7,500 to 15,000 af/yr for the Saugus Formation.[21] Pumping from the alluvial aquifer has ranged from 20,000 to 44,000 af/yr, with an average of about 35,000 af/yr for 1990 through 2000 (*Slade*, 2002). During 1991 through 2000, annual pumping from the Saugus Formation ranged from 3,850 to 15,000 af and averaged about 8,500 af/yr. About 92 percent of the Saugus pumping is used for municipal purposes.[22] During 2001, 25,322 af of groundwater was used for municipal and industrial purposes, 16,091 for agricultural and other uses; 37,300 af was produced from the alluvial aquifer and 4,100 af was from the Saugus Formation.[23]

Groundwater in the alluvial aquifer varies from calcium bicarbonate character in the east to calcium sulfate character in the western part of the subbasin.[24] Nitrate content decreases to the west and TDS content increases from about 550 to 600 mg/L in the east to about 1,000 mg/L in the west.[25] Groundwater in the Saugus Formation aquifer is of calcium bicarbonate character in the southeast, calcium sulfate in the central, and sodium bicarbonate in the western parts of the

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16 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

17 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

18 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

19 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

20 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

21 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

22 California's Groundwater Bulletin 118; Sanat Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

23 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

24 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

25 California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

subbasin.[26] TDS content in the Saugus Formation aquifer ranges from about 500 to 900 mg/L.[27] Water sampled from 59 public supply wells show an average TDS content of 695 mg/L in the subbasin and a range from 300 to 1,662 mg/L.

Nitrate content has exceeded 45 mg/L in some parts of the subbasin with a well in the central part of the subbasin reaching 68 mg/L.[28] TDS content may also be elevated, particularly in the western part of the subbasin to become unsuitable for domestic use (DWR, 1968; 1979). Trichloroethylene and ammonium perchlorate have been detected in four wells in the eastern part of the subbasin (*Slade*, 2002).

Existing Drainage Pattern

The Castaic Ranges cover 404,000 acres and include Liebre Mountain, Sawmill Mountain, and the Sierra Pelona. They lie northwest of the San Gabriel Mountains, between Soledad Canyon and Piru Creek in Los Angeles County. Geologically, they are considered part of the Transverse Ranges. The area has rugged topography but is relatively low in elevation, climbing above 5,000 feet only on Liebre and Sawmill mountains. The mountains and foothills north of Castaic are dominated by chaparral-covered hills, but they also contain several low elevation streams that have high-quality riparian and aquatic habitats. In addition, the upper elevations of Liebre and Sawmill mountains contain unique and important montane habitats. The geographic position of this region, which lies between the San Gabriel Mountains to the east, the Tehachapi Mountains to the north, and the Los Padres ranges to the west, makes it a key wildland linkage.[29] The study area crosses Castaic Creek and many other unnamed blueline drainages. These crossings and ephemeral drainages would be subject to the jurisdiction of USACE and CDFW.

Precipitation and Floods

Rainfall in the Castaic project area primarily occurs during late fall through early spring (official season is October 15 through May 15). The average annual rainfall in the area of the Castaic project area is 17.7 inches. The San Fernando Valley received 25.2 inches of precipitation in the measuring year 2010–2011, approximately 42 percent more than its normal seasonal average. In the Santa Clara region, the average annual rainfall is slightly less at 17.1 inches (County of Los Angeles, 2012).

Flooding hazards are directly related to precipitation (rainfall) intensity and duration. Other contributing factors to flooding include the regional topography, type and extent of vegetation coverage, amount of impermeable surfaces, local slope characteristics, and available drainage facilities. Discharge during rainfall events in the Proposed project study area tends to be rapid due to the steep terrain. High intensity rainfalls, in combination with alluvial soils, sparse vegetation, erosion, and steep gradients, can result in significant debris-laden flash floods (County of Los Angeles, 2012).

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[26] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

[27] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

[28] California's Groundwater Bulletin 118; Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin. 2006.

[29] Stephenson R., John. 1999. Southern California Mountains and Foothills Assessment.

Stormwater Drainage Systems

The proposed project would increase runoff, but adherence to the County's required BMPs would mitigate against any impacts to the existing area's stormwater drainage systems.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) maps flood risk areas within the United States as part of the National Flood Insurance Program (NFIP). The NFIP is a federal program that allows property owners in areas of participating communities to purchase insurance against possible loss due to flooding. The majority of the Castaic project area falls within Flood Hazard Zone D; areas where there are possible but undetermined flood hazards (Figure 7, *100-Year Floodplain*). Castaic Lake falls within Flood Hazard Zone A; No base flood elevation determined.[30]

Levees or Dams

Castaic Dam is an embankment dam in northern Los Angeles County, California, near the city of Castaic. Although located on Castaic Creek, a major tributary of the Santa Clara River, Castaic Creek provides little of its water. The lake is the terminus of the West Branch of the California Aqueduct, part of the State Water Project. The dam was built by the California Department of Water Resources and construction was completed in 1973. The lake has a capacity of 325,000 af (401,000,000 m^3) and stores drinking water for the western portion of the Greater Los Angeles Area (Figure 5).

Seiche, Tsunami, or Mudflows

Seiche and tsunamis are the result of tectonic activity, such as an earthquake. A seiche is an oscillation of the surface of a landlocked body of water that can create a hazard to persons and structures on and in the vicinity of the water. A tsunami is a long-period, high-velocity tidal surge that can result in a series of very low (trough) and high (peak) sea levels, with the potential to inundate areas up to several miles from the coast, creating hazards to people or structures from loss, injury, or death. Most of the hazards created by a tsunami come when a trough follows the peak, resulting in a rush of sea water back into the ocean. A mudflow is a moving mass of soil-made fluid by a loss of shear strength, generally as a result of saturation from rain or melting snow. As such, the proposed initiative is not expected to increase the risk and hazard to individuals residing within unincorporated areas that lie within the vicinity of coastal waters of being subject to a seiche or tsunami. Therefore, the Castaic Area Multi Use Trails Plan Area would not be expected to result in significant impacts to hydrology and water quality in relation to seiche, tsunamis, and mudflow.

A tsunami is a series of water waves caused by the displacement of a large volume of water in the ocean that have the potential to cause damage at shorelines. Earthquakes, volcanic eruptions, landslides, glacier carvings, meteorite impacts and other disturbances above or below water all have the potential to generate a tsunami. Due to the distance and rise in elevation from the Pacific Ocean to the Proposed project study area, the area is unlikely to be affected by tsunami.

[30] FEMA Flood Insurance Rate Map Panel 600.

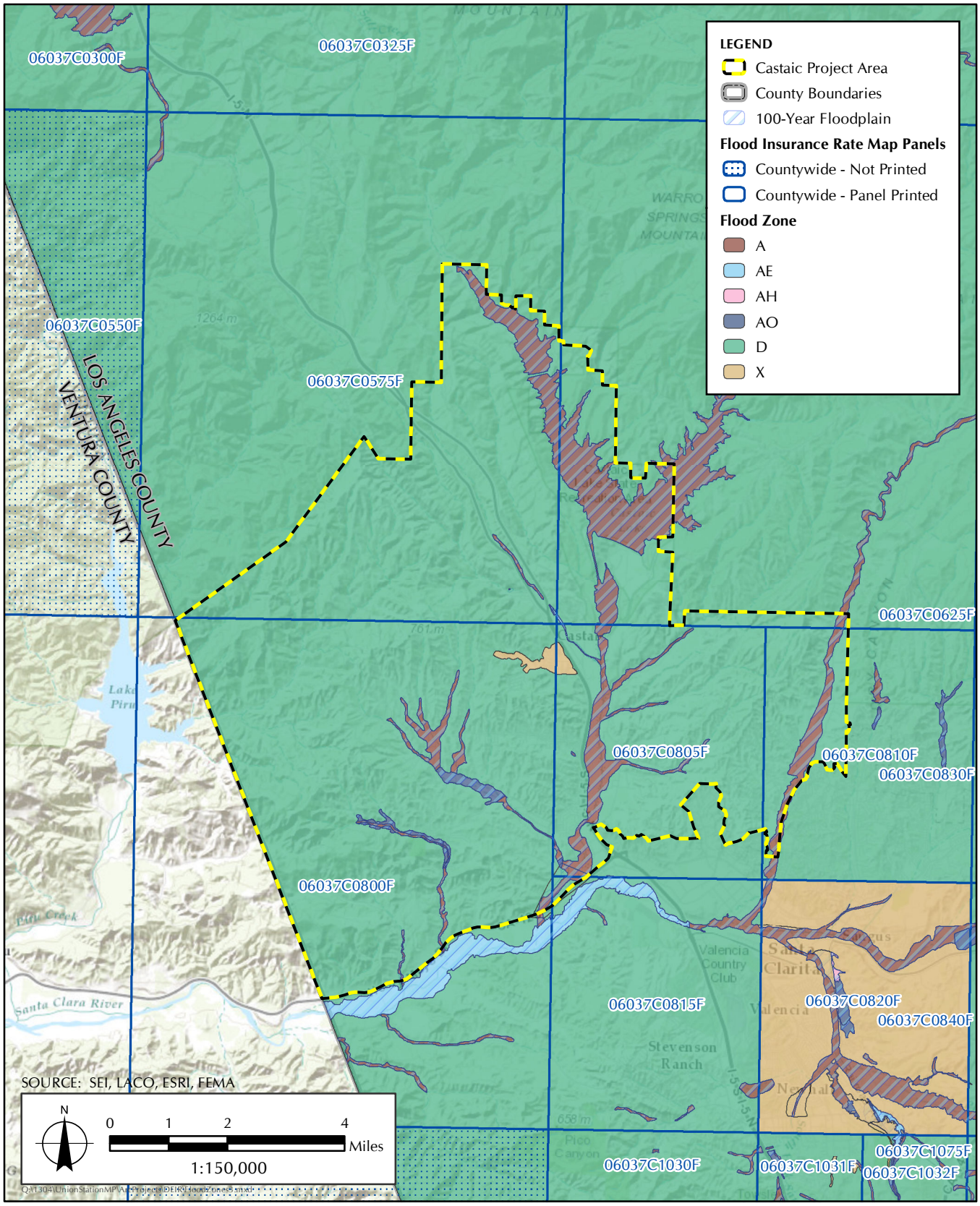

FIGURE 7

100-Year Floodplain

SIGNIFICANCE THRESHOLDS

The potential for trails constructed within the proposed project study area, to result in impacts related to hydrology and water quality was analyzed in relation to the questions in Appendix G of the State CEQA Guidelines.[31] Trails constructed within the study area would be considered to have a significant impact to hydrology and water quality when the potential for any one of the following four thresholds occurs:

- Violate any water quality standards or waste discharge requirements?
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
- Add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use?
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?
- Conflict with the Los Angeles County Low Impact Development_Ordinance (L.A. County Code, Title 12, Ch. 12.84)?
- Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?
- Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?
- Otherwise substantially degrade water quality?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain?
- Place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- Place structures in areas subject to inundation by seiche, tsunami, or mudflow?

[31] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

RESULTS

Violate any water quality standards or waste discharge requirements?

There are no impaired water bodies within the proposed project boundary (Figure 5). Where grading is required to construct the trail improvements is in excess of 1 acre, it would be subject to General Construction Permit and require preparation of a Stormwater Pollution Prevention Plan (SWPPP). Additionally, grading that occurs in the vicinity of a Significant Ecological Area (SEA) may be subject to storm water controls at the discretion of the County Building Department when disturbance is less than an acre.

Most of the main drainages are classified on USGS topographic maps as blue-line streams, indicating that under certain conditions the streams convey water flows. A blue-line stream would be classified as either a positive or negative control point for planning the path of a new trail. In some instances, blue-line streams can be identified as negative control points because the stream can pose a hazard to users or cause excessive damage to natural resources. However, blue-line streams can also provide access to water bodies where the Basin Plan identifies the water body as being suitable for body contact recreation or the water body provides an important visual or aesthetic experience and the blue-line stream would then be considered a positive control point.

Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Depth to groundwater has reported at 10 to 100 feet below the ground surface from the limited investigations that have been undertaken in the study area and should not be an issue for near surface grading required to accommodate new trails and improvements to existing trails.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

The discharge of dredged or fill materials in to wetlands and "waters of the United States" would be subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the CWA and would require a Water Quality Certification or Waiver of Water Quality Certification from the Los Angeles RWQCB. It is possible that the work could be authorized pursuant to one of the pre-authorized Nationwide Permits.

The alteration of any water of the state would be subject to the jurisdiction of the California Department of Fish and Wildlife pursuant to Section 1600 of the State Fish and Game Code.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The discharge of dredged or fill materials in to wetlands and "waters of the United States" would be subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the CWA and would require a Water Quality Certification or Waiver of Water Quality Certification

from the Los Angeles RWQCB. It is possible that the work could be authorized pursuant to one of the pre-authorized Nationwide Permits.

The alteration of any water of the state would be subject to the jurisdiction of the California Department of Fish and Wildlife pursuant to Section 1600 of the State Fish and Game Code.

Add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use?

The proposed project would not add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use.

Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The are no planned stormwater drainage systems to be added and thus the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?

Procedures from the County's LID Standards Manual will be followed to determine the difference in the proposed initiative's pre- and post-development runoff volumes and potential pollutant loads.

Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)?

LA County's Low Impact Development (LID) Standards Manual requires developments manage stormwater runoff. Developments are categorized as Designated or Non-Designated. The proposed project is considered new development located in or directly adjacent to or discharging directly to a Significant Ecological Area (SEA), as defined in Section 22.08.190 of Title 22 of the LID Development Standards, which will discharge stormwater runoff that is likely to impact a sensitive biological species or habitat and create two thousand five hundred (2,500) square feet or more of impervious surface area. The County's LID ordinance does not require a specific reduction in pollutant discharges, but it does have requirements on the size of the BMPs in the manual. BMPs listed for Non-Designated Projects are not required to meet a specific pollutant load reduction or to retain a specified amount of runoff. They are only intended to reduce a development's pollutant load, but not necessarily to reduce all pollutant loads to a pre-development condition; therefore, Project development will result in an increase of pollutant discharges. Procedures from the County's LID Standards Manual will be followed to determine the difference in the proposed initiative's pre- and post-development runoff volumes and potential pollutant loads.

Result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?

The proposed project would not result in a point or nonpoint pollutant discharge into State Water Resources Control Board-designated Areas of Special Biological Significance.

Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?

The proposed project would not use onsite wastewater treatment systems in areas with known geological limitations or in close proximity to surface water. (Figure 8, *Santa Clarita Valley Sanitation District*).

Otherwise substantially degrade water quality?

There are no impaired water bodies within the proposed project boundary (Figure 5). Where grading is required to construct the trail improvements is in excess of 1 acre, it would be subject to General Construction Permit and require preparation of a Stormwater Pollution Prevention Plan (SWPPP). Additionally, grading that occurs in the vicinity of a Significant Ecological Area (SEA) may be subject to storm water controls at the discretion of the County Building Department when disturbance is less than an acre.

Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain?

The proposed would have no impacts related to placing housing with a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map, or within a floodway or floodplain, because the proposed project does not include the construction of new or relocation of existing housing.

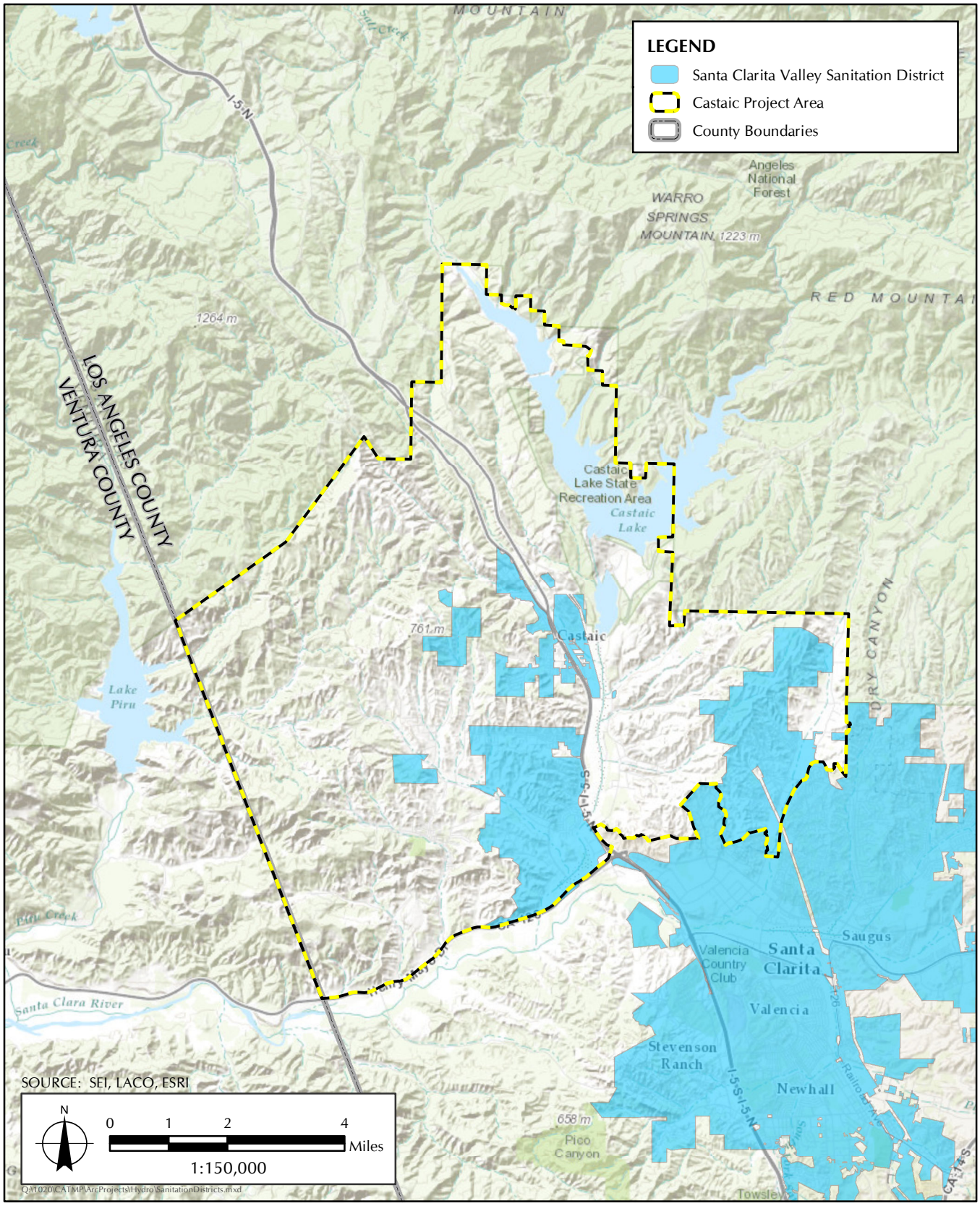

FIGURE 8

Santa Clarita Valley Sanitation District

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Appendix G

Noise Assessment

Sapphos environmental inc.

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan Project

MEMORANDUM FOR THE RECORD
2.6 1020-085 M.08

TO: County of Los Angeles Department of Parks and Recreation (Mr. Frank Moreno, Ms. Olga Ruano, and Mr. Zachary Likins)

FROM: Sapphos Environmental, Inc.
(Ms. Aimee Frappied)

SUBJECT: Castaic Area Multi-Use Trails Plan Noise Assessment

FIGURES:

1. Regional Vicinity Map
2. Local Vicinity Map
3. Castaic Area Multi-Use Trails Plan
4. Topographic Map with United States Geological Survey 7.5-Minute Quadrangle Index
5. Noise Monitoring Sites
6. Sensitive Receptors
7. Public and Private Airports

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EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the noise evaluation that was undertaken in support of the proposed Castaic Area Multi-Use Trails Plan (proposed project). Based on the results of the noise monitoring and modelling conducted by Sapphos Environmental, Inc. in January 2016, the location of sensitive receptors, and construction and operation activities associated with the proposed project, there would be no anticipated significant impacts related to the construction, operation, or maintenance of the proposed trail elements related to exceeding the standard for ambient noise established by the County of Los Angeles Noise Ordinance[1] or as a result of the exposure of sensitive receptors to excessive noise or ground-borne vibration, a substantial permanent increase in ambient noise levels, a substantial temporary increase in noise levels, or exposure to excessive noise from public or private airports for people residing or working in new structures. All impacts related to noise and vibration from construction, operation, and maintenance of trails would be avoided by complying with the County Noise Ordinance by limiting construction and maintenance activities to 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays, and prohibiting work on federal holidays and Sundays, along with limiting noise levels to below 75 dBA for mobile equipment and 60 dBA for stationary equipment at sensitive receptor locations through the use of noise-attenuating barriers, baffles, or blankets.

The evaluation identified 1,260 parcels with potentially sensitive receptors (primarily residential land uses) within 251 feet of the proposed trail alignments in the southern portion of the Castaic project area, south of Castaic, California and adjacent to the Castaic Junction and in the southwestern portion of the Castaic project area in Val Verde, California. The results of the noise monitoring and modeling demonstrated that, when compared to trail operations and maintenance, trail construction activities generate the greatest increases in ambient noise levels and that a separation of a minimum of 251 feet between construction and the nearest sensitive receptor is sufficient to avoid significant impacts to ambient noise levels and sensitive receptors. Impacts to sensitive receptors within 251 feet would be avoided through the use of noise-attenuating barriers, baffles, or blankets

The proposed project would not result in noise impacts in relation to exposure to persons residing or working near airports to excessive noise levels. The Castaic project area is not located within 2 miles of an airport land use area. The distance to the nearest public and private airports is 12.7 miles for the Agua Dulce Airpark, 13.0 miles for the Quail Lake Sky Park, and 15.1 miles for the Whiteman Airport. The Castaic project area is sufficiently removed from public and private airports to protect workers engaged in construction or maintenance of the trails from exposure to excessive noise levels. Similarly, recreational users would not be exposed to excessive noise levels from an airport.

[1] County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, Part 4, Section 440.

INTRODUCTION

This MFR provides the County of Los Angeles (County) with the substantial evidence used to make a determination that there would be no anticipated significant impacts related to the construction, operation, or maintenance of the proposed trail elements related to exceeding the standard for ambient noise established by the County of Los Angeles Noise Ordinance[2] or as a result of the exposure of sensitive receptors to excessive noise or ground-borne vibration, a substantial permanent increase in ambient noise levels, a substantial temporary increase in noise levels, or exposure to excessive noise from public or private airports for people residing or working in new structures. All impacts related to noise and vibration from construction, operation, and maintenance of trails would be avoided by complying with the County Noise Ordinance by limiting construction and maintenance activities to 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays, and prohibiting work on federal holidays and Sundays, along with limiting noise levels to below 75 dBA for mobile equipment and 60 dBA for stationary equipment at sensitive receptor locations.

PURPOSE

The purpose of this MFR is to support the County in the development of a multi-use trail plan that would minimize the impacts on the surrounding community. It is understood that the County expects to move forward with the proposed project and seeks funding for construction, operation, and maintenance of the proposed project. This MFR provides the requisite information related to noise impacts to support the County's decision-making process in relation to the proposed project. The evaluation of the proposed project to result in significant impacts to noise was undertaken in accordance with Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines and the Los Angeles County General Plan. The analysis contained herein can be extrapolated to assess the potential for the proposed project to result in significant impacts from noise as currently conceived by the County. This MFR presents the results of these efforts and provides impact analyses for the designation and construction of the multi-use trail segments.

LOCATION

The Castaic project area, which encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley, is located in the northwestern portion of the unincorporated area of the County of Los Angeles (Figure 1, *Regional Vicinity Map*). The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, the Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties. The Castaic project area is composed of generally mountainous and valley terrain that abuts the Angeles National Forest to the north, the City of Santa Clarita to the southeast, California State Route 126 (Henry Mayo Drive) to the south, and Ventura County to the west (Figure 2, *Local Vicinity Map*). The Castaic project area, which is located in the Fifth Supervisorial District, includes a portion of the County-managed Castaic Lake State Recreation Area. The Castaic project area includes three existing County trails (approximately 4.9 miles) and approximately 74.7 miles of adopted County Trail System proposed trails (Figure 3, *Castaic Area Multi-Use Trails Plan*).

[2] County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, Part 4, Section 440.

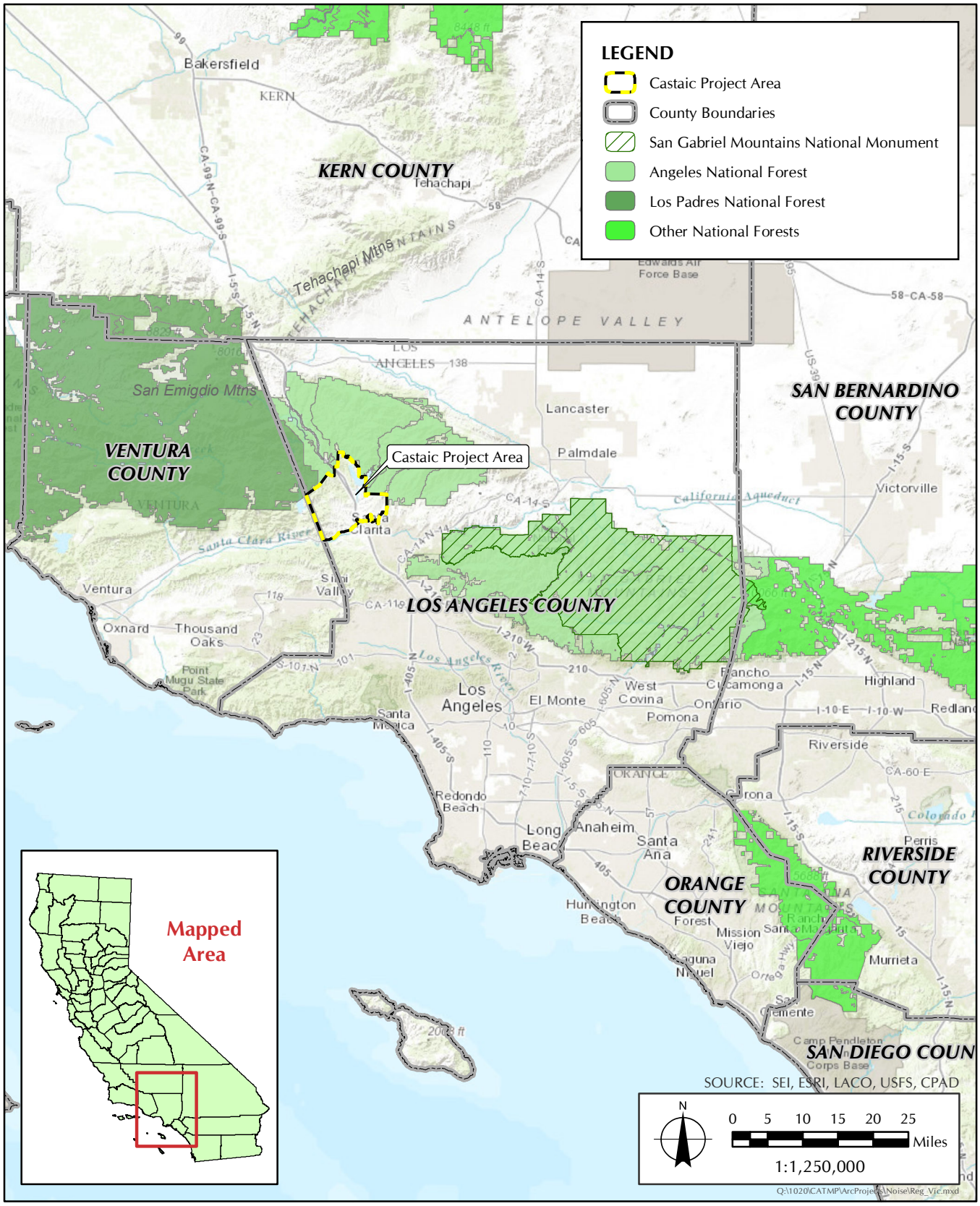


FIGURE 1

Regional Vicinity Map

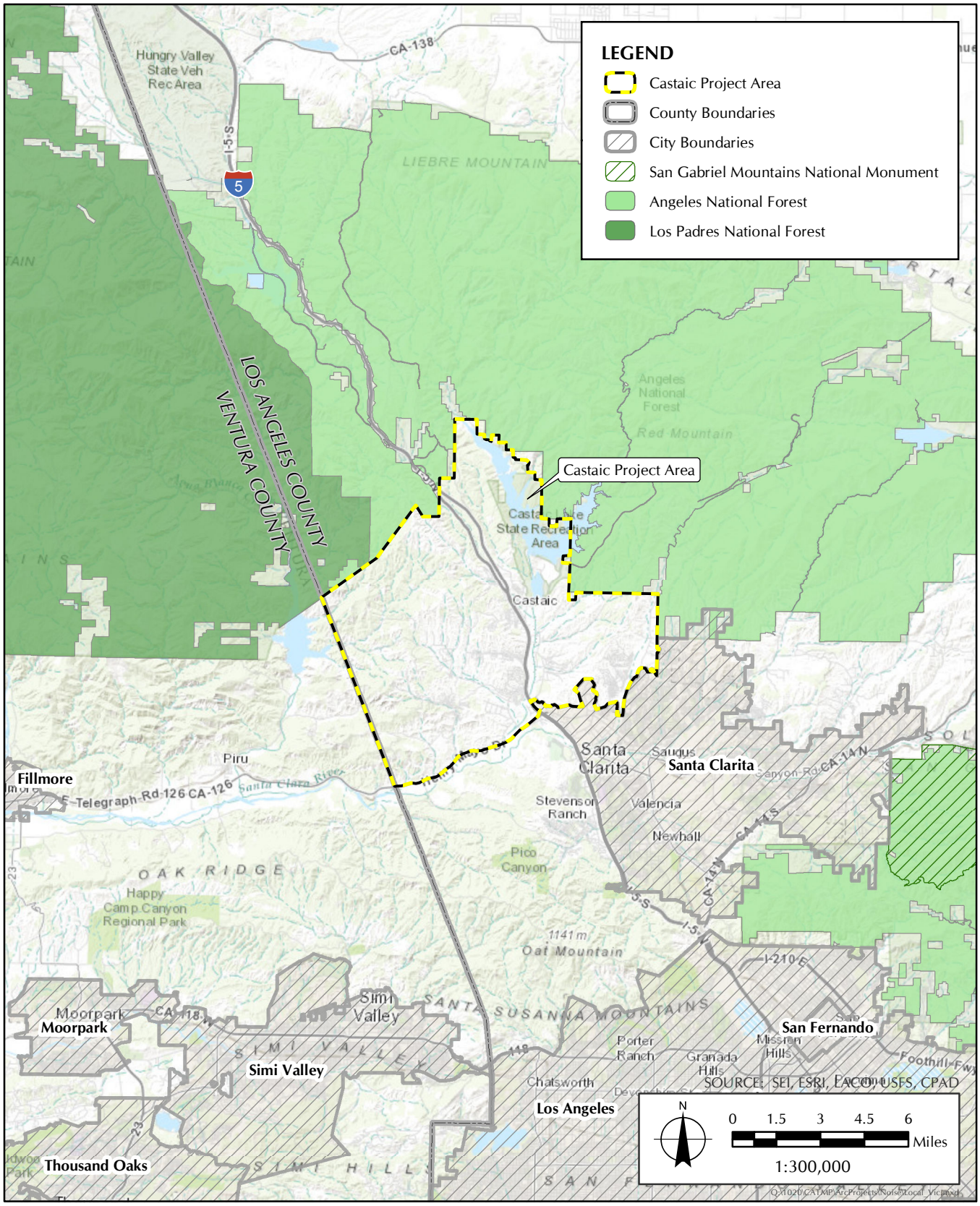


FIGURE 2

Local Vicinity Map

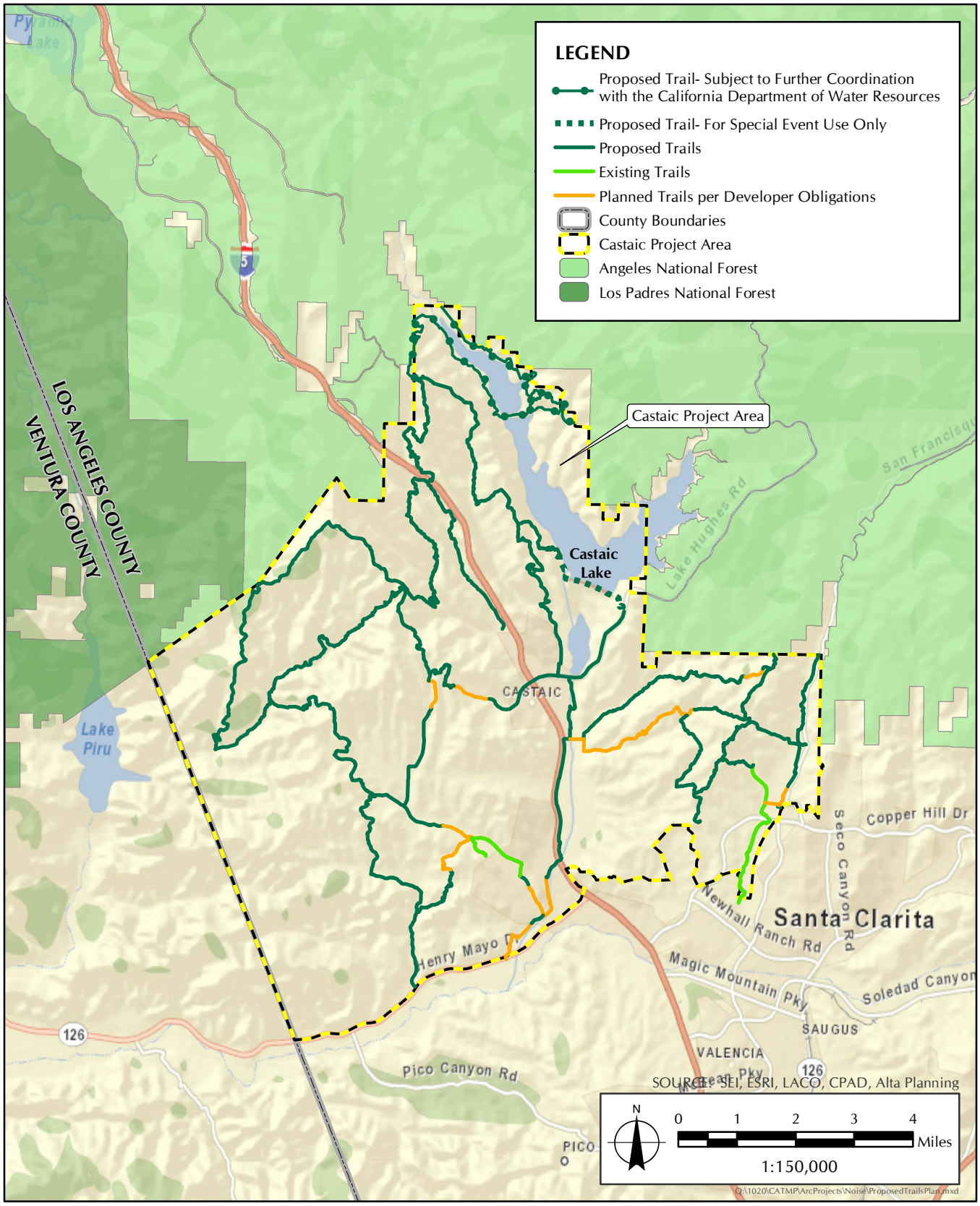


FIGURE 3

Castaic Area Multi-Use Trails Plan

The Castaic project area appears on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Val Verde, and Newhall topographic quadrangles (Figure 4, *Topographic Map with United States Geological Survey 7.5-Minute Quadrangle Index*). The elevation of the Castaic project area ranges from 2,756 feet above mean sea level (MSL) near the northern edge of the Castaic project area between Violin Canyon and Palomas Canyon, to 863 feet above MSL near the Santa Clara River at the southwestern corner of the Castaic project area. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

The proposed project would work to encourage and promote new multi-use trails and recommend improvements to existing trails, providing an alignment to incorporate a transition throughout the Castaic project area to additional areas, jurisdictions, and prime destinations within and adjacent to the Castaic project area. The plan would recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. The proposed project would develop a complete multi-use trail system connecting user groups and local populations to desired recreation destinations and experiences, with unified transition to the trails of adjacent jurisdictions, compatibility with adjacent land uses and environmental resources, and incorporate a sustainable design that is consistent with the County Trails Manual.

The proposed project includes approximately 100 miles of proposed multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley Planning Area. The proposed trails would provide connections to the Angeles National Forest, trails in the City of Santa Clarita, and trails in the Newhall Ranch Specific Plan. The trails would be multi-use and range from 3 to 12 feet wide based on site conditions, with adequate space for combined pedestrian, equestrian, and mountain biking use, in accordance with the County of Los Angeles Trails Manual guidelines (Table 1, *County Trail Types*).

TABLE 1
COUNTY TRAIL TYPES

Trail Type	Tread / Trail Width	Intensity of Use	Impact	Surface Type
Pedestrian	10–11 feet	High	High	Crusher fines / decomposed granite
Recreational Pathway	8–10 feet	High	High	Natural surface
Natural Trail 1	7–10 feet	High	Medium	Natural surface
Natural Trail 2	5–8 feet	Medium to high	Low	Natural surface
Natural Trail 3	2–3 feet	Low	Minimal	Natural surface

SOURCE: County of Los Angeles Department of Parks and Recreation. Adopted May 17, 2011. Revised June 2013. *County of Los Angeles Trails Manual*. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

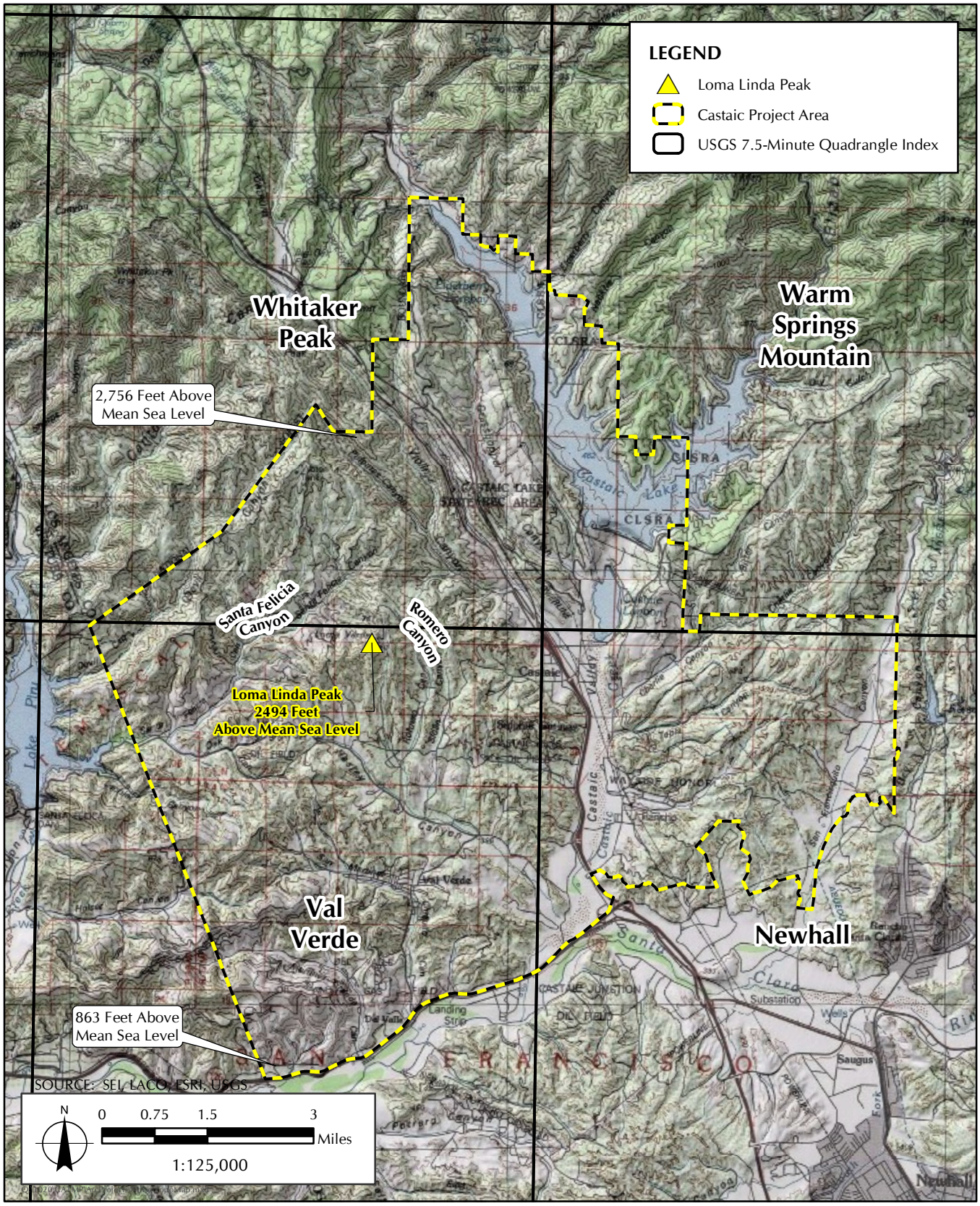


FIGURE 4

Topographic Map with United States Geological Survey 7.5 Minute Quadrangle Index

The proposed project includes 18 trail routes, consisting of four existing trail segments, 10 trail segments that have been planned per developer obligations, and 57 proposed trail segments (Table 2, *Existing, Planned per Developer Obligations, and Proposed Trail Segments*). The proposed trail segments would provide connections to the Santa Felicia SEA, the Angeles National Forest, Newhall Ranch trails and the Santa Clara River Trail, City of Santa Clarita trails, under Interstate-5, and to Castaic Lake.

Consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include regular trail signs at trailheads, trail amenity locations, street and trail intersections, and the boundaries of trail easements on private property and National Forest lands.[3] Also consistent with the recommendations of the County Trails Manual, reassurance marker signs would be posted at eye level (62 inches above the ground surface) at every quarter (0.25) mile of trail that visually mark the trail line and identify the name of the trail and quarter milepost number in order to orient trail users and search and rescue services in the case of an emergency. As each trail segment is constructed, the County Department of Parks and Recreation would be responsible for sending the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department the location of each quarter milepost along the trail for emergency response purposes.

The proposed project would involve the development of five simple trailheads at access points, up to three bike skills park amenities, four equestrian amenities, and nine staging areas and trail amenities (Table 3, *Proposed Trail Related Facilities*). The bike skills parks would occupy up to 45 acres.

[3] County of Los Angeles Department of Parks and Recreation. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
Castaic Creek (CC)	CC1 (Sports Complex)	1.24	Natural	No existing trail. Dirt road, de facto trail route along Castaic Creek. De facto trail that does not cross private property. Crossing of drainage at RV park will wash out periodically unless an alternative crossing (bridge) is developed.
	CC2 (Pitchess)	2.63	Natural	No existing trail. Existing dirt road from Tapia Canyon Road along Interstate 5 and creekbed, including under the freeway bridge. Potential for trailhead at southern end of segment.
	CC3 (Commerce Center East)	0.76	SUB	No existing trail. Portion of segment parallels existing dirt road. Planned trail per developer obligations generally follows 2007 County adopted trail routes; alignment reflects subdivision plans.
	CC4 (Commerce Center Undercrossing)	0.25	Natural	No existing trail. Within Castaic creekbed and along paved utility road. Slightly modified from 2007 County adopted trail routes to meet proposed subdivision trail.
	CC5 (Commerce Center Bike Trail)	0.46	SUB	No existing trail. Along paved utility road adjacent to creekbed. Planned trail per developer obligations follows the subdivision plan indicating proposed bike trail with 10' minimum equestrian trail.
	CC6 (Commerce Center – 126)	0.48	SUB	No existing trail. Parallels Franklin Parkway and Castaic Creek. Planned trail per developer obligations follows the subdivision plan indicating proposed sidewalk and equestrian trail.
Castaic Dam (CD)	CD1 (Castaic Upper Parking)	1.39	Natural	No existing trail. Parking lot median, follows existing switchbacks (dirt path) leading to and along existing Pine Ridge Fire Road. Connection from 2007 County adopted trail routes to upper parking lot at Castaic Lake.
	CD2 (Castaic Dam Crossing)*	1.76	Natural	No existing trail. Follows paved road from upper parking lot at Castaic Lake, across Castaic Dam, to Lake Hughes Road. Dam crossing, bridging east and west sides of Castaic Lake. Subject to further coordination with State Department of Water Resources..
	CD3 (Lake Hughes East)	1.60	ROW	No existing trail. Unpaved ROW along Lake Hughes Road. On-street connection from potential lagoon trailhead to parking lot on the east side of the dam.
Cliffie Stone Extension (CE)	CE1 (San Francisquito Wash - Upper)	0.63	Natural	No existing trail. Parallels existing dirt road/path along San Francisquito Canyon wash. Passes from subdivision land into multiple private parcels. Runs adjacent to the street, but may need to enter street ROW.
	CE2 (Tesoro Del Valle – SF Wash)	0.52	Natural	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail. Passes through Tesoro Del Valle but is not including in subdivision plans.
	CE3 (San Francisquito Wash - Lower)	0.55	ROW	No existing trail. Parallels existing dirt road / de facto route within San Francisquito Canyon wash. Realigned 2007 County adopted trail
	CE4 (Lady Linda)	0.55	Natural	No existing trail. Follows existing dirt road (Lady Linda Lane). Follows Lady Linda Lane to connect to proposed trailhead.
	CE5 (Cliffie Stone – From Lady Linda-Low Ridge)	0.53	ROW	No existing trail. Follows portions of existing de facto dirt path/road to the west of San Francisquito Canyon Road. Primarily follows Cliffie Stone Extension identified in subdivision alignment.
	CE6 (Cliffie Stone – From Lowridge-Tesoro)	0.26	ROW	No existing trail. Dirt ROW exists along San Francisquito Canyon Road. Crosses road ROW but original ROW does not match existing street.
	CE7 (North Park – Cliffie Stone Extension)	0.62	Natural	No existing trail or de facto route. Follows 2007 County adopted alignment through subdivision until southern end, then branches west to meet Cliffie Stone Trail. Owned by MRCA but part of Tesoro subdivision.
	CE8 (North Park Trail Connector)	0.08	Natural	No existing trail or de facto route. Connection to North Park Trail. Leaves subdivision property and enters Newhall Land parcel.
Charlie Canyon (CL)	CL1 (Charlie Canyon Road)	3.61	Natural	No existing trail. Follows existing dirt roads (Tapia Canyon Road and Charlie Canyon Road), and what appears to be a de facto ridgeline path. Realigned from 2007 County adopted trail routes to follow road on County property.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	CL2 (Charlie Canyon – Tesoro Del Valle)	0.37	Natural	No existing trail. Follows existing dirt road or de facto path. Trail enters subdivision parcels but is not on subdivision plans.
	CL3 (San Francisquito Connection)	0.16	Natural	No existing trail. Follows existing dirt road or de facto path. Connection to San Francisquito Trail.
Chiquito Canyon (CO)	CO1 (Chiquito Canyon and Creek)	3.52	Natural	No existing trail. Modified 2007 County adopted alignment to follow creek instead of Chiquito Canyon Road.
	CO2 (Jackson St)	0.21	ROW	No existing trail. Parallels two existing paved roads – Lincoln Avenue and Jackson Street. Follows existing street.
	CO3 (Chiquito Canyon and Creek – South)	1.04	Natural	No existing trail. Follows portions of Jackson Street and existing de facto dirt path or road. Requires access beyond locked gate. Realigned from 2007 County adopted alignment to minimize parcel crossings.
	CO4 (Chiquito Canyon and Creek – North)	1.05	SUB	No existing trail. Parallels portion of Del Valley Road. Planned trail per developer obligations - modified 2007 County adopted alignment to remain within subdivision parcels. Subdivision alignment not determined.
Cliffie Stone (CS)	CS1 (Cliffie Stone – San Francisquito Motorway)	0.68	Natural	No existing trail. Follows existing ridgeline Farmer John Lat dirt road and paved utility access road. Tesoro Del Valle Property. Requires access along utility road.
	CS2 (Cliffie Stone Trail [Tesoro])	1.16	Natural	Existing trail
	CS3 (Cliffie Stone Trail [San Francisquito)	1.73	Natural	Existing trail
Elderberry Forebay (EF)	EF1 (Forebay Connection)	4.76	Natural	No existing trail. Follows existing dirt road and topography. May have security issues with dam and pipes at northern edge. Only include if Elderberry Forebay Dam is useable.
	EF2 (Forebay – Limit 2)	0.81	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF3 (Forebay – Limit 1)	0.72	Natural	No existing trail. Parallels portion of Elderberry Forebay road. Dam connection to northeastern corner route. Only include if Elderberry Forebay Dam is useable.
	EF4 (Northern Limit)	4.76	Natural	No existing trail. Parallels portions of existing roads: Goodell Road and USFS Route 6N13. Northeast connection to USFS roads. Extends beyond Castaic project area.
Hasley Canyon (HC)	HC1 (Hasley – Santa Felicia)	3.48	Natural	No existing trail. Follows existing unpaved Ayala Road for a portion of proposed route. Connects Hasley Canyon to Santa Felicia SEA. Requires passage beyond locked gate at Hasley Canyon.
	HC2 (Hasley – Claremont)	0.70	Natural	No existing trail. Follows existing de facto path or dirt road. Trail falls within subdivision area but is not included in existing subdivision plans. Avoids using street ROW. Connects to 2007 County adopted trail alignment at northern end.
	HC3 (Hasley Canyon End)	0.16	Natural	No existing trail. Realigned 2007 County adopted trail alignment.
	HC4 (Hasley Road West)	0.33	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Follows 2007 County adopted trail alignment along public ROW. Ends at road.
	HC5 (Hasley Road East)	0.57	ROW	No existing trail. Parallels existing paved Hasley Canyon Road. Realigned 2007 County adopted trail to avoid private parcel conflict, avoid a creek crossing, and to more directly connect to other trail segments.
	HC6 (Hasley Creek)	0.26	Natural	Existing de facto trail along Hasley Canyon Road. Realigned 2007 County adopted trail to follow de facto trails.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	HC7 (Hasley-Los Valles)	0.56	SUB	No existing trail. Existing de facto trail along Hasley Canyon Road. Planned trail per developer obligations - realigned 2007 County adopted trail to follow de facto trails. Within subdivision area a planned subdivision trail is not indicated.
	HC8 (Hasley Canyon Trail)	1.68	Natural	Existing trail
	HC9 (Commerce Center)	0.21	ROW	No existing trail. Existing paved maintenance road along channelized creek. Line to proposed subdivision trails. Crosses under Commerce Center Drive and uses maintenance road.
	HC10 (Commerce Center NW)	0.61	SUB	No existing trail. Parallels creek bed. Planned trail per developer obligations generally follows 2007 County adopted alignment, but realigned to avoid the creek bed where possible.
Interstate Paintball (IP)	IP1 (Interstate 5 to Ridge Route)	3.30	Natural	No existing trail. Existing utility access dirt roads. Follows utility access roads. Northern end will need switchbacks to drop to Ridge Route Rd.
	IP2 (Paintball Site)	0.65	Natural	No existing trail. Existing dirt roads and paved roads. Connects through former paintball site and proposed bike skills park. Alignment to be determined by park design.
	IP3 (Santa Felicia to 5 Connection)	3.67	Natural	No existing trail. Existing dirt roads along portions of alignment. Connection from former paintball site to Santa Felicia SEA. Undercrossing at Interstate-5 will need to be evaluated for safety.
	IP4 (Between Interstate 5)	3.14	Natural	No existing trail. Existing utility access dirt roads between I-5 North and I-5 south. Picks up from the end of Castaic Road and continues to paintball site.
Lake West (LW)	LW1 (Northlake North)	3.28	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW2 (Northlake Central)	1.10	Natural	No existing trail. Existing dirt roads. Follows 2007 County adopted trail route.
	LW3 (Lagoon-Lake)	4.05	Natural	Existing dirt roads, including a portion of Cutler Canyon Fire Road and Vista Ridge Fire Road, and paved Castaic Lake State Recreation Area road. Includes a portion of Pro's Uphill Open Trail and Castaic Brick Trail of Castaic Lake State Recreation Area.[1] Follows 2007 County adopted trail route.
North Park Trail	North Park Trail	0.33	Natural	Existing trail
Romero Canyon (RC)	RC1 (Romero-Santa Felicia)	1.88	Natural	No existing trail. Follows existing dirt road/path. Portions follow narrow ridgelines.
	RC2 (North of High School)	0.13	Natural	No existing trail. Currently a construction site. Connection to Castaic High School path.
	RC3 (Castaic High School)	0.56	SUB	No existing trail. Currently a construction site leading to Romero Canyon Road. Planned trail per developer obligations – alignment needs verification from development plan.
	RC4 (Romero Canyon Rd)	1.89	Natural	No existing trail. Parallels Romero Canyon Road. Follows private road.
Santa Felicia (SA)	SA1 (Santa Felicia Upper Loop)	7.59	Natural	No existing trail. Existing dirt road. Minimal constraints.
	SA2 (Santa Felicia Lower Loop)	5.80	Natural	No existing trail. Existing dirt road. Portions follow narrow ridgelines.
San Francisquito (SF)	SF1 (San Francisquito Motorway)	0.34	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows San Francisquito Motorway to the edge of the Castaic project area.

TABLE 2
EXISTING, PLANNED PER DEVELOPER OBLIGATIONS, AND PROPOSED TRAIL SEGMENTS

Route Name	Trail Segment	Length (Miles)	Trail Type	Existing Conditions of Trail Segment and Trail Design Considerations
	SF2 (San Francisquito Motorway Bypass)	1.09	Natural	No existing trail. De facto ridgeline dirt road/path. Two parallel alternative routes. Single alignment pending further study. Partially inside Tapia Ranch.
	SF3 (San Francisquito – Tapia)	1.15	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Passes through Tesoro Del Valle, not included in subdivision plans.
	SF4 (San Francisquito – West Creek)	0.85	Natural	No existing trail. Existing dirt road: San Francisquito Motorway. Follows utility road. Connects San Francisquito and Cliffie Stone Trails to West Creek.
Sloan Canyon (SC)	SC1 (Sloan Canyon West)	1.14	Natural	No existing trail. Existing dirt roads and construction sites. Portions follow narrow ridgelines.
	SC2 (Homestead at Sloan Canyon)	0.68	SUB	No existing trail. Existing construction site and unpaved Sloan Canyon Road. Planned trail per developer obligations follows existing dirt road.
	SC3 (Sloan Canyon Dr)	1.52	ROW	No existing trail. Parallels Sloan Canyon Road and Lake Hughes Road. On-street connection. Crosses under Interstate 5. Requires coordination with Los Angeles County Public Works.
	SC4 (Lake Hughes at Lagoon)	0.19	ROW	No existing trail. Parallels Lake Hughes Road south of Castaic Lagoon. Connects Castaic Creek to Castaic Lake.
Tapia Canyon (TC)	TC1 (Sports Complex – Tapia)	0.24	SUB	No existing trail. Parallels Tapia Canyon Road. Planned trail per developer obligations – Tapia Ranch development plans to build path to Castaic Road.
	TC2 (Tapia Bypass)	2.74	SUB	No existing trail. Parallels Tapia Canyon Road and Wayside Canyon Road in between undeveloped portions of Tapia Canyon. Planned trail per developer obligations – part of Tapia Ranch development plan. Portions follow 2007 County adopted alignment.
	TC3 (Tapia – San Francisquito)	1.11	Natural	No existing trail. Appears to be a de facto trail or dirt path between Tapia Canyon Road and San Francisquito Motorway. Partially within Tapia Ranch development.
	TC4 (Tapia – Cliffie Stone)	1.03	Natural	No existing trail. A portion of alignment route follows an existing dirt road/path. A portion parallels dirt roads/paths: Quail Haven Trail, Las Tunas Trail, and Lady Linda Lane. Trail would need to traverse a significant elevation change over the ridge at northern end.
Val Verde (VV)	VV1 (Kennsington Rd)	2.31	Natural	No existing trail. Follows a few de facto dirt roads/paths. Requires access along private roads at either end of the alignment.
	VV2 (Chiquito – Val Verde)	0.94	Natural	No existing trail. Follows edge of Val Verde Park and drainage. Follows drainage, marked as privately owned for portions but appears to all be LA County Flood Control property.
West Creek (WC)	WC1 (West Creek – Tapia)	1.49	Natural	No existing trail. Parallels two existing dirt roads: Company Road and Wayside Lateral Road. Requires connection through cul-de-dac in West Creek.
	WC2 (West Creek – Tapia – Tesoro)	1.30	Natural	No existing trail. Follows a portion of existing de facto dirt road/paths and a portion of Tapia Canyon Road. Within subdivision property, but alignment not included in subdivision. Connects West Creek development to Tapia Ranch area.
TOTAL				
Total of 18 Routes	**Total of 71 Trail Segments** • 4 Existing Segments • 10 Segments planned per developer obligations • 57 Proposed Trail Segments			**Total Of 102.94 Miles in Trail Planning Castaic project area** • 4.90 Miles Existing Trails • 8.14 Miles Planned trails per developer obligations (no existing trail) • 89.90 Miles Proposed and Under Consideration

NOTES: *Subject to negotiation with California State Department of Water Resources (DWR) - Future negotiations with DWR and pending state and county agreement renewal. SUB = Multi-Use Subdivision Trail. ROW = New Designation
SOURCE: [1] Friends of Castaic Lake. Accessed 12 April 2016. *Castaic Lake – Trail Map*. Available at: http://castaiclake.com/map_trails.html

TABLE 3
PROPOSED TRAIL RELATED FACILITIES

Trail Related Facility Type	Related Facility Name (Size)
Trail Access Only • Trailheads only	Upper Ridge Route Road
	Sloan Canyon
	Castaic Road
	West Creek
	Hasley Canyon Equestrian Center
Bike Skills Park Amenities • Restrooms • Drinking Fountains • Rest Areas/Seating • Shade Structures • Pump Tracks (no pedaling required) • Progressive Jumps (natural soil with compacted dirt jumps) • Balance Skills Features (e.g., wooden teeter-totter) • Rock/Technical Features (e.g., rock garden with narrow width trails) • Flow Trails (start at higher elevation for downhill ride) • Trails (over variety of terrain, for all ages) • Road Handling Skills Areas (hard-packed soil course) • Beginner, Intermediate, and Expert Skills Courses (for all ages) • Advanced Downhill Course (steep terrain, jumps, turns, obstacles) • Slalom Course (two adjacent trails for competition)	Castaic Sports Complex (up to 10 acres)
	Upper Lagoon (up to 5 acres)
	Ridge Route Road (up to 30 acres)
Equestrian Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Picnic Tables • Shade Structures • Horse Arenas • Gathering Areas • Horse Ties and Rails	Tapia Canyon Road
	Castaic Lake Upper Lot
	Tesoro Del Valle
	Castaic Sports Complex
Staging Areas and Trail Amenities • Trailheads • Parking • Restrooms • Drinking Fountains (for humans, equine, or pets) • Benches/Seating • Picnic Tables • Shade Structures • Wayfinding Signage • Interpretive Signage • Gathering Areas • Horse Ties and Rails • Bike Racks	Old Road
	Hasley Canyon
	Chiquito Canyon
	Santa Felicia
	Castaic Lagoon
	Lady Linda
	Ridge Route Road
	Castaic Sports Complex
	Castaic Lake State Recreation Area Upper Lot

Restrooms would be design and required to demonstrate compliance with the standards of the Santa Clarita Valley Sanitation District or the County of Los Angeles Department of Public Health for Onsite Wastewater Treatment Systems (OWTS), as applicable.

Trails and supporting facilities within a one-mile radius of officially designated and eligible State scenic highways would be designed, constructed, and maintained (where construction equipment is involved) to preserve scenic resources, including but not limited to trees, rock outcroppings, and historic buildings, within the scenic highway corridor. Where construction of trails or related supporting facilities requires cuts into the slope (which can be seen from a far distance), the visual character of the slope would be restored by planting locally native vegetation as a visual screen. Similarly, restrooms and other supporting structures would be constructed of materials that blend into the landscape, with locally native vegetative screening.

As stated in the County Trails Manual, the hours for operation for County trails are typically from dawn to dusk (County Code 17.04.330). In accordance with the guidelines in Section 4.3.18, *Lighting*, of the County Trails Manual, where lighting features are provided for safety and wayfinding reasons, lighting would installed in a manner to be non-intrusive to adjacent uses, avoid detracting from a natural outdoors experience for trail users, and directed downward to avoid light pollution or spillover in general.[4]

TECHNICAL TERMINOLOGY

Sensitive Receptors

Areas with noise-sensitive receptors are locations in which the presence of unwanted sound could adversely affect or disrupt activities associated with the land use at the specified location. Land uses such as residences, schools, libraries, churches, and hospitals are generally more sensitive to noise than industrial and commercial land uses. These particular locations are considered to be noise-sensitive receptors. Baseline data are collected at the locations of existing noise-sensitive receptors to determine the ambient noise levels and if noise from the implementation of the proposed plan would result in significant increases to these levels.

Noise Characteristics

Noise is defined as unwanted sound (Table 4, *Definitions*). The human response to environmental noise is subjective and varies considerably from individual to individual. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and, at the highest intensity levels, hearing loss.

[4] County of Los Angeles Department of Parks and Recreation. Adopted by the Board of Supervisors on May 17, 2011. Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

TABLE 4
DEFINITIONS

dBA	A-weighted decibels (dBA) are an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced compared with unweighted decibels, in which no correction is made for audio frequency.
L_{eq}	The equivalent-continuous sound (L_{eq}) is the level of a constant sound, expressed in decibels (dB), which in a given time period ($T = T_2 - T_1$) has the same energy as a time varying sound.
CNEL	The Community Noise Equivalent Level (CNEL) is the average sound level over a 24-hour period, with a penalty of 5 dB added between the hours of 7:00 p.m. and 10:00 p.m., and a penalty of 10 dB added for the nighttime hours between 10:00 p.m. and 7:00 a.m. These increases account for reduced ambient noise levels during these time periods and increased human sensitivity to noise during the quieter periods of the day.
Ambient noise	The level of the total noise in an area.
Point source	A single identifiable, localized source of noise.
Sensitive receptors	Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, playgrounds, long-term health care facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to noise impacts.

Noise Attenuation

Noise is attenuated as it propagates from the source to the receiver. Attenuation is logarithmic, rather than linear, which means:

- For line sources, such as streets, noise levels decrease by 3 to 5 dBA for every doubling of distance from the source.
- For point sources, noise levels decrease quicker, about 6 dBA, for every doubling of distance from the source
- Topography and the type of surface (paved or vegetated) also play a role in noise attenuation characteristics.

One way of estimating a person's subjective reaction to a new noise is to compare the new noise with the existing noise environment to which the person has become adapted, that is, the increase over the so-called "ambient" noise level. Research in the area of perceived impacts of various degrees of increase in dBA indicates the following:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in noise level of at least 5 dBA is required before any noticeable change in community response would be expected. A 5-dBA increase is often considered a significant impact.
- A 10-dBA increase is subjectively heard as approximately a doubling in loudness and almost always causes an adverse community response.

In assessing the impact of noise upon the environment, the nature and level of activities that generate the noise, the pathway through which the noise travels, the sensitivity of the receptor, the period of exposure, and the increase over the ambient noise levels are all considered. For the purposes of this analysis, sensitive receptors are defined to include single-family residences, convalescent homes, schools, auditoriums, and other similar land uses that may be affected to a greater degree by increased noise levels than industrial, manufacturing, or commercial land uses.

The noise evaluation identified sensitive noise receptors in the southern portion of the Castaic project area, south of Castaic, California and adjacent to the Castaic Junction and in the southwestern portion of the Castaic project area in Val Verde. Although the proposed Master Plan is a programmatic planning document, it would facilitate the development of the identified conceptual trails. Therefore, an evaluation was undertaken to determine if such development would likely result in significant impacts, necessitating the consideration of mitigation measures. The noise evaluation not only informs the proposed project planning process, it provides the County of Los Angeles Department of Parks and Recreation with the information that would serve as the basis for assessment of noise in the Initial Study, pursuant to CEQA. The evaluation of noise was undertaken in accordance with Appendix G of the State CEQA Guidelines. This assessment focuses on the potential for the proposed project to exceed the standards for noise established for the County or result in the exposure of sensitive receptors to excessive ground-borne vibration, a substantial permanent increase in noise levels, or exposure to excessive noise from public or private airports for people residing or working in new structures.

Ground-Borne Vibration

Vibration is an oscillatory motion, which can be described in terms of the displacement, velocity, or acceleration. Because motion is oscillatory, there is no net movement of the vibrating element and the average of any of the motion descriptors is zero. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the movement and the acceleration the rate of change of speed.

Although displacement is easier to understand than velocity and acceleration, it is rarely used for describing ground-borne vibration. This is because most transducers used for ground-borne vibration use either velocity or acceleration, and even more important, the response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration.

The effects of ground-borne vibration include fellable movements of the building floors, rattling of windows, shaking of items on shelves or hangings on walls. The rumble is the noise radiated from the motion of the room surfaces. In essence, the room surfaces act like a loudspeaker. This is called ground-borne noise. In extreme cases, vibrations can cause damage to buildings.

Ground-borne vibration is almost never annoying to people who are outdoors, although the motion of the ground may be perceived.

Propagation of vibration from source to the receiver is dependent on soil conditions and on the receiving building. Vibration propagation is more efficient in stiff clay soils and shallow rocks seem to concentrate the vibration energy close to the surface and can result in ground-borne vibration problem at large distances. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of ground-borne vibration. The vibration levels inside a building depend on the energy that reaches the building foundation, the coupling of the building

foundation to the soil, and the propagation of vibration through the building. The general guideline is that the heavier the building is the lower the response would be to the incident vibration.

REGULATORY FRAMEWORK

Federal

Noise Control Act of 1972

The adverse impacts of noise were officially recognized by the federal government in the Noise Control Act of 1972,[5] which serves three purposes:

- Promulgating noise emission standards for interstate commerce;
- Assisting state and local abatement efforts; and,
- Promoting noise education and research.

The Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration (OSHA) prohibits exposure of workers to excessive sound levels. The U.S. Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies, such as the Federal Aviation Administration (FAA), which regulates noise generated by aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA), which requires that all rail systems receiving federal funding be constructed and operated in accordance with its regulations and specifications. The Federal Railroad Administration (FRA) sets forth and enforces safety standards, including noise emissions within railroad locomotive cabs. Transit noise is regulated by the FTA, while freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA). The FHWA has adopted and promulgated noise abatement criteria for highway construction projects. The federal government encourages local jurisdictions to use their land use regulatory authority to site new development to minimize potential noise impacts.

Title 14 Code of Federal Regulations, Part 150

Part 150 applies to airport noise compatibility planning and provides the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. It provides guidance for measuring noise at airports and surrounding areas and for determining exposure of individuals to noise from the operations of an airport. Part 150 also identifies land uses that are normally compatible with various levels of exposure to noise by individuals. It provides guidance on the preparation and execution of noise compatibility planning and implementation programs.

[5] 42 U.S.C., *Noise Control Act of 1972*, § 4901–4918.

Noise Abatement and Control, Title 24 Code of Federal Regulations, Part 51, Subpart B

The mission of Department of Housing and Urban Development (HUD) includes fostering "a decent, safe, and sanitary home and suitable living environment for every American." Accounting for acoustics is intrinsic to this mission, as an environment's safety and comfort can be compromised by excessive noise. In order to facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The basic foundation of the HUD noise program is set out in the noise regulation 24 CFR Part 51 Subpart B, Noise Abatement and Control.

HUD's noise policy clearly requires noise attenuation measures be provided when proposed projects are to be located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet from a road, or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA DNL noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable. HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and the attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.

State

California Government Code Section 65302

Section 65302 of California Government Code provides a framework for general plans and their content. It requires that the noise element include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards. The noise element shall also identify and appraise noise problems in the community, analyze and quantify current and projected noise levels for (a) highways and freeways; (b) primary arterials and major local streets; (c) passenger and freight online railroad operations and ground rapid transit systems; (d) commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (e) local industrial plants, including, but not limited to, railroad classification yards; and (f) other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

Section 65302 also specifies that noise contours be shown for all of the above listed sources and be stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above. The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

California Noise Control Act of 1973

The California Noise Control Act (California Health and Safety Code, Division 28, § 46000 et seq), as found in the California Health and Safety Code, Division 28, § 46000 et seq., declares that excessive noise is a serious hazard to public health and welfare, and establishes the Office of Noise

Control with responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.

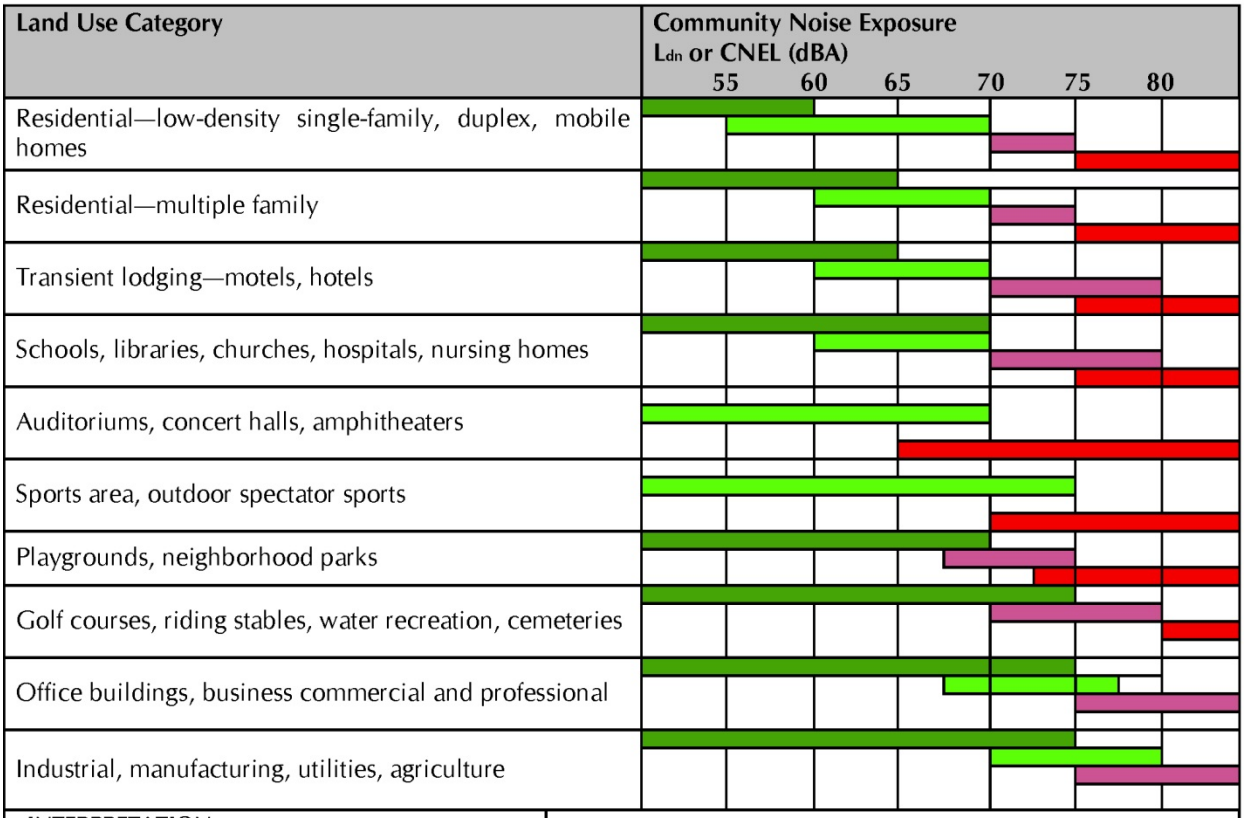
Title 24, California Code of Regulations, Part 2

The State of California has developed a Land Use Compatibility Matrix for community noise environments that further defines the four categories of acceptance and assigns CNEL values to them. In addition, the State Building Code (Title 24, California Code of Regulations [CCR], Part 2) establishes uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and residential units other than detached single-family residences from the effects of excessive noise, including, but not limited to, hearing loss or impairment and interference with speech and sleep. Residential structures to be located where the CNEL or L_{dn} is 60 dBA or greater are required to provide sound insulation to limit the interior CNEL to a maximum of 45 dBA. An acoustic, or noise, analysis report prepared by an experienced acoustic engineer is required for the issuance of a building permit for these structures. Conversely, land use changes that result in increased noise levels at residences of 60 dBA or greater must be considered in the evaluation of impacts to ambient noise levels. Table 5, *Normally Acceptable Noise Levels for Residential Land Use*, and Table 6, *Land Use Compatibility for Community Noise Environments*, depict noise levels for a variety of uses.

TABLE 5
NORMALLY ACCEPTABLE NOISE LEVELS FOR RESIDENTIAL LAND USE

Land Use	Acceptable Range (dBA)
Residential – low-density single-family, duplex, mobile homes	50–60
Residential – multiple family	50–65

TABLE 6
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



INTERPRETATION:

Normally acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Normally unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Conditionally acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice.

Clearly unacceptable
New construction of development should not be undertaken.

NOTES:
L_{dn} = Day-Night Level
CNEL = Community Noise Equivalent Level
dBA = decibels in A-weighted sound levels

SOURCE:
California Department of Health Services, Office of Noise Control. February 1976. *Guidelines for the Preparation and Content of Noise Elements of the General Plan*. Sacramento, CA.

County

Los Angeles County Municipal Code

The County maintains the health and welfare of its residents with respect to noise through nuisance abatement ordinances and land use planning. The County Noise Control Ordinance, Title 12 of the County Code, was adopted by the Los Angeles County Board of Supervisors in 1977 "to control unnecessary, excessive, and annoying noise and vibration." It declares that the purpose of the County policy is to "maintain quiet in those areas which exhibit low noise levels and to implement programs aimed at reducing noise in those areas within the county where noise levels are above acceptable values."[6]

On August 14, 2001, the Los Angeles County Board of Supervisors approved an ordinance amending Title 12 of the County Code to prohibit loud, unnecessary, and unusual noise that disturbs the peace and/or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area. Regulations can include requirements for sound barriers, mitigation measures to reduce excessive noise, or the placement and orientation of buildings, and can specify the compatibility of different uses with varying noise levels, as shown in Table 7, *Los Angeles County Community Noise Criteria*.

TABLE 7
LOS ANGELES COUNTY COMMUNITY NOISE CRITERIA

Noise Zone	Land Use of Receptor Property	Time	Noise Levels (dBA)				
			Std 1 L50 30 min/hr	Std 2 L25 15 min/hr	Std 3 L8.3 5 min/hr	Std 4 L1.7 1 min/hr	Std 5 L0 At No Time
I	Noise Sensitive	Anytime	45	50	55	60	65
II	Residential	10 p.m. – 7 a.m.	45	50	55	60	65
		7 a.m. – 10 p.m.	50	55	60	65	70
III	Commercial	10 p.m. – 7 a.m.	55	60	65	70	75
		7 a.m. – 10 p.m.	60	65	70	75	80
IV	Industrial	Anytime	70	75	80	85	90

SOURCE: County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, *Noise Control*. Section 12.08.390.

In addition to the community noise criteria, the Los Angeles County Municipal Code establishes interior noise standards for multifamily residential dwellings. According to the Section 12.08.400 of the Los Angeles County Municipal Code, no person shall operate or cause to be operated within a dwelling unit, any source of sound, or allow the creation of any noise, which causes the noise level when measures inside a neighboring receiving dwelling to exceed the following standards:[7]

- Standard No. 1: The applicable interior noise level for cumulative period of more than five minutes in any hour; or

[6] County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, *Noise Control*.

[7] County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, *Noise Control*.

- Standard No. 2: The applicable interior noise level plus 5 dB for a cumulative period or more than one minute in any hour; or
- Standard No. 3: The applicable interior noise level plus 10 dB or the maximum measured ambient noise level for any period of time.

Furthermore, the following interior noise levels for multifamily residential dwellings shall apply, unless otherwise specifically indicated, within all such dwellings with windows in their noise seasonal configuration (Table 8, *Los Angeles County Interior Noise Standards*).

TABLE 8
LOS ANGELES COUNTY INTERIOR NOISE STANDARDS

Noise Zone	Designated Land Use	Time Interval	Allowable Interior Noise Level (dB)
All	Multifamily	10 p.m.–7 a.m.	40
	Residential	7 a.m.–10 p.m.	45

SOURCE: County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, *Noise Control*.

Section 12.08.440 of the Los Angeles County Municipal Code states that operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the health office is prohibited. If noise disturbance crosses a residential or commercial property line, the County has established maximum noise levels for both mobile and stationary equipment (Table 9, *County of Los Angeles Construction Noise Restrictions*).

TABLE 9
COUNTY OF LOS ANGELES CONSTRUCTION NOISE RESTRICTIONS

Time Frame	Single-Family Residential	Multifamily Residential	Semiresidential/ Commercial
Mobile equipment*			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m. (daytime)	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. (nighttime) and all day Sunday and legal holidays	60 dBA	64 dBA	70 dBA
Stationary equipment**			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m. (daytime)	60 dBA	65 dBA	70 dBA
Daily, 8:00 p.m. to 7:00 a.m. (nighttime) and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

SOURCE: County of Los Angeles. *Municipal Codes*. Title 12, Chapter 8, *Noise Control*.
NOTES:
* = Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment
** = Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment

Los Angeles County General Plan

The Noise Element of the Los Angeles County General Plan summarizes noise issues and outlines goals and policies that seek to reduce noise impacts when making land use planning decisions. Of the 11 policies outlined in the Noise Element of the Los Angeles County General Plan, the following are applicable to the proposed project:[8]

Goal N-1: The reduction of excessive noise impacts.

- Policy N 1.1: Utilize land uses to buffer noise-sensitive uses from adverse noise impacts.
- Policy N 1.2: Reduce exposure to noise impacts by promoting land use compatibility.
- Policy N 1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).
- Policy N 1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.
- Policy N 1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.
- Policy N 1.9: Require construction of noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

Local

Santa Clarita Valley Plan

The Santa Clarita Valley Area Plan, which comprises the entire Santa Clarita Valley including the Castaic project area, provides goals, policies, and maps to establish zoning regulations and guide new development proposals. Section 11.40.040 of the Santa Clarita City Municipal Code states, "It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise herein" (Table 10, *Santa Clarita Noise Levels Criteria*).

[8] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. *Los Angeles County General Plan 2035*. Chapter 11, Noise Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch11.pdf

TABLE 10
SANTA CLARITA NOISE LEVELS CRITERIA

Region/Zone	Timeframe	Allowable Noise Level dBA
Residential zone	Day	65
Residential zone	Night	55
Commercial and manufacturing	Day	80
Commercial and manufacturing	Night	70

SOURCE: City of Santa Clarita Municipal Code. Available at: http://www.codepublishing.com/CA/SantaClarita/

The following objectives and policies are applicable to the proposed project:

Section 11.44.080

Section 11.44.080, as amended, represents an exception for construction work to the noise limits in Section 11.44.040 and 11.44.070 of the City's Noise Ordinance. As set forth by the City of Santa Clarita Municipal Code, construction work that falls between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturday is allowed within 300 feet of a residentially zoned property and is exempt from the noise limits in Section 11.44.040 and 11.44.070 of the City's Noise Ordinance. Construction work is prohibited on Sundays, New Year's Day, Independence Day, Thanksgiving Day, Christmas Day, Memorial Day, and Labor Day. Implementation of design measure DM 5.5-1, described below, would require construction work to occur within the hours specified above. Compliance with design measure DM 5.5-1 would reduce construction noise impacts to a less than significant level. The following objectives and policies of the Santa Clarita Valley Area Plan are applicable to the proposed project:

Objective N-1.1: Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels.

- Policy N-1.1.1: Use the Noise and Land Use Compatibility Guidelines consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.
- Policy N-1.1.2: Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.
- Policy N-1.1.3: Include consideration of potential noise impacts in land use planning and development review decisions.
- Policy N-1.1.4: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.
- Policy N-1.1.5: Monitor and update data and information regarding current and projected noise levels in the planning area.

Objective N-3.1: Prevent and mitigate significant noise levels in residential neighborhoods.

- Policy N-3.1.3: Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that

produce significant discernable noise exceeding recommended levels for residential uses.

- Policy N-3.1.4: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.[9]

Newhall Ranch Specific Plan

The Newhall Ranch Specific Plan is a comprehensive document to help guide the future development of the Newhall Ranch property, which is located in the southernmost portion of the Castaic project area. The document contains a comprehensive set of plans, development regulations, design guidelines, and implementation programs designed to produce a project consistent with the goals, objectives, and policies of the Los Angeles County General Plan and Santa Clarita Valley Area Plan, as proposed for amendment according to General Plan Amendment No. 94-087. The Newhall Ranch Specific Plan is subject to the Los Angeles Noise Ordinance as it exists on the date of adoption of the Specific Plan and provides mitigation measures to reduce potential impacts to levels that would not exceed Los Angeles County standards. The following policies and goals of the Specific Plan are applicable to the proposed project:[10]

Section 8: Noise

- Goal: Reduce transportation noise to a level that does not jeopardize health and welfare.
- Goal: Minimize noise levels of future transportation facilities.

Policy 8.8: Determine and evaluate the future noise levels associated with all major transportation facilities in the county.

- Goal: Establish compatible land use adjacent to transportation facilities.

Policy 8.11: Reduce the present and future impact of excessive noise from transportation sources through judicious use of technology, planning and regulatory measures.

- Goal: Allocate noise mitigation costs among those who produce the noise.
- Goal: Alert the public regarding the potential impact of transportation.
- Goal: Protect areas that are presently quiet from future noise impact.

[9] County of Los Angeles Department of Regional Planning. 2012. *Santa Clarita Valley Plan: One Valley One Vision*. Chapter 6, Noise. Available at: http://planning.lacounty.gov/assets/upl/project/ovov_2012-ch_06_noise.pdf

[10] County of Los Angeles Department of Regional Planning. 21 January 2016. *Newhall Ranch Specific Plan*. Available at: http://planning.lacounty.gov/view/newhall_ranch_specific_plan/

Northlake Specific Plan

The Northlake Specific Plan is a comprehensive document to help guide the future development of the Northlake Specific Plan Area, which is located southwest of Castaic Lake State Recreation Area, within the Castaic project area.[11] The following goals and policies of the Specific Plan are applicable to the proposed project:

> Goal i: To maintain consistency with the County's Noise Element by establishing compatible land use adjacent to transportation facilities and other significant sources of noise and by properly mitigating noise-generating uses that cause exceedance of maximum suggested noise levels.

- Policy i: To avoid locating noise sensitive facilities, including schools, parks and the library site within areas designated in excess of 65 dBA (dBA is an "A-weighted" system of measuring decibels that is adjusted to match frequencies audible to humans).
- Policy iv: To provide adequate noise mitigation measures for those uses located within areas designated in excess of 65 dBA on the County's Noise Level Map.

STUDY METHODS

The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound with an adjustment to reflect the constraints of human hearing. Since the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting," written as dBA. In practice, environmental noise is measured using a sound level meter that includes an electronic filter corresponding to the A-weighted (Table 11, *A-Weighted Noise Levels*).

TABLE 11
A-WEIGHTED NOISE LEVELS

Noise Source	A-Weighted Sound Level (in dBA)	Subjective Loudness	Effect of Noise
Near jet engine	130	Intolerable or deafening	Hearing loss
Loud auto horn	100	Very noisy	Hearing loss
Normal conversation at 5–10 feet	60	Loud	Speech interference
Bird calls	40	Moderate	Sleep disturbance
Whisper	30	Faint	No effect
Rustling leaves	10	Very faint	No effect

KEY: dBA = decibels in A-weighted sound levels.

For the purpose of establishing the ambient noise levels over a given period of time, the equivalent-continuous sound (L_{eq}) is the preferred measurement to describe noise levels that vary over time. The L_{eq} is the level of a constant sound, expressed in decibels (dB), which in a given time period ($T = T_2 - T_1$) has the same energy as a time varying sound. This analysis considers dBA

[11] County of Los Angeles Department of Regional Planning. June 1992. *Northlake Specific Plan*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_sp_northlake.pdf

to reflect the relative loudness of sounds in air as perceived by the human ear since the human ear does not have a linear response to sounds at different frequencies. In the A-weighted system, the decibel values of sounds at low frequencies are reduced compared with unweighted decibels, in which no correction is made for audio frequency.

In order to establish existing conditions for ambient noise levels in the Castaic project area, Sapphos Environmental, Inc. conducted noise monitoring at four locations near potential sensitive receptors within the Castaic project area (Figure 5, *Noise Monitoring Sites*).

Ambient noise levels were established by continuously recording noise measurements in 15-minute intervals with a Larson Davis Spark 706 Noise Dosimeters from 10:40 am through 1:35 p.m. on January 20, 2015. The dosimeter was calibrated prior to recording measurements. Measurements were taken to establish ambient noise levels representative of the Castaic project area. The average, maximum, and minimum L_{eq} for each monitoring site are the measurements used to describe ambient noise levels.

EXISTING CONDITIONS

Ambient Noise Levels

The average of the A-weighted ambient noise level for all four monitoring sites at the Castaic project area is 62.7 dBA (Table 12, *Ambient Noise Levels*). Ambient noise was characterized using ambient noise measurements recorded on January 20, 2016. The highest L_{eq} recorded was 79.4 dBA at Site C. Field observations at Site A (located adjacent to a school in a residential area) indicated the primary sources of noise can be attributed to sounds of birds chirping, barking dogs, sounds of children in the nearby school playing during recess, and traffic sounds heard from the nearby Interstate 5 freeway. The primary sources of noise at Site B (located in a relatively quiet rural/suburban residential area) included dogs barking, cars driving by, birds chirping, planes crossing overhead, and traffic sounds heard from the nearby Interstate 5 and State Route 126 freeways. The primary sources of noise at Site C (located in relatively open space at Charlie Canyon, in front of the California Paintball Park entrance) were only traffic sounds heard from the Interstate 5 freeway, along with environmental factors such as wind (no sources of noise can be attributed from the paintball park). Site D (a relatively open space located at the Lake Hughes Road scenic overlook) included primarily noise sources of cars driving on Lake Hughes Road and traffic sounds heard from the Interstate 5 freeway, as well as environmental factors such as wind. The freeways are a primary source of ambient noise in the Santa Clarita Valley, and at all four ambient noise measurement sites. L_{eq} data can be used as representatives of the minimum threshold because "if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1" pursuant to the noise control ordinance of the County of Los Angeles, Section 12.08.390, exterior noise standards (Table 13, *Ambient Noise Level L Statistics*).

TABLE 12
AMBIENT NOISE LEVELS

Monitoring Site (Sensitive Receptor)	Average L_{eq} (dBA)	Maximum L_{eq} (dBA)	Minimum L_{eq} (dBA)
A	63.3	79.1	58.8
B	64.0	74.9	60.5
C	61.1	79.4	56.7
D	62.3	67.0	59.8

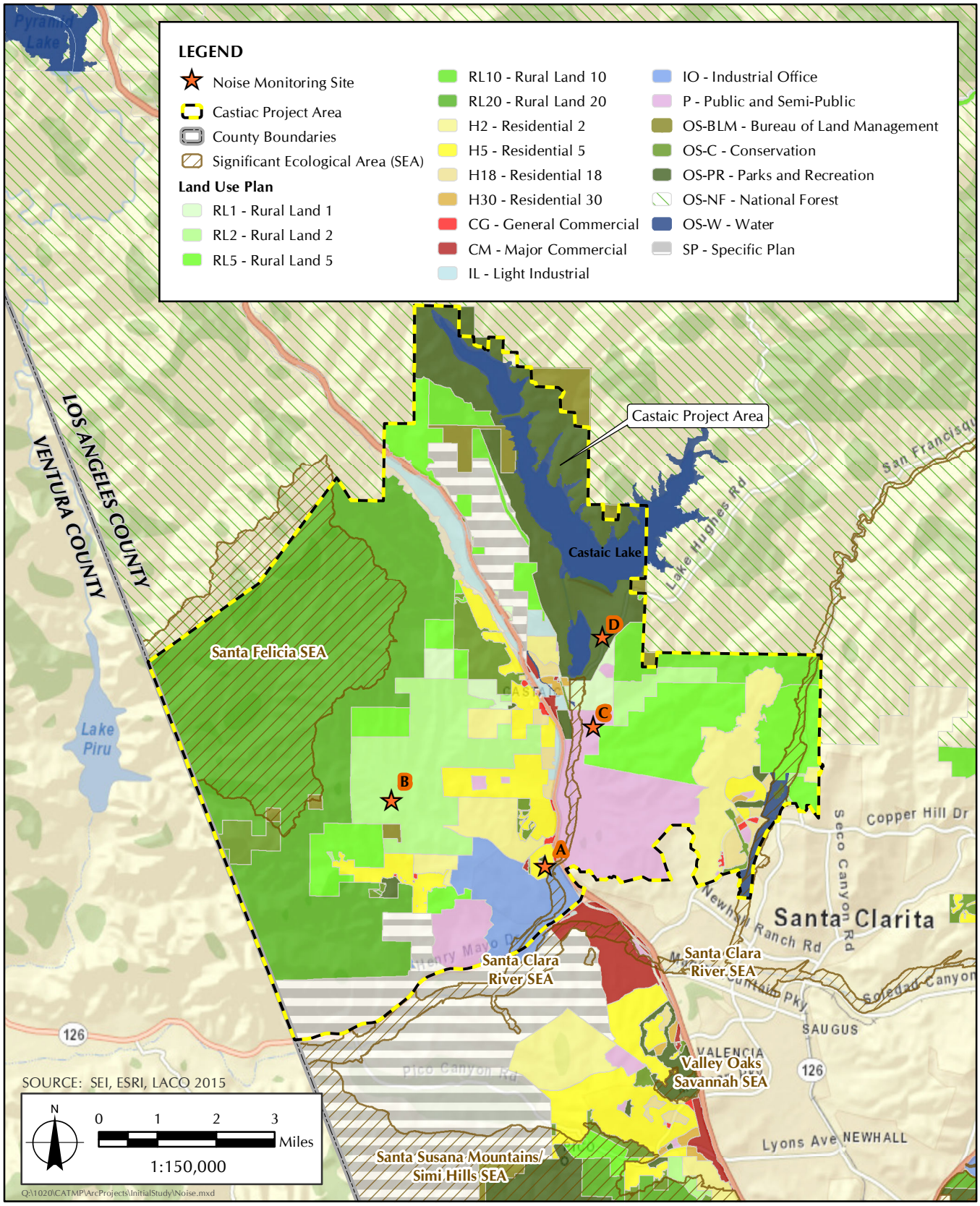


FIGURE 5

Noise Monitoring Sites

TABLE 13
AMBIENT NOISE LEVELS L STATISTICS

Monitoring Site (Sensitive Receptor Site)	L10	L30	L50	L70	L90
A	64	63.5	63	62.5	62
B	64.5	64	64	63	62
C	61	60	59.5	59.5	59.5
D	63	62.5	62	61.5	60.5

KEY:

L_{eq}: The equivalent-continuous sound (L_{eq}) is the level of a constant sound, expressed in decibels (dB), which in a given time period ($T = T_2 - T_1$) has the same energy as a time varying sound. For the Spark dosimeters, a L_{eq} value is recorded for 2 different time intervals. First, a L_{eq} is recorded for the entire record's run time. Second, a L_{eq} is recorded for each individual time history sample.

dBA: A-weighted decibels (dBA) are an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced compared with unweighted decibels, in which no correction is made for audio frequency.

Sensitive Receptors

The evaluation identified 1,260 parcels with potentially sensitive receptors (>99 percent were residential land uses) within 251 feet mile of the proposed trail alignments in the southern portion of the Castaic project area, south of Castaic, California and adjacent to the Castaic Junction and in the southwestern portion of the Castaic project area in Val Verde, California. The nearest sensitive receptors to the Castaic project area, including any existing or proposed residences inside the Castaic project area, are located within surrounding communities in the vicinity of the Castaic project area (Figure 6, *Sensitive Receptors*). These sensitive land uses include residences, 3 churches, 3 schools, and 1 medical center. The Castaic project area is located within Castaic, California. Nearby communities include Santa Clarita, California and Newhall Ranch, California. There are known sensitive receptors within the Castaic project area located in the southern portion of the Castaic project area, south of Castaic, California and adjacent to the Castaic Junction and in the southwestern portion of the Castaic project area in Val Verde, California.

Ground-Borne Vibration

Existing conditions for ground-borne vibration in the vicinity of the Castaic project area are limited to recreational uses of current trails including, but not limited to, motorized dirt bikes and all-terrain vehicles (ATVs). Furthermore, there are no current construction projects, oil fields, mining operations, blasting, or other activities resulting in ground-borne vibrations in the vicinity of the Castaic project area.

Public and Private Airports

The nearest airports to the Castaic project area include the public Agua Dulce Airpark located approximately 12.7 miles to the east at 33638 Agua Dulce Canyon Road, in Santa Clarita; the private Quail Lake Sky Park located approximately 13.0 miles to the north at West Lancaster Road (Highway 138) at Quail Lake, in Lancaster; and the public Whiteman Airport located approximately 15.1 miles to the southeast at 12653 Osborne Street, in Pacoima (Figure 7, *Public and Private Airports*).

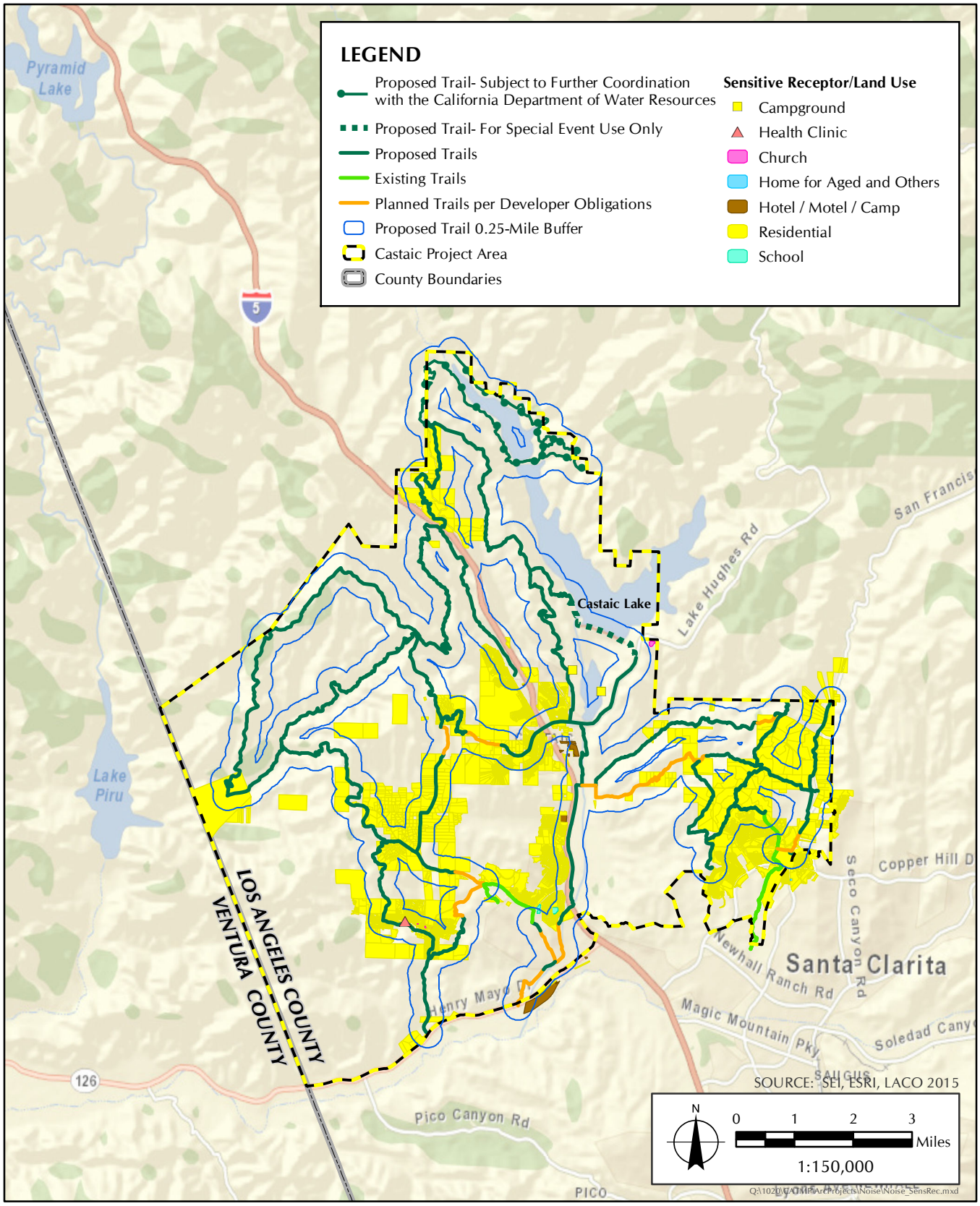


FIGURE 6

Sensitive Receptors

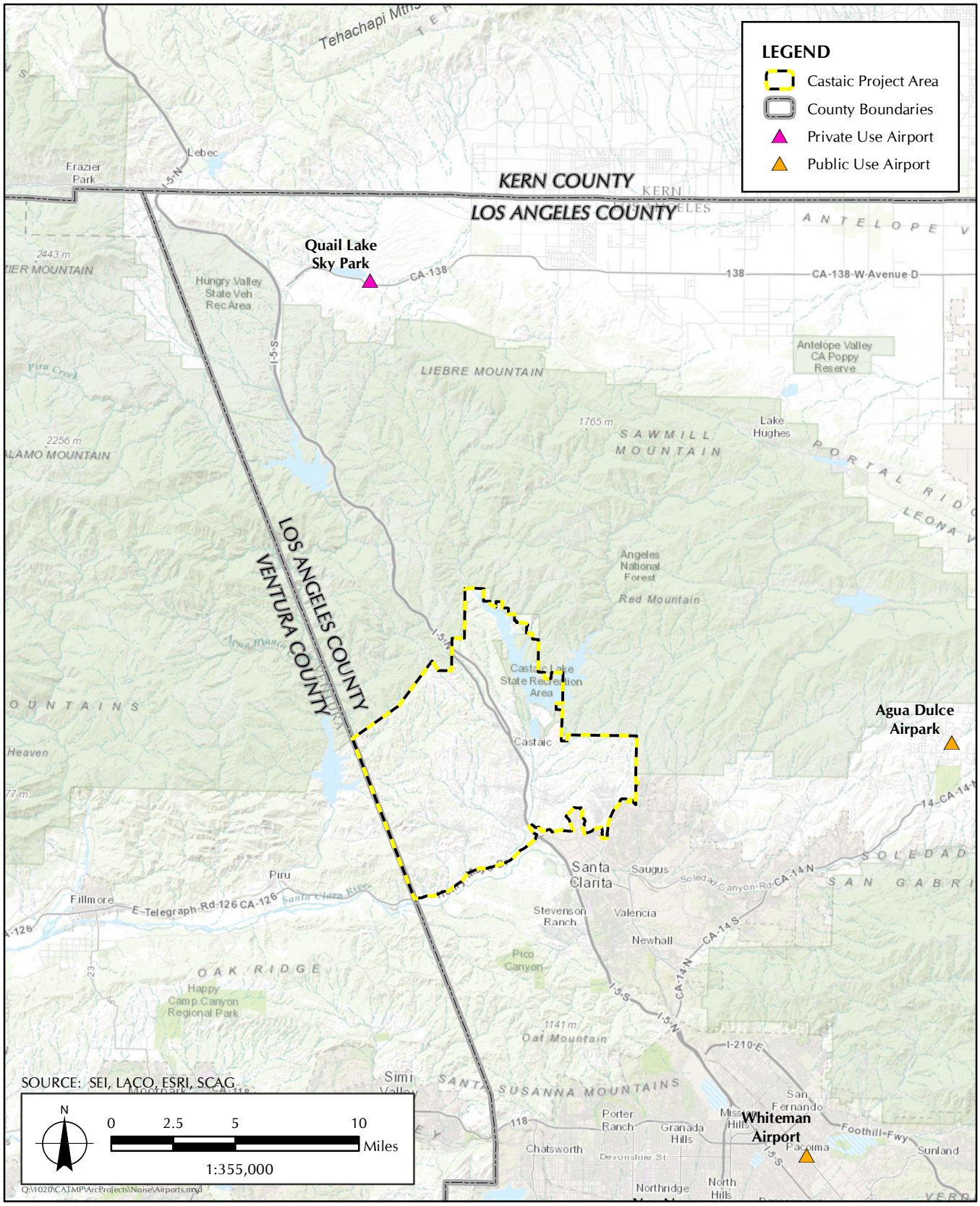


FIGURE 7

Public and Private Airports

IMPACT ANALYSIS

Construction Impacts

Noise impacts associated with the construction of the proposed project are expected to occur in three phases: ground clearing, excavations, and erections of poles and amenities. The average noise levels associated with these construction phases where all pertinent equipment is present and operating at a reference distance of 50 feet are presented in Table 14, *Construction Activity Noise Levels at 50 Feet*.

TABLE 14
CONSTRUCTION ACTIVITY NOISE LEVELS AT 50 FEET

Activity	Noise Level at 50 Feet (dBA)
Ground Clearing	84 ± 6 dBA
Excavations	89 ± 6 dBA
Erection of Structures	85 ± 5 dBA

SOURCE: VSA & Associates. 7 January 2008. *Altadena Crest Trail Improvement Noise Impact Analysis*. Whittier, CA.

Based on these noise levels, and the fact that noise attenuates at a rate of approximately 6.0 dBA per doubling of distance from a point source, the noise impacts on sensitive receptors can be determined by Equation 1 for noise attenuation over distance:

(1) $$L_2 = L_1 - 20\, log_{10}\left(\frac{d_1}{d_2}\right)$$

where

L_1 = known sound level at d_1
L_2 = desired sound level at d_2
d_1 = distance of known sound level from the noise source
d_2 = distance of the sensitive receptor from the noise source

By assigning the highest potential noise level during construction at 89 dBA during excavations (L_1) at a distance of 50 feet (d_1), the distance at which construction activities would reach a maximum of 75 dBA (L_2) and still be in compliance with Title 12, Chapter 8 of the Los Angeles County Municipal Codes for construction noise restrictions is approximately 251 feet (d_2). This distance, along with the other predicted distances at which the noise impacts would be below 75 dBA according to Equation 1 for each construction phase, are presented in Table 15, *Predicted Distance at which Noise Impact Would Be Below Level of Significance*.

TABLE 15
PREDICTED DISTANCE AT WHICH NOISE IMPACT WOULD BE BELOW LEVEL OF SIGNIFICANCE

Construction Phase	Distance at Which Noise Impact Would Be below 75 dBA*	Number of Sensitive Receptors within this Distance
Ground Clearing	141 feet	896
Excavations	251 feet	1,260
Erection of Structures	158 feet	972

NOTE: * According to Title 12, Chapter 8 of the Los Angeles County Municipal Codes, construction activities for mobile equipment may not exceed 75 dBA during weekly daytime hours from 7:00 a.m. to 8:00 p.m. for single-family residential. Construction activities are not expected to occur during nighttime hours from 8 p.m. to 7:00 a.m.

The distance at which noise impacts would be below the threshold of significance for the different construction phases ranges from 141 to 251 feet. As Table 15 indicates, up to 1,260 sensitive receptors are expected to be within 251 feet. However, construction activities associated with the proposed project are not expected to expose sensitive receptors to noise levels in excess of the standards established by the Los Angeles County Municipal Codes since impacts would be avoided by limiting construction and maintenance activities to 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays, and prohibiting work on federal holidays and Sundays, along with limiting noise levels to below 75 dBA for mobile equipment and 60 dBA for stationary equipment at sensitive receptor locations through the use of noise-attenuating barriers, baffles, or blankets.

Furthermore, exposure to potential noise impacts would vary from day to day, depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed. Due to the short-term nature of project construction, sensitive receptors would not be expected to be significantly affected by the proposed project.

Ground-Borne Vibration

Construction activities for the proposed project are not expected to include blasting, drilling, or other activities that would result in excessive ground-borne vibrations at the Castaic project area. Furthermore, there are no current construction projects, oil fields, mining operations, blasting, or other activities resulting in ground-borne vibrations in the vicinity of the Castaic project area. Therefore, the proposed project is not expected to result in exposure of sensitive receptors or generation of excessive ground-borne vibration or ground-borne noise levels.

Operational Impacts

The primary sources of noise can be attributed to conversational noise from recreational uses such as hiking, bike riding, and equestrian riding. Noise from typical conversations at the trail would be negligible at sensitive receptor locations, when compared with the average A-weighted ambient noise level (62.7 dBA) for all four monitoring sites. Therefore, operation of the proposed project would not be expected to result in substantial permanent or temporary increases in ambient noise levels in the vicinity above levels existing without the proposed project.

Public and Private Airports

The proposed project would not result in noise impacts in relation to exposure to persons residing or working near airports to excessive noise levels. The Castaic project area is not located within 2 miles of an Airport Land Use Area. The distance to the nearest public and private airports is 12.7 miles for the Agua Dulce Airpark, 13.0 miles for the Quail Lake Sky Park, and 15.1 miles for the Whiteman Airport. The Castaic project area is sufficiently removed from public and private airports to protect workers engaged in construction or maintenance of the trails from exposure to excessive noise levels. Similarly, recreational users would not be exposed to excessive noise levels from an airport.

CONCLUSIONS, RECOMMENDATIONS, AND CONSIDERATIONS FOR TRAIL PLANNING

Noise Standards

According to the County of Los Angeles Municipal Codes, mobile equipment shall not generate noise levels above 75 dBA for single-family residences and stationary equipment shall not generate noise levels above 60 dBA for single-family residences during weekdays from 7:00 a.m. to 8:00 p.m. Furthermore, daily construction activities would be subject to County noise regulations, which state that construction equipment may not operate between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or holidays. Construction activities are not expected to occur outside of the time frame from 7:00 a.m. to 7:00 p.m. The analysis contained herein regarding the predicted distance at which noise impacts would be below the level of significance for the four construction phases (ground clearing, excavations, erection of structures) indicates that construction impacts would be below the level of significance when activities occur at a minimum of 251 feet away from a sensitive receptor. Impacts to potential sensitive receptors located within 251 feet would be avoided through the use of noise-attenuating barriers, baffles, or blankets. Therefore, if construction activities occur between the hours of 7:00 am and 7:00 p.m. during weekdays, and noise-attenuating barriers, baffles, or blankets are installed to reduce noise levels to a maximum of 75 dBA for mobile equipment and 60 dBA for stationary equipment for potential sensitive receptors within 251 feet, then the proposed project would not be expected to expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance.

Ground-Borne Vibrations

Construction activities for the proposed project are not expected to include blasting, drilling, or other activities that would result in excessive ground-borne vibrations at the Castaic project area. Furthermore, there are no current construction projects, oil fields, mining operations, blasting, or other activities resulting in ground-borne vibrations in the vicinity of the Castaic project area. Therefore, the proposed project is not expected to result in exposure of sensitive receptors or generation of excessive ground-borne vibration or ground-borne noise levels.

Ambient Noise Levels

Construction activities may result in temporary or periodic increases in ambient noise levels; however, all construction activities shall be in accordance with the Los Angeles County Noise Regulation to ensure that all noise impacts are below the level of significance. Furthermore, field observations at the Study Plan Area revealed that the primary sources of existing noise can be attributed to conversational noise from recreational uses such as hiking, bike riding, and horse

riding, along with other environmental factors such as wind. The operations of the trails built as a result of the proposed plans would typically result in conversation noise, which would not exceed the measured average of the existing noise levels (62.7 dBA).

Airports

The proposed trail improvements are located more than 2 miles away from a public or private airport. The nearest airport is located 12.7 miles away from the Study Plan Area; therefore, recreational users are not expected to be exposed to excessive noise levels as a result of airport operations.

Should there be any questions regarding the information contained in this MFR, please contact Ms. Aimee Frappied at (626) 683-3547.

REFERENCES

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Appendix H

Traffic Assessment

May 13, 2016
Job Number: 1020-085
Castaic Area Multi-Use Trails Plan Project

MEMORANDUM FOR THE RECORD

TO: County of Los Angeles
Department of Parks and Recreation
(Ms. Olga Ruano, Mr. Zachary Likins, and Mr. Frank Moreno)

FROM: Sapphos Environmental, Inc. and Alta Planning+Design, Inc.
(Ms. Laura Male, Bryan Jones, PE, AICP, LCI, and Emily Duchon)

SUBJECT: Castaic Area Multi-Use Trails Plan Traffic Assessment

FIGURES:
1. Castaic Regional Vicinity Map
2. Castaic Local Vicinity Map
3. Castaic Proposed Trailheads, Trails and Traffic Count Locations
4. Parking Tickets Sold at Castaic Lake State Recreation Area

APPENDIX
A. Traffic Counts

EXECUTIVE SUMMARY

This Memorandum for the Record (MFR) documents the results of the traffic and parking assessment that was undertaken in support of the proposed Castaic Area Multi-Use Trails Plan (proposed project), in support of the County of Los Angeles serving in the capacity of a Lead Agency, pursuant to the California Environmental Quality Act. Based on an analysis of existing traffic volumes, planned road capacities the future trips associated with the construction, recreational use, and maintenance activities associated with the proposed project should not experience an impact to Transportation/Traffic.

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INTRODUCTION

This MFR has been prepared to summarize the traffic and parking assessment prepared for the proposed project located in the Castaic Area of the Santa Clarita Valley, in the northwestern portion of the unincorporated area of the County of Los Angeles. A traffic and parking assessment is needed to document the existing and forecasted parking demand and vehicle volumes associated with the proposed project. Locations for potential staging areas, bike skills park amenities, and equestrian amenities were identified and analyzed for the purpose of developing vehicle trip generation forecasts for trail projects. Based on these locations, 24-hour traffic counts at key roads were conducted on Saturday, February 6, and Tuesday, February 9, 2016. Traffic counts demonstrate that substantial roadway capacity is available on these access roads, with each segment scoring in the LOS A/B range. Trips associated with the proposed project elements would not have a impact level because projected ADT is below the LOS C range per the Los Angeles County Traffic Impact Analysis Report Guidelines.[1]

This traffic and parking assessment memorandum provides the following data:

- Description of the existing conditions;
- Overview of the existing trailhead locations analyzed;
- Summary of the vehicle volume counts conducted for the traffic assessment;
- Assumptions to derive the parking trip generation rate associated with trail use;
- Summary of the existing parking supply and forecasted parking demand at the existing recreational areas and proposed trailhead locations; and
- Conclusion regarding the future traffic and parking demand associated with potential future trail connections as part of the proposed project.

LOCATION

The Castaic project area, which encompasses approximately 75 square miles (approximately 48,107 acres) in the Castaic area of the Santa Clarita Valley, is located in the northwestern portion of the unincorporated area of the County of Los Angeles (Figure 1, *Castaic Regional Vicinity Map*). The Castaic project area is bound by the Angeles National Forest to the north, the City of Santa Clarita to the southeast, Highway 126 to the south, and Ventura County to the west (Figure 2, *Castaic Local Vicinity Map*). The Castaic project area includes three existing County trails (approximately 4.9 miles) and approximately 100 miles of County Trail System proposed trails (Figure 3, *Castaic Proposed Trailheads, Trails and Traffic Count Locations*).

The Santa Clarita Valley is centrally located between the San Gabriel Mountains to the east, Sierra Pelona Mountains to the northeast, the Topatopa Mountains to the west, the San Emigdio Mountains and Tehachapi Mountains to the north, and the Santa Susana Mountains and Santa Monica Mountains to the south within the Transverse Ranges, a group of east-west trending mountains paralleling the Pacific Ocean between Santa Barbara and San Diego Counties.[2] The Castaic project area is located on the U.S. Geological Survey (USGS) 7.5-minute series Whitaker Peak, Warm Springs Mountain, Val Verde, and Newhall topographic quadrangles. The elevation of the Castaic project area ranges from approximately 863 feet above mean sea level (MSL) in the

[1] LA County Traffic Impact Analysis Report Guidelines.

[2] United States Geological Survey (USGS). Accessed 10 August 2015. *TopoView*. Available at: http://ngmdb.usgs.gov/maps/TopoView/viewer/#11/34.5626/-118.5353

Santa Clara River bed at the southern edge of the Castaic project area to approximately 2,756 feet above MSL along the northern edge of the Castaic project area, approximately 0.7 mile southwest of Interstate-5. Loma Linda Peak, at an elevation of approximately 2,494 feet above MSL, is located between Santa Felicia Canyon and Romero Canyon, approximately 0.2 mile south of the northern edge of the Val Verde topographic quadrangle.

PROJECT DESCRIPTION

Existing trails: 4.9 miles

Proposed trails: Approximately 100 miles

The purpose of the proposed project is to provide an analysis of existing and potential connectors between prime destination points for enhanced recreational opportunities for users. The trail systems are planned to be designed such that it provides an equal and safe experience for various trail users including pedestrians, bicyclists, and equestrians. The County of Los Angeles Department of Parks of Recreation identified the following seven objectives for the project:

1. Accommodate a wide range of trail user types and abilities
2. Connect to desirable destinations, features, and settings
3. Provide safe and sustainable trails
4. Avoid or minimize environmental impacts
5. Identify the means to implement and maintain trails as feasible within the scope and budget of the Multi-Use Trails Plan
6. Develop plan consistent with the County's multi-use (equestrians, hikers, and mountain bikers) trail policy
7. Develop plan consistent with Parks and Recreation Element of County General Plan

The County of Los Angeles existing and proposed trails within the Castaic Area trail system are illustrated in Figure 3.

Figure 1: Castaic Regional Vicinity Map

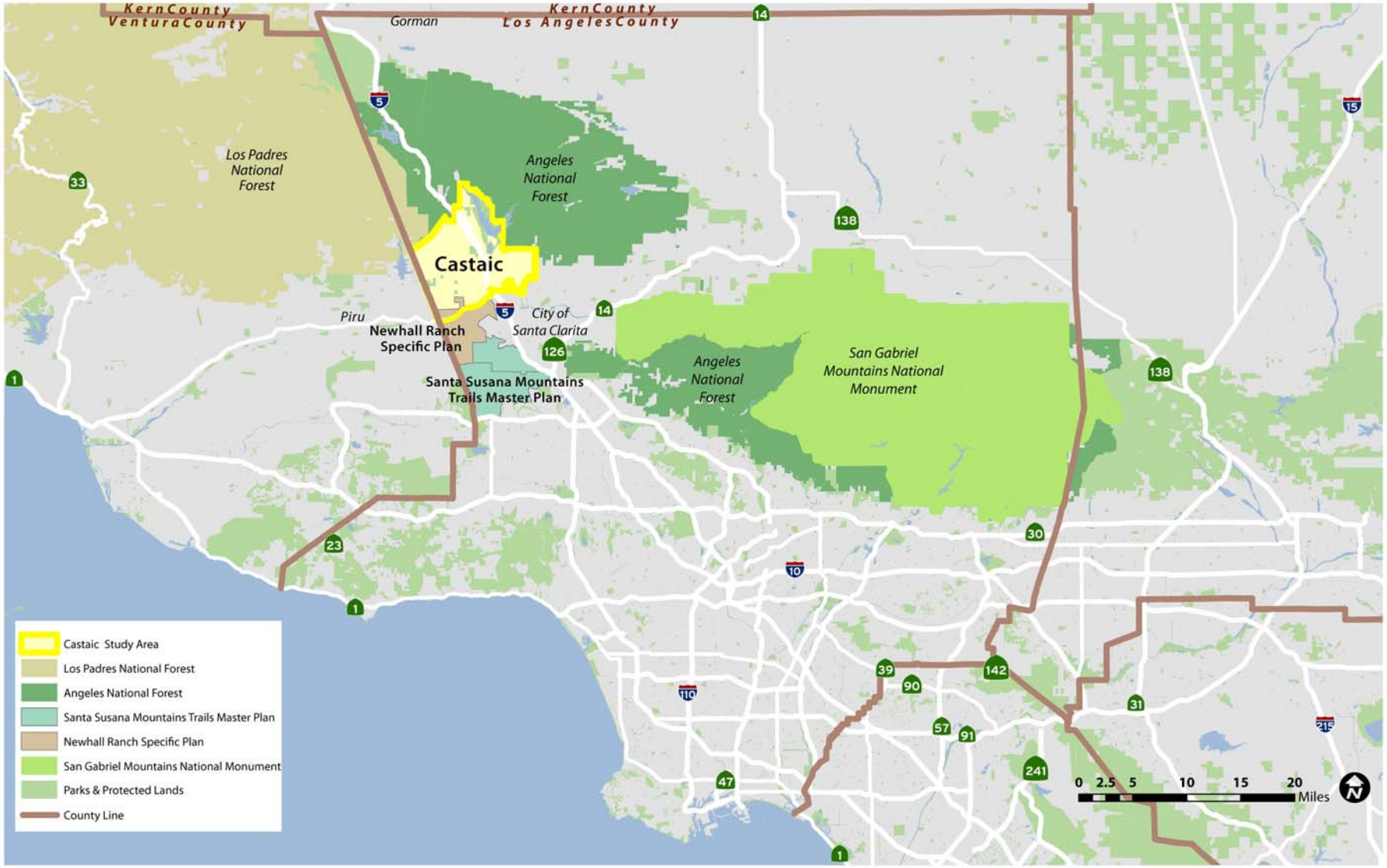


Figure 2: Castaic Local Vicinity Map

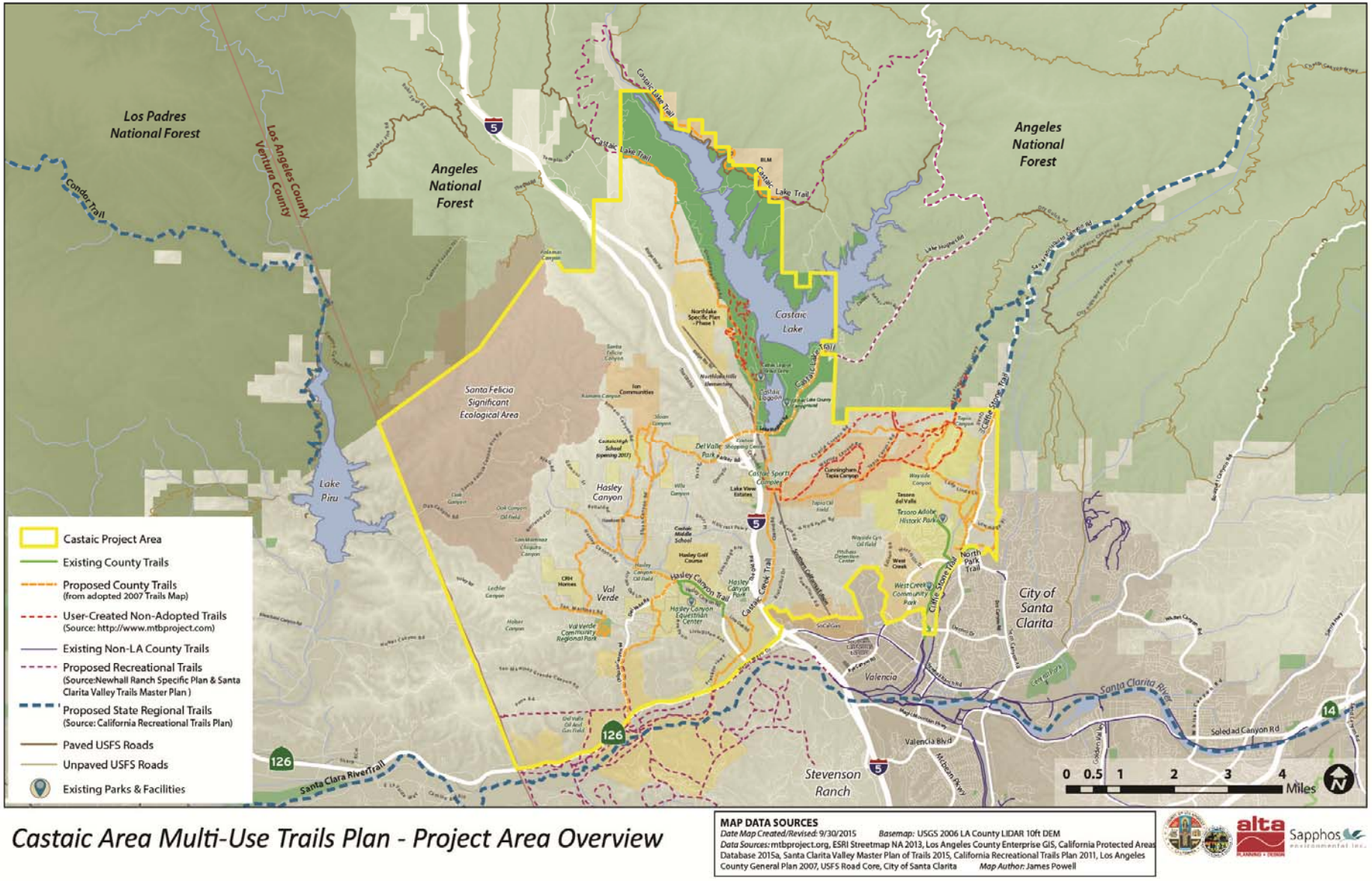
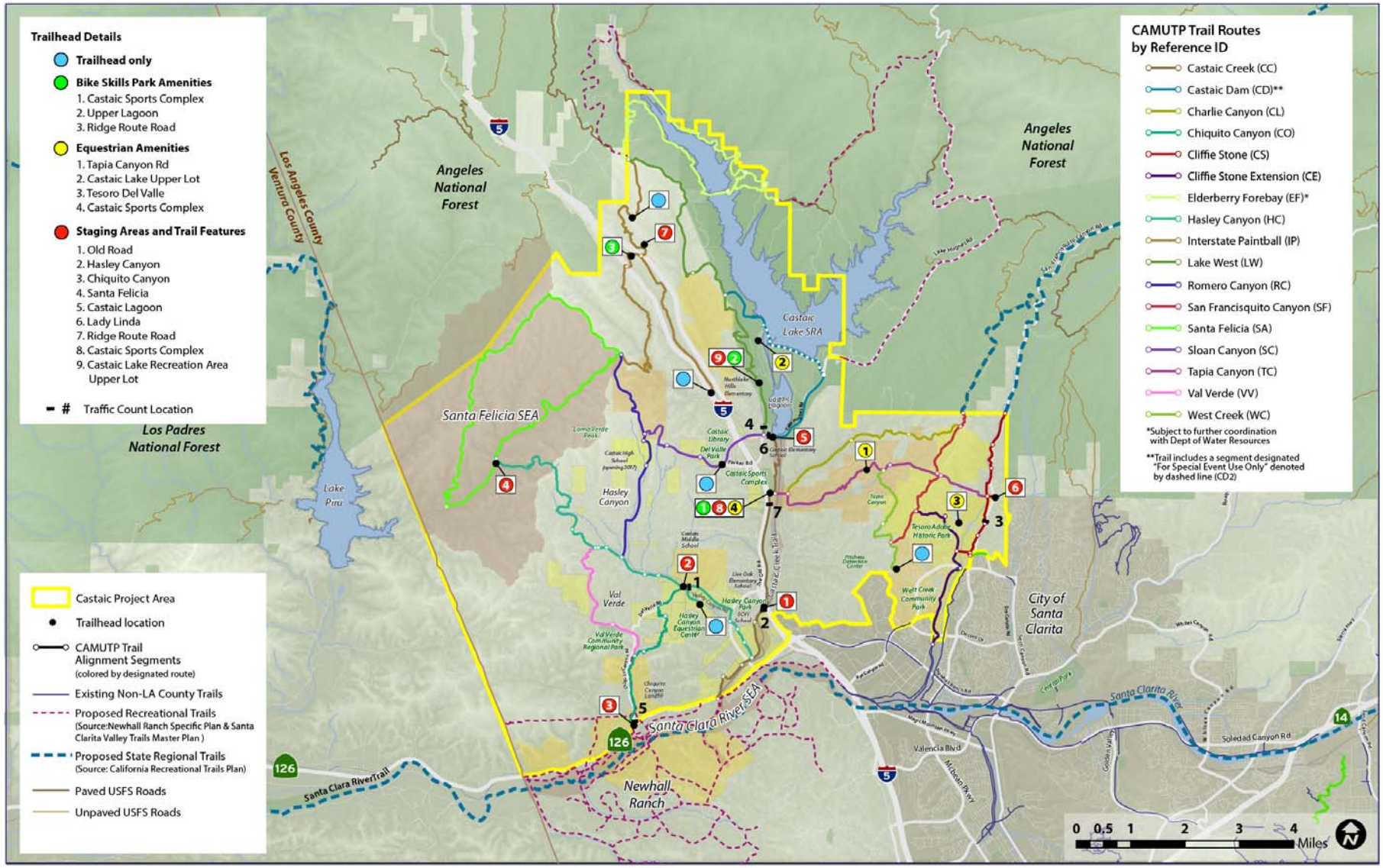


Figure 3: Castaic Proposed Trailheads, Trails and Traffic Count Locations



REGULATORY FRAMEWORK

Los Angeles County General Plan, 2035

Chapter 7, Mobility Element, of the Los Angeles County General Plan 2035 assesses the challenges and constraints of the Los Angeles County transportation system, and offers policy guidance to reach the County's long-term mobility goals. The element states; "Acceptable LOS is determined on a case by case basis, but generally, Level D is the desired minimum LOS. In some instances, LOS below D will be deemed acceptable in order to further other General Plan goals and policies, such as those that protect environmentally sensitive areas, promote active transportation, and encourage infill development, particularly within the Transit Oriented Districts" (Los Angeles County General Plan 2035).

Los Angeles County Traffic Impact Analysis Report Guidelines, Los Angeles County Department of Public Works, 1997

The County of Los Angeles Department of Public Works establishes the Guidelines for the preparation of Traffic Impact Analysis (TIA) reports. The County's Significant Impact Thresholds are as follows:

- If the pre-project LOS is E/F, a 1% increase in passenger cars per hour (PCPH) will cause a "significant" impact.
- If the pre-project LOS is D, a 2% increase in passenger cars per hour (PCPH) will cause a "significant" impact.
- If the pre-project LOS is C, a 4% increase in passenger cars per hour (PCPH) will cause a "significant" impact.

STUDY METHODS

Summary

When predicting future demand for trail use, there is not a linear relationship between popularity of use and the length of trail. Demand for recreational hiking, biking and equestrian trails is mostly dependent upon the quality of the experience. Evaluating the quality of the trail is different for each user group. Furthermore, different users travel different distances per trip and have varying parking needs, both of which affect parking trip generation. Day trip hikers value trails with points of interest such as peaks, canyons, and waterfalls and tend to travel between 1-5 miles (one way). Hikers require more frequent access points and have a higher turn-over in parking than other users. Larger parking areas near popular points of interest and smaller frequent access points are important for hikers. Equestrian users also value trails with points of interest but tend to travel further. Equestrian riders tend to trailer their horses to access continuous trails (over 10 miles) or equestrian arenas. Trails that cater to mountain bikers provide varied terrain, loops, and jumps.

Existing Trailheads Evaluated

Existing trailheads around Los Angeles County were evaluated in terms of their parking supply and relevant points of interest. Generally speaking, dedicated surface parking lots are only provided around trailheads where there is a destination, such as a nature center or recreation facility, co-located at the trailhead. Most surface parking capacity in these instances is provided in unpaved, unstriped lots. The largest paved parking lot sampled was at Eaton Canyon (Nature Center), where

125 spaces are available. The largest unpaved lot was found at Altadena Crest Trailhead (at Sunset Ridge Road), with more than 167 spaces available.

Trailheads that function primarily as linear trail access points, on the other hand, often do not require dedicated parking infrastructure. Moreover, these trailheads tend to be located in less populated areas where there are opportunities to harness existing roadway shoulders for motor vehicle parking.

Table 1: Existing Regional Trailheads Evaluated

Name	Points of Interest	Adjacent Population	Existing Parking	
			Street	Lot
Santa Susana Pass	Vistas, seasonal streams, dense foliage	Yes	30	0
Chatsworth Trails Park/Highland Trails	Devil's Canyon	No	35	0
Limekiln Canyon Road	Green valley, picnic areas	Yes	25	0
O'Melveny Park	Picnic areas, general park use	No	80	34 paved
Los Pinetos trail (at Wilson Canyon Saddle)	Wilson Canyon Saddle	No	0	26+ unpaved
Altadena Crest Trailhead at Sunset Ridge Rd 5.48 miles in County	Parks and recreation facilities	Yes	0	44 paved, 167+ unpaved
Eaton Canyon (Nature Center)	Nature Center	Yes	0	125 paved, 94+ unpaved

Parking Activity and Use at Castaic Lake State Recreation Area

Castaic Lake State Recreation Area offers paid parking at lots on the west side of Castaic Lagoon. These parking lots are adjacent to proposed trailheads at Castaic Lagoon and Castaic Lake State Recreation Area Upper Lot. Historical ticket sales data for these parking lots, which have a capacity of approximately 1,420 standard-sized vehicle spaces, is summarized in Table 2 and Figure 4.

Historical Information on Parking Tickets Sold

Since 2012, the Castaic Lake State Recreation Area has seen an average of 75,200 visitors annually and 206 visitors per day. Annual ticket sales have fallen from a high of 94,613 in 2013 to just under 60,000 in 2014 and 2015 – a decline of at least 36 percent. Daily average visitors fell from a high of 259 in 2013 to 161 in 2014 and 162 in 2015. Excess parking capacity is thus higher today than in 2012 and 2013.

Seasonal Parking Tickets Sold

Parking demand at Castaic Lake State Recreation Area is highly seasonal. The vast majority of parking trips to Castaic Lake State Recreation Area occur in the second quarter (34 percent of all parking trips) or third quarter (44 percent of all parking trips). Parking demand in the first- and fourth-quarter shoulder seasons represents only 22 percent of total parking tickets sold. In these months, parking tickets sold rarely exceeds 500 vehicles per day, and in most cases is well below the overall average of 206 visitors per day. In the second and third quarters, parking demand

ranges dramatically from day-to-day, with daily parking trips typically ranging from about 20 to about 1,500.

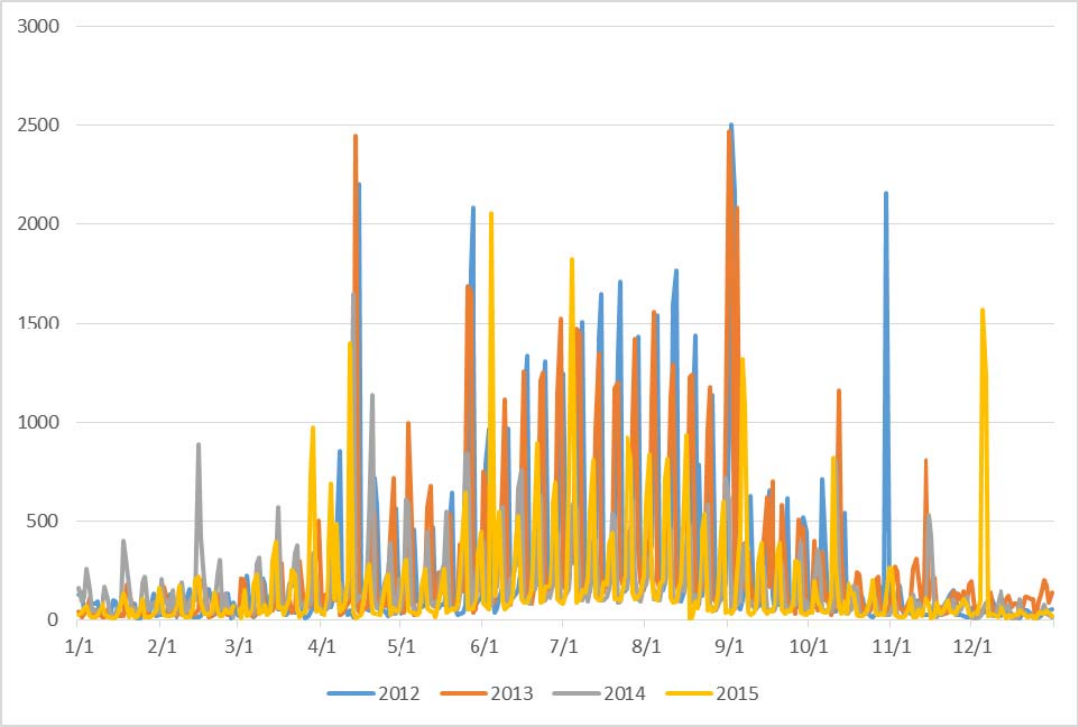
Demand for parking at Castaic Lake State Recreation Area spikes at various points throughout the calendar due to holidays and special events. In these instances, parking demand can reach as high as 2,500 vehicles per day. Although the largest demand spikes have occurred in the busy second quarter and third quarter months (e.g. Memorial Day and Labor Day), spikes have also occurred in October and December due to Halloween and winter holiday events, respectively.

Assuming that vehicle parking spaces at Castaic Lake State Recreation Area turn over approximately 1.5 times per day (i.e. an effective capacity of 2,130 spaces), the parking lot experiences capacity issues only about three to five days per year, and only during special events. Given there is extra capacity 95%+ of the time, the proposed trails are assumed to not experience an impact to parking.

Table 2: Parking Tickets Sold at Castaic Lake State Recreation Area

Year	Total Visitors	Q1	Q2	Q3	Q4	Daily Average
2012	88,160	5,649	28,905	44,696	8,910	241
2013	94,613	6,820	31,764	44,231	11,798	259
2014	58,822	11,381	21,860	18,434	7,147	161
2015	59,201	7,427	18,455	24,741	8,578	162
All	**300,796**	**31,277**	**100,984**	**132,102**	**36,433**	**206**

Figure 4: Parking Tickets Sold at Castaic Lake State Recreation Area



Staging Areas and Trail Amenities

For reasons of sustainability and cost efficiency, additional surface parking lots are only recommended in instances where there is no opportunity to adequately serve parking demand through existing parking and on-street parking alone (e.g. the conversion of shoulders).

Staging Areas are the primary access points to various trailsheds within the Proposed Castaic Area Multi-Use Trail system. Each Staging Area was evaluated by the points of interests it serves, adjacent population and trailshed mileage representing the size of the area it serves to estimate the potential additional parking needed as proposed trails become built.

Three of the Staging Area locations – Ridge Route Road, Castaic Sports Complex and Castaic Lake State Recreation Area Upper Lot – are also candidate locations for Bike or Equestrian Amenities. If any Bike or Equestrian Amenities are constructed at or around Staging Area locations, parking for these trailheads should be supplied as described in Table 4 and 5.

Table 3: Existing Conditions and Recommended Additional Parking for Staging Area and Trail Amenities

Proposed Staging Area Location	Points of Interest	Adjacent Population	Trailshed Mileage	Existing Parking	Add'l Parking	
					Street	Lot
Old Road	Castaic Creek	Yes	4.4	0	0	24
Hasley Canyon	Ridgelines	No	8.9	67 shoulder spaces	20	8
Chiquito Canyon	Santa Clara River Trail	No	8.9	122+ shoulder spaces	0	20
Santa Felicia	Significant Ecological Area, National Forest	No	13.4	0	0	15
Castaic Lagoon	Castaic Lake State Recreation Area	Yes	13.1	0	0	60
Lady Linda	Tapia Canyon	No	4.5	0	10	5
Ridge Route Road	Castaic Lake State Rec Area, Santa Felicia, National Forest	No	17.9	0	0	20
Castaic Sports Complex	Tapia Canyon	Yes	18.0	405	0	0
Castaic Lake State Recreation Area Upper Lot	Castaic Lake State Rec Area	No	13.1	920	0	0

Bike Skills Park Amenities

The amount of potential parking needed to adequately serve a Bike Skills Park is directly correlated to its size. Bike Skills Parks can range from small pump tracks or balance skills areas to large facilities with a range of courses for users of different abilities. Based on best practice review of national bike skill park areas, it is assumed that 2 parking spaces are needed per acre for sites under 30 acres and 3 parking spaces per acre for sites at or over 30 acres.[3] It can be assumed that larger Bike Skill Park areas have lower parking turnover rates as visitors have more options and stay longer. Therefore, the higher end parking range is recommended for bike skill parks 30 acres or over.

Assuming these will be longer stays, a conservative estimate would be that each space would turn over a 3 times during the day (so daily trip generation would be 12 trips [in and out] for sites under 30 acres and 18 trips per acre at or over 30. For example, the 30 acre bike skill park could generate 540 trips during a day. **Table 4** identifies three possible locations for bike skills parks, the potential size (in acres), and existing and recommended.

Table 4: Recommended Additional Parking for Bike Skills Park Amenities

Proposed Bike Skills Park Amenity Location	Proposed size (acres)	Existing Parking	Additional Parking	Notes
Castaic Sports Complex	10	405	20-30	Ample parking area – evaluate opportunities to utilize existing parking.
Upper Lagoon	5	920	10-15	Ample parking area – evaluate opportunities to utilize existing parking.
Ridge Route Rd	30	0	60-90	Opportunity for development of a large bike skills park with regional draw.

Equestrian Amenities

Equestrian Amenities require parking suitable for equestrian trailers. **Table 5** provides the potential parking increases for the proposed Equestrian Amenities. All recommended parking for Equestrian Amenities are assumed to be equestrian spaces. Assume parking turnover of 2 times a day for trip generation.

[3] Based on measuring the parking provided at existing bike skills parks around the country and comparing it to the total acreage of the bike park

Table 5: Recommended Parking for Equestrian Amenities

Proposed Equestrian Amenity Location	Existing Equestrian Trailer Parking	Additional Equestrian Trailer Parking	Notes
Tapia Canyon Rd	0	5	Area proposed by Tapia Ranch development.
Castaic Lake Upper Lot	0	10	At existing large parking lot. Existing trails connect to network.
Tesoro Del Valle	0	5	Existing park with standard-sized parking for current uses.
Castaic Sports Complex	0	10	Existing park.

Existing Traffic Counts

The project team conducted traffic counts along key access roads leading to proposed Staging Areas. Traffic Level of Service was found to be "B" or higher along all roadways sampled at all times of the day. Traffic growth as a result of trail improvements should not experience an impact is expected to be insignificant in relation to existing vehicle volumes. Moreover, peak trail demand (weekends during mid-day) will not coincide with peak roadway demand, and so will have minimal impact on traffic conditions during the weekday AM and PM commuter peaks. As a result, trips associated with the proposed project elements would not have a significant impact level because projected ADT is below the LOS C range per the Los Angeles County Traffic Impact Analysis Report Guidelines.[4]

As part of the traffic assessment of the proposed project, vehicular traffic counts on eight potential trailhead access roads were conducted. Counts were performed on Saturday, February 6, and Tuesday, February 9, to document weekend and weekday volumes, respectively. The counts were conducted in 15-minute time increments over a 24-hour period, beginning at midnight.

[4] LA County Traffic Impact Analysis Report Guidelines

Table 6: Existing Conditions on Proposed Staging Area Access Roads

Proposed Staging Area Location	Count Location	Tube	Land Uses	Travel Lanes (Bi-Directional)	Speed Limit (mph)	Parking	Ped/Bike Facilities
Lady Linda	San Francisquito Cyn Rd Bet. Piute Court & Lowridge Pl	1	Undeveloped	2	55	None	None
Castaic Lagoon	Lake Hughes Rd E/O Ridge Route Rd (E/W)	2	NS: parking lot. SS: undeveloped.	2	35	NS: no parking anytime. SS: no posted restriction.	Gravel shoulders
Bike Skills Park	Ridge Route Rd S/O Castaic Lake State Recreation Area	3 (NB) 4 (SB)	WS: residential. ES: industrial.	6 (+2 turn lanes - NB RT and SB LT)	40	None (no stopping anytime)	Sidewalks
Tapia Canyon Rd	Castaic Rd N/O Tapia Cyn Rd	5	WS: freeway. ES: undeveloped.	2	25	ES: No parking anytime, commercial vehicle restriction. WS: no stopping anytime.	None
Hasley Canyon	Hasley Cyn Rd E/O Del Valle Rd	6	Undeveloped	2	45	NS: no stopping anytime. SS: no posted restriction.	Gravel shoulders
Old Road	The Old Rd S/O Live Oak Rd	7	WS: parking lot. ES: freeway.	2	55	None	WS: paved shoulder
Chiquito Canyon	Chiquito Cyn Rd N/O SR-126	8	Undeveloped	2	35	No posted restrictions.	Gravel shoulders

The traffic counts for each of the potential trailhead access roads are summarized and presented in Table 7. Details of the traffic count data are also provided in the Appendix.

Table 7: Existing Traffic Counts and Level of Service (LOS) Results for Proposed Staging Area Access Roads

Count Location		Direction	Saturday, 2/6/2016				Tuesday, 2/9/2016			
		I / II	Dir I	Dir II	Total	LOS	Dir I	Dir II	Total	LOS
Hasley Cyn Rd E/O Del Valle Rd	1	EB/WB	2,871	2,876	5,747	A/B	3,189	3,210	6,399	A/B
The Old Rd S/O Live Oak Rd	2	NB/SB	2,157	2,407	4,564	A/B	2,565	2,929	5,494	A/B
San Francisquito Cyn Rd Bet. Piute Court & Lowridge Pl	3	NB/SB	1,893	1,851	3,744	A/B	2,560	2,507	5,067	A/B
Ridge Route Rd S/O Castaic Lake State Recreation Area	4	NB/SB	1,704	1,624	3,328	A/B	2,209	2,140	4,349	A/B
Chiquito Cyn Rd N/O SR-126	5	NB/SB	759	*n/a*	*n/a*	A/B	715	784	1,499	A/B
Lake Hughes Rd E/O Ridge Route Rd (E/W)	6	EB/WB	572	627	1,199	A/B	506	518	1,024	A/B
Castaic Rd N/O Tapia Cyn Rd	7	NB/SB	309	318	627	A/B	255	248	503	A/B

RESULTS

Projected Traffic Volumes

The Santa Susana Mountains Trails Master Plan, which is located within 10 miles south of the Castaic project area, developed a derived empirical parking trip rate for trails, based on Saturday AM Peak Hour Vehicle Trip Rate at existing trailheads, of 4.9 trips per mile of trail (56% inbound, 44% outbound). As a conservative estimate, this trip generation rate can be applied to the proposed trails in the Castaic project area. However, to capture the fact that there is not a linear relationship between the popularity and length of trail, Alta has evaluated distributed trips based on the number of attractions and potential popularity of the trailhead as described in the previous section.

The Table 8 shows the assumed proportion of trips to Staging Areas and the daily trip generation (assuming the peak hour represents 10% of total trips). Table 9 estimate the increase in daily traffic by applying the trip generation to the roadway volume counts. It shows how the amount of trips generated are not significant because the projected ADT is well under the Los Angeles County LOS D threshold.[5]

[5] *"Acceptable LOS is determined on a case by case basis, but generally, Level D is the desired minimum LOS. In some instances, LOS below D will be deemed acceptable in order to further other General Plan goals and policies, such as those that protect environmentally sensitive areas, promote active transportation, and encourage infill development, particularly within the Transit Oriented Districts." (From Los Angeles County General Plan 2035).*

Table 8: Trip Generation by Location

Proposed Location	Proportion of General Trailhead Trips	Peak Hour Trip Generation	Daily Trip Generation
Castaic Lagoon	15%	75	750
Castaic Sports Complex	20%	100	1000
Castaic Lake State Rec Area Upper Lot	15%	75	750
Hasley Canyon	10%	50	500
Ridge Route Road	10%	50	500
Old Road	10%	50	500
Chiquito Canyon	10%	50	500
Lady Linda -1	5%	25	250
Santa Felicia	5%	25	250
All Locations	**100%**	**500**	**5,000**

Table 9: Projected Traffic Volumes Counts based on assumed trip generation rate and allocation per location (Saturday, 2/6/2016).

Proposed Location	Count Location	Existing ADT (Sat)	Projected ADT	Impact
Hasley Canyon	Hasley Cyn Rd E/O Del Valle Rd	5,747	6,247	NO
Old Road	The Old Rd S/O Live Oak Rd	4,564	5,064	NO
Lady Linda	San Francisquito Cyn Rd Bet. Piute Court & Lowridge Pl	3,744	3,994	NO
Castaic Lake State Rec Area Upper Lot	Ridge Route Rd S/O Castaic Lake State Recreation Area	3,328	4,078	NO
Chiquito Canyon	Chiquito Cyn Rd N/O SR-126	1,499*	1,999	NO
Castaic Lagoon	Lake Hughes Rd E/O Ridge Route Rd (E/W)	1,199	1,949	NO
Castaic Rd N/O Tapia Cyn Rd	Castaic Sports Complex	627	1,627	NO
**Tuesday counts used at this location because Saturday counts were not available.*				

IMPACT ANALYSIS

Based on the traffic and parking assessment prepared for the proposed project, the following conclusions are made:

- Castaic Lake State Recreation Area parking lots experiences capacity issues only about three to five days per year, and only during special events. Given there is extra capacity 95%+ of the time, the proposed trails are assumed to not pose an impact to parking and no additional parking would be needed inside the Recreation Area for general trail use.

- Additional surface parking lots are only recommended in instances where there is no opportunity to adequately serve parking demand through existing parking and on-street parking alone (e.g. the conversion of shoulders).

- Peak trail demand (weekends during mid-day) will not coincide with peak roadway demand, and so will have minimal impact on traffic conditions during the weekday AM and PM commuter peaks. As a result, no impacts to traffic level of service is anticipated.

- For bike skills park amenities, 2 parking spaces are needed per acre for sites under 30 acres and 3 parking spaces are needed per acre at sites at or over 30 acres.

- Using a conservative trip generation rate of 4.9 trips per mile of trail does not create any impacts to roadway capacity because the projected ADT is well under the Los Angeles County LOS D threshold.

- As part of the Multi-Use Trails Plan, the parking areas for the Staging Area locations should provide on-site parking areas which conform to the nine elements previously identified in the *County of Los Angeles Trails User Manual*.

APPENDIX A
TRAFFIC COUNTS

Prepared by NDS/ATD

VOLUME

San Francisquito Cyn Rd Bet. Piute Court & Lowridge Pl

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,893	1,851	0	0	3,744

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	13		0						13		12:00	35		46						81	
00:15	6		0						6		12:15	52		42						94	
00:30	4		0						4		12:30	30		28						58	
00:45	7	30	2	2					9	32	12:45	35	152	36	152					71	304
01:00	5		1						6		13:00	47		33						80	
01:15	5		1						6		13:15	41		42						83	
01:30	4		2						6		13:30	30		41						71	
01:45	0	14	2	6					2	20	13:45	42	160	28	144					70	304
02:00	3		0						3		14:00	41		25						66	
02:15	2		0						2		14:15	33		49						82	
02:30	4		3						7		14:30	33		36						69	
02:45	1	10	4	7					5	17	14:45	43	150	34	144					77	294
03:00	0		1						1		15:00	49		39						88	
03:15	0		1						1		15:15	39		36						75	
03:30	3		2						5		15:30	35		35						70	
03:45	0	3	2	6					2	9	15:45	24	147	36	146					60	293
04:00	1		4						5		16:00	33		39						72	
04:15	0		3						3		16:15	41		48						89	
04:30	3		12						15		16:30	39		43						82	
04:45	1	5	8	27					9	32	16:45	33	146	33	163					66	309
05:00	4		8						12		17:00	32		40						72	
05:15	2		13						15		17:15	35		34						69	
05:30	2		17						19		17:30	28		29						57	
05:45	3	11	16	54					19	65	17:45	28	123	22	125					50	248
06:00	3		19						22		18:00	25		22						47	
06:15	6		13						19		18:15	27		18						45	
06:30	6		27						33		18:30	23		15						38	
06:45	21	36	22	81					43	117	18:45	20	95	16	71					36	166
07:00	22		23						45		19:00	17		12						29	
07:15	21		17						38		19:15	17		12						29	
07:30	15		19						34		19:30	17		5						22	
07:45	27	85	28	87					55	172	19:45	19	70	6	35					25	105
08:00	36		17						53		20:00	21		6						27	
08:15	28		27						55		20:15	19		8						27	
08:30	31		24						55		20:30	12		5						17	
08:45	17	112	37	105					54	217	20:45	16	68	10	29					26	97
09:00	24		37						61		21:00	10		10						20	
09:15	24		25						49		21:15	19		7						26	
09:30	43		27						70		21:30	16		5						21	
09:45	24	115	39	128					63	243	21:45	11	56	5	27					16	83
10:00	16		22						38		22:00	17		6						23	
10:15	20		31						51		22:15	15		7						22	
10:30	28		43						71		22:30	7		2						9	
10:45	34	98	32	128					66	226	22:45	5	44	7	22					12	66
11:00	44		34						78		23:00	8		3						11	
11:15	29		35						64		23:15	8		3						11	
11:30	36		48						84		23:30	4		2						6	
11:45	32	141	36	153					68	294	23:45	2	22	1	9					3	31
TOTALS		660		784						1444	TOTALS		1233		1067						2300
SPLIT %		45.7%		54.3%						38.6%	SPLIT %		53.6%		46.4%						61.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,893	1,851	0	0	3,744

AM Peak Hour	11:30	11:30			11:30	PM Peak Hour	14:45	15:45			14:15
AM Pk Volume	155	172			327	PM Pk Volume	166	166			316
Pk Hr Factor	0.745	0.896			0.870	Pk Hr Factor	0.847	0.865			0.898
7 - 9 Volume	197	192	0	0	389	4 - 6 Volume	269	288	0	0	557
7 - 9 Peak Hour	07:45	08:00			07:45	4 - 6 Peak Hour	16:00	16:15			16:00
7 - 9 Pk Volume	122	105	0	0	218	4 - 6 Pk Volume	146	164	0	0	309
Pk Hr Factor	0.847	0.709	0.000	0.000	0.991	Pk Hr Factor	0.890	0.854	0.000	0.000	0.868

Prepared by NDS/ATD

VOLUME

San Francisquito Cyn Rd Bet. Piute Court & Lowridge Pl

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_001

DAILY TOTALS	NB	SB	EB	WB	Total
	2,560	2,507	0	0	5,067

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	6		1						7		12:00	22		23						45	
00:15	2		0						2		12:15	13		12						25	
00:30	3		1						4		12:30	25		28						53	
00:45	1	12	0	2					1	14	12:45	19	79	24	87					43	166
01:00	4		3						7		13:00	24		31						55	
01:15	1		2						3		13:15	26		20						46	
01:30	1		0						1		13:30	18		24						42	
01:45	4	10	0	5					4	15	13:45	30	98	21	96					51	194
02:00	3		1						4		14:00	36		14						50	
02:15	2		1						3		14:15	48		29						77	
02:30	1		1						2		14:30	44		26						70	
02:45	2	8	3	6					5	14	14:45	48	176	27	96					75	272
03:00	3		1						4		15:00	59		19						78	
03:15	1		1						2		15:15	48		32						80	
03:30	0		3						3		15:30	73		18						91	
03:45	1	5	11	16					12	21	15:45	109	289	22	91					131	380
04:00	2		7						9		16:00	81		16						97	
04:15	4		15						19		16:15	119		18						137	
04:30	4		21						25		16:30	86		31						117	
04:45	5	15	37	80					42	95	16:45	126	412	17	82					143	494
05:00	6		48						54		17:00	118		18						136	
05:15	4		65						69		17:15	142		20						162	
05:30	5		112						117		17:30	112		26						138	
05:45	10	25	86	311					96	336	17:45	77	449	26	90					103	539
06:00	10		88						98		18:00	77		30						107	
06:15	22		94						116		18:15	81		15						96	
06:30	24		115						139		18:30	58		12						70	
06:45	21	77	132	429					153	506	18:45	48	264	17	74					65	338
07:00	18		94						112		19:00	42		5						47	
07:15	21		98						119		19:15	33		12						45	
07:30	12		111						123		19:30	26		14						40	
07:45	14	65	86	389					100	454	19:45	24	125	8	39					32	164
08:00	22		53						75		20:00	33		7						40	
08:15	16		71						87		20:15	23		17						40	
08:30	15		58						73		20:30	18		8						26	
08:45	14	67	38	220					52	287	20:45	16	90	7	39					23	129
09:00	12		41						53		21:00	18		6						24	
09:15	9		31						40		21:15	17		4						21	
09:30	9		20						29		21:30	12		3						15	
09:45	9	39	30	122					39	161	21:45	13	60	5	18					18	78
10:00	13		28						41		22:00	18		5						23	
10:15	18		37						55		22:15	9		4						13	
10:30	15		27						42		22:30	8		2						10	
10:45	12	58	26	118					38	176	22:45	8	43	5	16					13	59
11:00	13		20						33		23:00	12		4						16	
11:15	20		22						42		23:15	6		1						7	
11:30	16		17						33		23:30	5		0						5	
11:45	17	66	13	72					30	138	23:45	5	28	4	9					9	37
TOTALS		447		1770						2217	TOTALS		2113		737						2850
SPLIT %		20.2%		79.8%						43.8%	SPLIT %		74.1%		25.9%						56.2%

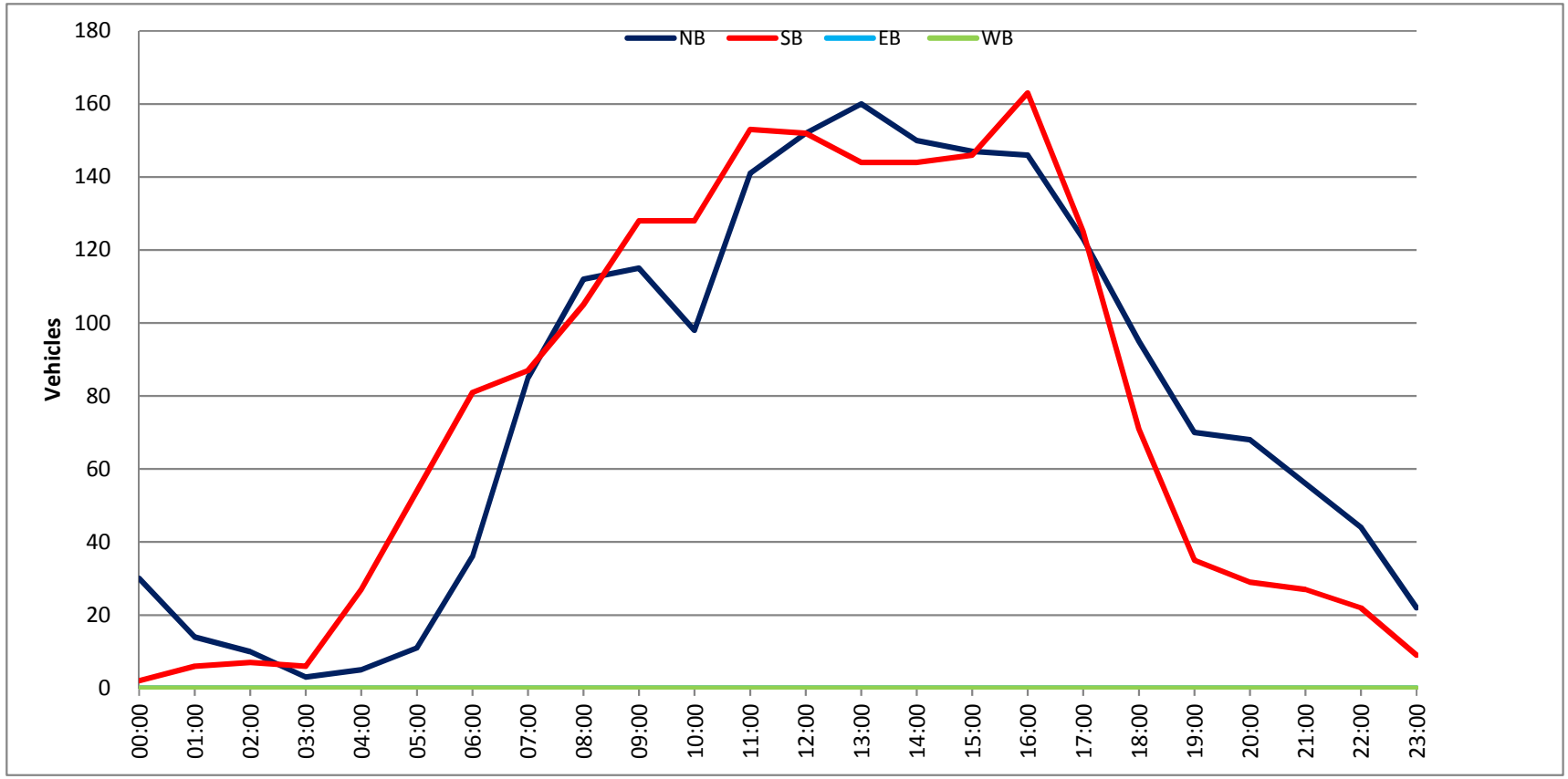
DAILY TOTALS	NB	SB	EB	WB	Total
	2,560	2,507	0	0	5,067

AM Peak Hour	06:15	06:30			06:30	PM Peak Hour	16:45	14:30			16:45
AM Pk Volume	85	439			523	PM Pk Volume	498	104			579
Pk Hr Factor	0.885	0.831			0.855	Pk Hr Factor	0.877	0.813			0.894
7 - 9 Volume	132	609	0	0	741	4 - 6 Volume	861	172	0	0	1033
7 - 9 Peak Hour	07:15	07:00			07:00	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	69	389	0	0	454	4 - 6 Pk Volume	498	90	0	0	579
Pk Hr Factor	0.784	0.876	0.000	0.000	0.923	Pk Hr Factor	0.877	0.865	0.000	0.000	0.894

Prepared by NDS/ATD

Project #: CA16_5060_001 **City:** Castaic

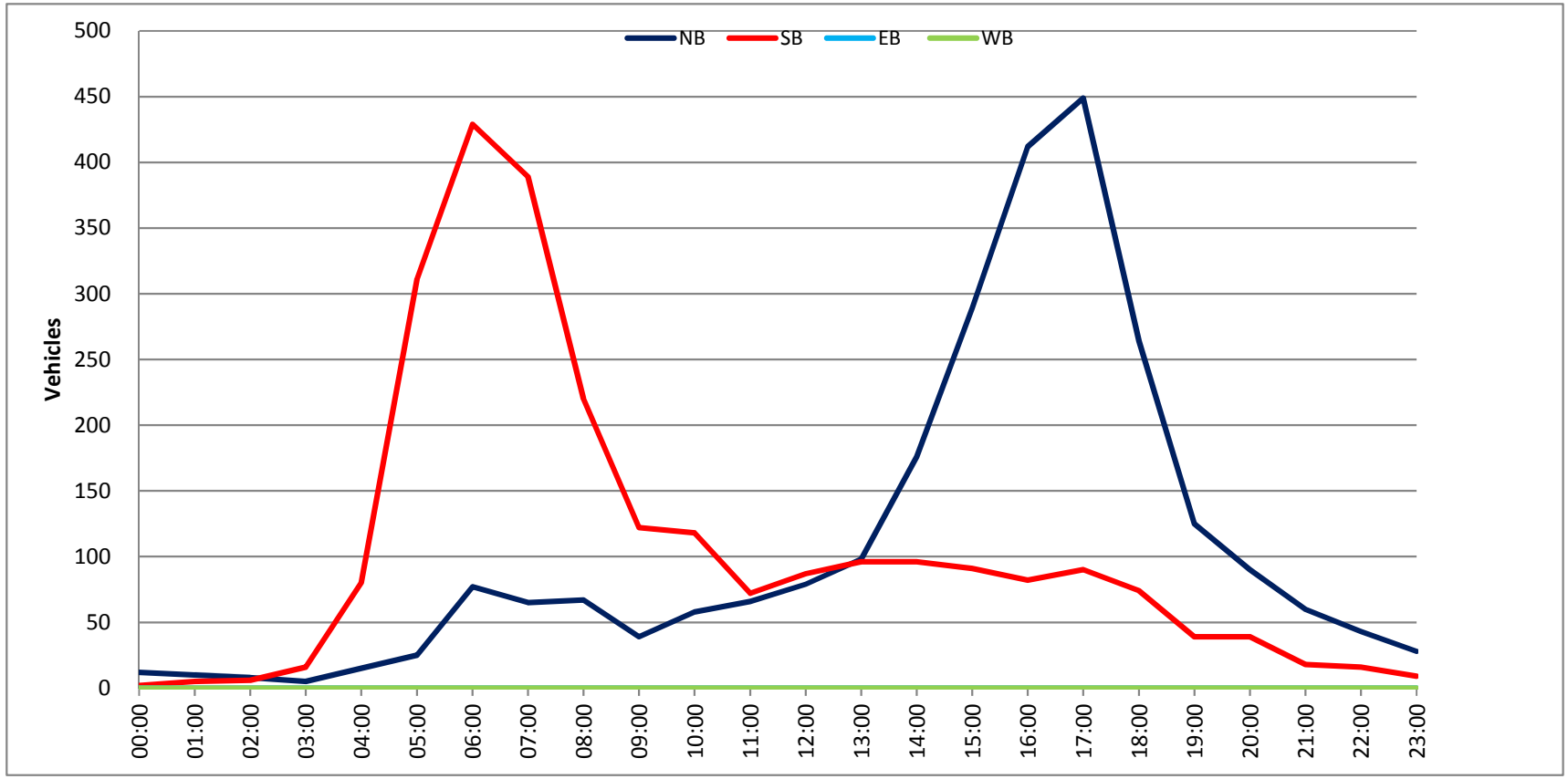
Location: San Francisquito Cyn Rd Bet. Piute Court & **Date:** 2/6/2016



Prepared by NDS/ATD

Project #: CA16_5060_001 **City:** Castaic

Location: San Francisquito Cyn Rd Bet. Piute Court & **Date:** 2/9/2016



Prepared by NDS/ATD

VOLUME

Lake Hughes Rd E/O Ridge Route Rd

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	572	627	1,199

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		2		3		12:00			11		11		22	
00:15			2		2		4		12:15			16		13		29	
00:30			1		1		2		12:30			9		14		23	
00:45			3	7	1	6	4	13	12:45			9	45	7	45	16	90
01:00			1		3		4		13:00			9		17		26	
01:15			2		2		4		13:15			11		19		30	
01:30			2		0		2		13:30			9		16		25	
01:45			1	6	1	6	2	12	13:45			8	37	14	66	22	103
02:00			1		0		1		14:00			12		15		27	
02:15			0		0		0		14:15			6		14		20	
02:30			0		0		0		14:30			13		11		24	
02:45			0	1	1	1	1	2	14:45			8	39	7	47	15	86
03:00			0		0		0		15:00			15		14		29	
03:15			1		0		1		15:15			11		11		22	
03:30			0		0		0		15:30			6		15		21	
03:45			1	2	0		1	2	15:45			6	38	7	47	13	85
04:00			0		2		2		16:00			8		15		23	
04:15			0		3		3		16:15			12		22		34	
04:30			2		0		2		16:30			10		13		23	
04:45			0	2	0	5	0	7	16:45			10	40	19	69	29	109
05:00			0		0		0		17:00			8		18		26	
05:15			3		1		4		17:15			8		12		20	
05:30			4		1		5		17:30			7		15		22	
05:45			4	11	3	5	7	16	17:45			4	27	15	60	19	87
06:00			10		0		10		18:00			3		13		16	
06:15			8		5		13		18:15			1		8		9	
06:30			6		2		8		18:30			3		6		9	
06:45			10	34	3	10	13	44	18:45			1	8	4	31	5	39
07:00			5		6		11		19:00			2		4		6	
07:15			15		5		20		19:15			6		5		11	
07:30			9		2		11		19:30			7		1		8	
07:45			5	34	4	17	9	51	19:45			1	16	3	13	4	29
08:00			13		3		16		20:00			1		4		5	
08:15			7		4		11		20:15			8		1		9	
08:30			7		4		11		20:30			7		3		10	
08:45			11	38	7	18	18	56	20:45			3	19	3	11	6	30
09:00			7		10		17		21:00			7		5		12	
09:15			8		14		22		21:15			3		7		10	
09:30			13		8		21		21:30			2		3		5	
09:45			11	39	12	44	23	83	21:45			4	16	2	17	6	33
10:00			10		9		19		22:00			2		2		4	
10:15			18		14		32		22:15			3		2		5	
10:30			16		9		25		22:30			3		4		7	
10:45			12	56	15	47	27	103	22:45			1	9	0	8	1	17
11:00			8		6		14		23:00			5		9		14	
11:15			14		13		27		23:15			1		5		6	
11:30			4		8		12		23:30			2		1		3	
11:45			13	39	12	39	25	78	23:45			1	9	0	15	1	24
TOTALS				269		198		467	TOTALS				303		429		732
SPLIT %				57.6%		42.4%		38.9%	SPLIT %				41.4%		58.6%		61.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	572	627	1,199

AM Peak Hour			10:00	11:45	10:00	PM Peak Hour			14:30	16:15	16:15
AM Pk Volume			56	50	103	PM Pk Volume			47	72	112
Pk Hr Factor			0.778	0.893	0.805	Pk Hr Factor			0.783	0.818	0.824
7 - 9 Volume	0	0	72	35	107	4 - 6 Volume	0	0	67	129	196
7 - 9 Peak Hour			07:15	08:00	07:15	4 - 6 Peak Hour			16:00	16:15	16:15
7 - 9 Pk Volume	0	0	42	18	56	4 - 6 Pk Volume	0	0	40	72	112
Pk Hr Factor	0.000	0.000	0.700	0.643	0.700	Pk Hr Factor	0.000	0.000	0.833	0.818	0.824

Prepared by NDS/ATD

VOLUME

Lake Hughes Rd E/O Ridge Route Rd

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	506	518	1,024

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		1		3		12:00			19		4		23	
00:15			1		3		4		12:15			11		7		18	
00:30			2		1		3		12:30			9		16		25	
00:45			1	6	1	6	2	12	12:45			9	48	8	35	17	83
01:00			3		3		6		13:00			8		9		17	
01:15			0		4		4		13:15			7		14		21	
01:30			1		0		1		13:30			6		18		24	
01:45			0	4	0	7	0	11	13:45			16	37	9	50	25	87
02:00			0		1		1		14:00			5		9		14	
02:15			0		0		0		14:15			11		10		21	
02:30			0		0		0		14:30			16		10		26	
02:45			0		2	3	2	3	14:45			10	42	12	41	22	83
03:00			0		0		0		15:00			8		7		15	
03:15			0		0		0		15:15			10		5		15	
03:30			2		1		3		15:30			18		11		29	
03:45			0	2	0	1	0	3	15:45			10	46	10	33	20	79
04:00			1		3		4		16:00			16		11		27	
04:15			0		0		0		16:15			14		3		17	
04:30			0		2		2		16:30			12		4		16	
04:45			1	2	3	8	4	10	16:45			19	61	11	29	30	90
05:00			2		5		7		17:00			13		8		21	
05:15			0		4		4		17:15			10		15		25	
05:30			5		6		11		17:30			6		14		20	
05:45			3	10	7	22	10	32	17:45			7	36	7	44	14	80
06:00			0		5		5		18:00			13		8		21	
06:15			8		6		14		18:15			6		8		14	
06:30			3		11		14		18:30			3		7		10	
06:45			9	20	8	30	17	50	18:45			7	29	2	25	9	54
07:00			7		15		22		19:00			4		6		10	
07:15			7		9		16		19:15			2		3		5	
07:30			6		7		13		19:30			5		1		6	
07:45			9	29	7	38	16	67	19:45			2	13	2	12	4	25
08:00			9		7		16		20:00			3		0		3	
08:15			8		6		14		20:15			5		1		6	
08:30			2		6		8		20:30			1		2		3	
08:45			4	23	8	27	12	50	20:45			3	12	3	6	6	18
09:00			7		7		14		21:00			3		2		5	
09:15			3		4		7		21:15			1		0		1	
09:30			5		11		16		21:30			1		2		3	
09:45			3	18	3	25	6	43	21:45			1	6	2	6	3	12
10:00			4		3		7		22:00			3		2		5	
10:15			6		3		9		22:15			2		2		4	
10:30			6		11		17		22:30			0		2		2	
10:45			6	22	2	19	8	41	22:45			3	8	2	8	5	16
11:00			5		13		18		23:00			1		1		2	
11:15			7		13		20		23:15			2		1		3	
11:30			6		8		14		23:30			0		0		0	
11:45			10	28	7	41	17	69	23:45			1	4	0	2	1	6
TOTALS				164		227		391	TOTALS				342		291		633
SPLIT %				41.9%		58.1%		38.2%	SPLIT %				54.0%		46.0%		61.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	506	518	1,024

AM Peak Hour			11:45	06:30	11:45	PM Peak Hour			16:00	13:00	16:45
AM Pk Volume			49	43	83	PM Pk Volume			61	50	96
Pk Hr Factor			0.645	0.717	0.830	Pk Hr Factor			0.803	0.694	0.800
7 - 9 Volume	0	0	52	65	117	4 - 6 Volume	0	0	97	73	170
7 - 9 Peak Hour			07:30	07:00	07:00	4 - 6 Peak Hour			16:00	16:45	16:45
7 - 9 Pk Volume	0	0	32	38	67	4 - 6 Pk Volume	0	0	61	48	96
Pk Hr Factor	0.000	0.000	0.889	0.633	0.761	Pk Hr Factor	0.000	0.000	0.803	0.800	0.800

Prepared by NDS/ATD

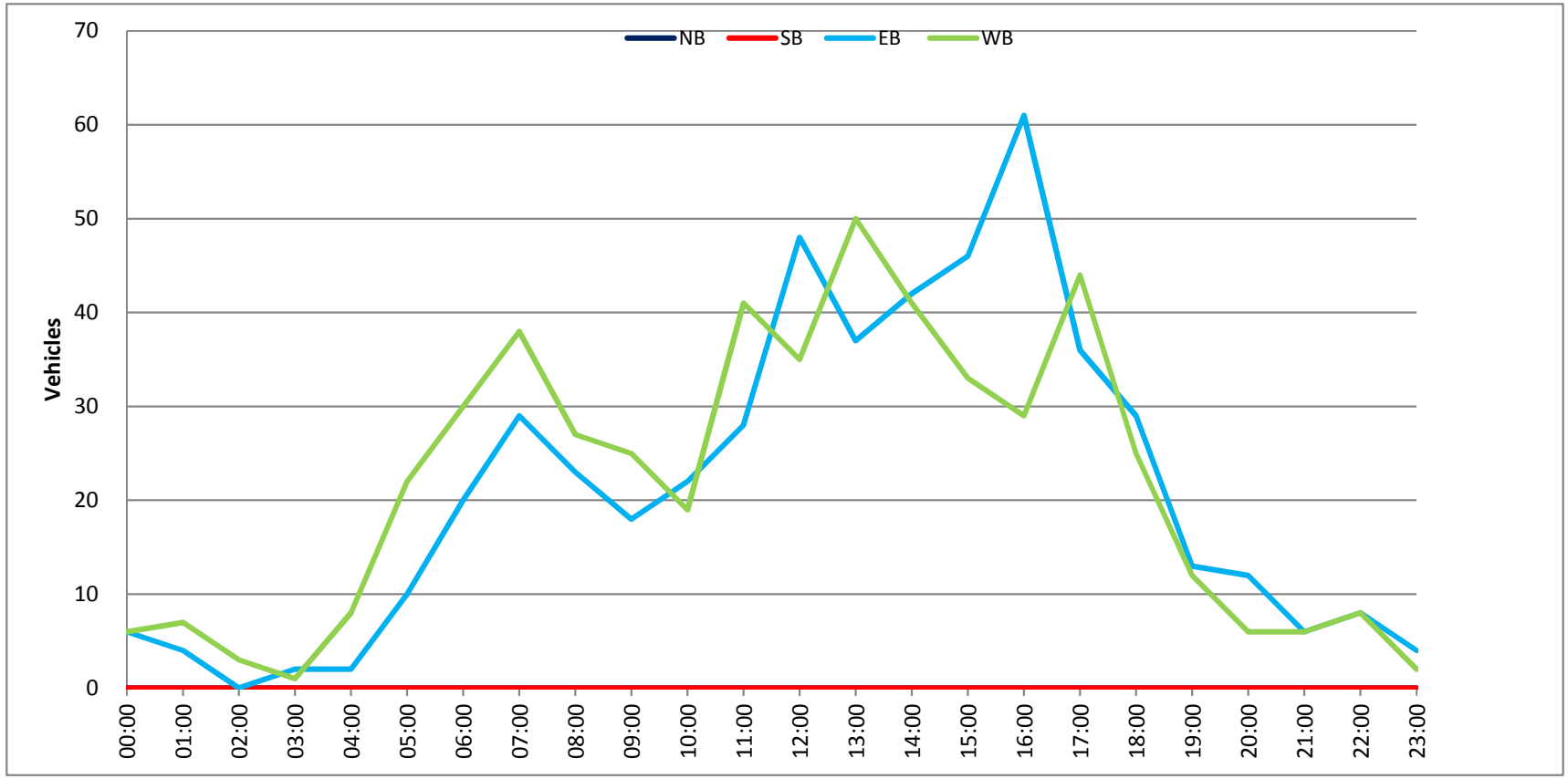
Project #: CA16_5060_002 **City:** Castaic

Location: Lake Hughes Rd E/O Ridge Route Rd **Date:** 2/6/2016

Prepared by NDS/ATD

Project #: CA16_5060_002 **City:** Castaic

Location: Lake Hughes Rd E/O Ridge Route Rd **Date:** 2/9/2016



Prepared by NDS/ATD

VOLUME

Ridge Route Rd NB S/O Castaic Lake Recreation Area

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,704	0	0	0	1,704

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	11		0			11		12:00	27		0			27	
00:15	7		0			7		12:15	34		0			34	
00:30	5		0			5		12:30	35		0			35	
00:45	2	25	0			2	25	12:45	32	128	0			32	128
01:00	1		0			1		13:00	20		0			20	
01:15	2		0			2		13:15	30		0			30	
01:30	1		0			1		13:30	38		0			38	
01:45	2	6	0			2	6	13:45	24	112	0			24	112
02:00	4		0			4		14:00	30		0			30	
02:15	1		0			1		14:15	29		0			29	
02:30	5		0			5		14:30	29		0			29	
02:45	2	12	0			2	12	14:45	31	119	0			31	119
03:00	3		0			3		15:00	28		0			28	
03:15	1		0			1		15:15	22		0			22	
03:30	1		0			1		15:30	35		0			35	
03:45	1	6	0			1	6	15:45	26	111	0			26	111
04:00	0		0			0		16:00	24		0			24	
04:15	1		0			1		16:15	33		0			33	
04:30	1		0			1		16:30	30		0			30	
04:45	1	3	0			1	3	16:45	37	124	0			37	124
05:00	1		0			1		17:00	31		0			31	
05:15	0		0			0		17:15	30		0			30	
05:30	10		0			10		17:30	33		0			33	
05:45	7	18	0			7	18	17:45	76	170	0			76	170
06:00	5		0			5		18:00	52		0			52	
06:15	7		0			7		18:15	37		0			37	
06:30	7		0			7		18:30	24		0			24	
06:45	10	29	0			10	29	18:45	23	136	0			23	136
07:00	14		0			14		19:00	21		0			21	
07:15	6		0			6		19:15	14		0			14	
07:30	9		0			9		19:30	14		0			14	
07:45	13	42	0			13	42	19:45	18	67	0			18	67
08:00	14		0			14		20:00	20		0			20	
08:15	15		0			15		20:15	20		0			20	
08:30	29		0			29		20:30	21		0			21	
08:45	28	86	0			28	86	20:45	8	69	0			8	69
09:00	32		0			32		21:00	7		0			7	
09:15	15		0			15		21:15	14		0			14	
09:30	26		0			26		21:30	12		0			12	
09:45	28	101	0			28	101	21:45	8	41	0			8	41
10:00	30		0			30		22:00	13		0			13	
10:15	29		0			29		22:15	10		0			10	
10:30	32		0			32		22:30	12		0			12	
10:45	20	111	0			20	111	22:45	12	47	0			12	47
11:00	27		0			27		23:00	9		0			9	
11:15	24		0			24		23:15	13		0			13	
11:30	34		0			34		23:30	9		0			9	
11:45	21	106	0			21	106	23:45	4	35	0			4	35
TOTALS		545					545	TOTALS		1159					1159
SPLIT %		100.0%					32.0%	SPLIT %		100.0%					68.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,704	0	0	0	1,704

AM Peak Hour	09:45				09:45	PM Peak Hour	17:30				17:30
AM Pk Volume	119				119	PM Pk Volume	198				198
Pk Hr Factor	0.930				0.930	Pk Hr Factor	0.651				0.651
7 - 9 Volume	128	0	0	0	128	4 - 6 Volume	294	0	0	0	294
7 - 9 Peak Hour	08:00				08:00	4 - 6 Peak Hour	17:00				17:00
7 - 9 Pk Volume	86	0	0	0	86	4 - 6 Pk Volume	170	0	0	0	170
Pk Hr Factor	0.741	0.000	0.000	0.000	0.741	Pk Hr Factor	0.559	0.000	0.000	0.000	0.559

Prepared by NDS/ATD

VOLUME

Ridge Route Rd NB S/O Castaic Lake Recreation Area

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_003

DAILY TOTALS	NB	SB	EB	WB	Total
	2,209	0	0	0	2,209

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	19		0			19	
00:15	1		0			1		12:15	27		0			27	
00:30	3		0			3		12:30	26		0			26	
00:45	4	9	0			4	9	12:45	27	99	0			27	99
01:00	1		0			1		13:00	24		0			24	
01:15	0		0			0		13:15	25		0			25	
01:30	0		0			0		13:30	41		0			41	
01:45	0	1	0			0	1	13:45	35	125	0			35	125
02:00	0		0			0		14:00	58		0			58	
02:15	1		0			1		14:15	99		0			99	
02:30	1		0			1		14:30	106		0			106	
02:45	1	3	0			1	3	14:45	48	311	0			48	311
03:00	0		0			0		15:00	39		0			39	
03:15	0		0			0		15:15	34		0			34	
03:30	1		0			1		15:30	35		0			35	
03:45	0	1	0			0	1	15:45	36	144	0			36	144
04:00	0		0			0		16:00	28		0			28	
04:15	0		0			0		16:15	43		0			43	
04:30	1		0			1		16:30	29		0			29	
04:45	2	3	0			2	3	16:45	39	139	0			39	139
05:00	0		0			0		17:00	32		0			32	
05:15	4		0			4		17:15	35		0			35	
05:30	7		0			7		17:30	48		0			48	
05:45	9	20	0			9	20	17:45	41	156	0			41	156
06:00	13		0			13		18:00	46		0			46	
06:15	12		0			12		18:15	37		0			37	
06:30	10		0			10		18:30	26		0			26	
06:45	24	59	0			24	59	18:45	35	144	0			35	144
07:00	46		0			46		19:00	31		0			31	
07:15	68		0			68		19:15	25		0			25	
07:30	141		0			141		19:30	19		0			19	
07:45	118	373	0			118	373	19:45	25	100	0			25	100
08:00	31		0			31		20:00	16		0			16	
08:15	30		0			30		20:15	28		0			28	
08:30	20		0			20		20:30	16		0			16	
08:45	14	95	0			14	95	20:45	20	80	0			20	80
09:00	19		0			19		21:00	16		0			16	
09:15	17		0			17		21:15	12		0			12	
09:30	20		0			20		21:30	15		0			15	
09:45	20	76	0			20	76	21:45	13	56	0			13	56
10:00	11		0			11		22:00	13		0			13	
10:15	8		0			8		22:15	7		0			7	
10:30	18		0			18		22:30	3		0			3	
10:45	22	59	0			22	59	22:45	4	27	0			4	27
11:00	31		0			31		23:00	9		0			9	
11:15	36		0			36		23:15	5		0			5	
11:30	14		0			14		23:30	7		0			7	
11:45	22	103	0			22	103	23:45	5	26	0			5	26
TOTALS		802					802	TOTALS		1407					1407
SPLIT %		100.0%					36.3%	SPLIT %		100.0%					63.7%

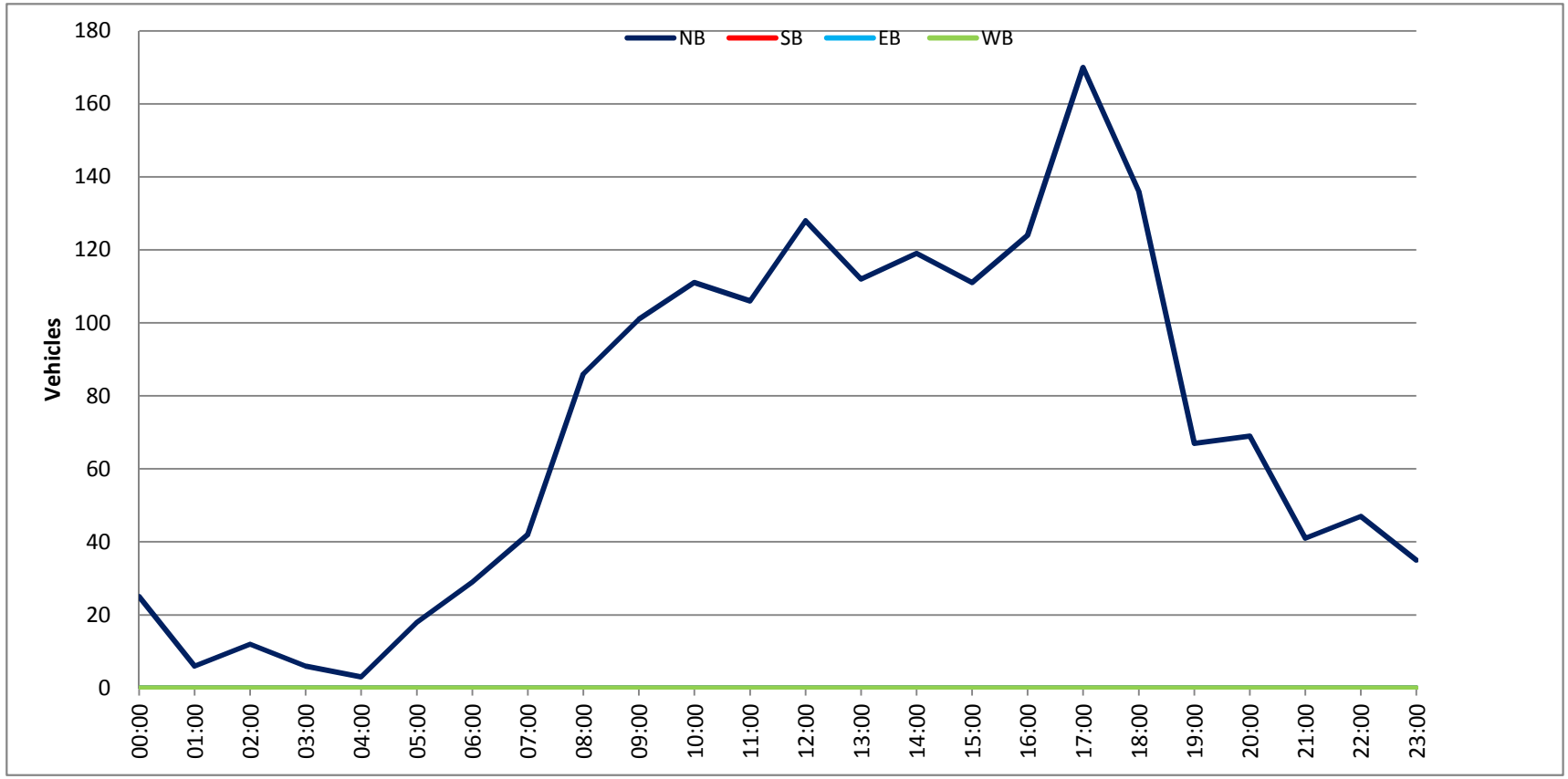
DAILY TOTALS	NB	SB	EB	WB	Total
	2,209	0	0	0	2,209

AM Peak Hour	07:00				07:00	PM Peak Hour	14:00				14:00
AM Pk Volume	373				373	PM Pk Volume	311				311
Pk Hr Factor	0.661				0.661	Pk Hr Factor	0.733				0.733
7 - 9 Volume	468	0	0	0	468	4 - 6 Volume	295	0	0	0	295
7 - 9 Peak Hour	07:00				07:00	4 - 6 Peak Hour	17:00				17:00
7 - 9 Pk Volume	373	0	0	0	373	4 - 6 Pk Volume	156	0	0	0	156
Pk Hr Factor	0.661	0.000	0.000	0.000	0.661	Pk Hr Factor	0.813	0.000	0.000	0.000	0.813

Prepared by NDS/ATD

Project #: CA16_5060_003 **City:** Castaic

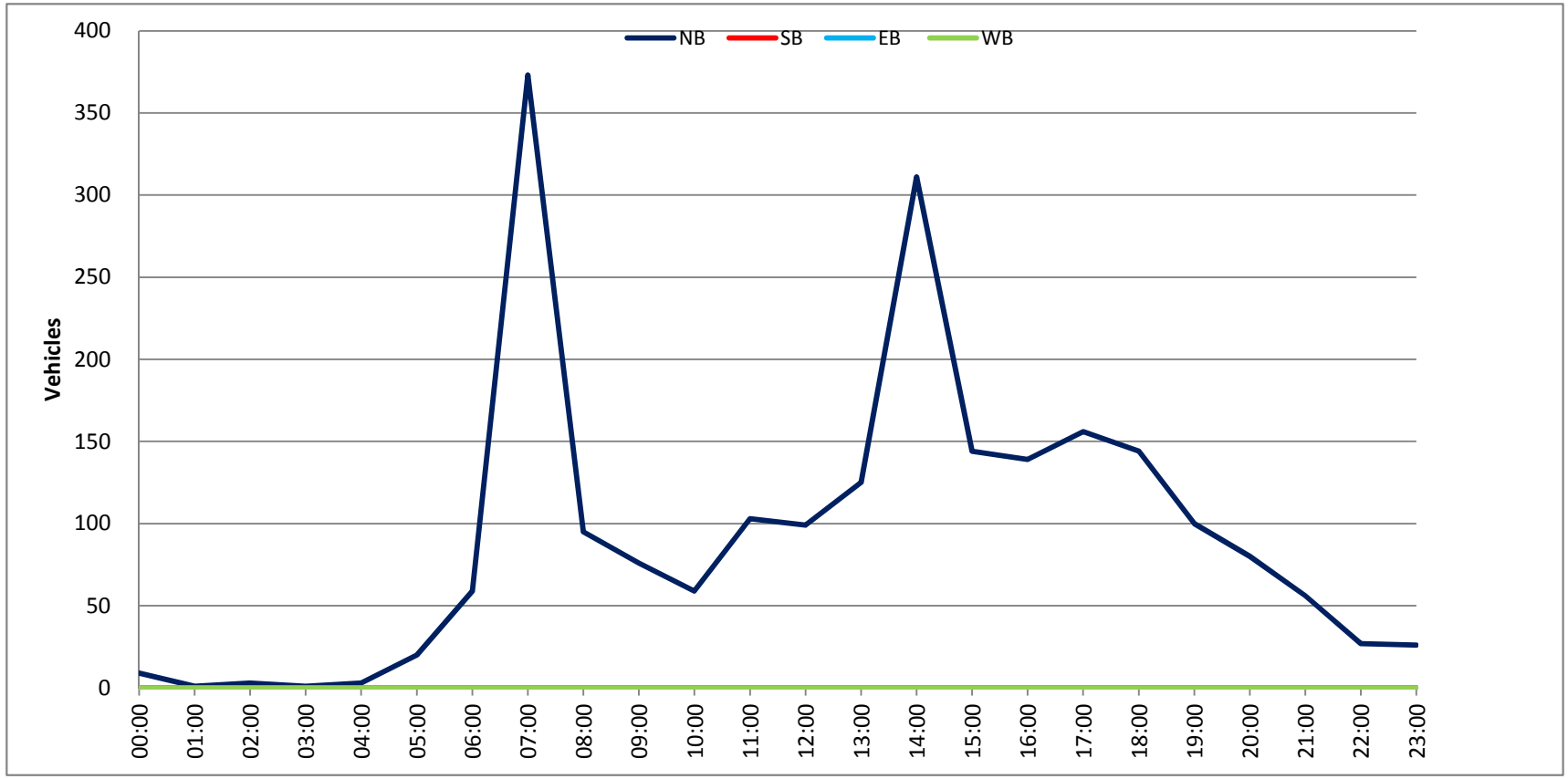
Location: Ridge Route Rd NB S/O Castaic Lake **Date:** 2/6/2016



Prepared by NDS/ATD

Project #: CA16_5060_003 **City:** Castaic

Location: Ridge Route Rd NB S/O Castaic Lake **Date:** 2/9/2016



Prepared by NDS/ATD

VOLUME

Ridge Route Rd SB S/O Castaic Lake Recreation Area

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	1,624	0	0	1,624

AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	5			5		12:00	0	41			41	
00:15	0	2			2		12:15	0	26			26	
00:30	0	1			1		12:30	0	27			27	
00:45	0	2	10		2	10	12:45	0	26	120		26	120
01:00	0	0			0		13:00	0	40			40	
01:15	0	0			0		13:15	0	24			24	
01:30	0	0			0		13:30	0	27			27	
01:45	0	1	1		1	1	13:45	0	24	115		24	115
02:00	0	4			4		14:00	0	21			21	
02:15	0	1			1		14:15	0	28			28	
02:30	0	1			1		14:30	0	36			36	
02:45	0	2	8		2	8	14:45	0	32	117		32	117
03:00	0	0			0		15:00	0	25			25	
03:15	0	0			0		15:15	0	32			32	
03:30	0	0			0		15:30	0	35			35	
03:45	0	0			0		15:45	0	10	102		10	102
04:00	0	2			2		16:00	0	36			36	
04:15	0	1			1		16:15	0	38			38	
04:30	0	3			3		16:30	0	34			34	
04:45	0	0	6		0	6	16:45	0	30	138		30	138
05:00	0	5			5		17:00	0	36			36	
05:15	0	5			5		17:15	0	23			23	
05:30	0	3			3		17:30	0	22			22	
05:45	0	3	16		3	16	17:45	0	21	102		21	102
06:00	0	12			12		18:00	0	22			22	
06:15	0	5			5		18:15	0	20			20	
06:30	0	12			12		18:30	0	23			23	
06:45	0	15	44		15	44	18:45	0	11	76		11	76
07:00	0	10			10		19:00	0	13			13	
07:15	0	13			13		19:15	0	11			11	
07:30	0	11			11		19:30	0	17			17	
07:45	0	24	58		24	58	19:45	0	13	54		13	54
08:00	0	25			25		20:00	0	73			73	
08:15	0	28			28		20:15	0	29			29	
08:30	0	21			21		20:30	0	17			17	
08:45	0	31	105		31	105	20:45	0	15	134		15	134
09:00	0	16			16		21:00	0	9			9	
09:15	0	31			31		21:15	0	7			7	
09:30	0	24			24		21:30	0	4			4	
09:45	0	34	105		34	105	21:45	0	5	25		5	25
10:00	0	28			28		22:00	0	13			13	
10:15	0	27			27		22:15	0	8			8	
10:30	0	31			31		22:30	0	4			4	
10:45	0	29	115		29	115	22:45	0	9	34		9	34
11:00	0	24			24		23:00	0	9			9	
11:15	0	16			16		23:15	0	1			1	
11:30	0	48			48		23:30	0	4			4	
11:45	0	34	122		34	122	23:45	0	3	17		3	17
TOTALS			590			**590**	**TOTALS**			1034			**1034**
SPLIT %			100.0%			**36.3%**	**SPLIT %**			100.0%			**63.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	1,624	0	0	1,624

AM Peak Hour		11:30			**11:30**	**PM Peak Hour**		16:00			**16:00**
AM Pk Volume		149			**149**	**PM Pk Volume**		138			**138**
Pk Hr Factor		0.776			**0.776**	**Pk Hr Factor**		0.908			**0.908**
7 - 9 Volume	0	163	0	0	**163**	**4 - 6 Volume**	0	240	0	0	**240**
7 - 9 Peak Hour		08:00			**08:00**	**4 - 6 Peak Hour**		16:00			**16:00**
7 - 9 Pk Volume	0	105	0	0	**105**	**4 - 6 Pk Volume**	0	138	0	0	**138**
Pk Hr Factor	0.000	0.847	0.000	0.000	**0.847**	**Pk Hr Factor**	0.000	0.908	0.000	0.000	**0.908**

Prepared by NDS/ATD

VOLUME

Ridge Route Rd SB S/O Castaic Lake Recreation Area

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	2,140	0	0	2,140

AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	5			5		12:00	0	26			26	
00:15	0	0			0		12:15	0	22			22	
00:30	0	0			0		12:30	0	22			22	
00:45	0	1	6		1	6	12:45	0	16	86		16	86
01:00	0	1			1		13:00	0	21			21	
01:15	0	1			1		13:15	0	18			18	
01:30	0	0			0		13:30	0	19			19	
01:45	0	2	4		2	4	13:45	0	34	92		34	92
02:00	0	0			0		14:00	0	22			22	
02:15	0	0			0		14:15	0	20			20	
02:30	0	0			0		14:30	0	160			160	
02:45	0	1	1		1	1	14:45	0	130	332		130	332
03:00	0	1			1		15:00	0	42			42	
03:15	0	0			0		15:15	0	23			23	
03:30	0	2			2		15:30	0	32			32	
03:45	0	3	6		3	6	15:45	0	22	119		22	119
04:00	0	3			3		16:00	0	36			36	
04:15	0	1			1		16:15	0	23			23	
04:30	0	4			4		16:30	0	31			31	
04:45	0	5	13		5	13	16:45	0	22	112		22	112
05:00	0	13			13		17:00	0	32			32	
05:15	0	10			10		17:15	0	27			27	
05:30	0	16			16		17:30	0	32			32	
05:45	0	14	53		14	53	17:45	0	31	122		31	122
06:00	0	25			25		18:00	0	22			22	
06:15	0	17			17		18:15	0	19			19	
06:30	0	37			37		18:30	0	26			26	
06:45	0	29	108		29	108	18:45	0	20	87		20	87
07:00	0	38			38		19:00	0	14			14	
07:15	0	73			73		19:15	0	16			16	
07:30	0	122			122		19:30	0	8			8	
07:45	0	174	407		174	407	19:45	0	10	48		10	48
08:00	0	72			72		20:00	0	10			10	
08:15	0	46			46		20:15	0	8			8	
08:30	0	40			40		20:30	0	9			9	
08:45	0	34	192		34	192	20:45	0	11	38		11	38
09:00	0	17			17		21:00	0	5			5	
09:15	0	18			18		21:15	0	6			6	
09:30	0	19			19		21:30	0	6			6	
09:45	0	29	83		29	83	21:45	0	3	20		3	20
10:00	0	15			15		22:00	0	2			2	
10:15	0	25			25		22:15	0	6			6	
10:30	0	15			15		22:30	0	4			4	
10:45	0	16	71		16	71	22:45	0	4	16		4	16
11:00	0	19			19		23:00	0	1			1	
11:15	0	27			27		23:15	0	2			2	
11:30	0	47			47		23:30	0	0			0	
11:45	0	24	117		24	117	23:45	0	4	7		4	7
TOTALS			1061			**1061**	**TOTALS**			1079			**1079**
SPLIT %			100.0%			**49.6%**	**SPLIT %**			100.0%			**50.4%**

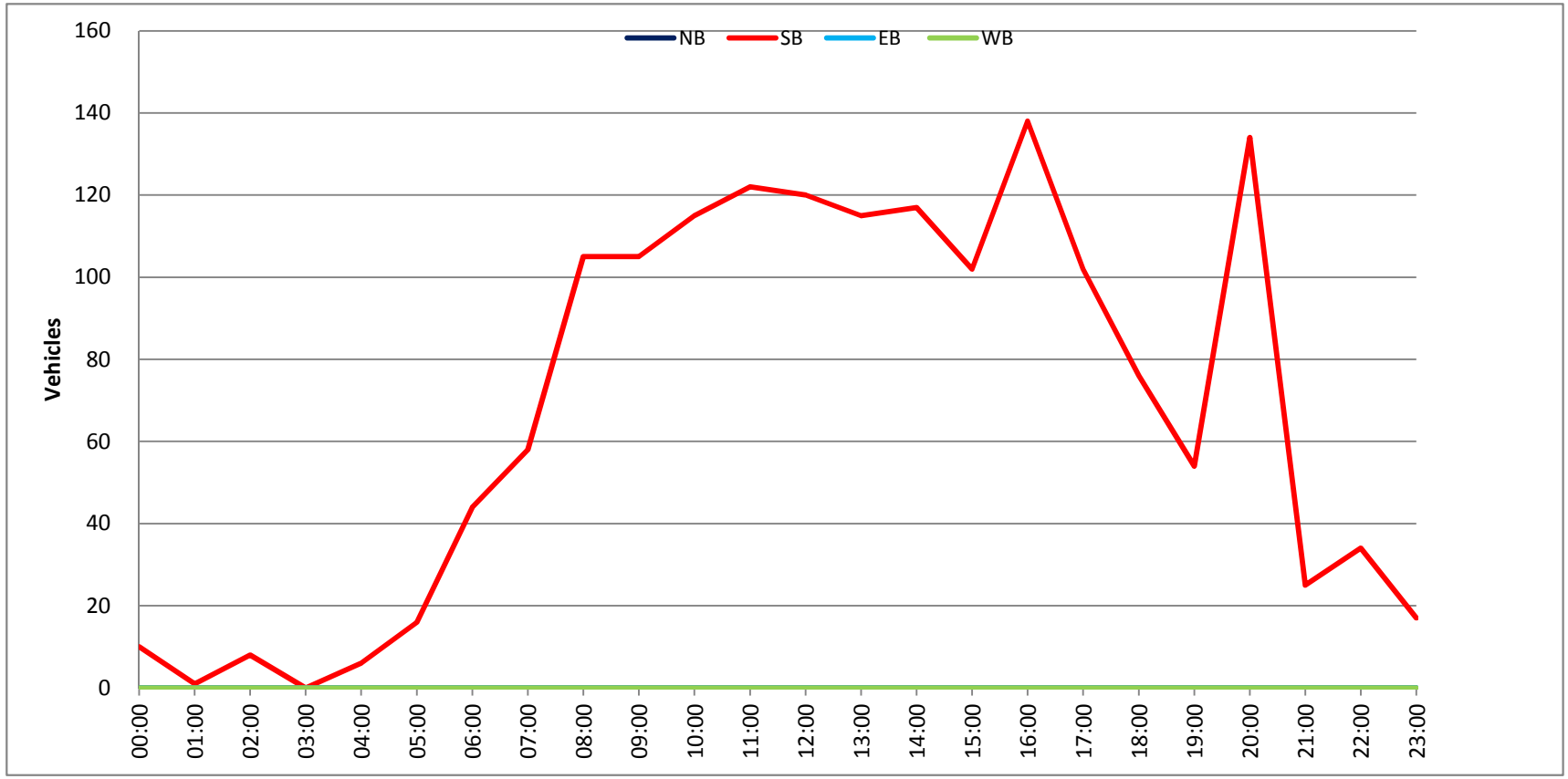
DAILY TOTALS	NB	SB	EB	WB	Total
	0	2,140	0	0	2,140

AM Peak Hour		07:15			**07:15**	**PM Peak Hour**		14:30			**14:30**
AM Pk Volume		441			**441**	**PM Pk Volume**		355			**355**
Pk Hr Factor		0.634			**0.634**	**Pk Hr Factor**		0.555			**0.555**
7 - 9 Volume	0	599	0	0	**599**	**4 - 6 Volume**	0	234	0	0	**234**
7 - 9 Peak Hour		07:15			**07:15**	**4 - 6 Peak Hour**		17:00			**17:00**
7 - 9 Pk Volume	0	441	0	0	**441**	**4 - 6 Pk Volume**	0	122	0	0	**122**
Pk Hr Factor	0.000	0.634	0.000	0.000	**0.634**	**Pk Hr Factor**	0.000	0.953	0.000	0.000	**0.953**

Prepared by NDS/ATD

Project #: CA16_5060_004 **City:** Castaic

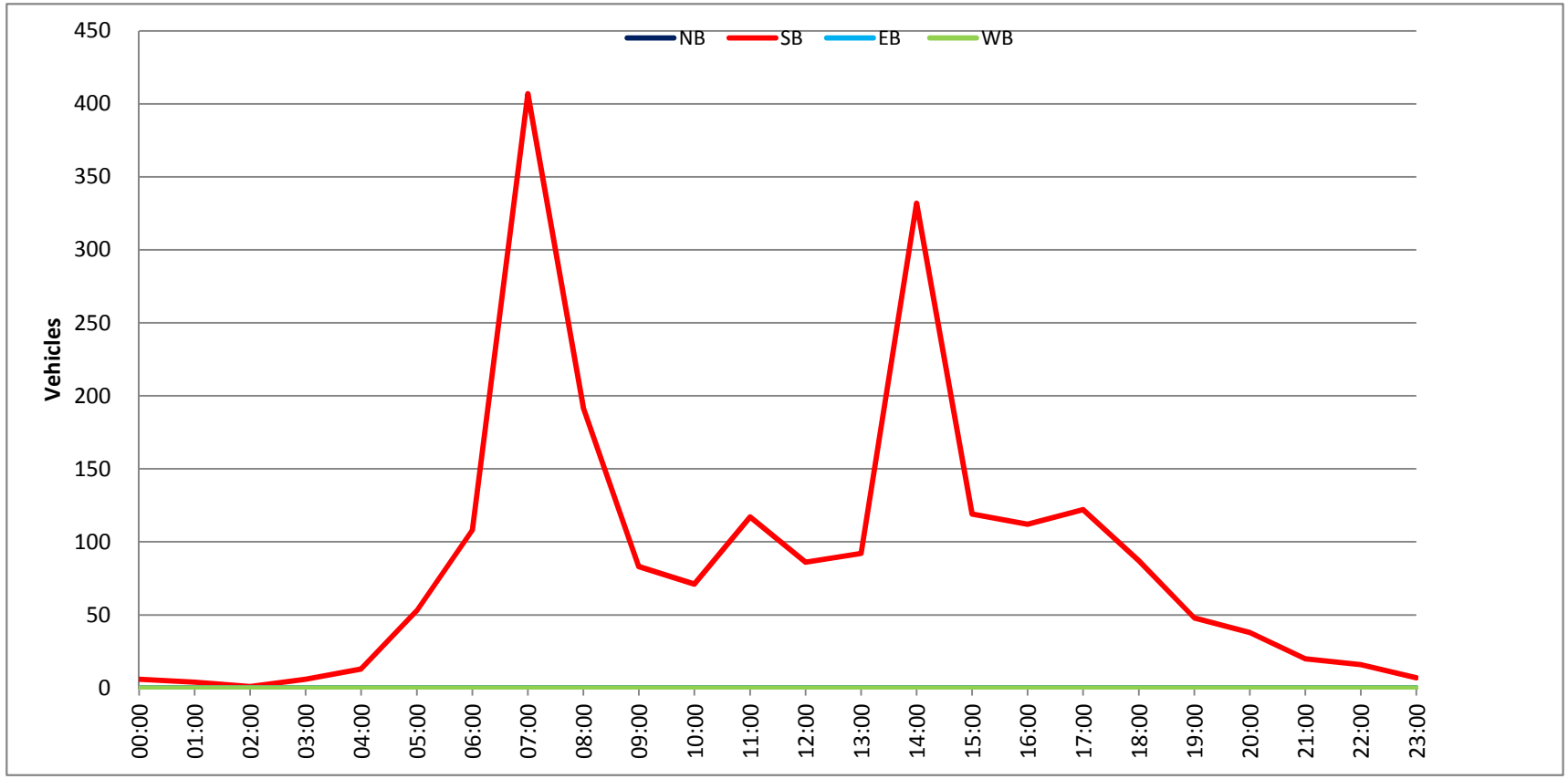
Location: Ridge Route Rd SB S/O Castaic Lake **Date:** 2/6/2016



Prepared by NDS/ATD

Project #: CA16_5060_004 **City:** Castaic

Location: Ridge Route Rd SB S/O Castaic Lake **Date:** 2/9/2016



Prepared by NDS/ATD

VOLUME

Castaic Rd N/O Tapia Cyn Rd

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_005

DAILY TOTALS	NB	SB	EB	WB	Total
	309	318	0	0	627

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0		12:00	15		10						25	
00:15	0		0						0		12:15	10		5						15	
00:30	0		0						0		12:30	8		5						13	
00:45	0		0						0		12:45	5	38	10	30					15	68
01:00	0		0						0		13:00	8		4						12	
01:15	0		0						0		13:15	7		7						14	
01:30	0		0						0		13:30	7		7						14	
01:45	1	1	0						1	1	13:45	8	30	5	23					13	53
02:00	1		0						1		14:00	6		9						15	
02:15	0		0						0		14:15	5		4						9	
02:30	0		0						0		14:30	7		8						15	
02:45	0	1	0						0	1	14:45	16	34	9	30					25	64
03:00	0		0						0		15:00	6		5						11	
03:15	0		0						0		15:15	6		3						9	
03:30	0		0						0		15:30	17		7						24	
03:45	1	1	1	1					2	2	15:45	12	41	9	24					21	65
04:00	0		0						0		16:00	5		7						12	
04:15	1		1						2		16:15	7		3						10	
04:30	0		0						0		16:30	7		5						12	
04:45	0	1	0	1					0	2	16:45	6	25	2	17					8	42
05:00	0		0						0		17:00	11		2						13	
05:15	0		0						0		17:15	7		1						8	
05:30	0		1						1		17:30	2		0						2	
05:45	0		1	2					1	2	17:45	2	22	0	3					2	25
06:00	1		1						2		18:00	1		2						3	
06:15	0		2						2		18:15	2		1						3	
06:30	0		1						1		18:30	0		0						0	
06:45	1	2	8	12					9	14	18:45	0	3	2	5					2	8
07:00	0		2						2		19:00	0		2						2	
07:15	1		1						2		19:15	0		1						1	
07:30	0		2						2		19:30	1		0						1	
07:45	1	2	11	16					12	18	19:45	0	1	1	4					1	5
08:00	3		6						9		20:00	2		0						2	
08:15	3		4						7		20:15	0		1						1	
08:30	1		13						14		20:30	1		3						4	
08:45	0	7	14	37					14	44	20:45	1	4	0	4					1	8
09:00	2		6						8		21:00	2		1						3	
09:15	3		15						18		21:15	0		2						2	
09:30	4		8						12		21:30	2		1						3	
09:45	6	15	16	45					22	60	21:45	1	5	0	4					1	9
10:00	9		8						17		22:00	1		1						2	
10:15	8		7						15		22:15	0		0						0	
10:30	9		6						15		22:30	1		1						2	
10:45	9	35	7	28					16	63	22:45	1	3	0	2					1	5
11:00	5		8						13		23:00	0		0						0	
11:15	5		6						11		23:15	1		0						1	
11:30	11		9						20		23:30	2		0						2	
11:45	12	33	7	30					19	63	23:45	2	5	0						2	5
TOTALS		98		172						270	TOTALS		211		146						357
SPLIT %		36.3%		63.7%						43.1%	SPLIT %		59.1%		40.9%						56.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	309	318	0	0	627

AM Peak Hour	11:30	08:30			11:30	PM Peak Hour	14:45	12:00			14:45
AM Pk Volume	48	48			79	PM Pk Volume	45	30			69
Pk Hr Factor	0.800	0.800			0.790	Pk Hr Factor	0.662	0.750			0.690
7 - 9 Volume	9	53	0	0	62	4 - 6 Volume	47	20	0	0	67
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	16:15	16:00			16:15
7 - 9 Pk Volume	8	37	0	0	44	4 - 6 Pk Volume	31	17	0	0	43
Pk Hr Factor	0.667	0.661	0.000	0.000	0.786	Pk Hr Factor	0.705	0.607	0.000	0.000	0.827

Prepared by NDS/ATD

VOLUME

Castaic Rd N/O Tapia Cyn Rd

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_005

DAILY TOTALS	NB	SB	EB	WB	Total
	255	248	0	0	503

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	1		0						1		12:00	8		13						21	
00:15	0		0						0		12:15	8		7						15	
00:30	0		0						0		12:30	8		4						12	
00:45	0	1	0						0	1	12:45	6	30	10	34					16	64
01:00	0		0						0		13:00	7		5						12	
01:15	1		0						1		13:15	10		6						16	
01:30	0		0						0		13:30	7		5						12	
01:45	0	1	0						0	1	13:45	5	29	4	20					9	49
02:00	0		0						0		14:00	5		3						8	
02:15	1		1						2		14:15	5		2						7	
02:30	0		0						0		14:30	3		3						6	
02:45	0	1	0	1					0	2	14:45	6	19	8	16					14	35
03:00	0		0						0		15:00	9		3						12	
03:15	1		0						1		15:15	8		1						9	
03:30	0		0						0		15:30	7		5						12	
03:45	0	1	0						0	1	15:45	5	29	6	15					11	44
04:00	0		2						2		16:00	0		8						8	
04:15	0		0						0		16:15	3		3						6	
04:30	0		0						0		16:30	6		1						7	
04:45	0		1	3					1	3	16:45	3	12	4	16					7	28
05:00	1		0						1		17:00	7		9						16	
05:15	1		2						3		17:15	2		4						6	
05:30	0		2						2		17:30	8		4						12	
05:45	0	2	3	7					3	9	17:45	6	23	5	22					11	45
06:00	0		2						2		18:00	6		1						7	
06:15	0		4						4		18:15	5		1						6	
06:30	1		1						2		18:30	2		1						3	
06:45	2	3	3	10					5	13	18:45	3	16	3	6					6	22
07:00	0		9						9		19:00	4		2						6	
07:15	1		4						5		19:15	3		3						6	
07:30	3		5						8		19:30	4		1						5	
07:45	2	6	3	21					5	27	19:45	3	14	1	7					4	21
08:00	1		2						3		20:00	0		0						0	
08:15	0		4						4		20:15	3		2						5	
08:30	2		4						6		20:30	0		1						1	
08:45	3	6	5	15					8	21	20:45	3	6	4	7					7	13
09:00	10		4						14		21:00	1		2						3	
09:15	4		3						7		21:15	2		1						3	
09:30	2		1						3		21:30	3		1						4	
09:45	2	18	1	9					3	27	21:45	3	9	1	5					4	14
10:00	2		4						6		22:00	0		1						1	
10:15	2		3						5		22:15	1		1						2	
10:30	4		7						11		22:30	0		0						0	
10:45	4	12	1	15					5	27	22:45	0	1	0	2					0	3
11:00	1		2						3		23:00	0		0						0	
11:15	2		1						3		23:15	0		1						1	
11:30	8		5						13		23:30	0		1						1	
11:45	4	15	7	15					11	30	23:45	1	1	0	2					1	3
TOTALS		66		96						**162**	**TOTALS**		189		152						**341**
SPLIT %		40.7%		59.3%						**32.2%**	**SPLIT %**		55.4%		44.6%						**67.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	255	248	0	0	503

AM Peak Hour	11:30	11:30			**11:30**	**PM Peak Hour**	12:30	12:00			**12:00**
AM Pk Volume	28	32			**60**	**PM Pk Volume**	31	34			**64**
Pk Hr Factor	0.875	0.615			**0.714**	**Pk Hr Factor**	0.775	0.654			**0.762**
7 - 9 Volume	12	36	0	0	**48**	**4 - 6 Volume**	35	38	0	0	**73**
7 - 9 Peak Hour	07:15	07:00			**07:00**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	7	21	0	0	**27**	**4 - 6 Pk Volume**	23	22	0	0	**45**
Pk Hr Factor	0.583	0.583	0.000	0.000	**0.750**	**Pk Hr Factor**	0.719	0.611	0.000	0.000	**0.703**

Prepared by NDS/ATD

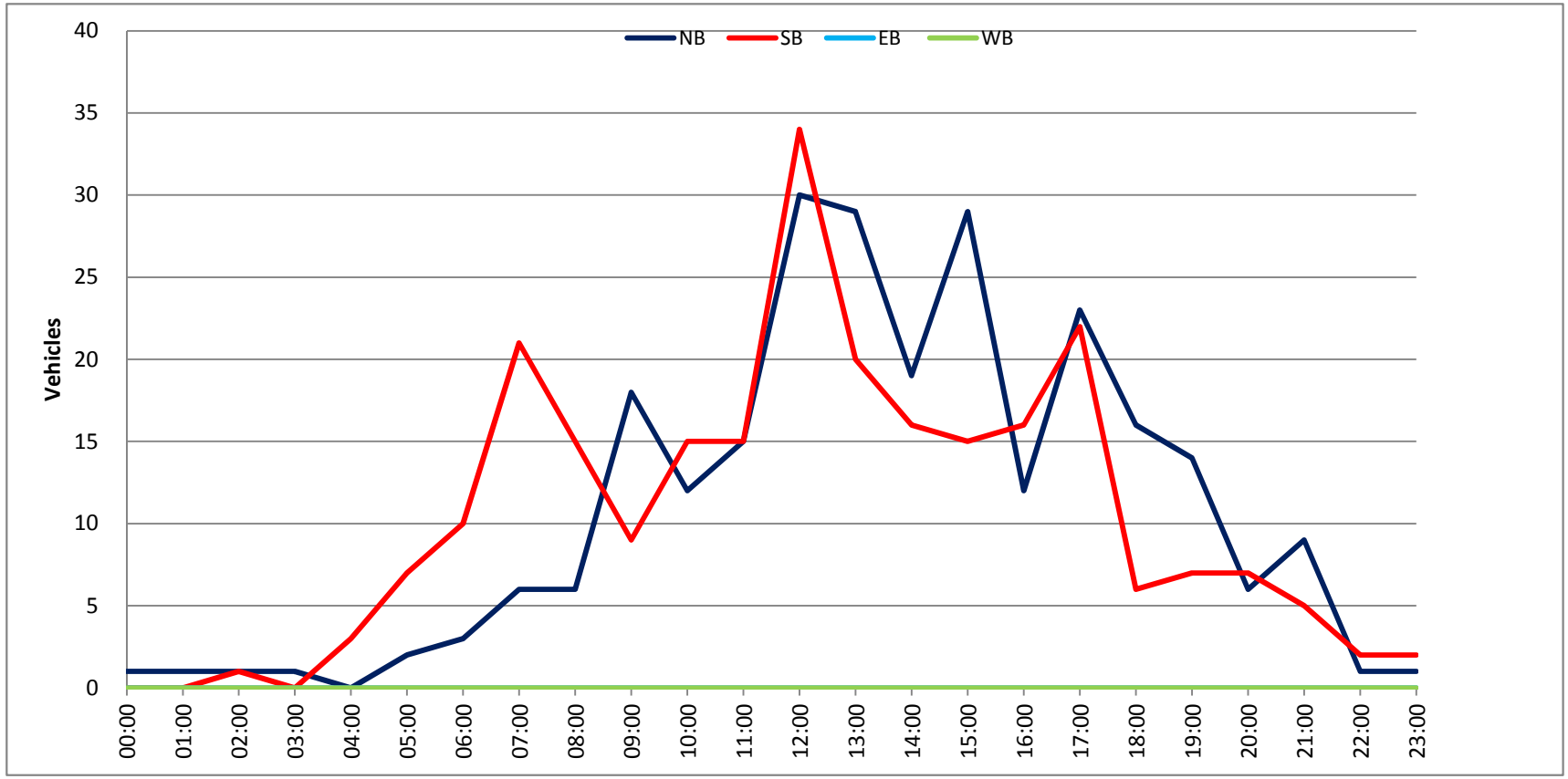
Project #: CA16_5060_005 **City:** Castaic

Location: Castaic Rd N/O Tapia Cyn Rd **Date:** 2/6/2016

Prepared by NDS/ATD

Project #: CA16_5060_005 **City:** Castaic

Location: Castaic Rd N/O Tapia Cyn Rd **Date:** 2/9/2016



Prepared by NDS/ATD

VOLUME

Hasley Cyn Rd E/O Del Valle Rd

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,871	2,876	5,747

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			5		25		30		12:00			53		44		97	
00:15			5		9		14		12:15			55		38		93	
00:30			4		11		15		12:30			57		48		105	
00:45			4	18	9	54	13	72	12:45			48	213	50	180	98	393
01:00			1		10		11		13:00			43		66		109	
01:15			5		10		15		13:15			32		64		96	
01:30			0		14		14		13:30			47		60		107	
01:45			3	9	9	43	12	52	13:45			51	173	52	242	103	415
02:00			3		9		12		14:00			50		55		105	
02:15			3		8		11		14:15			49		54		103	
02:30			3		3		6		14:30			40		54		94	
02:45			3	12	4	24	7	36	14:45			36	175	48	211	84	386
03:00			3		9		12		15:00			56		70		126	
03:15			3		3		6		15:15			46		51		97	
03:30			1		1		2		15:30			43		51		94	
03:45			3	10	0	13	3	23	15:45			46	191	47	219	93	410
04:00			0		0		0		16:00			41		65		106	
04:15			4		2		6		16:15			40		53		93	
04:30			11		0		11		16:30			53		59		112	
04:45			9	24	2	4	11	28	16:45			49	183	49	226	98	409
05:00			6		0		6		17:00			48		71		119	
05:15			14		1		15		17:15			51		56		107	
05:30			15		2		17		17:30			42		56		98	
05:45			25	60	2	5	27	65	17:45			45	186	55	238	100	424
06:00			22		3		25		18:00			46		46		92	
06:15			17		3		20		18:15			33		54		87	
06:30			24		6		30		18:30			27		60		87	
06:45			28	91	7	19	35	110	18:45			39	145	31	191	70	336
07:00			31		9		40		19:00			30		54		84	
07:15			37		14		51		19:15			30		49		79	
07:30			38		17		55		19:30			25		34		59	
07:45			45	151	18	58	63	209	19:45			22	107	53	190	75	297
08:00			41		19		60		20:00			28		33		61	
08:15			47		9		56		20:15			26		29		55	
08:30			71		21		92		20:30			12		38		50	
08:45			49	208	23	72	72	280	20:45			13	79	35	135	48	214
09:00			58		24		82		21:00			25		23		48	
09:15			45		35		80		21:15			16		28		44	
09:30			55		21		76		21:30			17		28		45	
09:45			56	214	30	110	86	324	21:45			14	72	38	117	52	189
10:00			65		35		100		22:00			19		31		50	
10:15			53		37		90		22:15			10		30		40	
10:30			56		41		97		22:30			8		26		34	
10:45			56	230	36	149	92	379	22:45			15	52	20	107	35	159
11:00			53		48		101		23:00			11		14		25	
11:15			60		47		107		23:15			9		22		31	
11:30			58		45		103		23:30			7		14		21	
11:45			65	236	58	198	123	434	23:45			5	32	21	71	26	103
TOTALS				1263		749		**2012**	**TOTALS**				1608		2127		**3735**
SPLIT %				62.8%		37.2%		**35.0%**	**SPLIT %**				43.1%		56.9%		**65.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,871	2,876	5,747

AM Peak Hour			11:00	11:00	**11:00**	**PM Peak Hour**			12:00	13:00	**16:30**
AM Pk Volume			236	198	**434**	**PM Pk Volume**			213	242	**436**
Pk Hr Factor			0.908	0.853	**0.882**	**Pk Hr Factor**			0.934	0.917	**0.916**
7 - 9 Volume	0	0	359	130	**489**	**4 - 6 Volume**	0	0	369	464	**833**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:30	17:00	**16:30**
7 - 9 Pk Volume	0	0	208	72	**280**	**4 - 6 Pk Volume**	0	0	201	238	**436**
Pk Hr Factor	0.000	0.000	0.732	0.783	**0.761**	**Pk Hr Factor**	0.000	0.000	0.948	0.838	**0.916**

Prepared by NDS/ATD

VOLUME

Hasley Cyn Rd E/O Del Valle Rd

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,189	3,210	6,399

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			3		7		10		12:00			46		49		95	
00:15			1		10		11		12:15			51		45		96	
00:30			3		6		9		12:30			34		45		79	
00:45			1	8	8	31	9	39	12:45			48	179	35	174	83	353
01:00			1		5		6		13:00			35		43		78	
01:15			0		4		4		13:15			37		46		83	
01:30			3		3		6		13:30			43		52		95	
01:45			1	5	0	12	1	17	13:45			48	163	36	177	84	340
02:00			0		3		3		14:00			69		42		111	
02:15			0		4		4		14:15			49		41		90	
02:30			3		2		5		14:30			40		80		120	
02:45			3	6	1	10	4	16	14:45			40	198	64	227	104	425
03:00			1		2		3		15:00			49		57		106	
03:15			4		0		4		15:15			40		91		131	
03:30			3		1		4		15:30			37		76		113	
03:45			8	16	1	4	9	20	15:45			40	166	78	302	118	468
04:00			6		0		6		16:00			47		64		111	
04:15			12		1		13		16:15			45		62		107	
04:30			11		3		14		16:30			55		77		132	
04:45			31	60	3	7	34	67	16:45			46	193	70	273	116	466
05:00			23		2		25		17:00			47		84		131	
05:15			37		2		39		17:15			46		91		137	
05:30			48		1		49		17:30			55		76		131	
05:45			52	160	6	11	58	171	17:45			39	187	79	330	118	517
06:00			58		10		68		18:00			56		74		130	
06:15			63		4		67		18:15			33		85		118	
06:30			64		19		83		18:30			32		82		114	
06:45			63	248	18	51	81	299	18:45			45	166	51	292	96	458
07:00			72		19		91		19:00			23		55		78	
07:15			90		24		114		19:15			20		62		82	
07:30			121		24		145		19:30			28		60		88	
07:45			128	411	43	110	171	521	19:45			25	96	58	235	83	331
08:00			81		47		128		20:00			20		38		58	
08:15			64		43		107		20:15			11		44		55	
08:30			51		45		96		20:30			17		36		53	
08:45			62	258	30	165	92	423	20:45			15	63	41	159	56	222
09:00			45		26		71		21:00			8		35		43	
09:15			51		27		78		21:15			11		38		49	
09:30			49		28		77		21:30			10		37		47	
09:45			61	206	17	98	78	304	21:45			10	39	30	140	40	179
10:00			37		26		63		22:00			5		20		25	
10:15			42		25		67		22:15			7		25		32	
10:30			46		28		74		22:30			5		30		35	
10:45			45	170	24	103	69	273	22:45			8	25	14	89	22	114
11:00			36		32		68		23:00			8		22		30	
11:15			34		49		83		23:15			3		15		18	
11:30			33		31		64		23:30			5		12		17	
11:45			39	142	33	145	72	287	23:45			8	24	16	65	24	89
TOTALS				1690		747		**2437**	**TOTALS**				1499		2463		**3962**
SPLIT %				69.3%		30.7%		**38.1%**	**SPLIT %**				37.8%		62.2%		**61.9%**

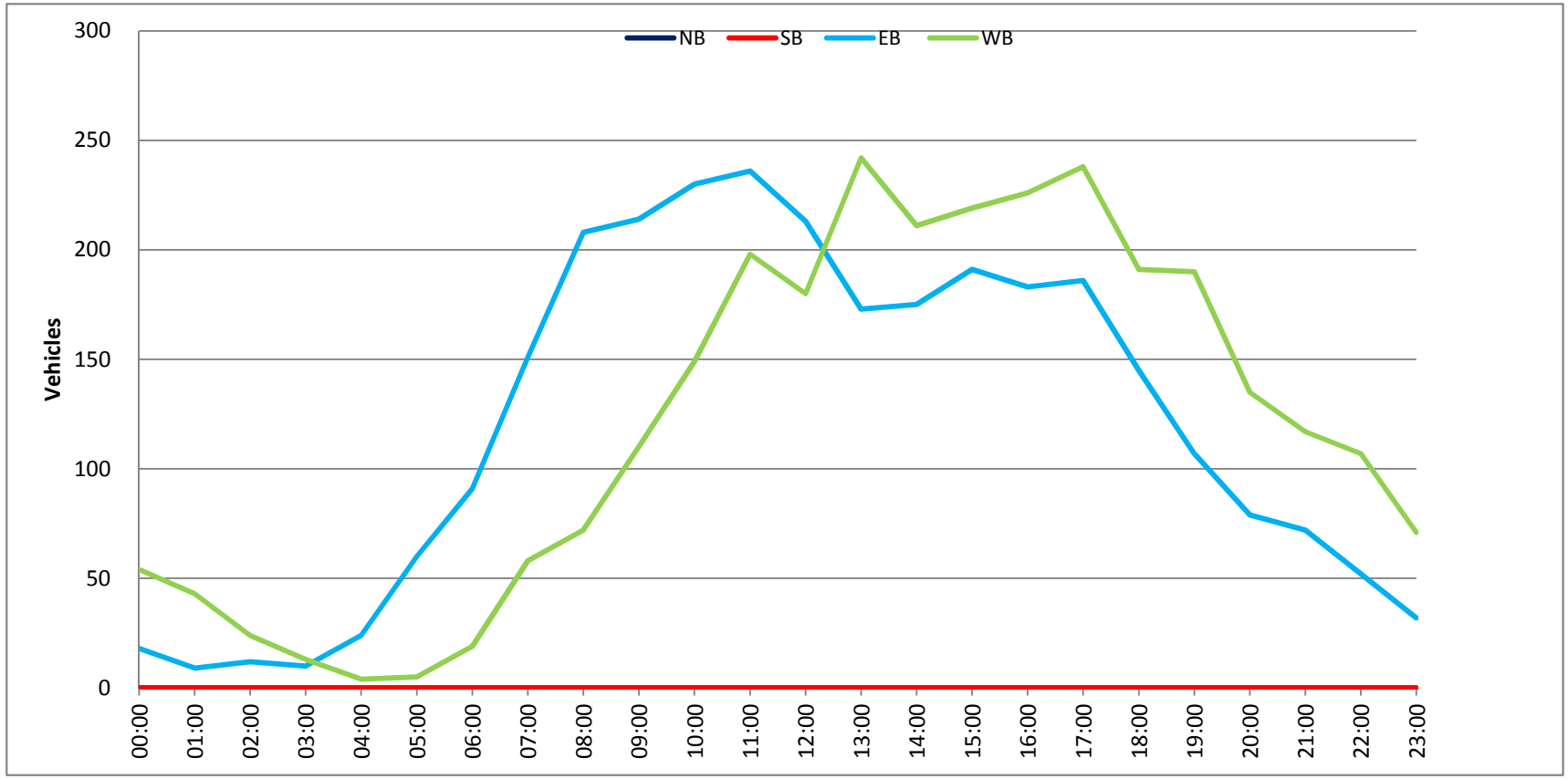
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,189	3,210	6,399

AM Peak Hour			07:15	07:45	**07:15**	**PM Peak Hour**			13:30	17:00	**17:00**
AM Pk Volume			420	178	**558**	**PM Pk Volume**			209	330	**517**
Pk Hr Factor			0.820	0.947	**0.816**	**Pk Hr Factor**			0.757	0.907	**0.943**
7 - 9 Volume	0	0	669	275	**944**	**4 - 6 Volume**	0	0	380	603	**983**
7 - 9 Peak Hour			07:15	07:45	**07:15**	**4 - 6 Peak Hour**			16:30	17:00	**17:00**
7 - 9 Pk Volume	0	0	420	178	**558**	**4 - 6 Pk Volume**	0	0	194	330	**517**
Pk Hr Factor	0.000	0.000	0.820	0.947	**0.816**	**Pk Hr Factor**	0.000	0.000	0.882	0.907	**0.943**

Prepared by NDS/ATD

Project #: CA16_5060_006 **City:** Castaic

Location: Hasley Cyn Rd E/O Del Valle Rd **Date:** 2/6/2016



Prepared by NDS/ATD

Project #: CA16_5060_006 **City:** Castaic

Location: Hasley Cyn Rd E/O Del Valle Rd **Date:** 2/9/2016

Prepared by NDS/ATD

VOLUME

The Old Rd S/O Live Oak Rd

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_007

DAILY TOTALS	NB	SB	EB	WB	Total
	2,157	2,407	0	0	4,564

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	16		4						20		12:00	34		47						81	
00:15	6		1						7		12:15	49		45						94	
00:30	3		2						5		12:30	51		51						102	
00:45	4	29	2	9					6	38	12:45	45	179	64	207					109	386
01:00	2		3						5		13:00	42		53						95	
01:15	1		1						2		13:15	57		47						104	
01:30	1		0						1		13:30	45		56						101	
01:45	3	7	1	5					4	12	13:45	37	181	47	203					84	384
02:00	4		2						6		14:00	51		36						87	
02:15	2		1						3		14:15	38		33						71	
02:30	2		3						5		14:30	42		39						81	
02:45	4	12	4	10					8	22	14:45	50	181	23	131					73	312
03:00	2		6						8		15:00	54		21						75	
03:15	4		3						7		15:15	36		23						59	
03:30	1		1						2		15:30	38		26						64	
03:45	2	9	2	12					4	21	15:45	39	167	22	92					61	259
04:00	1		5						6		16:00	44		26						70	
04:15	1		5						6		16:15	37		27						64	
04:30	6		6						12		16:30	46		18						64	
04:45	6	14	7	23					13	37	16:45	40	167	22	93					62	260
05:00	3		6						9		17:00	33		28						61	
05:15	6		19						25		17:15	30		25						55	
05:30	4		24						28		17:30	45		19						64	
05:45	9	22	23	72					32	94	17:45	26	134	22	94					48	228
06:00	7		19						26		18:00	24		31						55	
06:15	3		22						25		18:15	30		17						47	
06:30	6		28						34		18:30	35		15						50	
06:45	9	25	29	98					38	123	18:45	24	113	15	78					39	191
07:00	14		28						42		19:00	33		8						41	
07:15	10		36						46		19:15	40		14						54	
07:30	13		39						52		19:30	30		12						42	
07:45	11	48	44	147					55	195	19:45	30	133	9	43					39	176
08:00	10		57						67		20:00	28		13						41	
08:15	15		59						74		20:15	12		10						22	
08:30	16		66						82		20:30	26		13						39	
08:45	23	64	55	237					78	301	20:45	17	83	15	51					32	134
09:00	17		48						65		21:00	17		14						31	
09:15	19		55						74		21:15	27		12						39	
09:30	23		71						94		21:30	14		16						30	
09:45	33	92	55	229					88	321	21:45	20	78	10	52					30	130
10:00	22		65						87		22:00	19		10						29	
10:15	29		45						74		22:15	15		9						24	
10:30	39		66						105		22:30	10		10						20	
10:45	33	123	64	240					97	363	22:45	21	65	8	37					29	102
11:00	46		57						103		23:00	11		7						18	
11:15	55		67						122		23:15	10		3						13	
11:30	46		49						95		23:30	6		6						12	
11:45	52	199	50	223					102	422	23:45	5	32	5	21					10	53
TOTALS		644		1305						1949	TOTALS		1513		1102						2615
SPLIT %		33.0%		67.0%						42.7%	SPLIT %		57.9%		42.1%						57.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,157	2,407	0	0	4,564

AM Peak Hour	11:00	10:30			10:30	PM Peak Hour	12:30	12:45			12:30
AM Pk Volume	199	254			427	PM Pk Volume	195	220			410
Pk Hr Factor	0.905	0.948			0.875	Pk Hr Factor	0.855	0.859			0.940
7 - 9 Volume	112	384	0	0	496	4 - 6 Volume	301	187	0	0	488
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:15			16:00
7 - 9 Pk Volume	64	237	0	0	301	4 - 6 Pk Volume	167	95	0	0	260
Pk Hr Factor	0.696	0.898	0.000	0.000	0.918	Pk Hr Factor	0.908	0.848	0.000	0.000	0.929

Prepared by NDS/ATD

VOLUME

The Old Rd S/O Live Oak Rd

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_007

DAILY TOTALS	NB	SB	EB	WB	Total
	2,565	2,929	0	0	5,494

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		3						6		12:00	43		48						91	
00:15	4		0						4		12:15	47		40						87	
00:30	1		3						4		12:30	56		49						105	
00:45	2	10	1	7					3	17	12:45	44	190	53	190					97	380
01:00	5		3						8		13:00	40		50						90	
01:15	2		1						3		13:15	44		43						87	
01:30	4		2						6		13:30	49		46						95	
01:45	0	11	3	9					3	20	13:45	53	186	34	173					87	359
02:00	2		0						2		14:00	51		36						87	
02:15	3		2						5		14:15	56		49						105	
02:30	2		1						3		14:30	53		51						104	
02:45	1	8	3	6					4	14	14:45	54	214	44	180					98	394
03:00	1		1						2		15:00	85		31						116	
03:15	2		5						7		15:15	72		43						115	
03:30	3		4						7		15:30	62		39						101	
03:45	1	7	10	20					11	27	15:45	66	285	33	146					99	431
04:00	6		11						17		16:00	59		42						101	
04:15	1		16						17		16:15	58		28						86	
04:30	8		20						28		16:30	54		41						95	
04:45	8	23	22	69					30	92	16:45	60	231	23	134					83	365
05:00	5		31						36		17:00	64		30						94	
05:15	7		54						61		17:15	57		32						89	
05:30	9		56						65		17:30	51		21						72	
05:45	10	31	96	237					106	268	17:45	46	218	30	113					76	331
06:00	15		76						91		18:00	40		32						72	
06:15	11		65						76		18:15	56		19						75	
06:30	9		93						102		18:30	28		24						52	
06:45	13	48	72	306					85	354	18:45	31	155	20	95					51	250
07:00	13		49						62		19:00	31		18						49	
07:15	18		67						85		19:15	17		9						26	
07:30	18		75						93		19:30	22		16						38	
07:45	23	72	97	288					120	360	19:45	17	87	11	54					28	141
08:00	30		82						112		20:00	19		7						26	
08:15	34		73						107		20:15	13		10						23	
08:30	29		53						82		20:30	23		6						29	
08:45	24	117	49	257					73	374	20:45	22	77	10	33					32	110
09:00	23		45						68		21:00	27		12						39	
09:15	25		42						67		21:15	14		8						22	
09:30	25		43						68		21:30	16		14						30	
09:45	31	104	48	178					79	282	21:45	24	81	9	43					33	124
10:00	30		43						73		22:00	21		11						32	
10:15	45		36						81		22:15	15		21						36	
10:30	35		39						74		22:30	12		13						25	
10:45	41	151	41	159					82	310	22:45	11	59	6	51					17	110
11:00	43		33						76		23:00	11		7						18	
11:15	42		46						88		23:15	10		8						18	
11:30	31		35						66		23:30	6		5						11	
11:45	53	169	42	156					95	325	23:45	4	31	5	25					9	56
TOTALS		751		1692						2443	TOTALS		1814		1237						3051
SPLIT %		30.7%		69.3%						44.5%	SPLIT %		59.5%		40.5%						55.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,565	2,929	0	0	5,494

AM Peak Hour	11:45	05:45			07:30	PM Peak Hour	15:00	12:30			14:30
AM Pk Volume	199	330			432	PM Pk Volume	285	195			433
Pk Hr Factor	0.888	0.859			0.900	Pk Hr Factor	0.838	0.920			0.933
7 - 9 Volume	189	545	0	0	734	4 - 6 Volume	449	247	0	0	696
7 - 9 Peak Hour	08:00	07:30			07:30	4 - 6 Peak Hour	16:15	16:00			16:00
7 - 9 Pk Volume	117	327	0	0	432	4 - 6 Pk Volume	236	134	0	0	365
Pk Hr Factor	0.860	0.843	0.000	0.000	0.900	Pk Hr Factor	0.922	0.798	0.000	0.000	0.903

Prepared by NDS/ATD

Project #: CA16_5060_007 **City:** Castaic

Location: The Old Rd S/O Live Oak Rd **Date:** 2/6/2016

Prepared by NDS/ATD

Project #: CA16_5060_007 **City:** Castaic

Location: The Old Rd S/O Live Oak Rd **Date:** 2/9/2016

Prepared by NDS/ATD

VOLUME

Chiquito Cyn Rd N/O SR-126

Day: Saturday
Date: 2/6/2016

City: Castaic
Project #: CA16_5060_008

DAILY TOTALS	NB	SB	EB	WB	Total
	759	0	0	0	759

AM Period	NB		SB	EB	WB	TOTAL		PM Period	NB		SB	EB	WB	TOTAL	
00:00	1		0			1		12:00	12		0			12	
00:15	2		0			2		12:15	20		0			20	
00:30	2		0			2		12:30	11		0			11	
00:45	2	7	0			2	7	12:45	10	53	0			10	53
01:00	3		0			3		13:00	9		0			9	
01:15	0		0			0		13:15	11		0			11	
01:30	2		0			2		13:30	11		0			11	
01:45	0	5	0			0	5	13:45	7	38	0			7	38
02:00	4		0			4		14:00	13		0			13	
02:15	1		0			1		14:15	8		0			8	
02:30	1		0			1		14:30	17		0			17	
02:45	2	8	0			2	8	14:45	11	49	0			11	49
03:00	3		0			3		15:00	14		0			14	
03:15	1		0			1		15:15	14		0			14	
03:30	1		0			1		15:30	6		0			6	
03:45	0	5	0			0	5	15:45	9	43	0			9	43
04:00	0		0			0		16:00	9		0			9	
04:15	0		0			0		16:15	14		0			14	
04:30	3		0			3		16:30	15		0			15	
04:45	3	6	0			3	6	16:45	12	50	0			12	50
05:00	1		0			1		17:00	15		0			15	
05:15	0		0			0		17:15	18		0			18	
05:30	7		0			7		17:30	11		0			11	
05:45	13	21	0			13	21	17:45	14	58	0			14	58
06:00	5		0			5		18:00	10		0			10	
06:15	2		0			2		18:15	10		0			10	
06:30	11		0			11		18:30	18		0			18	
06:45	9	27	0			9	27	18:45	3	41	0			3	41
07:00	11		0			11		19:00	13		0			13	
07:15	7		0			7		19:15	11		0			11	
07:30	11		0			11		19:30	5		0			5	
07:45	13	42	0			13	42	19:45	7	36	0			7	36
08:00	11		0			11		20:00	4		0			4	
08:15	14		0			14		20:15	8		0			8	
08:30	10		0			10		20:30	7		0			7	
08:45	13	48	0			13	48	20:45	4	23	0			4	23
09:00	14		0			14		21:00	3		0			3	
09:15	15		0			15		21:15	7		0			7	
09:30	11		0			11		21:30	5		0			5	
09:45	15	55	0			15	55	21:45	5	20	0			5	20
10:00	9		0			9		22:00	6		0			6	
10:15	15		0			15		22:15	2		0			2	
10:30	15		0			15		22:30	3		0			3	
10:45	11	50	0			11	50	22:45	2	13	0			2	13
11:00	10		0			10		23:00	4		0			4	
11:15	12		0			12		23:15	3		0			3	
11:30	14		0			14		23:30	2		0			2	
11:45	13	49	0			13	49	23:45	3	12	0			3	12
TOTALS		323					323	TOTALS		436					436
SPLIT %		100.0%					42.6%	SPLIT %		100.0%					57.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	759	0	0	0	759

AM Peak Hour	11:30				11:30	PM Peak Hour	16:30				16:30
AM Pk Volume	59				59	PM Pk Volume	60				60
Pk Hr Factor	0.738				0.738	Pk Hr Factor	0.833				0.833
7 - 9 Volume	90	0	0	0	90	4 - 6 Volume	108	0	0	0	108
7 - 9 Peak Hour	07:30				07:30	4 - 6 Peak Hour	16:30				16:30
7 - 9 Pk Volume	49	0	0	0	49	4 - 6 Pk Volume	60	0	0	0	60
Pk Hr Factor	0.875	0.000	0.000	0.000	0.875	Pk Hr Factor	0.833	0.000	0.000	0.000	0.833

Prepared by NDS/ATD

VOLUME

Chiquito Cyn Rd N/O SR-126

Day: Tuesday
Date: 2/9/2016

City: Castaic
Project #: CA16_5060_008

DAILY TOTALS	NB	SB	EB	WB	Total
	715	784	0	0	1,499

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	4		1						5		12:00	8		9						17	
00:15	3		0						3		12:15	2		12						14	
00:30	0		1						1		12:30	7		9						16	
00:45	1	8	0	2					1	10	12:45	11	28	4	34					15	62
01:00	2		1						3		13:00	7		9						16	
01:15	0		0						0		13:15	13		10						23	
01:30	1		0						1		13:30	5		9						14	
01:45	1	4	0	1					1	5	13:45	5	30	6	34					11	64
02:00	1		1						2		14:00	11		12						23	
02:15	1		1						2		14:15	13		11						24	
02:30	2		0						2		14:30	15		15						30	
02:45	2	6	1	3					3	9	14:45	16	55	7	45					23	100
03:00	0		1						1		15:00	17		24						41	
03:15	1		0						1		15:15	14		10						24	
03:30	0		1						1		15:30	14		8						22	
03:45	1	2	5	7					6	9	15:45	21	66	8	50					29	116
04:00	0		4						4		16:00	13		9						22	
04:15	1		2						3		16:15	18		7						25	
04:30	0		6						6		16:30	27		13						40	
04:45	1	2	6	18					7	20	16:45	12	70	10	39					22	109
05:00	1		10						11		17:00	16		10						26	
05:15	4		13						17		17:15	24		6						30	
05:30	4		16						20		17:30	24		5						29	
05:45	3	12	10	49					13	61	17:45	18	82	5	26					23	108
06:00	13		23						36		18:00	16		15						31	
06:15	6		16						22		18:15	12		10						22	
06:30	2		24						26		18:30	12		9						21	
06:45	8	29	29	92					37	121	18:45	22	62	10	44					32	106
07:00	3		16						19		19:00	10		9						19	
07:15	7		17						24		19:15	15		9						24	
07:30	6		25						31		19:30	11		9						20	
07:45	8	24	15	73					23	97	19:45	5	41	5	32					10	73
08:00	9		14						23		20:00	9		5						14	
08:15	4		16						20		20:15	11		3						14	
08:30	7		18						25		20:30	8		5						13	
08:45	4	24	14	62					18	86	20:45	7	35	0	13					7	48
09:00	8		17						25		21:00	6		3						9	
09:15	6		11						17		21:15	7		3						10	
09:30	3		15						18		21:30	8		1						9	
09:45	6	23	12	55					18	78	21:45	6	27	2	9					8	36
10:00	10		8						18		22:00	3		1						4	
10:15	7		9						16		22:15	13		2						15	
10:30	5		16						21		22:30	1		1						2	
10:45	10	32	12	45					22	77	22:45	4	21	1	5					5	26
11:00	8		11						19		23:00	4		1						5	
11:15	4		12						16		23:15	4		4						8	
11:30	2		5						7		23:30	4		2						6	
11:45	4	18	10	38					14	56	23:45	2	14	1	8					3	22
TOTALS		184		445						629	TOTALS		531		339						870
SPLIT %		29.3%		70.7%						42.0%	SPLIT %		61.0%		39.0%						58.0%

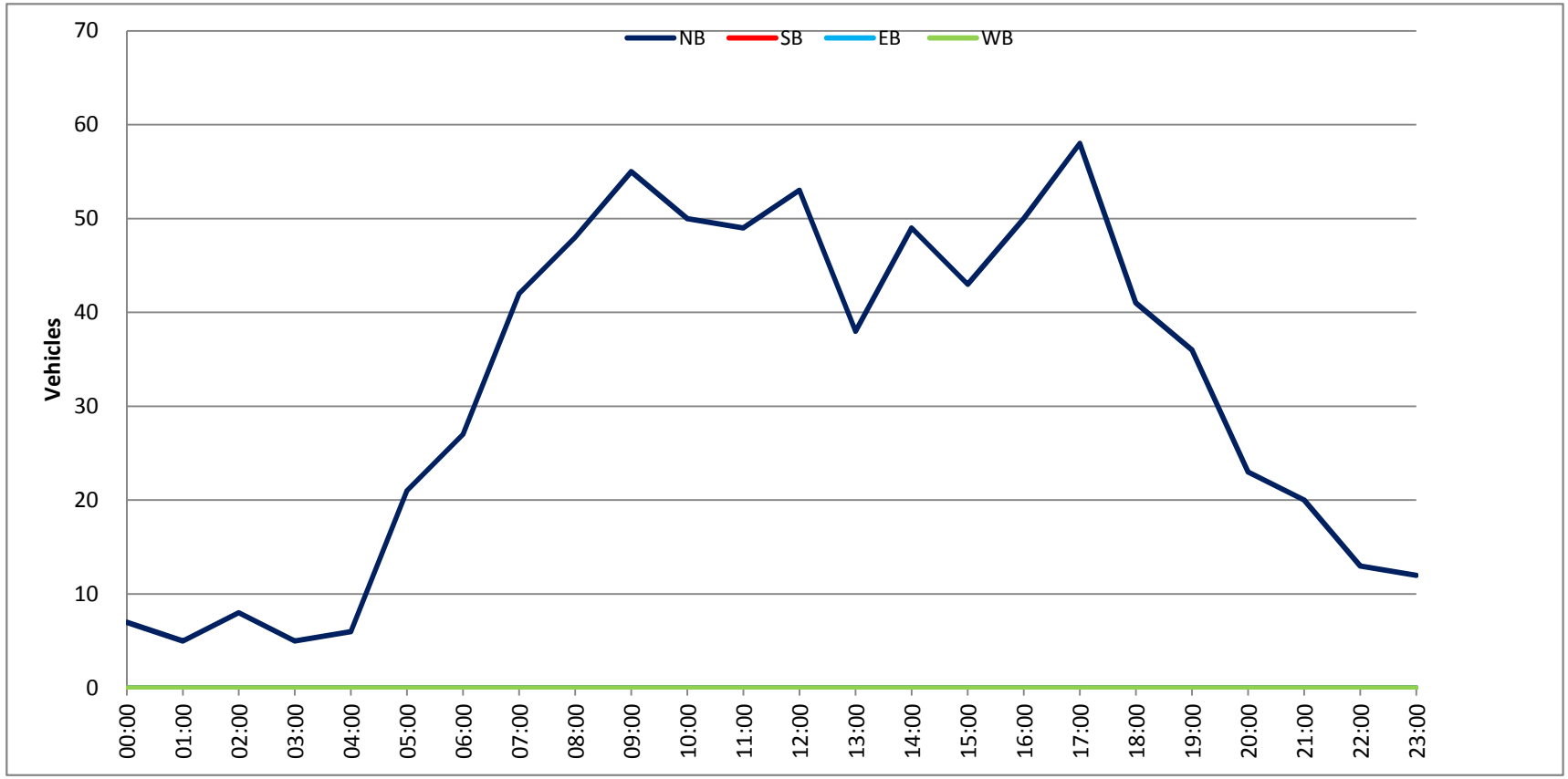
DAILY TOTALS	NB	SB	EB	WB	Total
	715	784	0	0	1,499

AM Peak Hour	10:00	06:00			06:00	PM Peak Hour	17:00	14:15			14:15
AM Pk Volume	32	92			121	PM Pk Volume	82	57			118
Pk Hr Factor	0.800	0.793			0.818	Pk Hr Factor	0.854	0.594			0.720
7 - 9 Volume	48	135	0	0	183	4 - 6 Volume	152	65	0	0	217
7 - 9 Peak Hour	07:15	07:00			07:15	4 - 6 Peak Hour	17:00	16:15			16:30
7 - 9 Pk Volume	30	73	0	0	101	4 - 6 Pk Volume	82	40	0	0	118
Pk Hr Factor	0.833	0.730	0.000	0.000	0.815	Pk Hr Factor	0.854	0.769	0.000	0.000	0.738

Prepared by NDS/ATD

Project #: CA16_5060_008 **City:** Castaic

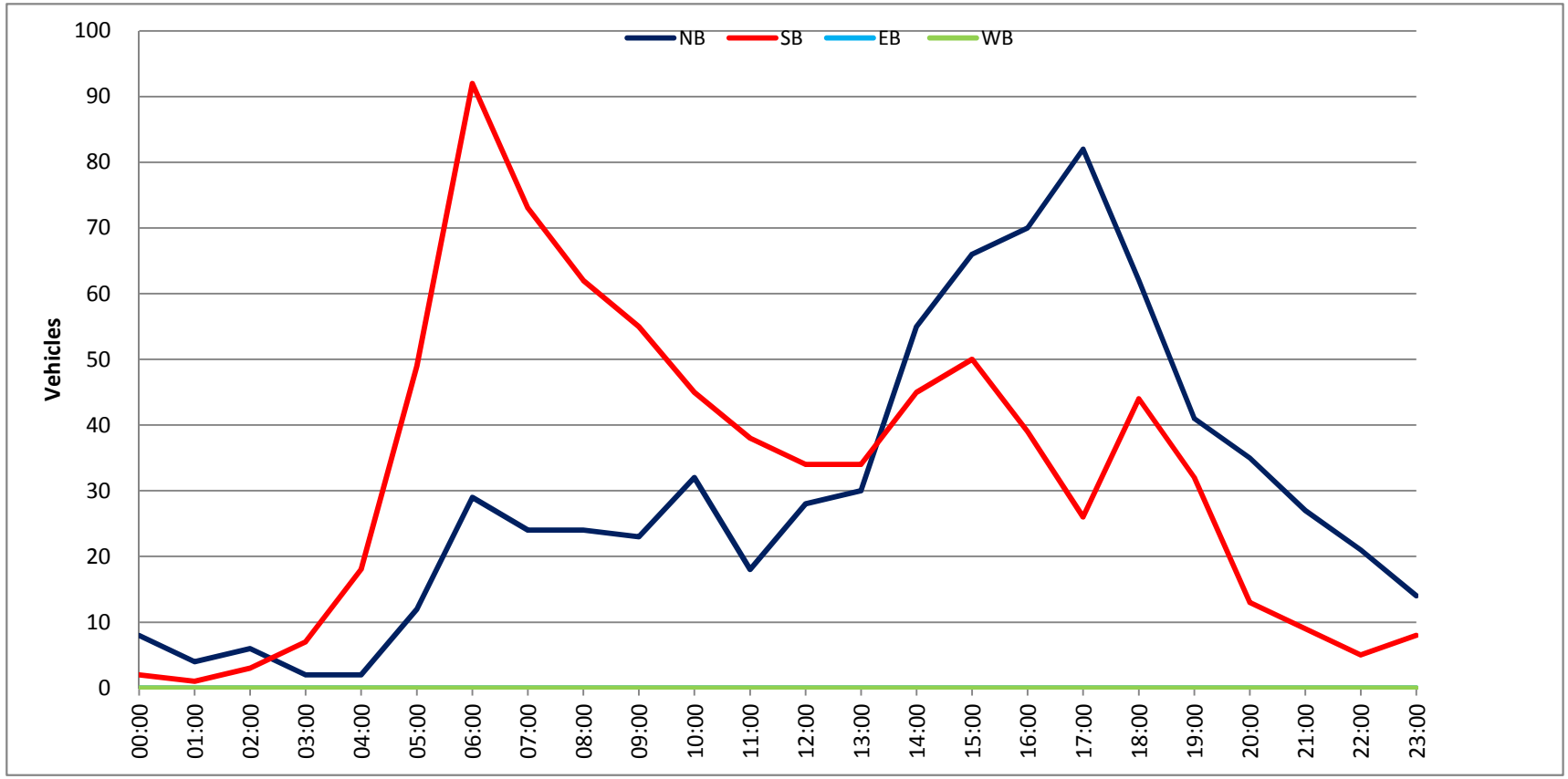
Location: Chiquito Cyn Rd N/O SR-126 **Date:** 2/6/2016



Prepared by NDS/ATD

Project #: CA16_5060_008 **City:** Castaic

Location: Chiquito Cyn Rd N/O SR-126 **Date:** 2/9/2016



Appendix I

Letters Received from Agencies for the Trails Plan

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY

EDMUND G. BROWN JR., *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

March 24, 2016

Zachary Likins
County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

CASTAIC AREA MULTI-USE TRAILS IMPROVEMENT PLAN, COUNTY OF LOS ANGELES PARKS AND RECREATION DEPARTMENT, CASTAIC LAKE

Dear Mr. Likins:

On December 21, 2015, Department of Water Resources (DWR) staff from the Division of Operations & Maintenance (O&M) met with staff from the Los Angeles County of Parks and Recreation (County), to discuss proposed improvements to Castaic Area Multi-Use Trails system. Several proposals to improve connections between existing trails were discussed. DWR staff expressed concerns about any use of dam crest roads for Castaic Dam and the Elderberry forebay dam for potential recreational trail purposes.

O&M received a preliminary study prepared for the County by Alta Planning & Design, dated February 17, 2016, that discusses gaps and barriers in the existing County trail network and contains recommendations for recreational use of the dam crest roads. DWR maintains our earlier stated objection to recreational use of any of the DWR operational road segments contained within the Castaic Lake trail study area.

DWR has identified several safety and security concerns supporting our objection/denial of the proposed recreational use of either of the dam crest roads, including but not limited to:

- Protection of State Water Project critical infrastructure (water intake tower, spillway, and the dam itself.)
- The dam crest roads were not designed or intended to be used for public access or recreational traffic and do not provide adequate clearance for combined vehicular and pedestrian use.
- The absence of emergency call-boxes, frequent patrols, or first-responder emergency vehicle access in the event of an accident or life-threatening event.
- DWR access roads at the base of Castaic Dam are not compatible with recreational use out of concern for the protection of critical dam instrumentation, stream release valves, and power generating facilities.

The remainder of the proposed trail improvement segments in the Castaic Lake study area may also fall within the Federal Energy Regulatory Commission boundary for the Castaic power generation license, of which Los Angeles County Department of Water and Power (LADWP) and DWR are co-licensees. LADWP should be brought into the conversation for their input into any modifications to the trail system that could impact the FERC license.

Please provide DWR with a copy of any subsequent trail improvement plan documentation when it becomes available for public review.

If you have any question, please contact Leroy Ellinghouse of my staff at (916) 653-7168.

Sincerely,

Sheree Edwards

Sheree Edwards, Chief
Civil Maintenance Branch
Division of Operations and Maintenance

bcc: David Panec
Leroy Ellinghouse
Bob Martinez
Joel Quintero
Dave Brown, SFD

CASTAIC AREA MULTI-USE TRAILS PLAN

FINAL MITIGATED NEGATIVE DECLARATION

Volume IV
Appendices J–L

Prepared for:

County of Los Angeles Department of Parks and Recreation
510 S. Vermont Ave.
Los Angeles, CA 90020

Prepared by:

Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

August 12, 2016

Appendix J

LADWP Transmission Line Rights-of-Way Requirements

ACCESS ROAD DESIGN CRITERIA

1. When grading activity affects the Transmission Line access roads, the developer shall replace the affected access roads using the following access road design criteria. Typical Road Sections are illustrated in Attachment.

2. The access road right-of-way width shall be 50 feet minimum.

3. The access road drivable width shall be 20 feet minimum, and increased on curves by a distance equal to 400 divided by the radius of curve. Additional 2 feet on either side of the road shall be provided for berms and ditches, as detailed in the attached Typical Road Sections.

4. The minimum centerline radius of curves shall be 50 feet.

5. The vertical alignment grades shall be limited to 10 percent or paved at a maximum of 15 percent.

6. Roads entirely located on fills or with cross sections showing more than 30 percent fill along the drivable width of the road require paving.

7. Intersections or driveways shall have a minimum sight distance of 300 feet in either direction along the public street.

8. The developer shall provide a commercial driveway at locations where the replaced access roads terminate at, or cross public roads.

9. The developer shall provide lockable gates on LADWP property or easement at locations where access roads terminate or cross public roads.

CONDUCTOR SURVEY
DEPARTMENT OF WATER AND POWER
OVERHEAD TRANSMISSION ENGINEERING

Please perform a survey of each Department transmission line affected by the project. For each span (the section of wire between two (2) towers) provide the following information:

1. The tower numbers of the Department transmission lines related to the span. The tower number is located near ground level on at least one (1) leg of each tower.

2. Survey the top-of-concrete of each footing of each tower related to this survey. For example, a survey involving one (1) span would involve two (2) towers, each with four (4) footings, for a total of eight (8) top-of-concrete shots.

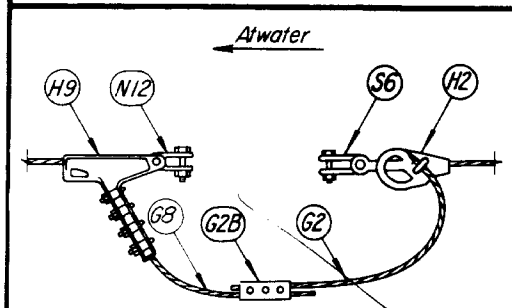
3. Survey at least eight (8) points along the span – the two (2) points where the insulator attaches to the tower, the two (2) points where the wire attaches to the insulator, and four (4) additional points along the wire (preferred spacing of 200 – 300 feet). See attached Conductor Attachments Points for additional information. Include additional points where special features of the proposed improvements cross the transmission line (such as high points, street lights, signs, etc.). For each point provide the following information:

   a. The northing and easting coordinates and elevations of conductor and ground points
   b. The elevation of the wire
   c. The existing ground coordinates and elevation
   d. The proposed ground elevation
   e. Date and Time
   f. Temperature
   g. Sunlight (sunny, partly cloudy, or cloudy)
   h. Approximate wind speed

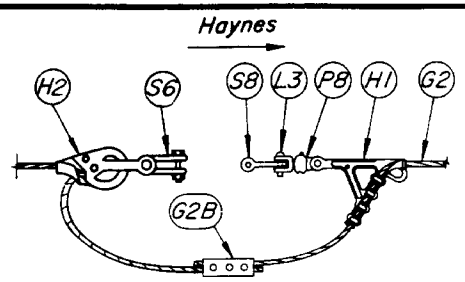
   Important: All eight (8) wire shots on each individual span shall be completed within one (1) hour after the first wire shot is made. Failure to comply with this requirement will render data useless.

   * See attached Data Sheet for sample of submittal document.

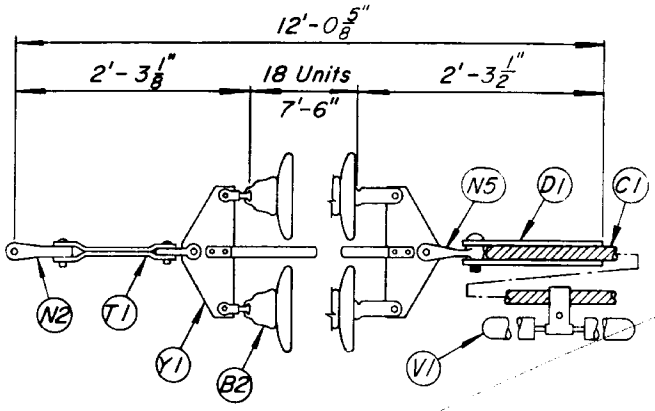
Updated:01/17/2013



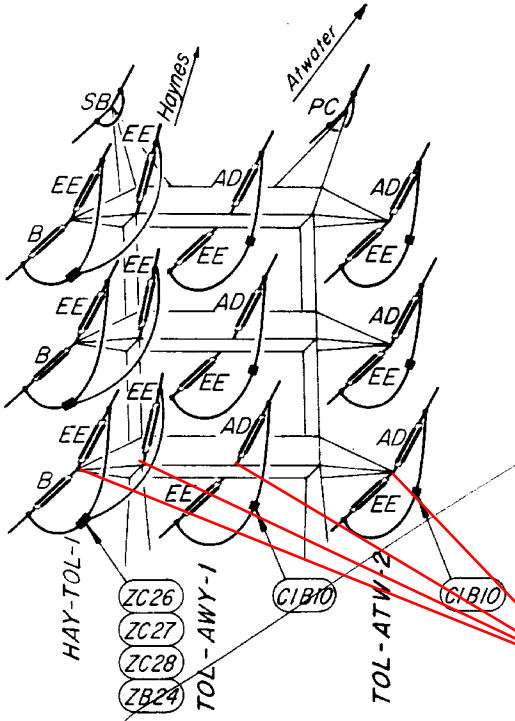
ASSEMBLY PC
1 Required



ASSEMBLY SB
1 Required



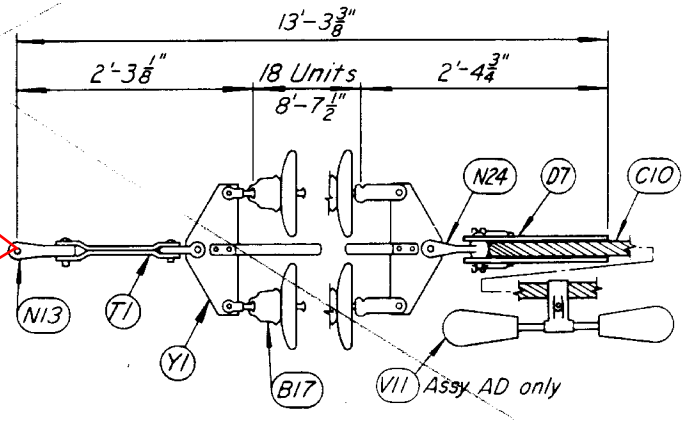
ASSEMBLY EE
12 Required



Assemblies identified by adjacent letter

Tower Connection

Conductor Attachment Point

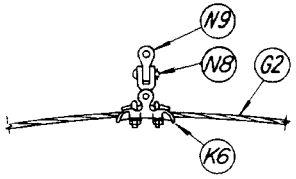


ASSEMBLY AD
6 Required

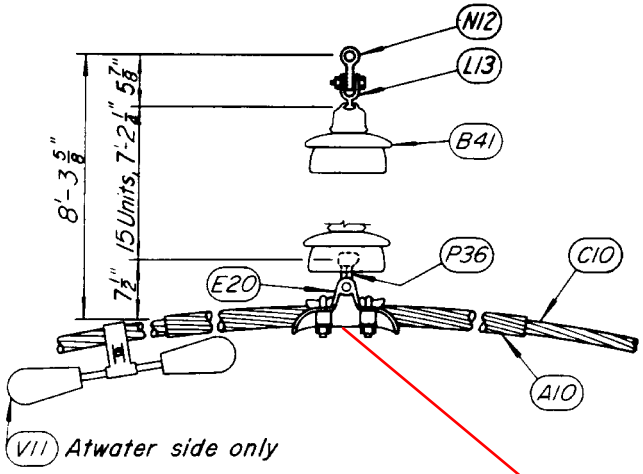
ASSEMBLY B
3 Required

Note:
U-Bolts of D1, D7 and messenger cable of V1 and V11 coated with Alcoa No-Ox-Id-A Special compound.

Date 3 - 15 - 84		INSULATORS AND HARDWARE See TDL-901 DEAD END TOWER TOLUCA - ATWATER LINE 2	Date 3 - 15 - 84
DRAWING NUMBER			DRAWING NUMBER
TM 18-6-13H		TOWER H469 SHEET 1 OF 2	TM 18-6-13H

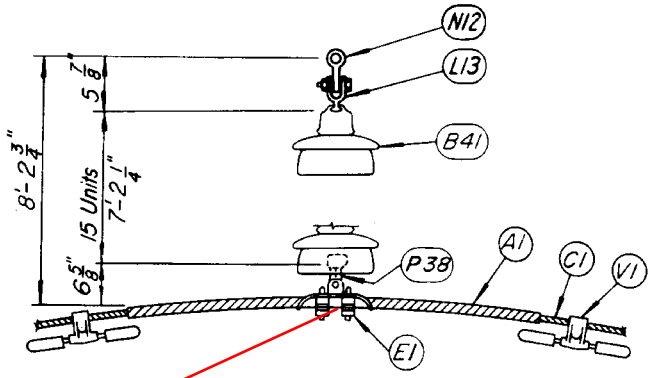


ASSEMBLY WB
2 Required



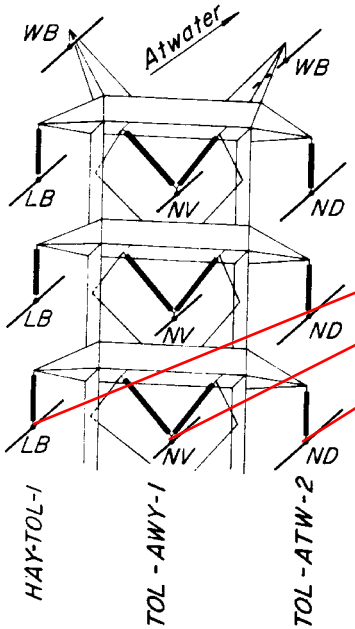
V11 Atwater side only

ASSEMBLY LB
3 Required

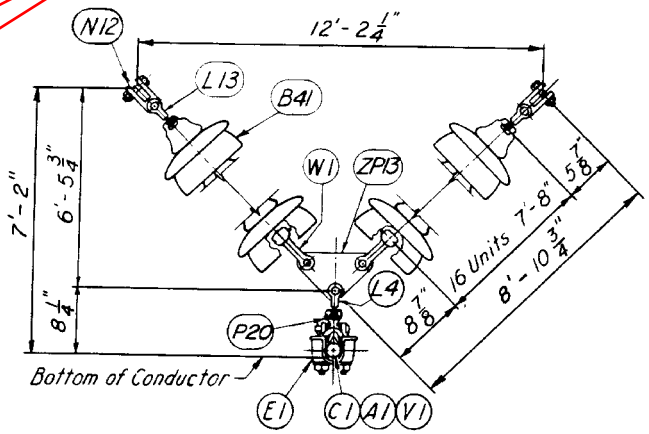


ASSEMBLY ND
3 Required

Conductor Attachment Point



Assemblies identified by adjacent letter



ASSEMBLY NV
3 Required

Note:
U-Bolts of E1, E20 and messenger cable of V1 and V11 coated with Alcoa No-Ox-Id-A Special compound

Date 3 - 15 - 84		INSULATORS AND HARDWARE SUSPENSION TOWER TOLUCA - ATWATER LINE 2	Date 3 - 15 - 84
DRAWING NUMBER TM 18-6-15H		SHEET 1 OF 2	DRAWING NUMBER TM 18-6-15H

LOS ANGELES DEPARTMENT OF WATER AND POWER
TRANSMISSION LINE CONDUCTOR CLEARANCE SURVEY
DATA SHEET

SURVEYED BY:

PAGE: _____

TRANSMISSION LINE R/W: _____

BENCHMARK: _____

DESCRIPTION (TWR#, FOOTING, COND ATTACHMENT POINT, CONDUCTOR, GROUND, ETC.)	SPAN NUMBER	NORTHING	EASTING	ELEVATION	PROPOSED IMPROV. ELEV.	SURVEY DATE	TIME	TEMP.	SKY COND.	WIND SPEED

STANDARD CONDITIONS FOR CONSTRUCTION

1. Energized transmission lines can produce electrical effects including, but not limited to, induced voltages and currents in persons and objects. Licensee hereby acknowledges a duty to conduct activities in such manner that will not expose persons to injury or property to damage from such effects.

2. The Los Angeles Department of Water and Power (LADWP) personnel shall have access to the right of way at all times.

3. Unauthorized parking of vehicles or equipment shall not be allowed on the right of way at any time.

4. Unauthorized storage of equipment or material shall not be allowed on the right of way at any time.

5. Fueling of vehicles or equipment shall not be allowed on the right of way at any time.

6. Patrol roads and/or the ground surfaces of the right of way shall be restored by the Licensee to original conditions, or better.

7. All trash, debris, waste, and excess earth shall be removed from the right of way upon completion of the project, or the LADWP may do so at the sole risk and expense of the Licensee.

8. All cut and fill slopes within the right of way shall contain adequate berms, benches, and interceptor terraces. Re-vegetation measures shall also be provided for dust and erosion control protection of the right of way.

9. All paving, driveways, bridges, crossings, and substructures located within the right of way shall be designed to withstand the American Association of State Highway and Transportation Officials' vehicular loading H20-44 or HL-93. The design shall also comply with applicable design standards.

10. The location of underground pipelines and conduits shall be marked at all points where they cross the boundaries of the right of way and at all locations where they change direction within the right of way. The markings shall be visible and identifiable metal post markers for underground pipelines. Utility markers flush with surface may be used on pavement.

11A. General Grounding Condition

All aboveground metal structures including, but not limited to, pipes, drainage devices, fences, and bridge structures located within or adjoining the right of way shall be properly grounded, and shall be insulated from any fencing or other conductive materials located outside of the right of way. For safety of personnel and equipment, all equipment and structures shall be grounded in accordance with State of California Code of Regulations, Title 8, Section 2941, and National Electric Code, Article 250.

~~11B. Grounding Condition for Cellular Facilities on Towers~~

~~All aboveground metal structures including, but not limited to, pipes, drainage devices, fences, and bridge structures located within or adjoining the right of way shall be properly grounded, and shall be insulated from any fencing or other conductive materials located outside of the right of way. For safety of personnel and equipment, all equipment and structures shall be grounded in accordance with American National Standards Institute of Electrical and Electronics Engineers Standard 487-latest edition, IEEE Guide for Safety in AC Substation Grounding.~~

12. Licensee shall neither hold the LADWP liable for nor seek indemnity from the LADWP for any damage to the Licensee's project due to future construction or reconstruction by the LADWP within the right of way.

13. Fires and burning of materials is not allowed on the right of way.

14. Licensee shall control dust by dust-abatement procedures approved by the LADWP, such as the application of a dust palliative or water.

15. The right of way contains high-voltage electrical conductors; therefore, the Licensee shall utilize only such equipment, material, and construction techniques that are permitted under applicable safety ordinances and statutes, including the following: State of California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Division of Industrial Safety, Subchapter 5, Electrical Safety Orders; and California Public Utilities Commission, General Order No. 95, Rules for Overhead Electric Line Construction.

16. Licensee is hereby notified that grounding wires may be buried in the right of way; therefore, the Licensee shall notify the LADWP's Transmission Construction and Maintenance Business Group at (818) 771-5035, or (818) 771-5014, at least 48 hours prior to the start of any construction activities in the right of way.

17A. Vehicle Parking

An area within 50 feet around the base of each tower must remain open and unobstructed for maintenance and emergencies, including periodic washing of insulators by high-pressure water spray. Clearances of 100 feet may be required under circumstances where access is limited.

~~17B. Trucking Operations and Storage Operations~~

~~An area within 50 feet around the base of each tower must remain open and unobstructed for maintenance and emergencies, including periodic washing of insulators by high-pressure water spray. Clearances of 100 feet may be required under circumstances where access is limited.~~

~~17C. Permanent Structures~~

~~An area within 100 feet on all sides of each tower shall remain open and unobstructed for maintenance and emergencies, including periodic washing of insulators by high-pressure water spray.~~

18. Detailed plans for any grading, paving, and construction work within the right of way shall be submitted for approval to the Real Estate Business Group, Department of Water and Power, P.O. Box 51111, Room 1031, Los Angeles, California 90051-0100, no later

than 45 days prior to the start of any grading, paving, or construction work. Notwithstanding any other notices given by Licensee required herein, Licensee shall notify the LADWP's Transmission Construction and Maintenance Business Group at (818) 771-5035, or (818) 771-5014, no earlier than 14 days and no later than two days prior to the start of any grading, paving, or construction work.

19. "As Constructed" drawings showing all plans and profiles of the Licensee's project shall be furnished to the Real Estate Business Group, Los Angeles Department of Water and Power, P. O. Box 51111, Room 1031, Los Angeles, California 90051-0100, within five days after completion of Licensee's project.

20. In the event that construction within the right of way is determined upon inspection by the LADWP to be unsafe or hazardous to the LADWP facilities, the LADWP may assign a line patrol mechanic at the Licensee's expense.

21. If the LADWP determines at any time during construction that the Licensee's efforts are hazardous or detrimental to the LADWP facilities, the LADWP shall have the right to immediately terminate said construction.

22A. All concentrated surface water which is draining away from the permitted activity shall be directed to an approved storm drain system where accessible, or otherwise restored to sheet flow before being released within or from the right of way.

22B. Drainage from the paved portions of the right of way shall not enter the unpaved area under the towers. Drainage diversions such as curbs shall be used on three sides of each tower. The open side of each tower shall be the lowest elevation side to allow storm water which falls under the tower to drain. The area under the towers shall be manually graded to sheet flow out from under the towers.

22C. Ponding or flooding conditions within the right of way shall not be allowed, especially around the transmission towers. All drainage shall flow off of the right of way.

22D. Licensee shall comply with all Los Angeles County Municipal Storm Water Permit and Standard Urban Storm Water Mitigation Plan requirements.

23A. Fills, including backfills, shall be in horizontal, uniform layers not to exceed six inches in thickness before compaction, then compacted to 90 percent relative compaction in accordance with the American Society for Testing and Materials D1557.

23B. The top two inches to six inches of the concrete footings of the towers shall remain exposed and not covered over by any fill from grading operations.

~~23C. Licensee shall provide the LADWP with one copy each of the compaction report and a Certificate of Compacted Fill, for clean fill compaction within the LADWP's right of way in accordance with the American Society for Testing and Materials D1557, approved by a geotechnical engineer licensed in the State of California.~~

~~24. A surety bond in the amount to be determined by the LADWP shall be supplied by the Licensee to assure restoration of the LADWP's right of way and facilities, and compliance with all conditions herein.~~

25. The Licensee shall obtain and pay for all permits and licenses required for performance of the work and shall comply with all laws, ordinances, rules, orders, or regulations including, but not limited to, those of any agencies, departments, districts, or

commissions of the State, County, or City having jurisdiction thereover.

~~26. The term "construction", as used herein, refers only to that construction incidental to the maintenance or repair of the existing (requested facility) and shall not be construed to mean permission to construct any additional (requested facility).~~

27. Signs shall not exceed four feet wide by eight feet long, shall not exceed a height of 12 feet, shall be constructed of noncombustible materials, and shall be installed manually at, and parallel with, the right of way boundary.

~~28. Remote-controlled gates, or lock boxes containing the device or key for opening the remote-controlled gates, shall be capable of being interlocked with an LADWP padlock to allow access to the right of way by the LADWP. Licensee shall contact LADWP's Transmission Construction and Maintenance Business Group at (818) 771-5035, or (818) 771-5014, to coordinate the installation of an LADWP padlock.~~

~~29. Licensee's cathodic protection system, if any, shall have a design that does not cause corrosion to LADWP facilities. A detailed design of the Licensee's cathodic protection system shall be submitted for approval to the Real Estate Business Group, Department of Water and Power, P. O. Box 51111, Room 1031, Los Angeles, California 90051-0100, no later than 45 days prior to the start of construction or installation of the cathodic protection system.~~

~~30A. Licensee shall install K-rails at a distance of ten feet from each side of the tower base for protection of towers. A distance of five feet from the tower base may be acceptable in locations where the patrol roads would be obstructed.~~

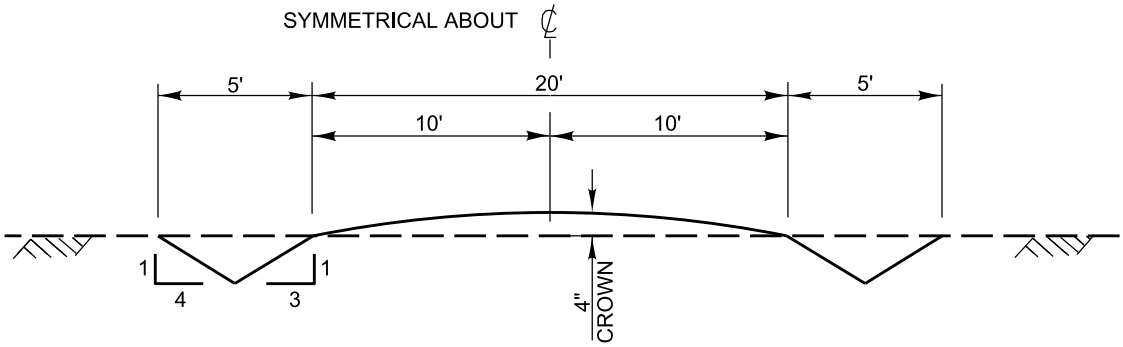
~~30B. Licensee shall install removable pipe bollards, spaced four feet apart, and at a distance of ten feet from each side of the tower base for protection of towers. A distance of five feet from the tower base may be acceptable in locations where the patrol roads would be obstructed.~~

31A Licensee shall provide and maintain a minimum 20-foot wide transition ramp for the patrol roads from the pavement to the ground surface. The ramp shall not exceed a slope of ten percent.

~~31B. Licensee shall provide and maintain a minimum 20-foot wide driveway and gate at all locations where the (road/street) crosses the LADWP's patrol roads. The designed gates must be capable of being interlocked with an LADWP padlock to allow access to the right of way by the LADWP.~~

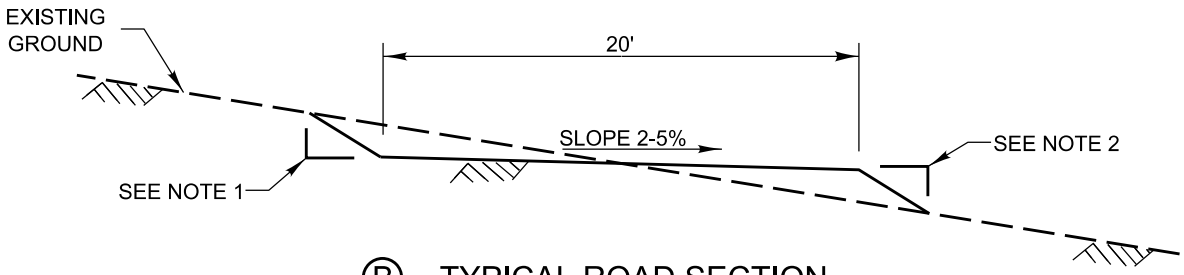
~~32. Licensee shall post a sign on the entrance gate to the right of way, or in a visible location inside the entrance gate, identifying the contact person's name and telephone number for the prompt moving of (vehicles/trucks/trailers/containers) at times of LADWP maintenance or emergency activities, or any other event that (vehicles/trucks/trailers/containers) must be moved. In emergency conditions, the LADWP reserves all rights at any time to move or tow (vehicles/trucks/trailers/ containers) out of specific areas for any transmission operation or maintenance purposes.~~

LOS ANGELES DEPARTMENT OF WATER AND POWER
TRANSMISSION LINE ACCESS ROAD DETAILS



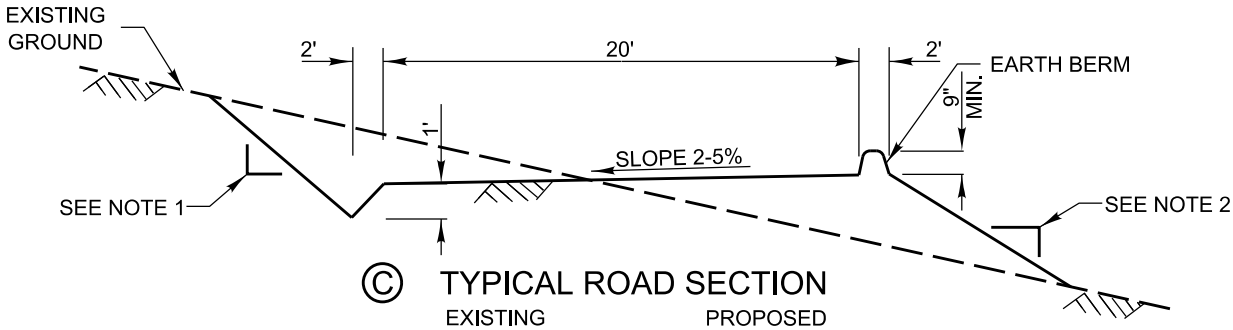
Ⓐ TYPICAL ROAD SECTION

EXISTING CROSS SLOPE	PROPOSED ROAD GRADE
≤ 5%	≤ 10%
	10-15% (PAVEMENT REQUIRED)



Ⓑ TYPICAL ROAD SECTION

EXISTING CROSS SLOPE	PROPOSED ROAD GRADE
5-15%	≤ 10%
	10-15% (PAVEMENT REQUIRED)



Ⓒ TYPICAL ROAD SECTION

EXISTING CROSS SLOPE	PROPOSED ROAD GRADE
15-50%	≤ 10%
	10-15% (PAVEMENT REQUIRED)

NOTES:

1. CUT SLOPE SHALL NOT EXCEED THE FOLLOWING:
   A. 2 HORIZONTAL TO 1 VERTICAL IN LOOSE OR UNSTABLE MATERIAL.
   B. 1 HORIZONTAL TO 1 VERTICAL IN COMPACTED MATERIAL.
   C. 1/2 HORIZONTAL TO 1 VERTICAL IN SOLID ROCK.

2. ALL FILL SLOPES SHALL BE 2 HORIZONTAL TO 1 VERTICAL OR FLATTER.

3. WHERE SOLID ROCK IS ENCOUNTERED THE 4" CROWN AND, OR SIDE DITCHES MAY BE ELIMINATED WHERE DIRECTED BY THE ENGINEER.

Appendix K

Notice of Intent Comment Letters

B1

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Agency Meeting

Castaic Library – Community Room
27971 Sloan Canyon Road, Castaic, CA 91384
Tuesday, May 17, 2016
10:00 a.m. – 12:00 p.m.

Please use this form to make comments regarding the Castaic Area Multi-Use Trails Plan and the Proposed Mitigated Negative Declaration (MND). The County is soliciting comments from the public and agencies. You may submit your comments at this community workshop, by U.S. mail, or e-mail to the Los Angeles County Department of Parks and Recreation (contact information listed below). Written comments will be accepted until **June 13, 2016.**

Name: Stephanie English

Organization (if applicable): LACoFD

Address: FS 150 19140 Golden Valley Rd

City/State/ZIP: Santa Clarita 91387

Phone: 661 250 2710

Email: Stephanie.English@Fire.LACounty.gov

Comments:

Great outreach, Consistent outreach
Professional Presentations, Complete Info & Documents
Good Collaboration w/ agencies

1

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan MND Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

B2

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

June 6, 2016

Julie Yom, Park Planner
County of Los Angeles
Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

Dear Ms. Yom:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, "CASTAIC AREA MULTI-USE TRAILS PLAN", INCLUDES APPROXIMATELY 100 MILES OF PROPOSED MULTI-USE TRAILS AND RELATED STAGING AREAS, BIKE SKILLS PARKS, PARKING AREAS, AND OTHER SUPPORTING TRAIL FACILITIES, CASTAIC (FFER 201600075)

The Notice of Intent to Adopt a Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

Under PUBLIC SERVICES, Fire Protection, we have the following changes: 1

Paragraph 2, the seventh sentence should state that Station 149 serves **in** Battalion 6. Sentence nine should be corrected to state that currently there is one fire station being proposed in the Santa Clarita Valley Area Plan, Fire Station 180, which will be located within the proposed Northlake development. Fire Station 143 is currently under development and anticipated to be operational in November 2016. Fire Station 156 became operational in 2011.

LAND DEVELOPMENT UNIT:

1. The Land Development Unit is reviewing the proposed project for access and water system requirements and is not setting any requirements at this time. For any questions regarding the report, please contact FPEA Wally Collins at (323) 890-4243 or at Wally.Collins@fire.lacounty.gov. 2

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. 3

2. The areas germane to the statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division have been addressed.

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no comment regarding the project at this time. 4

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:ad

B3

PLANNING DIVISION

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

JUN 1 2016 AM 10:00
RECEIVED

May 27, 2016 **Via Email**

Julie Yom, Park Planner
County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

Dear Ms. Yom:

Review of the
Castaic Area Multi-Use Trails Plan Initial Study and Proposed Mitigated Negative Declaration

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Initial Study and Proposed Mitigated Negative Declaration for Castaic Area Multi-Use Trails Plan in the County of Los Angeles, California. The proposed project would construct approximately 100 miles of multi-use trails and related staging areas, bike skills parks, parking areas, and other supporting trail facilities in the Castaic Area of the Santa Clarita Valley. Proposed trails range from 3 to 12 feet in width based on site conditions, with space for combined pedestrian, equestrian, and mountain biking use. The County of Los Angeles Department of Parks and Recreation is acting as the CEQA Lead Agency. This letter contains Metropolitan's comments to the potentially affected public agency.

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies serving approximately 19 million people in portions of six counties in Southern California, including Los Angeles County. Metropolitan's mission is to provide its 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan owns and operates the 16-foot-inside-diameter Foothill Feeder pipeline within the proposed project area. The Foothill Feeder originates at Lake Castaic and transports untreated water to Metropolitan's Joseph Jensen Water Treatment Plant in Granada Hills. Metropolitan's Operations and Maintenance team performs maintenance and inspections of the Foothill Feeder and its appurtenant structures on a quarterly basis. Much of the Foothill Feeder within the proposed project area is located within Metropolitan fee property (see map attached). 1

Based on a review of the proposed project, the project has potential to impact Metropolitan's Foothill Feeder. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to its facilities in order to maintain and repair its system. In order to avoid

potential conflicts with Metropolitan's facilities and rights-of-way, we require that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Metropolitan will not permit procedures that could subject the pipeline to excessive vehicle, impact or vibratory loads. Any future design plans associated with this project should be submitted to the attention of Metropolitan's Substructures Team. Approval of the project should be contingent on Metropolitan's approval of design plans for portions of the proposed project that could impact its facilities. 1

Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. To assist the applicant in preparing plans that are compatible with Metropolitan's facilities and easements, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easement of The Metropolitan Water District of Southern California." Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way. 2

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future documentation and plans for this project. For further assistance, please contact Ms. Michelle Morrison at (213) 217-7906.

Very truly yours,

For Deirdre West
Manager, Environmental Planning Team

MM/mm
EPT Job No. 20160523EXT

Enclosures: Planning Guidelines and Map of Metropolitan Facilities in Project Vicinity

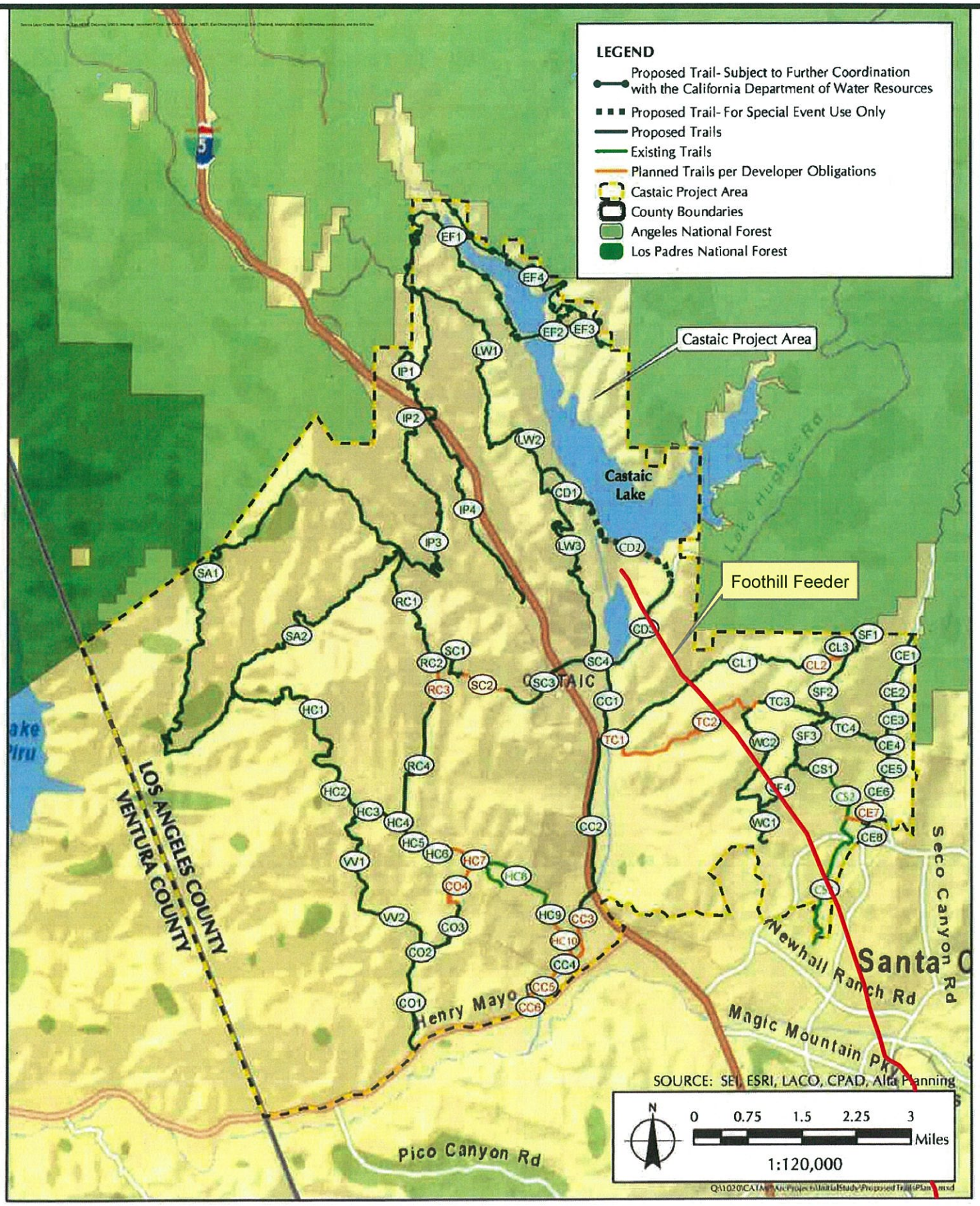


FIGURE 1.9-1

Proposed Trails Plan

J:\Projects\Foothill_Feeder\GIS\Proposed_Trails_Plan_Overlay.mxd [Printed 5/26/2016] Photography Date: Bing Prepared by: Ayk Unanyan (Geodetics & Mapping Team) Checked by: Michelle Morrison Job#: GIS16-05-26

Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

3. Maintenance of Access Along Metropolitan's Rights-of-Way

a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.

b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-feet-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.

c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.

d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.

d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).

e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.

f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

7. Utilities in Metropolitan's Fee Properties and/or Easements or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alinement as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

g. Overhead electrical and telephone line requirements:

1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.

2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.

3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.

4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.

h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of- way.

i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assists others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

m. Cathodic Protection requirements:

1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.

2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.

3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.

4) If a steel carrier pipe (casing) is used:

(a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).

(b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.

n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

10. Drainage

a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.

b. If water must be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. _____ of Metropolitan's Operations Services Branch, telephone (213) 250-____, at least two working days prior to any work in the vicinity of our facilities.

12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must restricted to that which

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:

a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.

c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.

d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

b. <u>When Environmental Documents Have Been Prepared</u>

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

15. <u>Metropolitan's Plan-Review Cost</u>

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

17. Additional Information

Should you require additional information, please contact:

Civil Engineering Substructures Section
Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153
(213) 217-6000

JEH/MRW/lk

Rev. January 22, 1989

Encl.

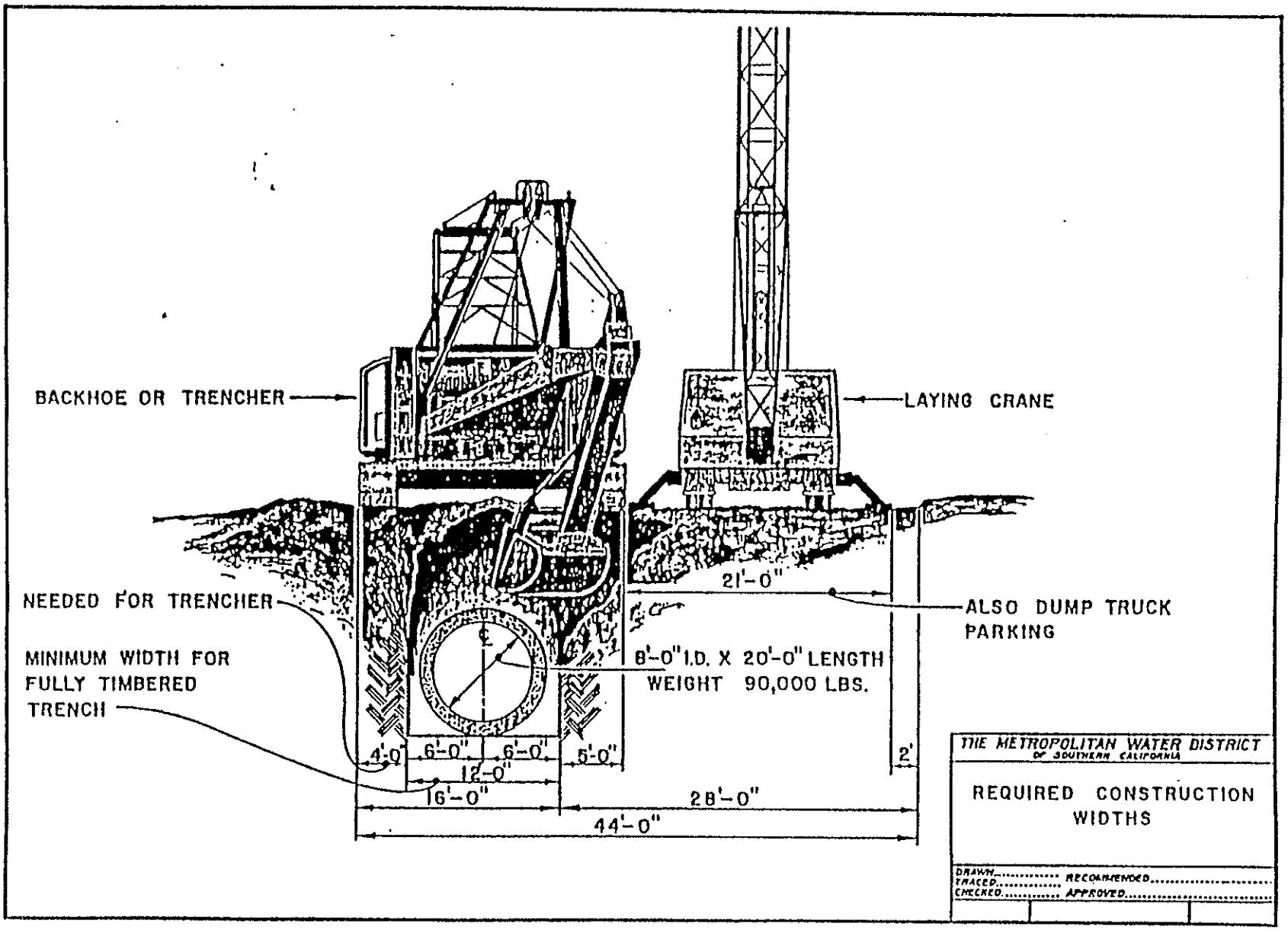
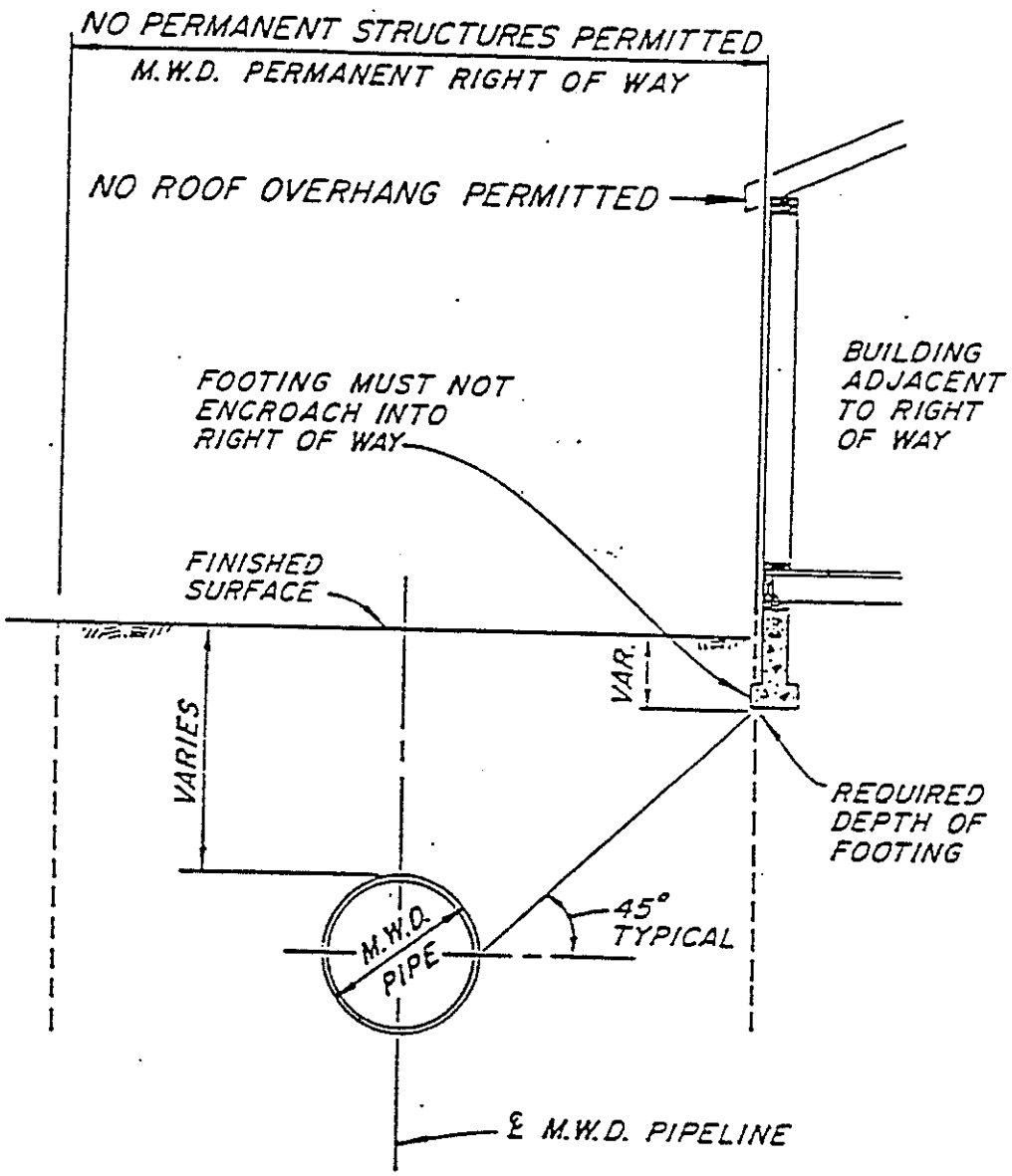


FIGURE 1

FORM NO 39 P 1000 11-68 P.O. NO. 66-5507

11-68 DIETRICH-POST CLEARPRINT 1025



NOTE: M.W.D. PIPELINE SIZE, DEPTH, LOCATION AND WIDTH OF PERMANENT RIGHT OF WAY VARIES.

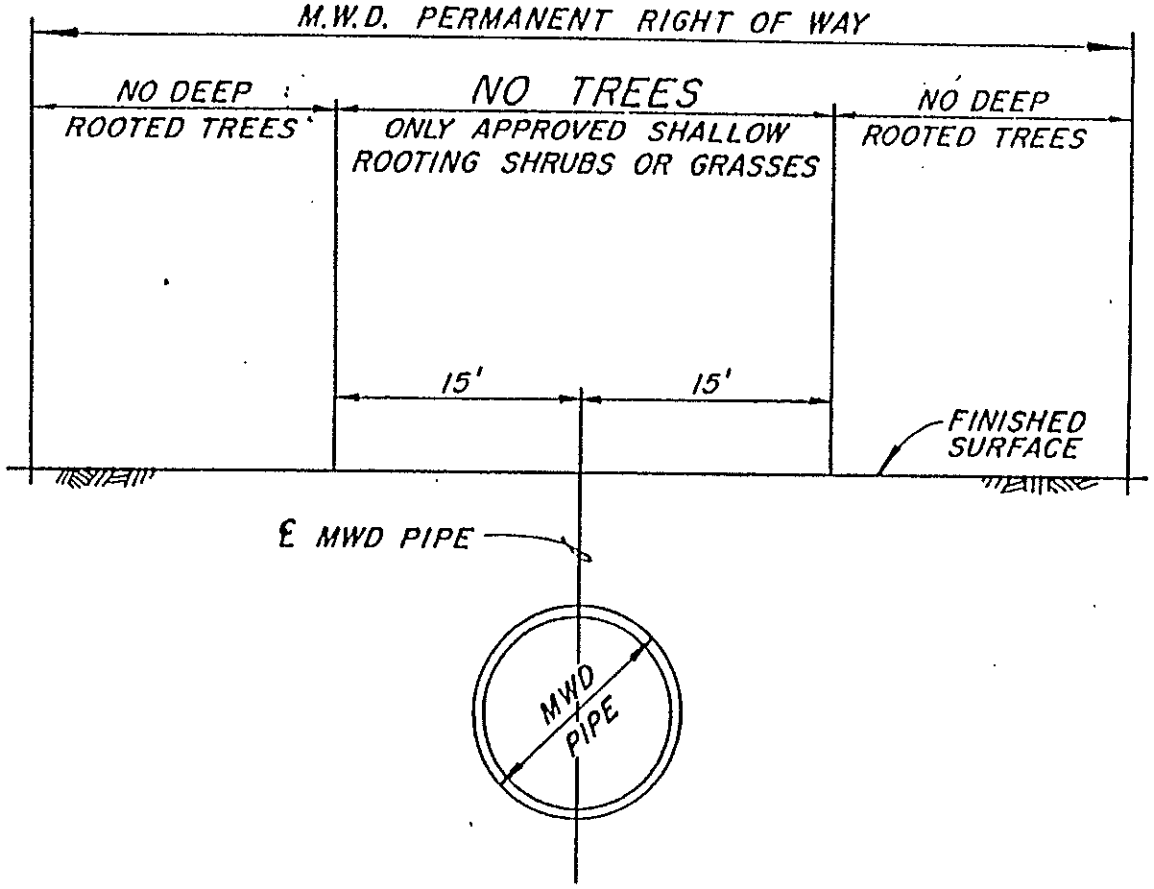
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

REQUIREMENTS FOR BUILDINGS AND FOOTINGS ADJACENT TO M.W.D. RIGHT OF WAY

DRAWN ____ RECOMMENDED ____
TRACED ____
CHECKED ____ APPROVED ____

FIGURE 2

11-67 DIETERICH-POST CLEARPRINT 1023



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LANDSCAPE GUIDELINES FOR M.W.D. RIGHT OF WAY

DRAWN..... RECOMMENDED.....
TRACED.....
CHECKED..... APPROVED.....

FIGURE 3

11-66 DIETERICH-POST CLEARPRINT 1023

FORM NO. 15 9 1000 11 58 P.O. NO. 88 1407

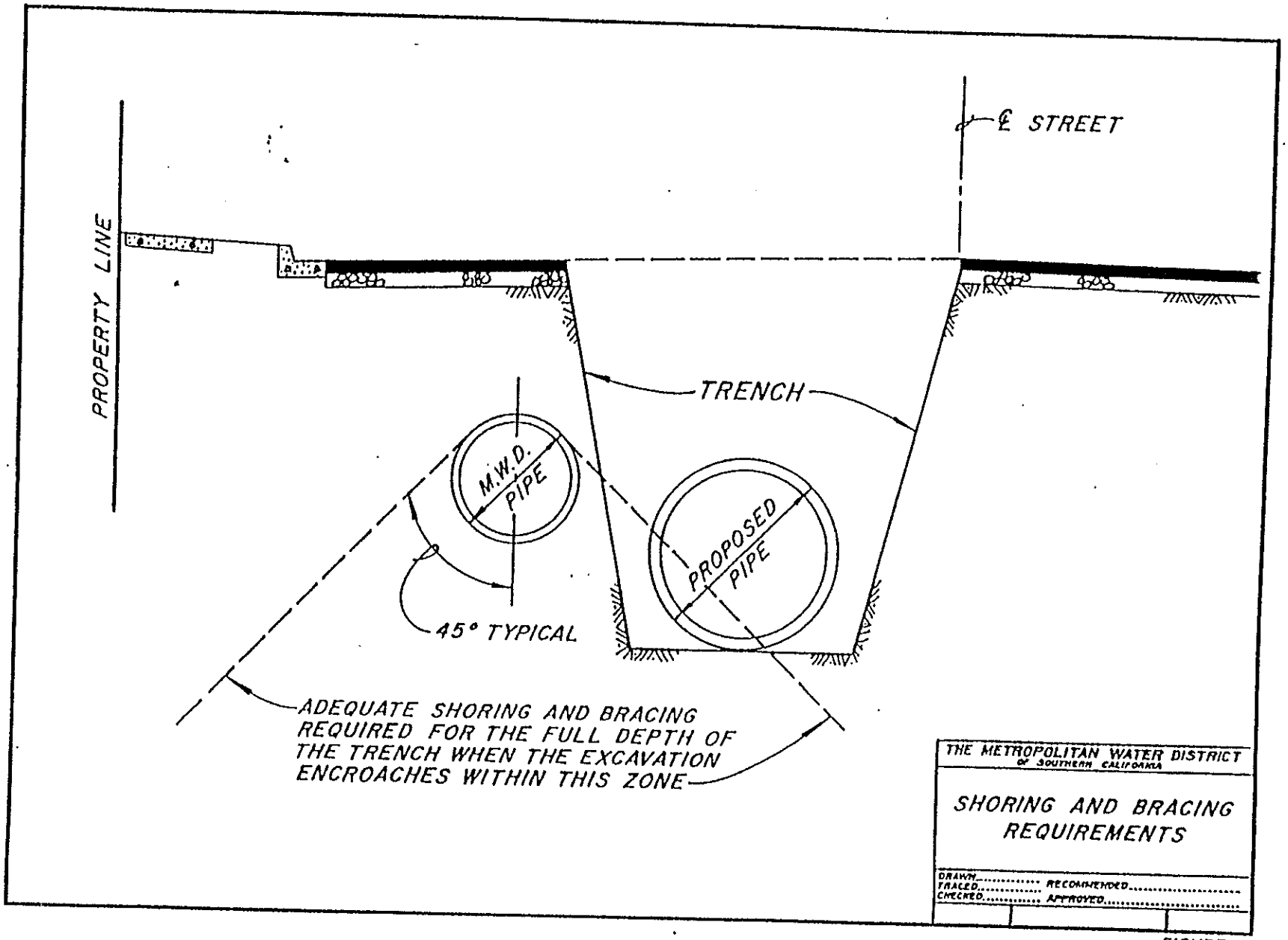
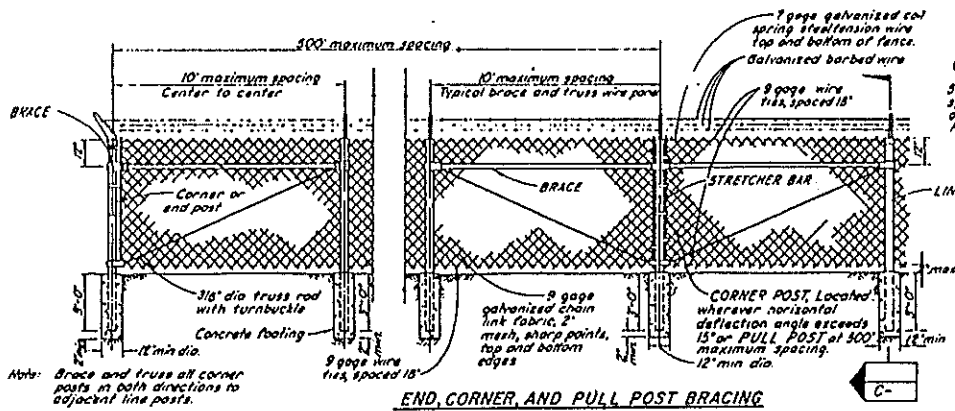


FIGURE 4

FORM NO. 1P 9 1000 11-48 P.O. NO 48-9807

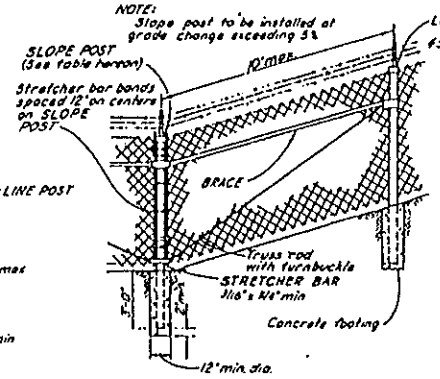
11-48 DIETRICH-POST CLEARPRINT 1025

SPECIFICATIONS NO. SHEET NO.

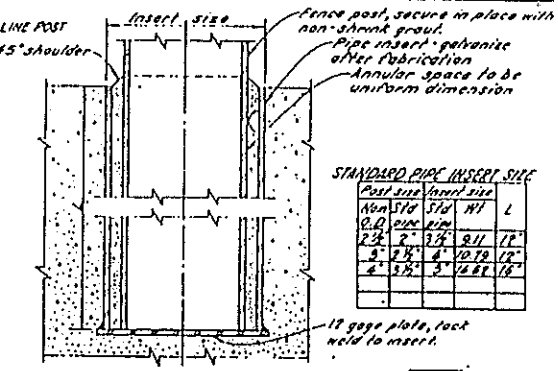


Note: Brace and truss all corner posts in both directions to adjacent line posts.

END, CORNER, AND PULL POST BRACING
(Not to scale)



TYPICAL FENCE ON SLOPE
(Not to scale)

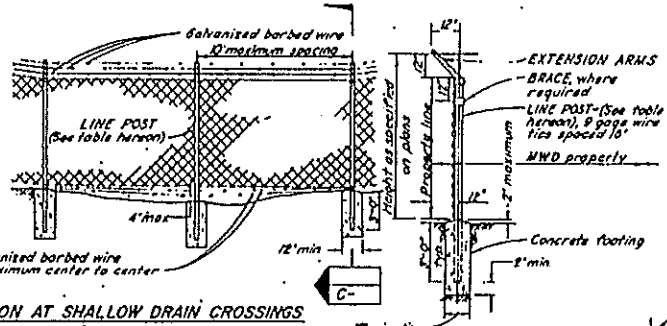


STANDARD PIPE INSERT SIZE

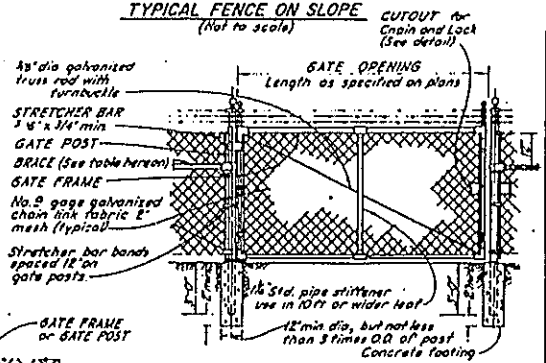
Post size Nom O.D.	Std pipe	Insert size Std pipe	W1	L
2 3/8	2"	2 1/2"	9.11	12"
3"	2 1/2"	4"	10.79	12"
4"	3 1/2"	5"	14.88	16"

FENCE POST INSERT FOR CONCRETE WALL AND CONCRETE CURB
(Not to scale)

1

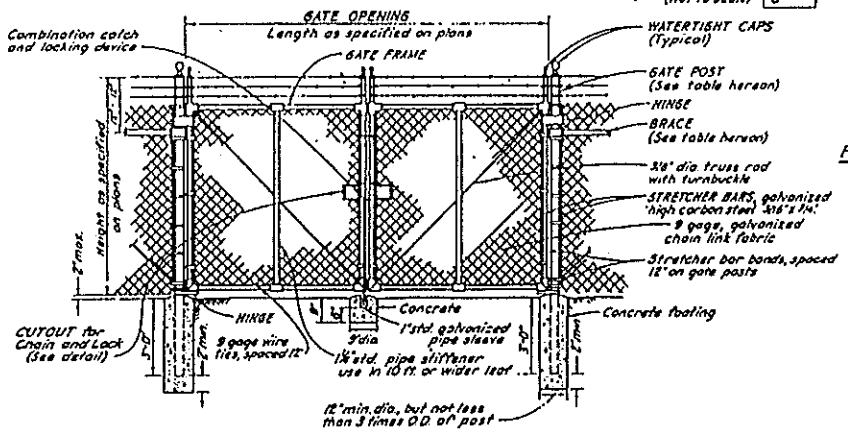


ELEVATION AT SHALLOW DRAIN CROSSINGS
(Not to scale)



SINGLE SWING GATE DETAIL
(Not to scale)

DETAIL OF CUTOUT FOR CHAIN AND LOCK
(Not to scale)



DOUBLE SWING GATE DETAIL
(Not to scale)

GENERAL NOTES

1 All ferrous parts and materials shall be galvanized after fabrication
2 Adjustable tightener shall be turnbuckle or equivalent, having minimum 6" take-up
3 Extension arms for barbed wire shall be steel, malleable iron or wrought iron and shall be attached to the top of the post with a 1/4 inch round head rivet. The extension arms shall carry three wires each at approximately 5 inch centers in a plane approximately 45° from the vertical.
4 All gate hinges shall be heavy duty malleable iron or steel, industrial service type, 270 degree swing, of approved quality and design.
5 Secure cap to post with 1/4 inch round head rivet

Use	Type	Nominal Size (Inches)	Actual O.D. (Inches)	Weight per foot (Pounds)
End, corner, slope, pull and gate posts (for single gates 6 feet or less in width and double gates 12 feet or less in width) for chain link fabric 72" inches or higher	Pipe	2 1/2	2.875	5.79
End, corner, slope, pull and gate posts (for single gates 6 feet or less in width and double gates 12 feet or less in width) for chain link fabric less than 72 inches height	Pipe	2	2.375	3.65
Gate posts for single swing gates over 6 feet but not over 13 feet in width and double swing gates over 12 feet but not over 26 feet in width.	Pipe	3 1/2	4.000	9.11
Gate posts for single swing gates over 13 feet but not over 18 feet in width and double swing gates over 26 feet but not over 36 feet in width.	Pipe	6	6.625	18.97
Gate posts for single swing gates over 18 feet in width and double swing gates over 36 feet in width	Pipe	8	8.625	24.70
Line posts for chain link fabric 72 inches or higher	Pipe	2	2.375	3.65
	H-Section	2 1/4 x 1 7/8		4.10
Line posts for chain link fabric less than 72 inches in height	Pipe	1 7/8	1.900	2.72
	H-Section	1 1/4 x 1 5/8		2.80
Braces	Pipe	1 1/2	1.660	2.27
	H-Section	1 1/8 x 1 1/4		2.50
Frame for gates	Pipe	1 1/2	1.900	2.72
Stiffeners for gates	Pipe	1 1/4	1.660	2.27

NO.	DATE	DWN.	CKD.	REVISION	REC.	APP.

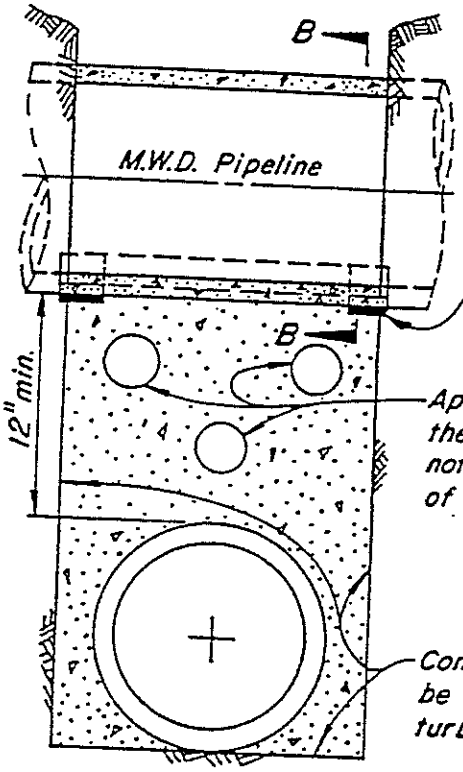
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
DISTRIBUTION SYSTEM

CHAIN LINK FENCE DETAILS

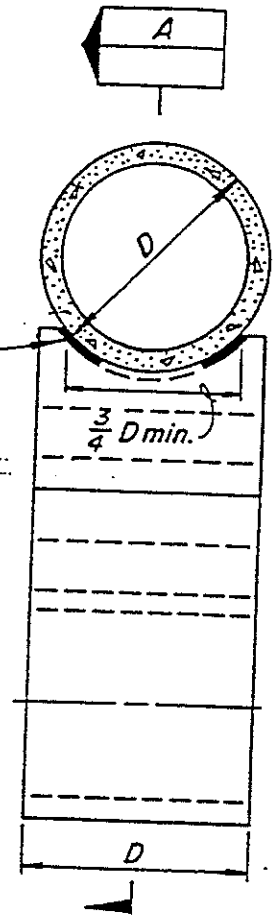
DESIGNED
DRAWN
CHECKED
RECOMMENDED
APPROVED
WORK ORDER NO.
LOS ANGELES

REVISION COORDINATION CHECK: ORIGINAL RELEASE, HYDR., STRUCT., ELEC., CIVIL, SPECS., DATE
INTERSECTIONAL COORDINATION CHECK

FIGURE 5

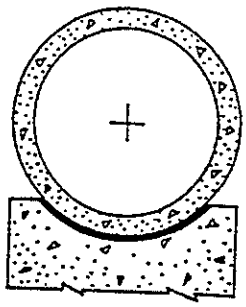


SECTION "A-A"



CROSS SECTION

1. Supporting wall shall have a firm bearing on the subgrade and against the side of the excavation.
2. Premolded expansion joint filler per ASTM D-1751-73 to be used in support for steel pipe only.
3. If trench width is 4 feet or greater, measured along centerline of M.W.D. pipe, concrete support must be constructed.
4. If trench width is less than 4 feet, clean sand backfill, compacted to 90% density in accordance with the provisions of ASTM Standard D-1557-70 may be used in lieu of the concrete support wall.



SECTION "B-B"

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

TYPICAL SUPPORT FOR M.W.D. PIPELINE

DRAWN ____ RECOMMENDED ____
TRACED ____
CHECKED ____ APPROVED ____

C-9547

11-67 DIETERICH-POST CLEARPRINT 1023

B4

From:	Laura Male
To:	Laura Male
Subject:	FW: Response to Notice of Intent to Adopt a MND for the Proposed Castaic Area Multi-Use Trails Plan Project
Date:	Thursday, June 23, 2016 2:52:04 PM
Attachments:	image001.png

From: Stewart, Ed [mailto:EStewart@lacsd.org]
Sent: Friday, June 10, 2016 3:17 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Cc: Raza, Adriana <araza@lacsd.org>; Pegadiotes, Stan <SPegadiotes@lacsd.org>
Subject: Response to Notice of Intent to Adopt a MND for the Proposed Castaic Area Multi-Use Trails Plan Project

Hello Julie,

The County Sanitation Districts of Los Angeles County (Sanitation Districts) thank you for the opportunity to comment on the Notice of Intent to Adopt a MND for the Proposed Castaic Area Multi-Use Trails Plan Project. Our comments pertain to public safety. Another project proposes to construct a trail through the midst of the Sanitation Districts' Valencia Water Reclamation Plant which would link the Proposed Castaic Area Multi-Use Trails to other trails such as the Santa Clara River Trail. The Sanitation Districts have expressed concerns about the safety of trail users crossing the entrances to the Valencia Water Reclamation Plant because trucks and other vehicles routinely enter and exit the Valencia Water Reclamation Plant via these entrances. We look forward to continuing to work with the Department of Parks and Recreation to address this public safety concern. 1

ED STEWART, P.E. | Project Engineer | Property Management Group | 562.908.4288 x2766
SANITATION DISTRICTS OF LOS ANGELES COUNTY | 1955 Workman Mill Road, Whittier, CA 90601
Converting Waste Into Resources | www.LACSD.org

B5

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY EDMUND G. BROWN JR., *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

June 16, 2016

Ms. Julie Yom
County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

Notice of Intent to Adopt a Mitigated Negative Declaration for the proposed Castaic Area Multi-Use Trails Plan Project in Los Angeles County, Castaic Lake, Southern Field Division, SCH2016051041

Dear Ms. Yom:

Thank you for the opportunity to review and comment on the Mitigated Negative Declaration for the proposed Castaic Area Multi-Use Trails Plan (Plan). The Plan details a trails expansion proposal by the County of Los Angeles Department of Parks and Recreation (County). A portion of the study area falls within the immediate vicinity of Castaic Lake, a part of the State Water Project (SWP). The Department of Water Resources (DWR) previously commented on a preliminary study of the trails project (copy enclosed) and we noted that several of our comments were incorporated into the Plan. 1

Based on a further review of the Plan, DWR has the following comments:

1. The Plan makes several references to DWR as the primary contact for recreation use at Elderberry Forebay and Elderberry Forebay Dam. DWR has no authority over use at the forebay and all Negotiating Agency references in the Plan should be corrected to Los Angeles Department of Water and Power (LADWP). 2

2. Any Special Use Authorization for recreational use over the Castaic Dam service road must incorporate a safety plan including security for SWP critical infrastructure and control structures. 3

3. The majority of the Elderberry Forebay trail segments, identified as trail segments EF1 through EF4, are within the boundary of the South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426, jointly licensed to DWR and LADWP. Any proposed trail segment within the FERC boundary may be subject to FERC approval and will require coordination with both licensees. 4

4. Trail construction costs and continuing maintenance costs will not be funded by DWR, and an Agreement will be needed to assure funding exists for these activities should the trail segments become a license requirement of the FERC project 5

Please provide DWR with a copy of any subsequent documentation when it becomes available for review. Any future correspondence relating to this project should be sent to: 6

Department of Water Resources
Division of Operations and Maintenance
State Water Project Right of Way Management Section
Attn: Leroy Ellinghouse, Chief
1416 9th Street, Room 641-1
Sacramento, California 95814

If you have any questions, please contact Leroy Ellinghouse at (916) 659-7168 or Robert Martinez at (916) 654-8982.

Sincerely,

David M. Samson

David M. Samson
Civil Engineering Services
Department of Water Resources

Enclosure

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY EDMUND G. BROWN JR., Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

March 24, 2016

Zachary Likins
County of Los Angeles Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

CASTAIC AREA MULTI-USE TRAILS IMPROVEMENT PLAN, COUNTY OF LOS ANGELES PARKS AND RECREATION DEPARTMENT, CASTAIC LAKE

Dear Mr. Likins:

On December 21, 2015, Department of Water Resources (DWR) staff from the Division of Operations & Maintenance (O&M) met with staff from the Los Angeles County of Parks and Recreation (County), to discuss proposed improvements to Castaic Area Multi-Use Trails system. Several proposals to improve connections between existing trails were discussed. DWR staff expressed concerns about any use of dam crest roads for Castaic Dam and the Elderberry forebay dam for potential recreational trail purposes.

O&M received a preliminary study prepared for the County by Alta Planning & Design, dated February 17, 2016, that discusses gaps and barriers in the existing County trail network and contains recommendations for recreational use of the dam crest roads. DWR maintains our earlier stated objection to recreational use of any of the DWR operational road segments contained within the Castaic Lake trail study area.

DWR has identified several safety and security concerns supporting our objection/denial of the proposed recreational use of either of the dam crest roads, including but not limited to:

- Protection of State Water Project critical infrastructure (water intake tower, spillway, and the dam itself.)
- The dam crest roads were not designed or intended to be used for public access or recreational traffic and do not provide adequate clearance for combined vehicular and pedestrian use.
- The absence of emergency call-boxes, frequent patrols, or first-responder emergency vehicle access in the event of an accident or life-threatening event.
- DWR access roads at the base of Castaic Dam are not compatible with recreational use out of concern for the protection of critical dam instrumentation, stream release valves, and power generating facilities.

The remainder of the proposed trail improvement segments in the Castaic Lake study area may also fall within the Federal Energy Regulatory Commission boundary for the Castaic power generation license, of which Los Angeles County Department of Water and Power (LADWP) and DWR are co-licensees. LADWP should be brought into the conversation for their input into any modifications to the trail system that could impact the FERC license.

Please provide DWR with a copy of any subsequent trail improvement plan documentation when it becomes available for public review.

If you have any question, please contact Leroy Ellinghouse of my staff at (916) 653-7168.

Sincerely,

Sheree Edwards, Chief
Civil Maintenance Branch
Division of Operations and Maintenance

TABLE 4-2: Trail Category Conversion

CASTAIC AREA MULTI-USE TRAIL CATEGORY	COUNTY TRAILS MANUAL TRAIL CLASSIFICATION
Natural Trail (NAT)	Natural Trail 1
	Natural Trail 2
	Natural Trail 3
Multi-Use Trail (MUT)	Urban Pedestrian Path
Multi-Use Trail on Adjacent Roadway (ROW)	**NEW DESIGNATION-Future design to be determined on a case-by-case basis to develop a suitable multi-use trail for each unique situation.**

As stated in Section 4.1.2.1 the Trails Manual currently does not include an on-street or street adjacent trail type for certain conditions in the Castaic Project Area. This Multi-Use Trail on Adjacent Roadway (ROW) alternative would need to be created on a case-by-case basis in order to develop the most suitable trail for each unique situation.

Trail segment alignments for the Castaic Project Area can be seen in **Figure 4-8: *Proposed Trail Network.*** Details of all trail segments can be found in **Table 4-3: *Trails By Segments.*** The trail categories are noted by segment in **Table 4-3** and include 3 trail categories: *Natural Trail, Multi-Use Subdivision Trail, and Multi-Use Trail on Adjacent Roadway.* Segment CD2 of the CAMUTP is for special events use only due to safety concerns voiced by the State Department of Water Resources of public use of a dam crossing and is noted in **Figure 4-8** by a dashed line and highlighted in **Table 4-3.**

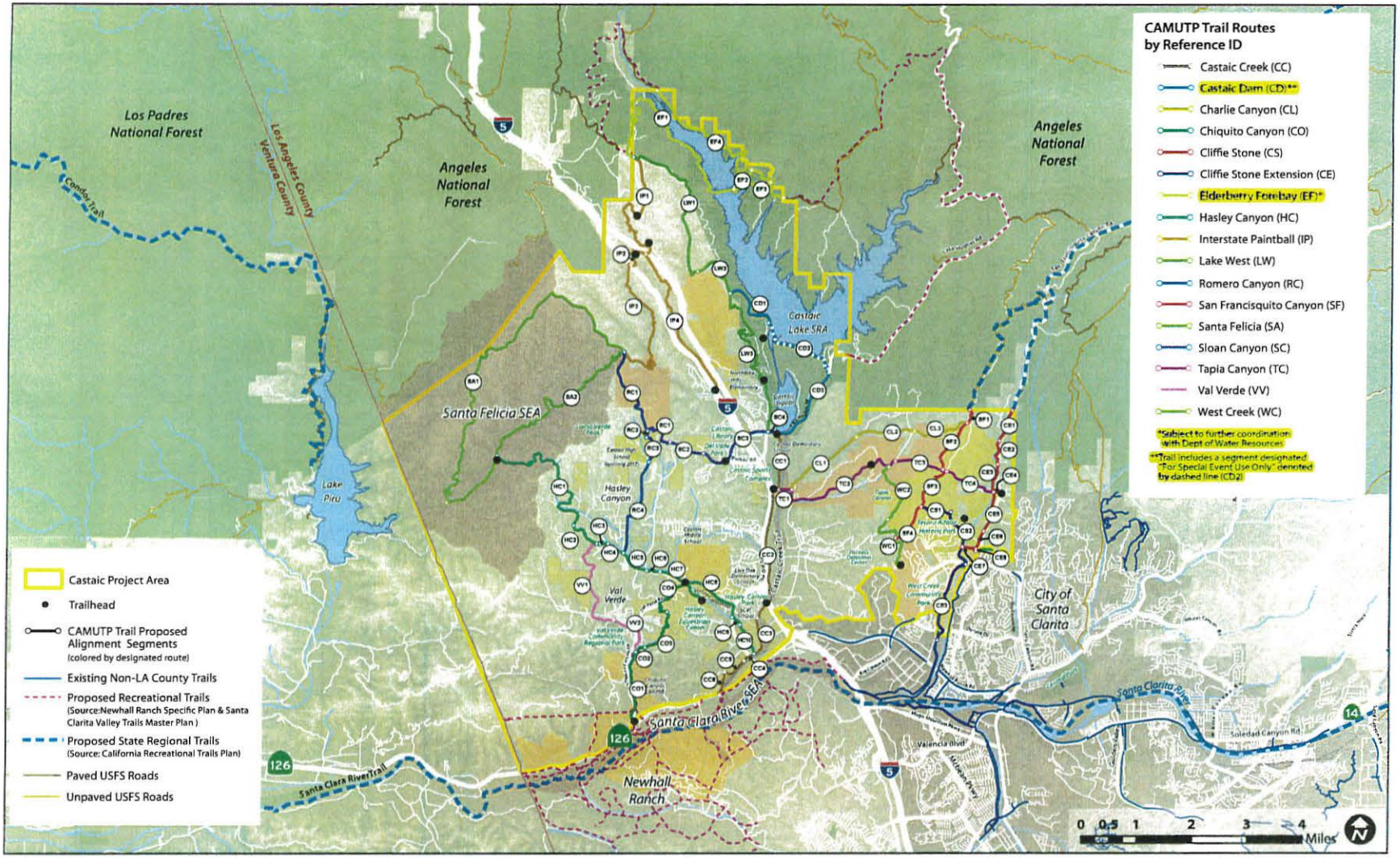


Figure 4-8 Proposed Trail Network

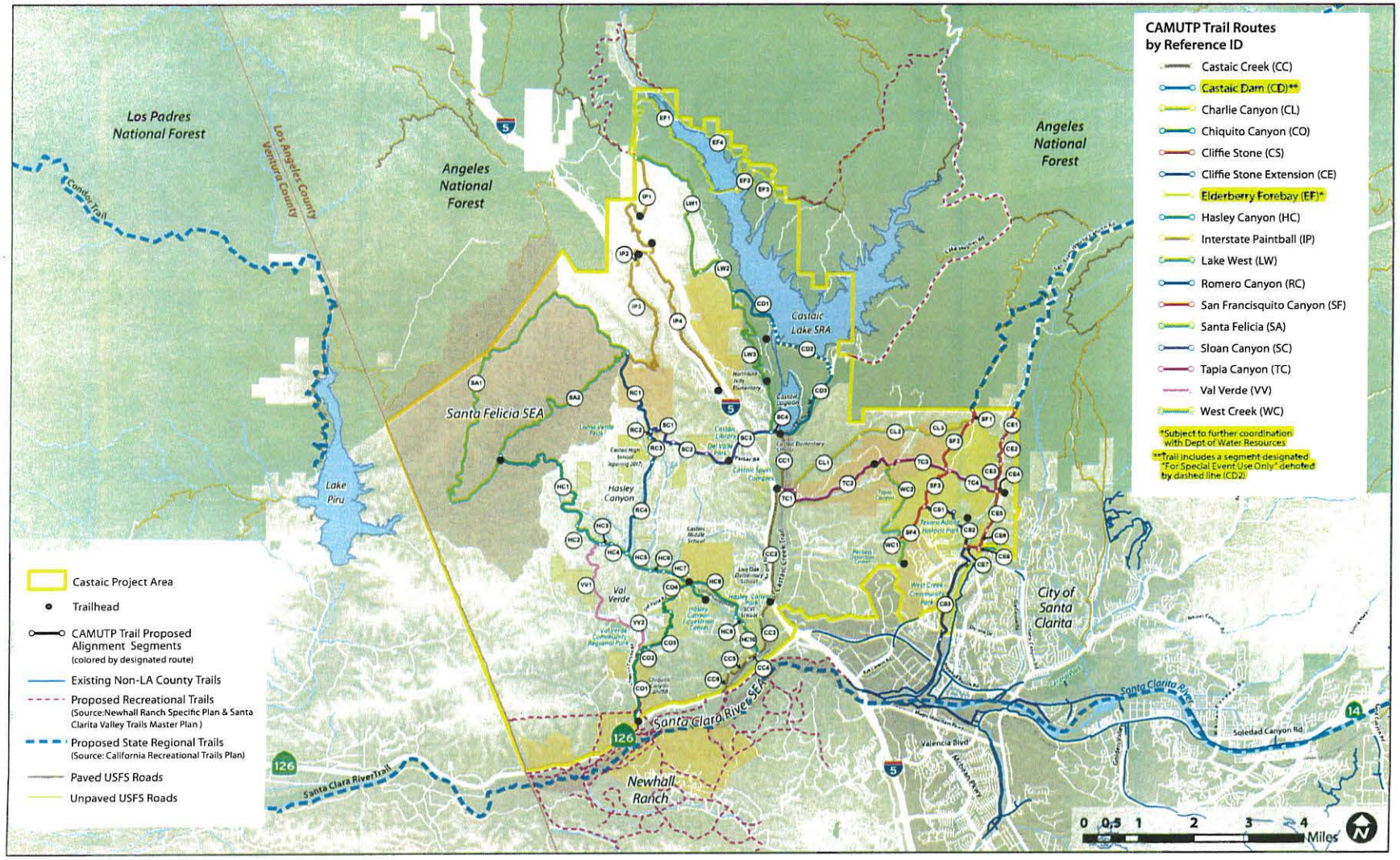


Figure 4-8 Proposed Trail Network

TABLE 5-1: Trails Segment Phasing Data

SEGMENT ID	ROUTE NAME	SEGMENT NAME	SOURCE	LENGTH (MI)	PUBLIC COMMENT	DESTINATIONS	PARCEL CROSSINGS	OWNERS INVOLVED	NEGOTIATING AGENCY	OIL LEASES CROSSED	TRAIL TYPE
CC1	Castaic Creek	**Sports Complex**	County Adopted	1.24	12	4	7	3	Private	0	NAT
CC2	Castaic Creek	**Pitchess**	CAMUTP	2.63	20	5	11	4	Los Angeles County Sheriff	4	NAT
CC3	Castaic Creek	**Commerce Center East**	County Adopted - Subdivision	0.76	9	2	1	1	Subdivision	1	MUT
CC4	Castaic Creek	**Commerce Center Undercrossing**	County Adopted	0.25	5	1	5	3	Subdivision	1	NAT
CC5	Castaic Creek	**Commerce Center Bike Trail**	Subdivision	0.46	2	1	5	2	Subdivision	2	MUT
CC6	Castaic Creek	**Commerce Center - 126**	Subdivision	0.48	0	2	5	1	Subdivision	1	MUT
CD1	Castaic Dam	**Castaic Upper Parking**	CAMUTP	1.39	5	1	2	1	State Dept Water Resources	0	NAT
CD2	Castaic Dam	**Castaic Dam Crossing***	CAMUTP	1.76	8	1	4	2	State Dept Water Resources	0	NAT
CD3	Castaic Dam	**Lake Hughes East**	County Adopted	1.60	10	2	0	0	State Dept Water Resources	0	ROW
CE1	Cliffie Stone Extension	**San Francisquito Wash - Upper**	County Adopted	0.63	2	2	14	9	Private	0	NAT
CE2	Cliffie Stone Extension	**Tesoro Del Valle - SF Wash**	County Adopted	0.52	2	1	3	3	Subdivision	0	NAT
CE3	Cliffie Stone Extension	**San Francisquito Wash - Lower**	County Adopted	0.55	2	1	5	4	Private	0	NAT
CE4	Cliffie Stone Extension	**Lady Linda**	CAMUTP	0.13	2	1	1	1	Private	0	NAT
CE5	Cliffie Stone Extension	**Cliffie Stone-From Lady Linda-Low Ridge**	County Adopted - Subdivision	0.53	2	1	1	1	Private	0	ROW
CE6	Cliffie Stone Extension	**Cliffie Stone-From Lowridge-Tesoro**	Subdivision	0.26	2	1	3	3	Subdivision	0	ROW
CE7	Cliffie Stone Extension	**North Park - Cliffie Stone Extension**	County Adopted - Subdivision	0.62	4	3	7	3	Conservancy/Trust	0	NAT
CE8	Cliffie Stone Extension	**North Park Trail Connector**	CAMUTP	0.08	0	3	3	3	Private	0	NAT
CL1	Charlie Canyon	**Charlie Canyon Road**	County Adopted	3.61	12	3	17	14	Private	0	NAT
CL2	Charlie Canyon	**Charlie Canyon - Tesoro Del Valle**	County Adopted - Subdivision	0.37	5	1	4	3	Subdivision	0	NAT
CL3	Charlie Canyon	**San Francisquito connection**	County Adopted	0.16	5	1	1	1	Private	0	NAT
CO1	Chiquito Canyon	**Chiquito Creek**	CAMUTP	1.39	5	7	5	2	Private	3	NAT
CO2	Chiquito Canyon	**Jackson St**	County Adopted	0.21	2	1	0	0	Private	0	ROW
CO3	Chiquito Canyon	**Chiquito Canyon and Creek - South**	County Adopted	1.04	4	1	3	2	Private	1	NAT
CO4	Chiquito Canyon	**Chiquito Canyon and Creek - North**	CAMUTP	1.05	7	3	4	2	Subdivision	4	MUT
CS1	Cliffie Stone	**Cliffie Stone - San Francisquito Motorway**	CAMUTP	0.68	13	2	5	2	Subdivision	1	NAT
CS2	Cliffie Stone	**Cliffie Stone Trail (Tesoro)**	Existing	1.16	8	4	65	58	Subdivision	0	EXS
CS3	Cliffie Stone	**Cliffie Stone Trail (San Francisquito)**	Existing	1.73	3	4	8	4	Private	1	EXS
EF1	Elderberry Forebay	**Forebay Connection**	CAMUTP	4.76	5	2	6	2	State Dept Water Resources	0	NAT
EF2	Elderberry Forebay	**Forebay-Limit 2**	CAMUTP	0.81	3	1	2	1	State Dept Water Resources	0	NAT
EF3	Elderberry Forebay	**Forebay-Limit 1**	CAMUTP	0.72	3	1	3	2	State Dept Water Resources	0	NAT
EF4	Elderberry Forebay	**Northern Limit**	County Adopted	4.57	3	2	7	2	State Dept Water Resources	0	NAT
HC1	Hasley Canyon	**Hasley-Santa Felicia**	CAMUTP	3.48	8	1	12	9	Private	0	NAT
HC2	Hasley Canyon	**Hasley-Claremont**	CAMUTP	0.70	5	0	5	4	Subdivision	0	NAT
HC3	Hasley Canyon	**Hasley Canyon End**	County Adopted	0.16	1	0	2	2	Private	0	NAT
HC4	Hasley Canyon	**Hasley Road West**	County Adopted	0.33	3	0	0	0	Private	0	ROW
HC5	Hasley Canyon	**Hasley Road East**	CAMUTP	0.57	4	0	0	0	Private	0	ROW
HC6	Hasley Canyon	**Hasley Creek**	County Adopted	0.26	2	0	5	5	Private	1	NAT
HC7	Hasley Canyon	**Hasley-Los Valles**	County Adopted	0.56	6	3	2	2	Subdivision	1	MUT
HC8	Hasley Canyon	**Hasley Canyon Trail**	Existing	1.68	12	5	17	8	Subdivision	2	EXS
HC9	Hasley Canyon	**Hasley-Commerce Center**	County Adopted	0.21	3	3	2	2	Private	0	ROW
HC10	Hasley Canyon	**Commerce Center NW**	County Adopted - Subdivision	0.61	6	2	1	1	Subdivision	1	MUT

***Trail includes a segment designated "For Special Event Use Only" dented by dashed line (CD2)**

B6

Los Angeles LADWP Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

July 27, 2016

Mr. Frank Moreno
Departmental Facilities Planner II
County of Los Angeles
Department of Parks and Recreation
510 South Vermont Avenue
Los Angeles, CA 90020

Dear Mr. Moreno:

Subject: Comments from the Los Angeles Department of Water and Power Regarding the Castaic Area Multi-Use Trails Plan

On May 18, 2016, Mr. Anton Sy of the Los Angeles Department of Water and Power (LADWP) attended a community meeting held at Castaic Middle School to participate in the Notice of Intent to Adopt a Mitigated Negative Declaration for the Proposed Castaic Area Multi-Use Trails Plan Project. The County of Los Angeles Department of Parks and Recreation (DPR) hosted this event. LADWP met with DPR staff and consultants and expressed safety concerns regarding proposed trails in the immediate vicinity of Elderberry Forebay – an integral part of the Castaic Power Plant -- along the western shoreline of Elderberry Forebay and Castaic Lake, and along the vicinity of Castaic Dam.

1. LADWP requests the County of Los Angeles DRP to remove proposed trails EF1, EF2, EF3, and EF4 (see attached) from the project because of the following grave safety and security concerns: 1

   - The Castaic Power Plant facility is an actively operating pumped-storage hydroelectric generating station. The Elderberry Forebay and the Elderberry Forebay Dam are critical components of Castaic Power Plant. Daily operation of Castaic Power Plant can result in significant fluctuations in water levels of the Elderberry Forebay (up to 25 feet per day). As a result, access to the

Castaic Power Plant facility is restricted to authorized personnel only due to the following safety-related circumstances: 1

- When the plant is operating in a generating mode, people near the shoreline of the forebay may find themselves drawn into the middle of the waterbody and get inundated within a short period of time resulting in serious safety and liability risks.

- Conversely, when the plant is operating in a pumping mode, people in contact with the forebay may find themselves sucked into the middle of the waterbody or intake structures due to the powerful pumps.

The foregoing scenarios pose serious life-threatening safety risks to people who are not trained, qualified, and authorized to work at an active hydroelectric generating station. 2

- The Castaic Power Plant facility is subject to mandatory security requirements pursuant to the North American Reliability Corporation (NERC) standards. Violations of Reliability Standards can result in financial penalties of up to $1 million per day per violation. As a result, access to the grounds of Castaic Power Plant facility is restricted only to authorized personnel with security clearances. Open or unsanctioned access to the Castaic Power Plant facility will compromise the security and operation of the facility and will conceivably result in non-compliance enforcement action(s) by federal regulating agencies.

- The Castaic Power Plant facility is required to meet LADWP's corporate security planning requirements. As a result, access to areas around the powerhouse, the Elderberry Forebay, and the Elderberry Forebay Dam is highly restricted to ensure proper, reliable, and safe operation of the facility.

2. LADWP requests the County of Los Angeles DPR to relocate proposed trails LW1, LW2, LW3, CD1, CD2, and CD3 (enclosed) because of the following safety and security concern: 3

   - The proposed trails are in the vicinity of LADWP power transmission lines that fall under the scope of NERC. For safety reasons, the proposed trails cannot be within 100 feet of the edge or boundaries of transmission line right-of-way. The transmission line right-of-way allows LADWP to keep the area clear of any trees or other obstructions that may interfere with the right to operate the lines, perform maintenance or place additional lines on the right-of-way. Access to this right-of-way is restricted and must always remain open to allow LADWP and its equipment access to the lines and transmission structures.

Furthermore, LADWP is in agreement with the various safety and security concerns detailed in a letter from Ms. Sheree Edwards of the State of California, Department of Water Resources to Mr. Zachary Likins of the County of Los Angeles DPR, dated March 24, 2016. 4

As a public agency dedicated to provide safe, reliable, and cost-effective water and power services to the City of Los Angeles, LADWP supports the public benefits of the proposed Castaic Area Multi-Use Trails Plan as long as the project does not interfere with or threaten the safety, security, reliability, and operation of the Castaic Power Plant facility. To that end, we earnestly ask your office to consider our requests and make the necessary adjustments to the proposed project. 5

If you have any questions, please contact me at (213) 367-2525 or at Simon.Zewdu@ladwp.com.

Sincerely,

Simon Zewdu
Manager of Strategic Initiatives
Power Planning and Development

AS:cw
c: Mr. Anton Sy

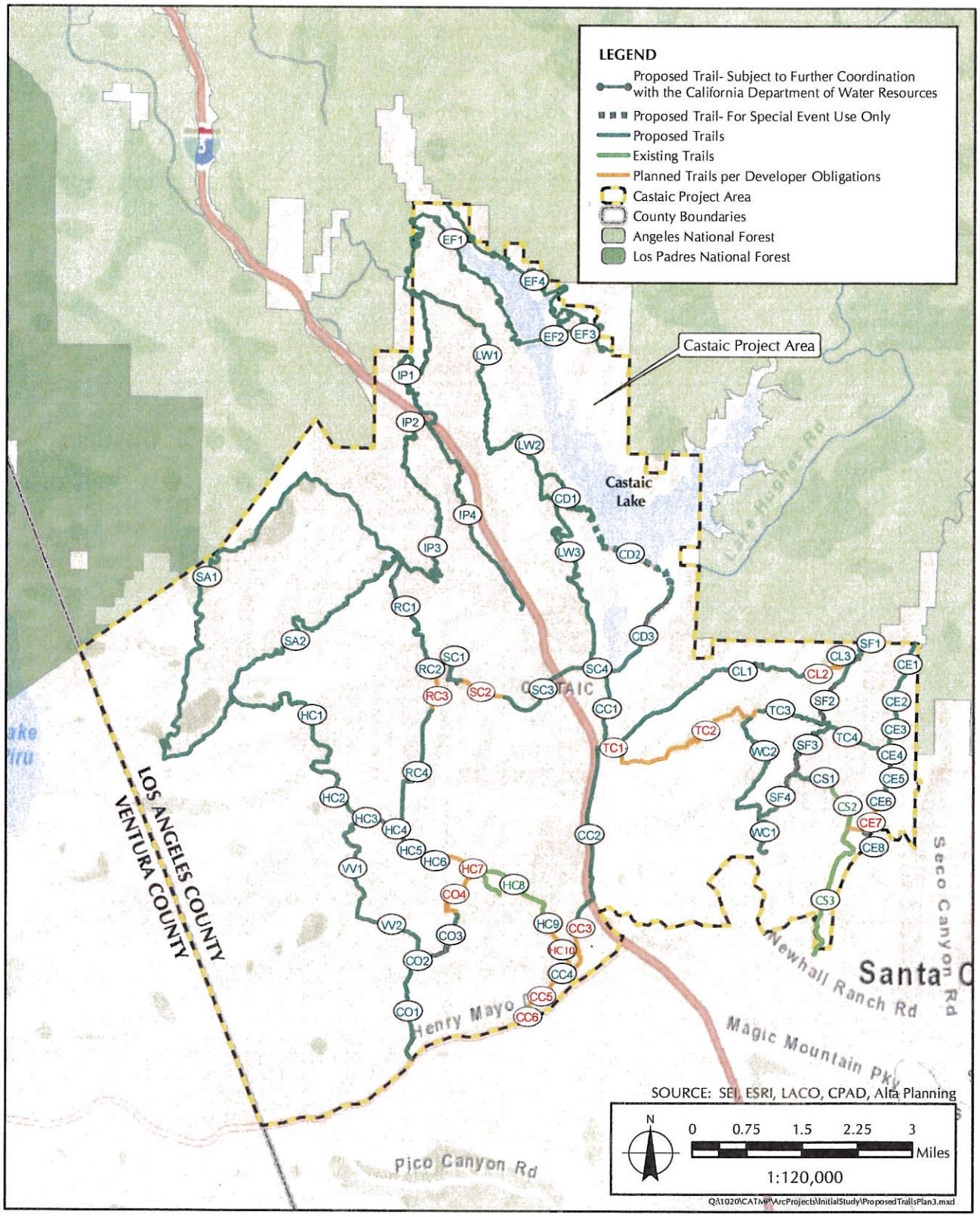


FIGURE 1.9-1

Proposed Trails Plan

C. June 17, 2016 Agency Meeting Comments:

C1 Los Angeles County Fire Department (LACFD):

1. LACFD Question: Any follow up comment re: Del Valle property?
    a. DPR Answer: Document was pre-reviewed by Chief Lewis, then elevated (no additional comments received after Chief Lewis).

2. LACFD Question: Emergency response & access?
    a. DPR Answer: Addressed with trail marker numbering system (identify location for emergency response).

3. LACFD Question: Any public info boards with flyers notification re: narrow trails/cliffs?
    a. DPR Answer: Design consistent with trails plan; use appropriate scope & design to avoid hazardous conditions. Also at access points, boards identifying trail conditions & type. Signage program to be installed this summer. Caution signs (e.g., cliff), direction to website (which has alerts for fire danger, mudslides, rattlesnakes).

4. LACFD Question: If emergency response, opportunity for DPR to watch responses (types of incidents)? – Request for reoccurring reporting.
    a. DPR Answer: DPR concurred in the benefits of interdepartmental communication. It was agreed that this was a broader policy issue, not necessarily tied to the proposed project that should be elevated to DPR management for consideration. *County Trails Manual*[1] recommends avoiding the design of excessively steep trails, providing adequate emergency access, and minimizing creation of unnecessarily dangerous conditions (such as turns with little or no visibility). DPR will evaluate each trail segment proposed for construction for consistency with the *County Trails Manual*.

5. LACFD Question: What type of information is provided on the County Trails Website related to safety and trails conditions?[2]
    a. DPR Answer: The County provides trail users with information related to safety and also provides information regarding what to do in case of ticks, rattlesnakes, and poison oak. This information is also included on the back of printable maps.

6. LACFD Question: Rowher Flats discussion re: OHV accidents?
    a. DPR Answer: DPR (Robert Ettleman) is the lead for OHV recreation opportunities. The proposed project does not include OHV use.

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[1] Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

[2] Available at: https://trails.lacounty.gov/

C2 USDA Forest Service (USFS):

1. USFS Question: Master sign plan independent effort?
    a. DPR Answer: Yes, countywide master plan for identification, regulatory, cautionary, carsonite mileage markers, potential development of app.

2. USFS Question: Timeframe for signage program?
    a. DPR answer: Will be installed in Fifth Supervisorial District by end of summer; need contractors.

3. USFS Question: Would it apply countywide [by end of summer]?
    a. DPR answer: First District 5, then 1, then 4, for all new projects.

4. USFS Question: Available on website?
    a. DPR Answer: DPR to send signage program to USFS.

5. USFS Question: Did you look at separated trail uses?
    a. DPR Answer: All regional trails are multiuse.

6. USFS Question: Users need to get along consistent with federal lands.
    a. DPR Answer: Emphasis on bike skills park for steep, fast trail opportunities for community in addition to the multiuse trails. Working closely with mountain biking and equestrian communities to self-regulate with signage & education, self-policing users.

7. USFS Question: To what extent outside boundary? Did you consider adjacent land use planning?
    a. DPR Answer: Reached out to USFS before CEQA, transition considerations; no significant impacts would not accelerate use or prevent use in forest.

8. USFS Question: No quantified user increase?
    a. DPR Answer: Looked at existing population and ability of recreational resources to absorb use (enough resources). Less than significant findings for recreation because existing deficit and anticipated additional recreation needs with population growth. Plan anticipated to support residents (used SCAG population projections).
    b. Sapphos Answer: Mechanisms for trails mainly (1) subdivision entitlement requiring dedication of trails and (2) private property owners can donate or provide easements.

C3 City of Santa Clarita

1. City is acquiring land (opportunities to connect trails to proposed segment TC1).
   City of Santa Clarita to send Alta/DPR/Sapphos updated trails map (Attachment 4, *Parcel Map from City of Santa Clarita re: Trail Planning Opportunity*).
   Please add City-proposed trails in study area near TC1.

C4 USFS

1. Sapphos received one comment card during the workshop (Attachment 5, *Los Angeles County Fire Department Comment Card*).

C5 County of Los Angeles Department of Regional Planning

1. Given the pending land transfer of a portion of the Santa Felicia SEA, has DPR had the opportunity to review the proposed project with TPL? DPR responded that there has been ongoing coordination regarding the status of the land transfer and that additional efforts will be made to review the proposed project with TPL, prior to consideration by the County Board of Supervisors.

D1

June 6, 2016

To Whom It May Concern:

The Castaic Multi Use Trails Plan is a great idea how ever I think there are some concerns that many people, which own property, near these paths have and should be considered. We happen to live by a location where you are looking to put a main trail head. There is no real extra space in this area for it. Your maps are truly not that great to see actual locations of where you are planning on putting these trails. The location looks like Del Valle Park is where the main trail head is going to be put in. This is not a good location as the dirt road that is there is how 4 families are able to get to there homes and is extra parking for the park when there are events going on. This would create way too much traffic and parking issues. It might be a good idea to look into maybe making the trail head up the road a bit where a new housing development is going in. Maybe it could be worked into the plans, since these homes are going to be big one acre parcels and supposedly part of the natural conservancy. Being a person that uses hiking trails I know the shear amount of car these trails bring in and this spot just would not be able to handle it. 1

It looks like the path will be going up Sloan Canyon. Not sure how you are going to incorporate that with the road that is already in existence. If these are going to be multi use paths that allow horses the paths need to be dirt as it is not safe for horses to be on black top. As an equestrian rider that has to ride on black top to get to riding locations it's just not a very safe footing as they can slip much easier. 2

My other concern is how are you going to cross the freeway? Another one concern is why is it that the equestrian trail heads are all on the east side? There are many riders that are on the west side of the freeway too that will be using these trails. There should be one on the west side as riders will hopefully be able to ride from east to west and vise versa. There should also be trails on the west side that lope around so if we do not want to cross the freeway we can go a different direction. 3 4

Some food for thought is that a way to help maintain the trails is to look for local groups that will be using the trails. These groups should get together a few times a year to help maintain these trails. Or you could also make a day where the community came together to do the same thing. 5

Thank you for allowing me to let you know my concerns. I think this is a great idea and that a bit more planning and thought need to go into it. 6

Thank you again,

Casey Allen
805-275-6810

D2

From: Laura Male
To: Laura Male
Subject: FW: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental Document
Date: Thursday, June 02, 2016 9:39:31 AM

From: asim altamimi [mailto:santamonican@yahoo.com]
Sent: Friday, May 20, 2016 12:03 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Cc: Nadida Altamimi <nadida.altamimi@gmail.com>; Moise Monasebian <moisemona@verizon.net>
Subject: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental Document

County of Los Angeles Department of Parks and Recreation
Attn: Julie Yom, Park Planner
510 South Vermont Avenue, Los Angeles, California 90020
Email: jyom@parks.lacounty.gov

Dear Miss Yom

Subject property: 160 acres 3247-018-038 1

Asim Altamimi et al are the owners of 160 acres of land in the Project Area.
The APN is 3247-018-038.
It appears that part of the projected trail IP2 to IP3 is through subject property.
This fact is not mentioned in the EIR.
The owners of subject land have not been contacted by the County of Los Angeles, nor have the owners of subject land given permission for the use of their land.

Please advise.

Asim Altamimi,
Real Estate Broker

2420 Cheney,
Tustin, CA, USA 92782
Mobile: (310) 923-3919
Home: (949) 396-1876
CA Broker Lic # 00530373

mailto:santamonican@yahoo.com

D3

From: asim altamimi
To: Julie Yom
Cc: Nadida Altamimi; Moise Monasebian; Zachary Likins; Frank Moreno; Olga Ruano; Marie Campbell; Laura Male
Subject: Re: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental Document
Date: Sunday, May 29, 2016 1:20:22 PM

Ms Yom
Thank you for your clarification.
Please let me know who will be contacting me in regards to this matter.
Thank you.

1

Asim Altamimi,
Real Estate Broker
2420 Cheney,
Tustin, CA, USA 92782
Mobile: (310) 923-3919
Home: (949) 396-1876
CA Broker Lic # 00530373
mailto:santamonican@yahoo.com

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From: Julie Yom <jyom@parks.lacounty.gov>
To: asim altamimi <santamonican@yahoo.com>
Cc: Nadida Altamimi <nadida.altamimi@gmail.com>; Moise Monasebian <moisemona@verizon.net>; Zachary T. Likins <ZLikins@parks.lacounty.gov>; Frank Moreno <fmoreno@parks.lacounty.gov>; Olga Ruano <ORuano@parks.lacounty.gov>; "mcampbell@sapphosenvironmental.com" <mcampbell@sapphosenvironmental.com>; "lmale@sapphosenvironmental.com" <lmale@sapphosenvironmental.com>; "LLin@sapphosenvironmental.com." <LLin@sapphosenvironmental.com.>
Sent: Wednesday, May 25, 2016 7:42 AM
Subject: RE: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental Document

Mr. Altamimi,

In regards to the response I sent yesterday, I would like to clarify that the County is not proposing to develop without the property owner's consent.

Please let me know if you have any questions.

Sincerely,

JULIE YOM, AICP
County of Los Angeles
Department of Parks and Recreation | Planning Division
510 South Vermont Avenue
Los Angeles, CA 90020

Tel. 213) 351-5127 | Fax 213) 639-3959
jyom@parks.lacounty.gov
Please note that our offices are closed on Fridays.

From: Julie Yom
Sent: Tuesday, May 24, 2016 8:10 AM
To: 'asim altamimi' <santamonican@yahoo.com>
Cc: Nadida Altamimi <nadida.altamimi@gmail.com>; Moise Monasebian <moisemona@verizon.net>; Zachary T. Likins <ZLikins@parks.lacounty.gov>; Frank Moreno <fmoreno@parks.lacounty.gov>; Olga Ruano <ORuano@parks.lacounty.gov>; 'mcampbell@sapphosenvironmental.com' <mcampbell@sapphosenvironmental.com>; 'lmale@sapphosenvironmental.com' <lmale@sapphosenvironmental.com>; 'LLin@sapphosenvironmental.com.' <LLin@sapphosenvironmental.com.>
Subject: RE: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental Document

Mr. Altamimi,

Thank you for your interest in the Castaic Area Multi-Use Trails Plan (Castaic Trails Plan). Please see the attached map that shows the boundary of your property in relation to the newly proposed trails in draft Castaic Trails Plan.

As the map illustrates, the proposed Interstate Paintball Trail crosses a parcel you own, APN 3247-018-038. Please note that the proposed Interstate Paintball Trail is conceptual in nature and the location is subject to adjustment should development of the trail be pursued. Additionally, if the owner of the property were to grant a trail easement to the County, we would work collaboratively with them to find a route that works for both parties.

Let us know if you have any further questions or concerns. Please note that it's best to reply all to this email so we can include any additional comments you might have.

Sincerely,

JULIE YOM, AICP
County of Los Angeles
Department of Parks and Recreation | Planning Division
510 South Vermont Avenue
Los Angeles, CA 90020
Tel. 213) 351-5127 | Fax 213) 639-3959
jyom@parks.lacounty.gov
Please note that our offices are closed on Fridays.

From: asim altamimi [mailto:santamonican@yahoo.com]
Sent: Friday, May 20, 2016 12:03 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Cc: Nadida Altamimi <nadida.altamimi@gmail.com>; Moise Monasebian <moisemona@verizon.net>
Subject: Castaic Trails Project - Castaic Area Multi-Use Plan Environmental

Document

County of Los Angeles Department of Parks and Recreation
Attn: Julie Yom, Park Planner
510 South Vermont Avenue, Los Angeles, California 90020
Email: jyom@parks.lacounty.gov

Dear Miss Yom

Subject property: 160 acres 3247-018-038

Asim Altamimi et al are the owners of 160 acres of land in the Project Area.
The APN is 3247-018-038.
It appears that part of the projected trail IP2 to IP3 is through subject property.
This fact is not mentioned in the EIR.
The owners of subject land have not been contacted by the County of
Los Angeles, nor have the owners of subject land given permission
for the use of their land.

Please advise.

Asim Altamimi,
Real Estate Broker

2420 Cheney,
Tustin, CA, USA 92782
Mobile: (310) 923-3919
Home: (949) 396-1876
CA Broker Lic # 00530373

mailto:santamonican@yahoo.com

D4

From: Laura Male
To: Laura Male
Subject: FW: Castaic multi use trail
Date: Thursday, June 02, 2016 9:31:42 AM
Attachments: Notice of Intent_Castaic Area Multi-Use Trails Plan Project_2016 05 13.pdf

---

-----Original Message-----
From: Brandan Blankenship [mailto:bablankenship@my.canyons.edu]
Sent: Wednesday, May 11, 2016 3:08 PM
To: Zachary T. Likins <ZLikins@parks.lacounty.gov>
Subject: Castaic multi use trail

Good Afternoon,

As a property owner in this designated map, I have yet to receive a notification of the intended project. Their are many property owners that have not been notified. What course of action do we take in order to present our cause. This will increase the danger of fire in the area. Water used to fight fires comes from personal water tanks filled by ground water wells. Insurance cost will be raised due to the encouragement of public access, raising the risk of fire and theft. Our privacy, happiness, and safety are put at risk because we have been ill-informed. Land owners are constantly evacuating poachers, garbage dumpers, and thieves from our properties. Live stalk, wildlife migration, agriculture, oil well leases will all be affected negatively. We will be contacting the local fire department and local sheriffs department concerning this project as well. Thank you for your time.

1

2

Brandan Blankenship

Sent from my iPad

D5

From: Laura Male
To: Laura Male
Subject: FW: In Favor of Castaic Area Multi-Use Trails plan
Date: Thursday, June 02, 2016 9:39:07 AM

-----Original Message-----
From: Brian Boorsma [mailto:boorsma.brian@gmail.com]
Sent: Thursday, May 19, 2016 1:57 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: In Favor of Castaic Area Multi-Use Trails plan

Hello Ms. Yom,
I support the plan for the Multi-Use trails. Thank you to everyone who is working on creating this fantastic recreation space for our community. 1
- Brian Boorsma

D6

From: Laura Male
To: Laura Male
Subject: FW: Castaic Area Multi-Use Plan
Date: Thursday, June 02, 2016 9:35:21 AM

-----Original Message-----
From: Kevin Eng [mailto:kevin_eng@att.net]
Sent: Thursday, May 19, 2016 9:22 AM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: Castaic Area Multi-Use Plan

Dear Ms. Yom, I wanted to express my support for the Castaic Area Multi Use Plan which has been drafted. I believe this is a fair and well thought out plan which addresses the concerns and interests of many. 1

I sincerely hope this plan is adopted

Kevin Eng
Sent from my iPhone

D7

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
28900 Hillcrest Pkwy, Castaic, CA 91384
Wednesday, May 18, 2016
6:00 p.m. – 8:00 p.m.

Please use this form to make comments regarding the Castaic Area Multi-Use Trails Plan and the Proposed Mitigated Negative Declaration (MND). The County is soliciting comments from the public and agencies. You may submit your comments at this community workshop, by U.S. mail, or e-mail to the Los Angeles County Department of Parks and Recreation (contact information listed below). Written comments will be accepted until **June 13, 2016.**

Name: ROY & ROBIN GIST

Organization (if applicable): HOMEOWNER

Address: 31019 HASLEY CYN RD.

City/State/ZIP: CASTAIC, CAL 91384

Phone: 661-607-1930 / 661-212-5231

Email: OGBIRDIE@AOL.COM.
ROY.GIST@AOL.COM.

Comments:

I FEEL THIS PROJECT WILL CAUSE ADDITIONAL VADALISM & TRESSPASSING IN OUR AREA. 1

AND FIRE HAZARDS IN OUR AREA WILL INCREASE WITH ADDITIONAL HUMAN TRAFFIC. 2

THE CANYON DOES NOT HAVE THE ROAD CAPACITY FOR THE ADDTIONAL TRAFFIC & CARS. WE ARE 3

AGAINST THIS PROJECT. 4

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

D8

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
28900 Hillcrest Pkwy, Castaic, CA 91384
Wednesday, May 18, 2016
6:00 p.m. – 8:00 p.m.

Please use this form to make comments regarding the Castaic Area Multi-Use Trails Plan and the Proposed Mitigated Negative Declaration (MND). The County is soliciting comments from the public and agencies. You may submit your comments at this community workshop, by U.S. mail, or e-mail to the Los Angeles County Department of Parks and Recreation (contact information listed below). Written comments will be accepted until **June 13, 2016.**

Name: Ronnie Holguin

Organization (if applicable): Gilmour Ranch

Address: 31025 Hasley Canyon Rd.

City/State/ZIP: Castaic, CA, 91384

Phone: 858-414-1114

Email: ronnieholguin@gmail.com

Comments: I believe the trail is going to be going through my front yard and I believe it's unsafe for me with my audio engineering equipment and random people walking through. There is also lots of wildlife that would be dangerous towards innocent people. Trails would be too easy for kids and sketchy people to veer off and start poking around peoples other property. This plan sounds like a recipe for disaster. Find a new spot.

1

2

3

4

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

D9

From: Laura Male
To: Laura Male
Subject: FW: Castaic Multi-use Trail Plan
Date: Thursday, June 02, 2016 9:33:39 AM

From: Christine Kelly [mailto:kelly.home@roadrunner.com]
Sent: Monday, May 16, 2016 8:48 AM
To: Olga Ruano <ORuano@parks.lacounty.gov>
Cc: Janine Greenhill <jlgreenhill@yahoo.com>; 'William Kelly' <williamk@ka-mg.com>; christinek@ka-mg.com
Subject: Castaic Multi-use Trail Plan

Thank you for the notice for the MND for the Trail Plan. The maps are difficult to read because of the scale of the maps and I was not able to determine how to access the parcel data. Could you please tell me if the following parcels are being proposed for any trails or other amenities: 1

3247-028-003, 3247-028-004, 3247-028-014, and 3247-028-017

These properties are on Hasley Canyon Road, west of the publicly owned road and east of the Hathaway Ranch.

Thank you,

Christine Kelly

D10

From: Laura Male
To: Laura Male
Subject: FW: Castaic Area Multi-Use Trails Plan
Date: Thursday, June 02, 2016 9:43:08 AM

---------- Forwarded message ----------
From: **Pam Lampman** <plampman@galpin.com>
Date: Tue, May 31, 2016 at 3:45 PM
Subject: Castaic Area Multi-Use Trails Plan
To: gregmaher@altaplanning.com
Cc: Pamela Lampman <pamela_lampman@yahoo.com>

Hello Greg,

I spoke with you back on May 18 about the Castaic Area Mult-Use Trail Plan and my concerns on how this was going to effect my family's ranch. You told me to send you the parcel numbers so you could look into this.
Here is a list of the parcel numbers: 1

APN: 3247-029-008 40 acres
APN: 3247-027-010 40 acres
APN: 3247-029-009 40 acres
APN: 3247-029-003 40 acres
APN: 3247-029-007 40 acres
APN: 3247-029-012 80 acres
APN: 3247-027-005 40 acres
APN: 3247-027-011 40 acres
APN: 3247-029-010 120acres

I am being told that this trail is going thru the middle of our property. Can you verify this for me?

Thank you for your help,

Pam Lampman

--

Pam Lampman

Galpin Warranty Manager

Tel (818)922-3883

Fax (818)922-3880

D11

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
28900 Hillcrest Pkwy, Castaic, CA 91384
Wednesday, May 18, 2016
6:00 p.m. – 8:00 p.m.

Please use this form to make comments regarding the Castaic Area Multi-Use Trails Plan and the Proposed Mitigated Negative Declaration (MND). The County is soliciting comments from the public and agencies. You may submit your comments at this community workshop, by U.S. mail, or e-mail to the Los Angeles County Department of Parks and Recreation (contact information listed below). Written comments will be accepted until **June 13, 2016**.

Name: Pamela Lampman

Organization (if applicable): Gilmore Ranch

Address: 31625 Hasley Canyon Rd.

City/State/ZIP: Castaic, Calif, 91384

Phone: 661-755-9483

Email: pamela_lampman@yahoo.com

Comments: I am against the Multi-Use Trails plan, you are intruding on private property. My family homsteaded in Hasley Canyon in 1894. We have cattle, horse's and oil fields here with oil rigs runny daily which causes unsafe conditions. Horse and bike are not a good combinations. 1

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

We have enough problems with people intruding and steeling, We dont want the liability of fodlish people on our land.

D12

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

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Name: Zev Lerner

Organization (if applicable): Gilmore Ranch

Address: 31075 Hasley Canyon Rd

City/State/ZIP: Castaic CA, 91384

Phone: (661) 822-8950

Email: lerner.zev@gmail.com

Comments: This plan creates a massive liability for the homeowners who's property would receive increased trespassing, stealing, vandalism, among other issues from the trail users and the creation of the trail. 1

We were never notified and are extremely opposed to this Plan 2

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

D13

From: Laura Male
To: Laura Male
Subject: FW: The proposal for multi-use trails in Castaic
Date: Thursday, June 02, 2016 9:35:46 AM

From: C-Tekie [mailto:ctekie@gmail.com]
Sent: Thursday, May 19, 2016 8:38 AM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: RE: The proposal for multi-use trails in Castaic

I am in favor of this proposal. This is exactly what the community needs. 1

Regards,

Ben Norman

http://parks.lacounty.gov/wps/portal/dpr/newsroom/EnvironmentalDocuments/?1dmy&page=dept.lac.dpr.home.newsroom.detail.hidden&urile=wcm%3Apath%3A%2Fdpr+content%2Fdpr+site%2Fhome%2Fnewsroom%2Fenvironmental+documents%2Fdetail+content%2Fcastaic+area+multi-use+trails+plan

D14

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
28900 Hillcrest Pkwy, Castaic, CA 91384
Wednesday, May 18, 2016
6:00 p.m. – 8:00 p.m.

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Name:	LISA PARK (OWNER) AND	LYNN WILSON (BROKER)
Organization (if applicable):		
Address:	9101 Esperanza	
City/State/ZIP:	Irvine, CA 92618	
Phone:	(949) 751-7544	(661) 305-7228
Email:	lisapark0111@gmail.com	LYNNWILSON4REA@gmail.com

Comments: - WE WOULD LIKE DETAILED MAPS FOR THE FOLLOWING APN: 3244-024-012 1
3244-024-018
2865-005-001

- WE WOULD BE INTERESTED IN SELLING OUR LAND TO BE INCORPORATED INTO THE PLAN, FOR USE AS A PARK, LOT, OR OPEN SPACE. 2

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

- HOWEVER, WE WOULD NOT BE AGREEABLE TO HAVING ANY TRAILS RUN THROUGH OR ADJACENT TO OUR LAND. 3
- ALSO, WE WOULD LIKE INFORMATION ON LIABILITY REGARDING 4

PUBLIC USE.

— THANK YOU

D15

From: Lisa Park
To: Zachary Likins
Cc: Frank Moreno; Olga Ruano; Marie Campbell; Laura Male; Lucy Lin; Michelle O"Connor; "Narine Hakobyan"
Subject: RE: Castaic Area Multi-Use Trails Plan
Date: Saturday, May 21, 2016 6:13:22 PM

Hi Zachary,

Thank you for sending me the map. I did notice the proposed Charlie Canyon Trail crosses one of our parcels. Although the Tapia Canyon Road trail is no longer being considered as part of the multi-use plan, this is main trail that is used by almost all bikers and hikers trying to reach the Charlie Canyon Trail. Tapia Canyon Road is a main point of entry from the street/highway from which vehicles are parked and users access the Charlie Canyon Trail. We feel that if the Charlie Canyon Trail will be part of the part, the Tapia Canyon trail will inevitably be used with our without our permission once the trails are opened to the public. 1

We are extremely considered about the potential liability issues that may arise due to public use of these trails on our property. Because of these concerns, we would only be open to selling our property to the County for use of the trails to the public. We have listed the these parcels for sale and are working buyers at this time. 2

Please keep us notified of any changes or updates to the proposed plan. 3

Thank you,
Lisa Park

From: Zachary T. Likins [mailto:ZLikins@parks.lacounty.gov]
Sent: Thursday, May 19, 2016 10:09 AM
To: lisapark0111@gmail.com
Cc: Frank Moreno <fmoreno@parks.lacounty.gov>; Olga Ruano <ORuano@parks.lacounty.gov>; 'mcampbell@sapphosenvironmental.com' <mcampbell@sapphosenvironmental.com>; Laura Male <lmale@sapphosenvironmental.com>; Lucy Lin <LLin@sapphosenvironmental.com>; Michelle O'Connor <MOconnor@parks.lacounty.gov>; Narine Hakobyan <NHakobyan@parks.lacounty.gov>
Subject: Castaic Area Multi-Use Trails Plan

Good morning Lisa,

Thank you for participating in last night's community meeting regarding the Castaic Area Multi-Use Trails Plan (Castaic Trails Plan). Please see the attached map that shows the boundary of your property in relation to previously adopted trails (2007) and the new draft Castaic Trails Plan.

As the map illustrates, the proposed Charlie Canyon Trail crosses one of the parcels you own, APN 3244-023-018. No new trails are being proposed as part of the Castaic Trails Plan, however the proposed Charlie Canyon Trail that was adopted as part of the County's General Plan in 2007 (Parks and Recreation Element / Figure) remains in the same location. You can also see that the adopted

trail along Tapia Canyon Road is no longer being considered as part of this plan, and will likely be removed from the adopted trail network in the County's General Plan. The proposed Charlie Canyon Trail is conceptual in nature and subject to adjustment upon further review should development of the trail be pursued. Additionally, if a trail easement were granted to the County we would work collaboratively with you to find a route that works for both of us.

I understand you are considering selling your property to the County for trail, park, and/or open space purposes. I will work closely with our Land Management section to determine the County's interest in your property and the value it may add to our proposed trail network.

To avoid noticing issues for other projects in the future, I recommend you check your mailing address with the County Assessor and if outdated, submitting a request to change your mailing address here.

Let us know if you have any further questions or concerns. Please note that it's best to reply all to this email so we can include any additional comments you might have.

Zachary Likins
County of Los Angeles Department of Parks and Recreation | Trail Planner
510 South Vermont Ave, Los Angeles, CA 90020 | trails.lacounty.gov
E: zlikins@parks.lacounty.gov | T: 213.351.5149 | F: 213.639.3959
Mon-Thu 6:30 am – 5:00 pm | *Please note that our office is closed on Fridays*

D16

From: Laura Male
To: Laura Male
Subject: FW: Castaic Area Multi-Use Trails Plan
Date: Thursday, June 02, 2016 9:29:28 AM

From: Linda Pyburn [mailto:pyburn.ll@gmail.com]
Sent: Tuesday, May 10, 2016 2:46 PM
To: Olga Ruano <ORuano@parks.lacounty.gov>; Zachary T. Likins <ZLikins@parks.lacounty.gov>
Subject: Castaic Area Multi-Use Trails Plan

I received the "Notice of Intent to Adopt... for the Castaic Area Multi-Use Trails Plan" in the mail. I have reviewed the CastaicProjectMap.pdf and it does not appear that our parcels are included. 1

Again, our property does not have safe access for hikers or bikers; we have honeybee locations throughout; it is fenced and gated; and it has never been used by hikers, bikers, or horseback riders, except for family, and, recently, motorcyclists who have been cutting fences and destroying property.

Please confirm that the following Oak Canyon parcels will remain closed to public access:

3247-028-007, 008, 009, 010
3247-035-003, 004
3247-036-010, 011, 020

I will be our unavailable during the response period and would like to ensure that the matter is satisfactorily addressed.

Thank you in advance for your review and response.

Linda

D17

From: pyburn.ll@gmail.com
To: Zachary Likins
Cc: Marie Campbell; Laura Male; Lucy Lin; Olga Ruano; Frank Moreno
Subject: Re: Castaic Area Multi-Use Trails Plan
Date: Tuesday, May 10, 2016 3:34:37 PM

Thank you so much for the prompt response. I have no additional questions or concerns as long as we remain off he proposed trails. 1
Best regards,
Linda

Sent from my iPhone

On May 10, 2016, at 3:29 PM, Zachary T. Likins <ZLikins@parks.lacounty.gov> wrote:

Good afternoon Linda,

Thank you for your interest in the Castaic Multi-use Trails Plan.

As a property owner located in or adjacent to the 70 square mile study area, you received notice of the intent to recommend adoption of a Mitigated Negative Declaration and present the Castaic Multi-use Trails Plan to the Board of Supervisors for consideration. **Please note that the specified parcels below are not located in the proposed trail alignment.**

Let us know if you have any further questions or concerns. Please note that it's best to reply all to this email so we can include any additional comments you might have as part of the written record.

Best,

Zachary Likins
County of Los Angeles Department of Parks and Recreation | Trail Planner
510 South Vermont Ave, Los Angeles, CA 90020 | trails.lacounty.gov
E: zlikins@parks.lacounty.gov | T: 213.351.5149 | F: 213.639.3959
Mon-Thu 6:30 am – 5:00 pm | *Please note that our office is closed on Fridays*

From: Linda Pyburn [mailto:pyburn.ll@gmail.com]
Sent: Tuesday, May 10, 2016 2:46 PM
To: Olga Ruano <ORuano@parks.lacounty.gov>; Zachary T. Likins

<ZLikins@parks.lacounty.gov>
Subject: Castaic Area Multi-Use Trails Plan

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Please confirm that the following Oak Canyon parcels will remain closed to public access:

3247-028-007, 008, 009, 010
3247-035-003, 004
3247-036-010, 011, 020

I will be our unavailable during the response period and would like to ensure that the matter is satisfactorily addressed.

Thank you in advance for your review and response.

Linda

D18

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
28900 Hillcrest Pkwy, Castaic, CA 91384
Wednesday, May 18, 2016
6:00 p.m. – 8:00 p.m.

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Name: KARL REINECKER

Organization (if applicable):

Address: 25643 TAPIA CYN RD.

City/State/ZIP: CASTAIC, CA 91384

Phone: 805-509-1045

Email: SKREINECKER@GOTSKY.COM (LOWER CASE)

Comments: #1 WHAT IS YOUR PLAN TO ACQUIRE NECESSARY PROPERTY FROM "UNWILLING SELLERS" 1

#2 WILL PLANNED TAPIA CYN TRAIL OVERLAY TAPIA CYN RD AS IT PRESENTLY EXIST. 2

#3 WHY? THIS IS A VERY EXPENSIVE PROJECT THAT BENEFITS VERY FEW. WHO/WHAT IS DRIVING THIS PROJECT? 3

#4 WHAT IS ESTIMATED COST OF TOTAL PROJECT? 4

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

D19

From: Laura Male
To: Laura Male
Subject: FW: Castaic Area Multi-Use Plan
Date: Thursday, June 02, 2016 9:36:02 AM

From: Bruce Saidi [mailto:bruce@visionsav.com]
Sent: Thursday, May 19, 2016 10:39 AM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: Castaic Area Multi-Use Plan

To Ms. Yom,

Please allow me to express my approval and support of the Castaic Area Multi-Use Plan. Although I reside in Woodland Hills, I belong to the SCV Bike group and make occasional rides in and around the Lake Castaic area. The on-going turmoil with Tapia Canyon Rd has left us rather bitter about future rides, but this movement looks very positive and uplifting. We hope to see expansion of the great Castaic area. 1

Thank you.

Bruce Saidi

D20

COMMENT SHEET
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Name: Manuel Santana 1992 Trust A.P.N.'s
Self ~~Organization~~ (if applicable): 3247-029-016 | 3247-034-004 | 3247-033-011 3247-034-021
Address: 25208 Wheeler Road
City/State/ZIP: Newhall, California 91321
Phone: 661-670-0042
Email: N/A

Comments: Not interested in having any type of trails thru or even close to our properties. Hikers do not seem to be able to stay on marked trails. Trails and liabilities are synonymous with one another. We have properties in different locations and if it isn't one entity threatening to trespass it is another. Presently I have National Park Services, Open Space with City of Santa Clarita, New Track and now Department of Parks and Recreation with County of Los Angeles. This seems to be a collaboration against private land owners with property rights. That's why we have National Parks, so that Hikers can walk to their hearts content! Thank you very much for your consideration. 1

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

06/12/2016 16:37 661--255-9677 FEDEX OFFICE 1905 PAGE 01

D21

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

Castaic Middle School – Multi-Purpose Room
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Name: Paul R. Santana A.P.N. #s 3247-029-016
~~Organization~~ Self (if applicable): 3247-034-004 | 3247-033-011 | 3247-034-021
Address: 25208 Wheeler Road
City/State/ZIP: Newhall, California 91321
Phone: 661-877-1141
Email: pauls1023@icloud.com

Comments: We have at present time four different entities asking for the right to trespass thru private property. Department of Parks and Recreation with Los Angeles County is just one entity asking or calaborating against private land owners to violate our property rights. With trespassers (Hikers) come liabilities. 1

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

D22

From:	Laura Male
To:	Laura Male
Subject:	FW: Intent to adopt MND for the proposed Castaic Area Multi - Use Trails Plan Project
Date:	Thursday, June 23, 2016 3:07:01 PM

From: rjselectricinc@aol.com [mailto:rjselectricinc@aol.com]
Sent: Monday, June 06, 2016 2:29 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: Intent to adopt MND for the proposed Castaic Area Multi - Use Trails Plan Project

To whom it may concern,

I am an owner of the property that connects Charlie Canyon to Tapia Canyon APN #3244-023-011. I have been an owner of this property for approximately 16 years. My comment to you is, I give no permission to the County of Los Angeles or to Los Angeles County Parks and Recreation, to in any way include my property in your Multi Use Plan. THIS IS PRIVATE PROPERTY. Please leave us out of your conversation and quit promoting our property as a place that the "public" can horse back ride, bicycle ride, and hike. 1

Thank You
Robert Sjoberg
(661) 810-3615

D23

From: Laura Male
To: Laura Male
Subject: RE: Proposed Castaic Area Multi-use Trails Plan Project
Date: Monday, May 09, 2016 4:17:16 PM

From: Janice Smalley [mailto:janicesmalley@att.net]
Sent: Monday, May 09, 2016 2:17 PM
To: Olga Ruano <ORuano@parks.lacounty.gov>
Subject: Proposed Castaic Area Multi-use Trails Plan Project

Sao Whom It May Concern:

I am a home owner in the Caustic area. I am thrilled with the purposed Multi-Use Trails Plan Project. Continue forward in its pursuit. 1

Hopefully all the information needed for this project to be approved will prove successful.

This citizen is backing the project. Thank you.

Sincerely,
Janice L. Smalley

C04 - C03

D24

COMMENT SHEET
Castaic Area Multi-Use Trails Plan
Community Meeting

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Name: Hunt Williams

Organization (if applicable): Sterling Ranch Estates project

Address: P.O. Box 681007

City/State/ZIP: Park City, UT. 84068

Phone: (435) 901-3488

Email: huntwilliams2002@yahoo.com

Comments: Great, Project! Plan to Link trails and encourage Residents to utilize & enjoy The outdoors. Important to Keep trails as natural as possibe and follow existing trail alignment with minimal improvements Less Cost & maintenance better!! 3 Ft. minimal Width is Excellent Idea! for Section C04-C03 Keep as natural as possible! Residents support natural trails!

1

2

Send Comments to: County of Los Angeles Department of Parks and Recreation
Attention: Ms. Julie Yom
Castaic Area Multi-Use Trails Plan Comments
510 South Vermont Avenue
Los Angeles, California 90020
jyom@parks.lacounty.gov
Fax: (213) 639-3959

M-Th 7:00 am – 5:30 pm *Please note our offices are closed on Fridays.*

From: Julie Yom
Sent: Monday, May 09, 2016 7:26 AM
To: Alex Zitser <azitser@att.net>
Cc: Olga Ruano <ORuano@parks.lacounty.gov>
Subject: RE: Castaic trails plan

Hi Alex,

Could you please provide ther project number for your project?
I've copied Olga Ruano in the Trails Planning section and she will be able to assist you.

Thank you.

JULIE YOM, AICP
County of Los Angeles
Department of Parks and Recreation | Planning Division
510 South Vermont Avenue
Los Angeles, CA 90020
Tel. 213) 351-5127 | Fax 213) 639-3959
jyom@parks.lacounty.gov
Please note that our offices are closed on Fridays.

From: Alex Zitser [mailto:azitser@att.net]
Sent: Saturday, May 07, 2016 12:21 PM
To: Julie Yom <jyom@parks.lacounty.gov>
Subject: Castaic trails plan

D25

Ms. Yom,

From the maps provided on your site we can't determine the exact streets/areas where new trails will go. 1

Our concern is with some sort of a "wild" trail that already exists near intersection of Seco Canyon Road & Hazel Street in Saugus (zip code 91390) near heavily residential areas of Mountain View Courtyards, Grace Church, and other developments. Mountain bikes revved during all hrs. of the day (or night) as it is.

If proposed trails will go into this residential area it will create more noise & inconvenience to residents & drive property values down.

Please advise or provide more detailed maps for residents to consider.

Respectfully,

Alexander F. & Larisa Zitser, homeowners.

D26

From: Laura Male
To: Laura Male
Subject: RE: Castaic trails plan
Date: Monday, May 09, 2016 4:12:57 PM

From: Alex Zitser [mailto:azitser@att.net]
Sent: Monday, May 09, 2016 10:30 AM
To: Olga Ruano <ORuano@parks.lacounty.gov>
Subject: Re: Castaic trails plan

Hi,
Appreciate your prompt response.

Yes, that's what we're referring to Castaic Multi-Use Trails Plan

image

Castaic Multi-Use Trails Plan
Castaic Multi-Use Trails Plan
View on www.castaicmultiusetr... Preview by Yahoo

Is it possible to ascertain from your end how close it will come to our area - Santa Clarita/Saugus, zip code 91390. Particular intersection: Seco Canyon Road & Hazel Street, particular development - Mountain View Courtyards, mailing address 28423 Seco Canyon Road.
We could not fine "project number" on your website, and we sited our concern in original email. 1

Thanks again,
A. & L Zitser.

On Monday, May 9, 2016 8:14 AM, Olga Ruano <ORuano@parks.lacounty.gov> wrote:

Good morning Alex,

Are you referring to the project website, http://www.castaicmultiusetrails.org?

Thanks,
Olga

Olga Ruano
County of Los Angeles | Department of Parks and Recreation|Planning Division|Trails Planning Section
(213) 351-5141 | oruano@parks.lacounty.gov

E

LAM 5/18/16

PROJECT DESCRIPTION & AESTHETICS

verbal:

- City of Santa Clarita - paying for open space
  Concerned people do not read no trespassing signs
  pit bull bite on trespasser on horse ranch → sued ranch owner
  Bouquet Canyon
  City of Santa Clarita open space not maintained
  Who will inherit comments
  A: No City of Santa Clarita property in Castaic Project Area
- When they build trail, are they only responsible for what is on trail?
  A: County would have concern for easement
  Complaints need to be directed to County Sheriff
  Not noticed
  Are they going to make maps more detailed?
- Once trail made, who will maintain it? Warning @ City of Santa Clarita + fees, parking at Castaic lake SRA concern
- Original slide orange rectangle? Concerned about Harley canyon
  A: Greg to look @ plan
- Sympathize with issues. Look forward to having trails b/c highways are hazardous. Good for community to have trails
- Infringing on others property - posted - hiking & motorbiking
  Worried trails plan will make it worse (property is an access point)
- Are you going to force egress?
  A: No eminent domain - cooperative + collaborative process

1 2 3 4 5 6 7 8

1/3

One-on-One:

- I think it's great, and if there is a way to prioritize things, get trailheads closer to neighborhoods + 9, 10
- Trails are an opportunity to add a way to avoid trespassing ~~rules~~ & regulations & laws & 11
- Concerned about proposed trailhead at Parker & Del Valle Road - where will people park? 12
- Concern that rails unnecessary in back country do they need to be everywhere? 13
- People access ANF
  dirt bike community - need someplace to go 14
  need to be able to get through from Sloan Canyon ~~NE~~ NW
  ~~Tapia Canyon~~
- Can the County downsize the existing plan to a smaller project? 15
- ~~Com~~ Will there be user fees instituted to access trails? + 16, 17
- ~~Con~~ Concern signs need to say "at your own risk" and other warning signs for hazards 18
- How will parking at trailheads be set up? 19
- Concern - what will ensure funding for maintenance? 20
- Why do we have to pay to go to Castaic lake - suggest reducing fees at Castaic Lake SRA from $11 to $2-3 21
- Concern that money should be spent in areas already developed 22
- Need to prioritize buildout based on infrastructure & use data that already exists or shows areas currently heavily in use 23
- Plan needs to be consistent with Ventura County's proposed Class 1 Bikeway, potential historic designation for Ridge Route (potential to be US Bikeways) 24

LAm
5/18/16

2/3

-Will there be any ADA trails?
(makes sense near population centers) 25
City of Santa Clarita River village ADA trail (precedent)
Next phase of Sand Canyon trail will be ADA
- Concern about City of Santa Clarita annexation & taking of land for open space 26
No contiguous open space plan in Santa Clarita
- Plan needs to be consistent w/ One Valley One Vision Plan
Unincorporated area not organized body of government 27
How do they honor people's property rights?
Concerned about patchwork problem - who controls access, water rights, open space rights, etc?
Concern that you can't police against a private road
(trespassing across private roads) 28
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5/18/2016

Appendix L

Response to Comments

Response to Comments
on the
Initial Study/Mitigated Negative Declaration
for the
Castaic Area Multi-Use Trails Plan (SCH# 2016051041)

COMMENTS AND RESPONSES

The County of Los Angeles Department of Parks and Recreation (County Parks) prepared a proposed Mitigated Negative Declaration (MND) to assess the potential environmental effects of the Castaic Area Multi-Use Trails Plan (proposed project, CAMUTP, or Trails Plan). County Parks circulated the proposed MND for public review between May 13, 2016, and June 13, 2016. The public meeting for the proposed project was publicized via U.S. Postal Service mailings to nearly 16,000 addresses of property owners of parcels within the Castaic Project Area and parcels located within a half-mile radius of the Castaic Project Area and via email to approximately 170 individuals and private organizations on the project distribution list regarding the Notice of Intent (NOI) to adopt a proposed MND for public review. The NOI was also emailed to federal, state, and local agencies potentially having an interest in the proposed project. This information was presented in the legal notices section of the *Santa Clarita Valley Signal* newspaper on May 13, 2016. Copies of the proposed MND were made available online via the County Parks website,[1] the County Trails website,[2] at Castaic Library, and at the County Parks office for 30 days.

The public comment period closed on June 13, 2016. A total of 32 letters of comment were received on the proposed MND. County Parks hosted an agency meeting on Tuesday, May 17, 2016, between 10:00 a.m. and 12:00 p.m. at the Castaic Library, 27971 Sloan Canyon Road, Castaic, California 91384. County Parks hosted a community meeting on Wednesday, May 18, 2016, between 6:00 p.m. and 8:00 p.m. at the Multi-Purpose Room of Castaic Middle School, 28900 Hillcrest Parkway, Castaic, California 91384.

This section includes written and verbal comments received that specifically pertain to the scope and content of the proposed MND. This section provides all written responses received on the proposed MND and County Parks' responses to each comment. Comment letters and specific comments are given letters and numbers for reference purposes. The comment letter is shown demarcated with numbers representing the point addressed and subsequent response.

[1] http://parks.lacounty.gov/wps/portal/dpr/Newsroom/EnvironmentalDocuments/
[2] https://trails.lacounty.gov/

A. TOPICAL COMMENTS

A1.
Notification
(did not receive Notice of Intent, additional opportunities to provide comments)

Response to Comment No. A1:

Notices were sent to property owners located in or adjacent to (within a half-mile radius of) the approximately 75-square-mile Castaic Area Multi-Use Trails Plan Project Area (Castaic Project Area) using the mailing addresses from the County's Assessor Office. To avoid noticing issues for other projects in the future, the County recommends that you check your mailing address with the County Assessor Office (http://assessor.lacounty.gov/) and, if outdated, submit a request to change your mailing address.

Please see http://www.castaicmultiusetrails.org/ for periodic notifications related to the proposed project. County Parks will also provide notification to those who have requested such notification of the anticipated date of consideration of adoption of the MND by the County Board of Supervisors. If the Board adopts the MND, they may then undertake consideration of approval of the Trails Plan. If you request notification from the County regarding this project, County Parks will keep you notified of any changes or updates to the Trails Plan as it moves forward towards adoption, which is currently expected in November 2016.

County Parks solicited public comments during the 30-day NOI public review period from May 13, 2016, to June 13, 2016. Public comments were also solicited at a community meeting held on May 18, 2016, at the Castaic Middle School. Public input can also be provided at the County Board of Supervisors hearing for the project, currently scheduled for late October 2016.

A2.
Safety and Security
(fire danger, theft, vandalism, and trespassing concerns)

Response to Comment No. A2:

Safety and security are social issues that the County takes very seriously during the design and development of trails. However, it is not an environmental issue pursuant to CEQA. As reported by multiple parties during the scoping process, unsanctioned recreational use occurs in the Castaic Area. The Trails Plan has been developed to recommend conditions for improvement of unmet local recreation demands in the 5th Supervisorial District. Existing trespassing concerns have been reported by the community regarding *de facto* trails created illegally across private property that has been mistaken for open space. The purpose of the Trails Plan is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use, anticipated to reduce trespassing. Trespassing and cruelty to animals are illegal actions that should be reported to local law enforcement. Complaints regarding theft, vandalism, and trespassing on County property and private property should be directed to the LASD.

According to national crime statistics, parks and trails are among the safest places to be. People are two to three times safer on a trail than in a parking lot, on the street, or even inside their own

homes.[3] A study surveying 371 trail managers about trail safety reported that only 3 percent reported that major criminal activity (crimes against a person) had occurred on their trail.[4] Studies of homeowners adjacent to trails indicate no increase in crime due to trails.[5] Trail safety and security considerations are accounted for in the planning of trail locations. Safety is a concern when a new recreational route is created. To improve safety, trail hours of operation (from sunrise to sunset) are indicated, outdoor security lighting may be used at structures and parking lots between 10 p.m. and sunrise, and a curfew is used to restrict access during after-hours. Other design measures improve pedestrian access; alleviate traffic hazards; and promote safety, including provisioning for volunteer trail patrol and augmenting public agency information, coordination, and support. In addition, County Parks is seeking to work with landowners to address safety or privacy concerns through the use of measures such as providing landscaping to act as a screen or barrier or fencing on a case-by-case basis.

As stated in Section 2.15, *Public Services*, of the proposed MND, the entire Santa Clarita Valley Area Plan area, including the entire Castaic Project Area, receives urban and wildland fire protection services from LACoFD. County Parks has discussed the Trails Plan with the LACoFD and the LASD to address emergency response communications. During outreach, LACoFD also asked about providing specific quarter-mile trail markers to be used and GIS shapefiles of trails to be provided to LACoFD and LASD upon development of trails with trail marker locations to facilitate emergency response and evacuation. This feedback has been integrated into the scope of the proposed project. As stated in Section 2.9, *Hazards and Hazardous Materials*, of the proposed MND, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation. Section 2.9, page 2-50, and Section 2.15, *Public Services*, page 2-77, of the proposed MND have been revised to clarify the fire hazard risk.

LACoFD has stated in a comment letter that there will be additional fire stations in the Castaic Project Area to provide additional emergency response services. This language has been added to the proposed MND in Section 2.15, *Public Services*, page 2-78.

As stated in Section 1.9, *Project Description*, of the proposed MND, consistent with Section 4.3.6, *Way-finding Signs*, of the County Trails Manual, the proposed project would include reassurance marker signs at every quarter (0.25) mile of trail that identify the name of the trail and quarter milepost number in order to orient search and rescue services in the case of an emergency. County Parks would be responsible for providing updated data to LACoFD and LASD marking the location of each quarter milepost along the trail for emergency response purposes. Consistent with the County Trails Manual, landscaping around trailheads and along trails would be designed to balance fire mitigation with habitat conservation and slope preservation.[6] In accordance with County Code, fires are only permitted in signed and designated areas of County Parkland (County Code 17.04.590),

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[3] Tracy, Tammy, and Hugh Morris. January 1998. Rail-Trails and Safe Communities: The Experience on 372 Trails. Washington, DC: Rails-to-Trails Conservancy. Available at: http://safety.fhwa.dot.gov/ped_bike/docs/rt_safecomm.pdf

[4] Tracy, Tammy, and Hugh Morris. January 1998. Rail-Trails and Safe Communities: The Experience on 372 Trails. Washington, DC: Rails-to-Trails Conservancy. Available at: http://safety.fhwa.dot.gov/ped_bike/docs/rt_safecomm.pdf

[5] Lagerwey, P., and B. Puncochar. 1988. Evaluation of the Burke-Gilman Trails Effect of Property Values and Crime. Transportation Research Record 1168: 57–59.

[6] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

fireworks or other combustible materials are not permitted along any trail (County Code 17.04.520 and 17.04.610), and firearms are not permitted on County trails except in designated areas (County Code 17.04.620 and 17.08.300).[7] Structures and parking lots would be constructed in accordance with the requirements of the County of Los Angeles Fire Code (Title 32).[8]

As stated in Section 2.14, *Population and Housing*, of the proposed MND, the proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project would be expected to serve as a regional recreation facility that would be expected to generate day use from throughout the area, which has the potential to result in a very minor increase in emergency response, search and rescue, and other sheriff services if any injuries or crime incidents occur as a result of local recreational users and additional one-day recreation users from the region. Multiple studies have shown that adopted trails tend to result in a negligible increase, neutral effect, or reduction in crimes including vandalism, theft, and trespassing, in the area through regular use and high visibility of users.[9,10,11]

A3.
Traffic Impacts
(traffic increase concerns)

Response to Comment No. A3:

Traffic and safety issues have been taken into consideration during the development of the Trails Plan and in the proposed MND. During the project development phase, traffic levels are assessed for each of the major trails and population centers at City of Santa Clarita, Castaic Lake, and the Interstate 5 Freeway, and recommendations are made to balance the recreational needs of the users while minimizing on-road and off-road impacts to traffic to the community, both on roads and freeways. Trip generation is estimated for proposed trail locations at trail access points. Recommendations for the location of proposed trail access points are made in a way that balance the community needs and not conflict with peak roadway demands. Minimal impacts on traffic conditions are anticipated during weekdays. Furthermore, the proposed trails would be located off-street so they would not change the capacity for automobiles or trucks. During construction, temporary impacts will be mitigated with a traffic control plan. The Transportation Element of the County General Plan and the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) principles will be adhered to, in order to maximize trail use for biking, pedestrian, and equestrian functions while minimizing impacts to roads and traffic. The 2016

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[7] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Part 3 – Park Rules and Regulations. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT17PABEOTPUAR_CH17.04PAREAR_PT3PARURE

[8] Municode Library. Accessed 13 March 2016. Los Angeles County, CA: Title 32 – Fire Code. Available at: https://www.municode.com/library/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT32FICO

[9] Greer, Donald L. October 2001. Nebraska Rural Trails: Three Studies of Trail Impact. Available at: http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_5-nebraska-rural-trails.pdf

[10] Seattle Engineering Department. May 1987. Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime. Available at: http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_82-burke-gilman-trail-property-values.pdf

[11] National Park Service. January 2008. Benefits of Trails & Greenways. Available at: http://www.cdlandtrust.org/sites/default/files/publications/Benefits%20of%20Trails-NPS.pdf

SCAG RTP places a priority on reducing per capita vehicle miles traveled (VMT) by providing recreation opportunities nearer to where people live and work.

A4.
Private Property Rights
(liability and safety concerns)

Response to Comment No. A4:

Recreational Use Statutes (RUS), which are considered precedents in all fifty states, protect landowners from liability in cases of injury due to carelessness on private property permitted for public recreational use. In order for a trail user to claim injuries from a property owner, RUS require the injured person to prove "willful and wanton misconduct" on the part of the landowner. In California, the RUS can be found in California Government Code Section 830-831.9 and California Civil Code Section 846. California Government Code Section 831.4, *the Recreational Trail Immunity Statute*, was adopted in 1963 to provide protection to public landowners from lawsuits filed by persons using public trails for recreational purposes.[12] The section provides:

> "831.4. A public entity, public employee, or a grantor of a public easement to a public entity for any of the following purposes, is not liable for an injury caused by a condition of:
>
> (a) Any unpaved road which provides access to fishing, hunting, camping, hiking, riding, including animal and all types of vehicular riding, water sports, recreational or scenic areas and which is not a
> (1) city street or highway or
> (2) county, state or federal highway or
> (3) public street or highway of a joint highway district, boulevard district, bridge and highway district or similar district formed for the improvement or building of public streets or highways.
>
> (b) Any trail used for the above purposes.
>
> (c) Any paved trail, walkway, path, or sidewalk on an easement of way which has been granted to a public entity, which easement provides access to any unimproved property, so long as such public entity shall reasonably attempt to provide adequate warnings of the existence of any condition of the paved trail, walkway, path, or sidewalk which constitutes a hazard to health or safety. Warnings required by this subdivision shall only be required where pathways are paved, and such requirement shall not be construed to be a standard of care for any unpaved pathways or roads."

The law also protects private property owners who deed public easements to government entities for those recreational purposes. Private landowners have similar protections under Civil Code

[12] Hamblet, Brian I. March 2013. Public Law Update. The Recreational Trail Immunity Statute. Available at: http://www.bwslaw.com/tasks/sites/bwslaw/assets/Image/March%202013%20Public%20Law%20Update21.pdf

Section 846 and Public Resources Code Section 5075.4 of the California Recreational Trails Act of 1978. Civil Code Section 846 provides:

> "846. An owner of any estate or any other interest in real property, whether possessory or nonpossessory, owes no duty of care to keep the premises safe for entry or use by others for any recreational purpose or to give any warning of hazardous conditions, uses of, structures, or activities on those premises to persons entering for a recreational purpose, except as provided in this section.
>
> A "recreational purpose," as used in this section, includes activities such as fishing, hunting, camping, water sports, hiking, spelunking, sport parachuting, riding, including animal riding, snowmobiling, and all other types of vehicular riding, rock collecting, sightseeing, picnicking, nature study, nature contacting, recreational gardening, gleaning, hang gliding, private noncommercial aviation activities, winter sports, and viewing or enjoying historical, archaeological, scenic, natural, or scientific sites.
>
> An owner of any estate or any other interest in real property, whether possessory or nonpossessory, who gives permission to another for entry or use for the above purpose upon the premises does not thereby (a) extend any assurance that the premises are safe for that purpose, or (b) constitute the person to whom permission has been granted the legal status of an invitee or licensee to whom a duty of care is owed, or (c) assume responsibility for or incur liability for any injury to person or property caused by any act of the person to whom permission has been granted except as provided in this section.
>
> This section does not limit the liability which otherwise exists (a) for willful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; or (b) for injury suffered in any case where permission to enter for the above purpose was granted for a consideration other than the consideration, if any, paid to said landowner by the state, or where consideration has been received from others for the same purpose; or (c) to any persons who are expressly invited rather than merely permitted to come upon the premises by the landowner.
>
> Nothing in this section creates a duty of care or ground of liability for injury to person or property."

California PRC Section 5075.4 provides:

> "5075.4. No adjoining property owner is liable for any actions of any type resulting from, or caused by, trail users trespassing on adjoining property, and no adjoining property owner is liable for any actions of any type started on, or taking place within, the boundaries of the trail arising out of the activities of other parties."

Safety and security are social issues that the County takes very seriously during the design and development of trails. However, it is not an environmental issue pursuant to CEQA. As reported by multiple parties during the scoping process, unsanctioned recreational use occurs in the Castaic Area. The purpose of the Trails Plan is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use. Complaints regarding trespassing and theft on both County property and private property would need to be directed to the LASD. County Parks has discussed the Trails Plan with LASD to address emergency response communications. As stated in Section 1.9, *Project Description*, of the proposed MND, consistent with Section 4.3.6, *Way-finding Signs*,

of the County Trails Manual, the proposed project would include reassurance marker signs at every quarter (0.25) mile of trail that identify the name of the trail and quarter milepost number in order to orient search and rescue services in the case of an emergency. County Parks would be responsible for providing updated data to LASD marking the location of each quarter milepost along the trail for emergency response purposes, including trespassing concerns. The proposed project would not directly or indirectly induce population growth because it involves no new homes or businesses, and it does not propose the extension of roads or other infrastructure to support new trails and related facilities. However, the proposed project would be expected to serve as a regional recreation facility that would be expected to generate day use from throughout the area, which has the potential to result in a very minor increase in emergency response, search and rescue, and other sheriff services if any injuries or crime incidents occur as a result of local recreational users and additional one-day recreation users from the region. Multiple studies have shown that adopted trails tend to result in a negligible increase, neutral effect, or reduction in crimes including vandalism, theft, and trespassing, in the area through regular use and high visibility of users.[13,14,15]

A5.
Parking
(parking at trailhead concerns)

Response to Comment No. A5:

The parking near trailhead and staging areas would be set up to accommodate future access and improve existing uses. In Section 4.4.1, *Staging Areas and Trail Amenities*, of the Trails Plan, parking amenities for existing conditions are assessed based on existing availabilities, taking into consideration lot sizes and number of spaces available. Turnover rates and options for nearby parking is a criteria used for assessing future needs for further parking, as well as connectivity to other access points based on proposed amenities.

Ease of vehicle access to the trail parking lot or trailhead is a planning consideration taken into account in development of the Trails Plan. The evaluation criteria to determine trail parking is tied to the connectivity and proximity of network connecting to designated priority designation, taking into account existing parking level and locations.

A6.
Trail Easement and Open Space Acquisition
(property owner concerns)

Response to Comment No. A6:

The proposed Trails Plan is conceptual in nature, and the location of each proposed trail alignment is subject to adjustment should development of the trail be pursued. At the direction of Supervisor

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[13] Greer, Donald L. October 2001. Nebraska Rural Trails: Three Studies of Trail Impact. Available at: http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_5-nebraska-rural-trails.pdf

[14] Seattle Engineering Department. May 1987. Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime. Available at: http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_82-burke-gilman-trail-property-values.pdf

[15] National Park Service. January 2008. Benefits of Trails & Greenways. Available at: http://www.cdlandtrust.org/sites/default/files/publications/Benefits%20of%20Trails-NPS.pdf

Michael D. Antonovich, County Parks embarked on the development of the proposed project due to the emerging need for additional trail and recreation opportunities in the Castaic Area of the County. As stated in Section 1.8, *Background and Existing Conditions*, of the proposed MND, the proposed project is intended to address the existing practice of conceptualizing and requiring implementation of trail segments, in conjunction, with the approval process for development projects on a case-by-case basis to guide the development of a backbone trail system that meets the needs of the Castaic region. The development of trail planning in the Castaic region is needed in order to maintain and increase trail connectivity and access to open space with anticipated future private development and projected population growth in the Castaic area. As stated in Section 2.16, *Recreation*, of the proposed MND, the Santa Clarita Valley Planning Area had a local recreation deficit of approximately 308 acres to support its population in 2010, with approximately 0.7 acres of local parkland per 1,000 persons.[16] A total of 93 acres of local parkland facilities are located within the local park service area of the Castaic Project Area. There are no park nodes or pocket parks within a quarter-mile radius of the Castaic Project Area. Existing local recreation resources are concentrated in the southeastern portion of the Castaic Project Area. There are four neighborhood parks (approximately 20.8 acres) within a half-mile service area radius of the Castaic Project Area and five community parks (approximately 72.2 acres) within a two-mile service area radius of the Castaic Project Area (see Table 2.16-2, *Existing Local Parks and Trails*, and Figure 2.16-2, *Local Recreational Resources*, in Section 2.16, *Recreation*, of the proposed MND). There is an existing recreational need as a result of the development of residential uses in the Santa Clarita Valley. As reported by multiple parties during the scoping process, unsanctioned recreational use occurs in the Castaic Area. The purpose of the Trails Plan is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use.

The maps in the Trails Plan are intended to show the overall routes that the proposed trail system would provide, although land acquisition and design at the project level would be determined on a case-by-case basis based on property rights and site-specific conditions. As stated in Section 5.2.3, *Trail Access Acquisition Methods*, of the Trails Plan, the County can use the following tools and techniques for trail access acquisition and open space conservation: (1) fee simple purchase, (2) purchase and sale with easement, (3) lease or license, (4) land donations, (5) bargain sale, (6) bequest or living trust, (7) purchase option or (8) right of first refusal. Should the County decide to pursue development in the future, the County will work collaboratively with the property owners to grant a trail easement to the County. Wherever feasible the alignments have been rerouted to minimize encroachment on parcels where the homeowner has expressed opposition to accommodating a trail segment. The County is not proposing to develop without the property owner's consent.

If property owners wish to sell land to the County for recreational purposes, County Parks will work closely with its Land Management section to determine the County's interest in the property and the value it may add to the proposed trail network. County Parks is awaiting final approval of the proposed project before determining any property's value to the County for trail-related purposes. Landowners who are interested in selling or donating property or providing an easement to accommodate development of multi-use trails in the 5th Supervisorial District should contact Ms. Olga Ruano at oruano@parks.lacounty.gov.

[16] County of Los Angeles Department of Regional Planning. Adopted 6 October 2015. Los Angeles County 2035 General Plan: Chapter 10: Parks and Recreation Element. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch10.pdf

A7.
Trail Maintenance
(responsibility and implementation concerns)

Response to Comment No. A7:

The County would be responsible for trail maintenance within trail easements (County property). To report trail maintenance issues, contact the County's Parks Facilities Call Center at 877-601-4850 to report any trail related issue.[17] The Center receives requests/concerns for service and then creates a work order that is quickly dispatched to alert County maintenance staff. Users can also download a free app (iPhone or Android) to report and track services at http://dpw.lacounty.gov/theWorks. County Parks' new "The Works" app offers a point-and-shoot approach to cleaning up quality of life nuisances in unincorporated County territory, including illegal dumping, graffiti, overgrown brush and trees, and other trail-related issues. Once the free app is downloaded, users can use the camera on their phone to send the County's Call Center an instant image of the problem, get a ticket number, and keep tabs on how the issue is resolved. It is also possible to send a message about the problem anonymously and without including a photograph. The proposed trails would be clearly marked in accordance with the County's signage program, which is under development, to delineate between each trail and private property.

[17] County of Los Angeles Department of Parks and Recreation. Accessed 6 July 2016. Frequently Asked Questions. Keyword: "maintenance." Available at: https://trails.lacounty.gov/Search?searchKeyword=maintenance

B. AGENCY WRITTEN COMMENTS

B1.
COUNTY OF LOS ANGELES FIRE DEPARTMENT
FS 150 19190 Golden Valley Road
Santa Clarita, CA 91387

Stephanie English
Public Relations Specialist

Response to Comment No. B1.1:

County Parks appreciates receiving positive feedback in response to its agency stakeholder outreach efforts for this project, which included conducting an agency outreach meeting in August 2015, email and phone correspondence, and the May 17, 2016, agency meeting during the NOI public review period to provide information on the proposed project and solicit public agency input.

B2.
LOS ANGELES COUNTY FIRE DEPARTMENT
1320 North Eastern Avenue
Los Angeles, CA 90063-3294

Kevin T. Johnson
Acting Chief, Forestry Division
Prevention Services Bureau

Response to Comment No. B2.1:

The information in the proposed MND was acquired from the 2012 Santa Clarita Valley Area Plan. Section 2.9, *Hazards and Hazardous Materials*, page 2-50, and Section 2.15, *Public Services*, page 2-77, of the proposed MND have been revised in response to the updated information from the County of Los Angeles Fire Department (LACoFD).

Response to Comment No. B.2.2:

Thank you for verifying that the Land Development Unit is not setting any requirements at this time.

Response to Comment No. B2.3:

Thank you for acknowledging the scope of statutory responsibilities of LACoFD's Forestry Division (erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archaeological and cultural resources, and the County Oak Tree Ordinance) have been addressed in the environmental documentation for the proposed project.

Response to Comment No. B2.4:

Thank you for verifying that the Health Hazardous Materials Division (HHMD) of the LACoFD has no comments at this time.

B3.
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
700 North Alameda Street
Los Angeles, CA 90012-2944

Deirdre West
Manager, Environmental Planning Team

Response to Comment No. B3.1:

Thank you for the comment expressing concern that the project has the potential to result in adverse impacts to the Metropolitan Water District of Southern California (MWD) Foothill Feeder pipeline. Table 1.9-2, *Existing and Proposed Trail Segments*, of the proposed MND has been updated to include the language in the trail design considerations for segments CD3, CL1, TC1, TC2, WC2, and SF4 that would pass through MWD's fee property, easements, or rights-of-way for the Foothill Feeder.

Section 1.9, *Project Description*, page 1-15, has been updated to include the requirement that any design plans for any activity in the area of MWD pipelines or facilities be submitted for MWD's review and written approval.

A new figure, Figure 1.9-2, *MWD Coordination Requirements*, has been added to the proposed MND to show the locations where the proposed trails would cross MWD easements and fee properties. Figure 1.9-2, *Proposed Trail Related Facility Locations*, has been renumbered 1.9-3. References to the original Figure 1.9-2 in the proposed MND have been revised globally to 1.9-3.

Table 4-3, *Trails by Segment*, of the Trails Plan has been revised to include the written approval process.

Response to Comment No. B3.2:

County Parks has requested further information to identify MWD's facilities and rights-of-way. MWD has provided County Parks with drawings of its rights-of-way, and Figure 1.9-2, *MWD Coordination Requirements*, has been added. The conceptual trail alignment in the proposed project crosses the Foothill Feeder at six locations: one existing trail (CS3), four proposed trails (CD3, CL1, SF4, WC2), and one planned trail per developer obligations (TC2). Proposed trail segment TC1 crosses an easement providing access to MWD fee property. Additionally, four parcels owned by MWD are intersected by trails (AIN 2865-005-271 and -273 are crossed by proposed trail CL1; and AIN 2810-001-275 and -276 are crossed by existing trail CS3). For any trails that would cross MWD property, right-of-way, easement, or fee property, County Parks shall require that development of such trail segments be undertaken consistent with the *Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California* (added to the Trails Plan as Appendix E, *MWD Development Guidelines*).

B4.
COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 WORKMAN MILL ROAD
WHITTIER, CA 90601

Ed Stewart, P.E.
Project Engineer
Property Management Group

Response to Comment No. B4.1:

The Sanitation Districts' Valencia Water Reclamation Plant is located adjacent to the City of Santa Clarita, approximately 1.2 miles southeast of the Castaic Project Area. There are no existing County trails between the southern edge of the Castaic Project Area (State Route 126) and Pico Canyon Road. It is understood that the County of Los Angeles General Plan 2035 includes an adopted proposed trail extending along the Santa Clara River that would cross through the midst of the Valencia Water Reclamation Plant to provide linkages to the Santa Clara River Trail and City of Santa Clarita trails. County Parks shall initiate coordination efforts to ensure safe crossing is implemented as individual trail segments are identified for development. This proposed trail is not within the scope of the proposed project.

B5.
STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
1416 Ninth Street, P.O. Box 942836
Sacramento, CA 94236-0001

David M. Samson
Civil Engineering Services
Department of Water Resources

Response to Comment No. B5.1:

Thank you for verifying that several of the Department of Water Resources' (DWR's) comments were incorporated into the Trails Plan. County Parks appreciates receiving positive feedback in response to its agency stakeholder outreach efforts.

Response to Comment No. B5.2:

Thank you for the information regarding authority at Elderberry Forebay and Elderberry Forebay Dam. County Parks understands that all negotiating agency references in the Trails Plan and the MND regarding Elderberry Forebay should be revised to show the Los Angeles Department of Water & Power (LADWP) as the principal party of the FERC license.

County Parks understands that cost of construction, operation, and maintenance of security facilities and personnel at the Elderberry Forebay is the exclusive responsibility of the LADWP. The Recreation Plan cites the Davis-Dolwig Act, which gives the State Department of Parks and Recreation the responsibility for the operation of recreation areas at units of the State Water Project (SWP). The Recreation Plan and operating agreement states that the "powerhouse afterbay will be a potentially hazardous area because of steep slopes and surging water. It is recommended that this area be fenced."

Although security is a social and economic issue beyond the purview of CEQA, County Parks has revised the trail alignments in the vicinity of the Elderberry Forebay to conform to the recommendations of the 1969 Castaic Lake Recreation Plan. Specifically, the Trails Plan has been revised by removing proposed trail segment EF1 from along the west shore of Elderberry Forebay, trail segment EF2 across the Elderberry Forebay Dam, and trail segment EF3 leading from EF4 to the Elderberry Forebay dam. These revisions reduce direct access to the Castaic Power Plant and the critical components of the Castaic Power Plant (including the Elderberry Forebay and Elderberry Dam) within the boundary of the South SWP Hydropower, FERC Project No. 2426.

The proposed trail EF4 is located along the existing U.S. Forest Service (USFS) Route 6N13; proposed segment EF4 was adopted in 2007 and approved by the County Board of Supervisors as part of a loop trail around Castaic Lake.[18] The legend of proposed trail maps has been adjusted to differentiate between all previously adopted trails and adjusted alignments or newly proposed trail

[18] Los Angeles County Department of Regional Planning. May 2014. Los Angeles County General Plan 2035 Adopted 6 October 2015. *Los Angeles County General Plan 2035*. "Figure 10.1: Regional Trail System." Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf

alignments in the Trails Plan. Consistent with the *County Trails Manual*, language has been added to the Trails Plan and Table 1.9-2, *Existing and Proposed Trails Segments*, of the MND for proposed trail EF4 specifying that County Parks would install fencing on the western (water) side of trail segment within the FERC boundary to discourage users from leaving the trail. Proposed trail segments EF1, EF2, and EF3 have been removed from the proposed project, and segment EF4 has been renamed EF1, *Castaic Lake Trail*, in the Trails Plan and MND.

It is understood that any future trail segments located within the boundary of the FERC may be subject to FERC approval and would require coordination with licensees. County Parks shall initiate the approval process and coordination efforts as individual trail segments are identified for development. A project design feature has been added in Section 1.9, *Project Description*, page 1-16, of the proposed MND, and in Table 4-3, *Trails by Segments*, in Section 4.3, *Proposed Trails*, of the Trails Plan for required coordination with LADWP regarding Elderberry Forebay and Castaic Power Plant facilities.

The Trails Plan has been revised by removing proposed trail segment EF1 from along the west shore of Elderberry Forebay, trail segment EF2 across the Elderberry Forebay Dam, and trail segment EF3 leading from EF4 to the Elderberry Forebay dam. Proposed trail segments EF1, EF2, and EF3, which originally provided recreation access along the western shore of Elderberry Forebay, have been removed; and segment EF4 has been renumbered as EF1, Castaic Lake Trail, consistent with the *Castaic Lake State Recreation Area Operating Agreement*. Language in Section 1.9, *Project Description*, page 1-14, of the proposed MND, regarding proposed trail EF4 (now EF1) in the vicinity of the Elderberry Forebay of Castaic Lake has been revised.

The portion of the legends of Figures 1.6-3, *Ownership of OS-BLM and OS-NF Land Use Categories within Castaic Project Area*, 2.3-1, *Sensitive Receptors*, 2.10-1, *Impaired Water Bodies*, and 2.18-1, *Storm Drain Networks*, in the proposed MND previously reading "Proposed Trail – Subject to Further Coordination with the California Department of Water Resources" for proposed trail segments EF1, EF2, EF3, and EF4 has been removed with the removal of trail segments EF1, EF2, and EF3 from the proposed project (EF4 has become EF1).

A project design feature has been added in Section 1.9, *Project Description*, page 1-16, of the proposed MND, for required coordination with LADWP regarding Elderberry Forebay and Castaic Power Plant facilities and coordination with DWR regarding Castaic Dam.

The language of Mitigation Measure HYD-1 in Section 2.10, *Hydrology and Water Quality*, page 2-60, and Section 3, *Mitigation Measures*, page 3-7, of the proposed MND, has been updated as a project design feature for required coordination with LADWP and DWR regarding Elderberry Forebay instead of DWR alone.

Castaic Lake SRA is a designated recreation area. The language in the 1969 Castaic Lake Recreation Plan and operating agreement that was prepared by the State of California Department of Water Resources (DWR) based on plans and information furnished by the State of California Department of Parks and Recreation presents a development plan for the Castaic Project to include development of a trail around Castaic Lake:[19]

[19] State of California Department of Parks and Recreation. Approved 10 August 1989. *Amendment No. 5 to Contract Operating Agreement Located in Castaic Lake State Recreation Area*. "Exhibit B: Castaic Lake State Recreation Plan (September 1969)." Chapter III, Page 12.

> "**Equestrian and Trail Camps**
> A Riding and hiking trail would encircle Castaic Lake as shown on Plate 1, and would cross the Castaic arm on the Forebay dam. A section of trail would continue on north from Elderberry Mesa to the Castaic Canyon area and allow travelers to make connections with the camp area and the Fish Creek Service road. No trail would be located on the west shore of the Forebay because of the hazardous crossing of the powerhouse penstock on the steep terrain."

The SRA has been used by recreation enthusiasts dating back 1965 when it was first established.[20] Given the lack of recreational facilities throughout California, it is important to develop the ability of existing designated areas for recreation to accommodate as much opportunity to meet unmet demand, as is feasible, consistent with the provision of applicable land use planning documents. The Castaic SRA is particularly important due to its location immediately adjacent to the Los Padres and Angeles National Forests.

The requirement to operate the facilities at the Elderberry Forebay in a manner that was protective of the SRA designation is delineated in the license issued by DWR to the Federal Energy Regulatory Commission (FERC), which governs LADWP operation at the Castaic SRA. Specifically, the FERC joint license for Project No. 2426 recognizes public access and the need to accommodate recreation.[21,22,23] Rather than allowing the exclusion of recreation users, pursuant to Article 60 of the FERC joint license, the licensees are responsible for providing security controls within the FERC Project Boundary that are protective of recreation users:[24]

> "The Licensees shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices below the powerhouses to warn the public of fluctuations in flow from the project, and shall install such signs, lights, and other safety devices above the powerhouse intakes and spillways as may be reasonably needed to protect the public in its recreational use of the project lands and waters."

Available at County of Los Angeles Department of Parks and Recreation Headquarters, 510 S. Vermont Avenue, Los Angeles, California.

[20] *California State Parks: 16. "California State Park System Statistical Report: Fiscal Year 2009/10" (PDF).* Available at: http://www.parks.ca.gov/pages/795/files/09-10%20statistical%20report%20final%20online.pdf. Downloaded: July 29, 2016.

[21] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

[22] "(9) The conditions herewith required will provide adequate and reasonable protection for wildlife habitat and other environmental factors, **while affording provision for recreational use of the affected area**." (emphasis added)

[23] "Article 50. The Licensees shall, within two years from the date of issuance of this order, file for Commission approval a revised Exhibit R which conforms to Section 4.41 Exhibit R of the Commission Regulations under the Federal Power Act. **The revised Exhibit R shall consider, among other things, the need for:** (1) camping facilities…. **(3) recreational development of the Upper Castaic area for camping, picnicking, and other associated recreational activities, specifically excluding any use by the public of the water surface or subsurface of Elderberry Forebay**." (emphasis added)

[24] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

Response to Comment No. B5.3:

Thank you for the comment providing a procedure for use of the Castaic Dam Crossing (proposed segment CD2) during special events. The trail design considerations in Table 1.9-2, *Existing and Proposed Trail Segments*, page 1-11, of the proposed MND, has been revised to include language on DWR's safety requirement.

This language has been incorporated into Table 4-3, *Trails by Segment*, of the Trails Plan as well.

The language of Mitigation Measure HYD-1 on pages 2-60 and 3-7 of the proposed MND has been updated for required incorporation of a safety plan for segment CD2.

Response to Comment No. B5.4:

Thank you for your comment regarding trail segments EF1 through EF4 and their location within the boundary of the South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426, and that any future trail segments located within the boundary of the FERC may be subject to FERC approval and will require coordination with licensees. County Parks shall initiate the approval process and coordination efforts as individual trail segments are identified for development.

A project design feature has been added in Section 1.9, *Project Description*, page 1-16, of the proposed MND for required coordination with both LADWP and DWR regarding Elderberry Forebay and Castaic Power Plant facilities.

Response to Comment No. B5.5:

Funding is addressed in Section 5.0, *Trail Implementation Approach*, of the Trails Plan. A footnote has been added to Section 5.1.2, *Federal and State Agencies*, page 63, after the bullet point for State Department of Water Resources.

The Trails Plan acknowledges that DWR is not identified as a funding source.

Response to Comment No. B5.6:

As requested, and consistent with the provisions of Section 15082(c)(2)((D)) of the State CEQA Guidelines, County Parks shall notify DWR of the availability of all subsequent environmental documentation related to proposed trail segments on lands administered within State lands, administered by DWR. Any future correspondence with DWR regarding this project will be sent to:

Department of Water Resources
Division of Operations and Maintenance
State Water Project Right of Way Management Section
Attn: Leroy Ellinghouse, Chief
1416 9th Street, Room 641-1
Sacramento, California 95814
(916) 659-7168

B6.
LOS ANGELES DEPARTMENT OF WATER & POWER
Box 51111
Los Angeles, CA 90051-5700

Simon Zewdu
Manager of Strategic Initiatives
Power Planning and Development

Response to Comment No. B6.1:

County Parks shares the concerns of the City of Los Angeles Department of Water & Power (LADWP), in relation to security of power generation and transmission facilities. However, security is a social and economic issue beyond the purview of the California Environmental Quality Act (CEQA). The proposed project does not involve the physical alteration of any facilities or transmission lines operated by LADWP in conjunction with the Elderberry Forebay at Castaic State Recreation Area (SRA).

Castaic Lake SRA is a designated recreation area. The language in the 1969 Castaic Lake Recreation Plan and operating agreement that was prepared by the State of California Department of Water Resources (DWR) based on plans and information furnished by the State of California Department of Parks and Recreation presents a development plan for the Castaic Project to include development of a trail around Castaic Lake:[25]

> "**Equestrian and Trail Camps**
> A Riding and hiking trail would encircle Castaic Lake as shown on Plate 1, and would cross the Castaic arm on the Forebay dam. A section of trail would continue on north from Elderberry Mesa to the Castaic Canyon area and allow travelers to make connections with the camp area and the Fish Creek Service road. No trail would be located on the west shore of the Forebay because of the hazardous crossing of the powerhouse penstock on the steep terrain."

The SRA has been used by recreation enthusiasts dating back 1965 when it was first established.[26] Given the lack of recreational facilities throughout California, it is important to develop the ability of existing designated areas for recreation to accommodate as much opportunity to meet unmet demand, as is feasible, consistent with the provision of applicable land use planning documents. The Castaic SRA is particularly important due to its location immediately adjacent to the Los Padres and Angeles National Forests.

The requirement to operate the facilities at the Elderberry Forebay in a manner that was protective of the SRA designation is delineated in the license issued by DWR to the Federal Energy Regulatory

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[25] State of California Department of Parks and Recreation. Approved 10 August 1989. *Amendment No. 5 to Contract Operating Agreement Located in Castaic Lake State Recreation Area.* "Exhibit B: Castaic Lake State Recreation Plan (September 1969)." Chapter III, Page 12. Available at County of Los Angeles Department of Parks and Recreation Headquarters, 510 S. Vermont Avenue, Los Angeles, California.

[26] *California State Parks: 16. "California State Park System Statistical Report: Fiscal Year 2009/10" (PDF).* Available at: http://www.parks.ca.gov/pages/795/files/09-10%20statistical%20report%20final%20online.pdf. Downloaded: July 29, 2016.

Commission (FERC), which governs LADWP operation at the Castaic SRA. Specifically, the FERC joint license for Project No. 2426 recognizes public access and the need to accommodate recreation.[27,28,29] Rather than allowing the exclusion of recreation users, pursuant to Article 60 of the FERC joint license, the licensees are responsible for providing security controls within the FERC Project Boundary that are protective of recreation users:[30]

> "The Licensees shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices below the powerhouses to warn the public of fluctuations in flow from the project, and shall install such signs, lights, and other safety devices above the powerhouse intakes and spillways as may be reasonably needed to protect the public in its recreational use of the project lands and waters."

County Parks understands that cost of construction, operation, and maintenance of security facilities and personnel at the Elderberry Forebay is the exclusive responsibility of the LADWP. The Recreation Plan cites the Davis-Dolwig Act, which gives the State Department of Parks and Recreation the responsibility for the operation of recreation areas at units of the State Water Project (SWP). The Recreation Plan and operating agreement states that the "powerhouse afterbay will be a potentially hazardous area because of steep slopes and surging water. It is recommended that this area be fenced."

Although security is a social and economic issue beyond the purview of CEQA, County Parks has revised the trail alignments in the vicinity of the Elderberry Forebay to conform to the recommendations of the 1969 Castaic Lake Recreation Plan. Specifically, the Trails Plan has been revised by removing proposed trail segment EF1 from along the west shore of Elderberry Forebay, trail segment EF2 across the Elderberry Forebay Dam, and trail segment EF3 leading from EF4 to the Elderberry Forebay dam. These revisions reduce direct access to the Castaic Power Plant and the critical components of the Castaic Power Plant (including the Elderberry Forebay and Elderberry Dam) within the boundary of the South SWP Hydropower, FERC Project No. 2426.

The proposed trail EF4 is located along the existing U.S. Forest Service (USFS) Route 6N13; proposed segment EF4 was adopted in 2007 and approved by the County Board of Supervisors as part of a loop trail around Castaic Lake.[31] The legend of proposed trail maps has been adjusted to

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[27] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

[28] "(9) The conditions herewith required will provide adequate and reasonable protection for wildlife habitat and other environmental factors, **while affording provision for recreational use of the affected area**." (emphasis added)

[29] "Article 50. The Licensees shall, within two years from the date of issuance of this order, file for Commission approval a revised Exhibit R which conforms to Section 4.41 Exhibit R of the Commission Regulations under the Federal Power Act. **The revised Exhibit R shall consider, among other things, the need for:** (1) camping facilities…. **(3) recreational development of the Upper Castaic area for camping, picnicking, and other associated recreational activities, specifically excluding any use by the public of the water surface or subsurface of Elderberry Forebay**." (emphasis added)

[30] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

[31] Los Angeles County Department of Regional Planning. May 2014. Los Angeles County General Plan 2035 Adopted 6 October 2015. *Los Angeles County General Plan 2035*. "Figure 10.1: Regional Trail System." Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf

differentiate between all previously adopted trails and adjusted alignments or newly proposed trail alignments in the Trails Plan. Consistent with the *County Trails Manual*, language has been added to the Trails Plan and Table 1.9-2, *Existing and Proposed Trails Segments*, of the MND for proposed trail EF4 specifying that County Parks would install fencing on the western (water) side of trail segment within the FERC boundary to discourage users from leaving the trail. Proposed trail segments EF1, EF2, and EF3 have been removed from the proposed project, and segment EF4 has been renamed EF1, *Castaic Lake Trail*, in the Trails Plan and MND.

It is understood that any future trail segments located within the boundary of the FERC may be subject to FERC approval and would require coordination with licensees. County Parks shall initiate the approval process and coordination efforts as individual trail segments are identified for development. A project design feature has been added in Section 1.9, *Project Description*, page 1-16, of the proposed MND, and in Table 4-3, *Trails by Segments*, in Section 4.3, *Proposed Trails*, of the Trails Plan for required coordination with LADWP regarding Elderberry Forebay and Castaic Power Plant facilities.

Response to Comment No. B6.2:

Thank you for the information regarding mandatory security requirements pursuant to the North American Electric Reliability Corporation (NERC). County Parks understands that NERC develops and enforces Reliability Standards, subject to oversight by FERC. The Trails Plan has been revised by removing proposed trail segments EF1, EF2, and EF3 to reduce direct access to the Castaic Power Plant and the critical components of the Castaic Power Plant (including the Elderberry Forebay and Elderberry Dam) within the boundary of the South SWP Hydropower, FERC Project No. 2426. County Parks understands that all negotiating agency references in the Trails Plan and the MND regarding Elderberry Forebay should be revised to show the LADWP as the principal party of the FERC license. Language in Section 1.9, *Project Description*, page 1-14, of the proposed MND, regarding proposed trail EF4 in the vicinity of the Elderberry Forebay of Castaic Lake, has been revised. Proposed segment EF4 (now EF1) was adopted in 2007 and approved by the County Board of Supervisors as part of a loop trail around Castaic Lake.[32] The legend of proposed trail maps has been adjusted to differentiate between all previously adopted trails and adjusted alignments or newly proposed trail alignments in the Trails Plan.

The boundary of Castaic Lake SRA includes the entirety of the Elderberry Forebay and Castaic Power Plant, with the exception of the DWR Dam Area Operation Zone. As the 1969 Castaic Lake Recreation Plan[33] presents a development plan for the Castaic Project which described a proposed trail providing circumnavigation around Castaic Lake and the FERC joint license for Project No. 2426 recognizes public access and the need to accommodate recreation,[34,35,36] the proposed EF4 trail

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[32] Los Angeles County Department of Regional Planning. May 2014. Los Angeles County General Plan 2035 Adopted 6 October 2015. *Los Angeles County General Plan 2035*. "Figure 10.1: Regional Trail System." Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf

[33] State of California Department of Parks and Recreation. Approved 10 August 1989. *Amendment No. 5 to Contract Operating Agreement Located in Castaic Lake State Recreation Area*. "Exhibit B: Castaic Lake State Recreation Plan (September 1969)." Chapter III, Page 12. Available at County of Los Angeles Department of Parks and Recreation Headquarters, 510 S. Vermont Avenue, Los Angeles, California.

[34] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

has been retained in the Trails Plan as EF1. Pursuant to Article 60 of the FERC joint license, the licensees are responsible for providing security controls within the FERC Project Boundary:[37]

> "The Licensees shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices below the powerhouses to warn the public of fluctuations in flow from the project, and shall install such signs, lights, and other safety devices above the powerhouse intakes and spillways as may be reasonably needed to protect the public in its recreational use of the project lands and waters."

However, consistent with the *County Trails Manual*, language has been added to the Trails Plan and Table 1.9-2, *Existing and Proposed Trails Segments*, of the MND for proposed trail EF4 (now EF-1) specifying that County Parks would install fencing on the western (water) side of trail segment within the FERC boundary to discourage users from leaving the trail.

Response to Comment No. B6.3:

Thank you for your comment expressing safety and security concerns regarding trail segments LW1, LW2, LW3, CD1, CD2, and CD3 because they are within the vicinity of LADWP power transmission lines that fall under the scope of NERC. The Trails Plan has been revised by moving proposed trail segment LW3 to avoid fee property owned by LADWP around LADWP power transmission lines that are under the scope of NERC, indicating in maps and proposed trail tables that proposed trail segment CD1 is a "Proposed Trail – For Special Event Use Only" as indicated for CD2, and extending segment CD3 along Lake Hughes Road to the project boundary at the Angeles National Forest towards completion of a loop trail around Castaic Lake. County Parks has requested the spatial data for the transmission line right-of-way (ROW) from LADWP, to be added to the County's spatial database to ensure that trails and trail-related facilities within 100 feet of the transmission line ROW are compliant with LADWP's requirements and clearances pursuant to NERC standards. The Trails Plan would comply with LADWP's Transmission Line Rights-of-Way requirements and clearances pursuant to the NERC standards, which have been added as an appendix to both the Trails Plan and the MND, including avoiding installation of trees or structures within 100 feet of the transmission line ROW. Trails would be consistent with the required access to the lines and transmission structures because they would not involve the addition of any obstructions unless a fence or landscaping to provide visual shielding is discussed with the landowner during trail easement acquisitions, consistent with the *County Trails Manual*.

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[35] "(9) The conditions herewith required will provide adequate and reasonable protection for wildlife habitat and other environmental factors, **while affording provision for recreational use of the affected area**." (emphasis added)

[36] "Article 50. The Licensees shall, within two years from the date of issuance of this order, file for Commission approval a revised Exhibit R which conforms to Section 4.41 Exhibit R of the Commission Regulations under the Federal Power Act. **The revised Exhibit R shall consider, among other things, the need for:** (1) camping facilities…. **(3) recreational development of the Upper Castaic area for camping, picnicking, and other associated recreational activities, specifically excluding any use by the public of the water surface or subsurface of Elderberry Forebay**." (emphasis added)

[37] United States of America Federal Energy Regulatory Commission (FERC). Issued March 22, 1978. *Opinion No. 9: Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power, Project No. 2426 – Opinion and Order Issuing License.*

Response to Comment No. B6.4:

County Parks understands that LADWP agrees with DWR's March 24, 2016, letter regarding various safety and security concerns related to use of dam crest roads for recreational trail purposes and the location of trail segments within the boundary of the South SWP Hydropower, FERC Project No. 2426. Any future trail segments located within the boundary of the FERC may be subject to FERC approval and will require coordination with licensees. County Parks shall initiate the approval process and coordination efforts as individual trail segments are identified for development. As stated above, the Trails Plan has been revised by removing proposed trail segments EF1, EF2, and EF3 to reduce direct access to the Castaic Power Plant and the critical components of the Castaic Power Plant (including the Elderberry Forebay and Elderberry Dam) within the boundary of the South SWP Hydropower, FERC Project No. 2426, and by limiting use of proposed trail segment CD1 to special event use only. Proposed segment EF4 was adopted in 2007 and approved by the County Board of Supervisors as part of a loop trail around Castaic Lake.[38] The legend of proposed trail maps has been adjusted to differentiate between all previously adopted trails and adjusted alignments or newly proposed trail alignments in the Trails Plan.

Response to Comment No. B6.5:

Thank you for LADWP's support of the public benefits of the Trails Plan. County Parks understands that, pursuant to the FERC License Agreement, "safety, security, reliability, and operation of the Castaic Power Plant facility" is the sole and exclusive responsibility of the LADWP. As stated above, the Trails Plan has been revised by removing proposed trail segments EF1, EF2, and EF3 to reduce direct access to the Castaic Power Plant and the critical components of the Castaic Power Plant (including the Elderberry Forebay and Elderberry Dam) within the boundary of the South SWP Hydropower, FERC Project No. 2426, thus providing an appropriate alignment for recreation enthusiast consistent with the SRA designation and Master Plan.

[38] Los Angeles County Department of Regional Planning. May 2014. Los Angeles County General Plan 2035 Adopted 6 October 2015. *Los Angeles County General Plan 2035*. "Figure 10.1: Regional Trail System." Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_10-1_regional_trail_system.pdf

C. AGENCY VERBAL COMMENTS – MAY 17, 2016, AGENCY MEETING

C1.
COUNTY OF LOS ANGELES FIRE DEPARTMENT

FS 150 19190 Golden Valley Road
Santa Clarita, CA 91387

Stephanie English
Public Relations Specialist

Response to Comment No. C1.1:

The Trails Plan was pre-reviewed by LACoFD (Chief Lewis) regarding the Del Valle property, then elevated to the Fire Chief's office for review. County Parks understands that the proposed project has adequately resolved LACoFD concerns regarding the compatibility of trail use and conservation of security and training programs associated with the Del Valle property.

Response to Comment No. C1.2:

To facilitate emergency response and access, the Trails Plan would include a trail marker numbering system, labeled on signs at every quarter mile to identify the location for emergency response. The requirement language from Section 1.9, *Project Description*, of the proposed MND has been added to Section 4.3, *Proposed Trails*, page 54, after Table 4-2, *Trail Category Conversion*, of the Trails Plan.

Response to Comment No. C1.3:

Trails would be designed consistently with both the Trails Plan and the *County of Los Angeles Trails Manual* (County Trails Manual)[39] to avoid hazardous conditions. At trail access points, boards would identify the trail conditions and type. The County Trail Signage Program will be installed in District 5 by the spring of 2017. Caution signs (e.g., cliff) with direction to the County's trail website would be part of the program, which has alerts for fire danger, mudslides, rattlesnakes, and so forth.

Response to Comment No. C1.4:

County Parks agrees to development of an interdepartmental protocol or policy to periodically share information related to recreation use, safety, security, and emergency response in the Castaic planning area. The broader policy issue, not necessarily tied to the proposed project, has been elevated to County Parks management for consideration.

The County Trails Manual recommends avoiding the design of excessively steep trails, providing adequate emergency access, and minimizing creation of unnecessarily dangerous conditions (such as turns with little or no visibility). Section 1.4, *County of Los Angeles Trails Manual*, Section 2.1.1, *Goals*, and Section 3.4, *Trail Planning and Design Policies and Standards*, of the Trails Plan specify that trails

[39] County of Los Angeles Department of Parks and Recreation. [Adopted 17 May 2011] Revised June 2013. County of Los Angeles Trails Manual. Available at: https://trails.lacounty.gov/Files/Documents/69/LA%20County%20Trails%20Manual%20%28Revised%2006-20-13%29.compressed.pdf

would be designed consistent with the provisions of the County Trails Manual. County Parks will evaluate each trail segment proposed for construction for consistency with the County Trails Manual. This is a natural follow-up to County Parks' Trail Safety and Emergency Response Plan, developed in 2015 in coordination with LACoFD and the County of Los Angeles Sheriff's Department (LASD), to improve security at County Parks' trail-related facilities, address the County's risk management, and support search and rescue operations.

Response to Comment No. C1.5:

The County Parks Trails website (https://trails.lacounty.gov/) provides trail users with information related to safety and also provides information regarding what to do in case of ticks, rattlesnakes, and poison oak. This information is also included on the back of printable trail maps that can be downloaded from the website.

Response to Comment No. C1.6:

County Parks has a dedicated project manager for coordination of off-highway vehicle (OHV) recreation opportunities. The proposed project does not include OHV use and is limited to proposed trails for equestrian, mountain biking, and hiking use.

C2.
U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
ANGELES NATIONAL FOREST

Justin Seastrand (Arcadia)
Dennis Merkel (San Fernando)
Ray Kidd (San Fernando)
Erick Stemmerman (Acton)

Response to Comment No. C2.1:

The County Trail Signage Program for identification, regulatory, cautionary, carsonite mileage markers, and potential development of app is an independent effort not associated with the proposed project.

Response to Comment No. C2.2:

The County Trail Signage Program will be installed in the Fifth Supervisorial District by spring of 2017.

Response to Comment No. C2.3:

The County Trail Signage Program will be installed first in District 5, then 1, then 4, for all new projects.

Response to Comment No. C2.4:

County Parks has sent the County Trail Signage Program to the U.S. Department of Agriculture, Forest Service (USFS) for review.

Response to Comment No. C2.5:

With the exception of some natural areas which exclude mountain biking, all County regional trails are multi-use, in accordance with the County's multi-use trail policy.

Response to Comment No. C2.6:

Thank you for your comment expressing concern about consistent recreation uses at the connections to federal lands. The proposed project would place emphasis on bike skills parks for steep, fast trail opportunities for community in addition to the multi-use trails. County Parks is working closely with mountain biking and equestrian communities to self-regulate with signage, education, and self-policing users.

Response to Comment No. C2.7:

Thank you for your question regarding adjacent land use planning. County Parks reached out to USFS before the CEQA document was prepared, including discussion of transition considerations.

The proposed project would not result in significant impacts; it would neither accelerate use nor prevent use in forest.

Response to Comment No. C2.8:

Thank you for the comment expressing concern about quantified user increase of the project. County Parks has considered the existing population (Section 14, *Population and Housing*, of the MND) and ability of recreational resources to absorb use (see Section 2.16, *Recreation*, of the MND). Impacts to recreation were found to be less than significant because the proposed project would encourage use of regional parkland, of which there is a surplus in the region, and would reduce the deficit in local parkland. The proposed project is anticipated to support residents. Mechanisms for trails are mainly (1) subdivision entitlement requiring dedication of trails and (2) private property owners can donate or provide easements, as discussed in Section 5.0, *Trail Implementation Approach*, of the Trails Plan.

C3.
CITY OF SANTA CLARITA
PARKS, PLANNING, AND OPEN SPACE OFFICE

Jeff Morrison
jmorrison@santa-clarita.com

Response to Comment No. C3.1:

Thank you for providing County Parks with information regarding potential future opportunity for a connection to proposed trail segment TC1. One of the proposed trail alignments, which was also a 2007 adopted proposed alignment, crosses through the subject parcel.

C4.
COUNTY OF LOS ANGELES DEPARTMENT OF REGIONAL PLANNING
COMMUNITY STUDIES NORTH
320 West Temple Street
Los Angeles, CA 90012

Max Thelander
Senior Regional Planning Assistant

Response to Comment No. C4.1:

There has been ongoing coordination regarding the status of the land transfer in the Santa Felicia Significant Ecological Area (SEA), and additional efforts will be made to review the proposed project with the Trust for Public Lands (TPL) prior to consideration by the County Board of Supervisors. The TPL has no comments on the proposed trail alignment and has indicated that the 25 miles of fire roads within the TPL property are all well suited for trail development.

D. PUBLIC WRITTEN COMMENTS

D1.
Casey Allen
casey.richardallen2@gmail.com

Response to Comment No. D1.1:

Ease of vehicle access to the trail parking lot or trailhead is a planning consideration taken into account in development of the Trails Plan. Following an active public engagement process, the Trails Plan is developed with input of the public. Five new trailhead locations are proposed in the Trails Plan. Trailhead and trails locations are based on the following criteria, as outlined in Section 4.3 of the Trails Plan:

- proximity of trails to roadways,
- constraints due to the terrain of the trail locations,
- easements provided by proposed development,
- streamlining the trail alignments into a regional network connecting to designated priority designation, and
- minimizing impact on the environment.

The Del Valle Park trailhead location is one of the priority destinations being considered because of the trailhead's proximity to community park resources and walking path. The proposed MND evaluated these impacts in Section 2.17, *Transportation/Traffic*, and Appendix H, *Castaic Area Multi-Use Trails Plan Traffic Assessment*, and determined that there would be less than significant impacts. Please see Response to Comment No. C3, *Traffic Impacts*.

Response to Comment No. D1.2:

Section 1.4, *County of Los Angeles Trails Manual*, Section 2.1.1, *Goals*, and Section 3.4, *Trail Planning and Design Policies and Standards*, of the Trails Plan specify that trails would be designed consistent with the provisions of the County Trails Manual. The County Trails Manual includes provisions for safe design for equestrians.

Response to Comment No. D1.3:

As depicted on Figure 4-8, *Proposed Trail Network*, of the Trails Plan, and Figure 1.9-1, *Proposed Trails Plan*, of the proposed MND, the conceptual trails plan crosses the U.S. Interstate-5 freeway at four locations: twice through tunnels under the freeway at IP2, once under a freeway bridge at Sloan Canyon Road/Lake Hughes Road for SC3, and once along the Castaic Creek wash under the freeway for CC2. There are two locations where trails may require crossings over SR-126 to connect to trails outside the Castaic Project Area. Section 4.3.7 of the County Trails Manual suggests that road crossings either (1) occur at grade, (2) are directed under the road through a culvert, or (3) are directed over the road with a bridge. The alignments crossing State Route (SR) 126 would be designed consistent with the provisions of the Trails Plan. Public safety and security are social issues that are beyond the scope of CEQA but are inherent to the design and review process undertaken

by County Parks consistent with coordination with the County of Los Angeles Department of Public Works and the California Department of Transportation (Caltrans).

Response to Comment No. D1.4:

As shown on Figure 4-9, *Proposed Trail Related Facilities and Trail Segment Details*, of the Trails Plan and Figure 1.9-3, *Proposed Trail Related Facility Locations*, of the proposed MND, the four proposed equestrian-focused trailheads are located on the east side of the I-5 freeway because there is an existing equestrian facility, Hasley Canyon Equestrian Center, located on the west side of the I-5 freeway. As shown on Figure 1.9-2, *Proposed Trail Related Facility Locations*, of the proposed MND, the proposed project would also include three Staging Areas and Trail Amenities trailheads on the west side of the I-5 freeway. As listed in Table 1.9-3, *Proposed Trail Related Facilities*, of the MND, these trailheads would also include horse ties and rails to support equestrian use. Trails leading from Staging Areas and Trail Amenities trailheads on the west side of the I-5 freeway have been proposed to provide loops around Val Verde and Hasley Canyon.

Response to Comment No. D1.5:

Thank you for the suggestion to look for local groups that will be using the trails for trail maintenance assistance. As indicated in Section 5.1.3, *Local Agencies, Organizations and Utilities*, of the Trails Plan, the County coordinates with recreation advocates on trail maintenance.

Response to Comment No. D1.6:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the County Board of Supervisors.

D2.
Asim Altamimi (1)
Real Estate Broker
santamonican@yahoo.com

Response to Comment No. D2.1:

The Interstate Paintball Trail, as currently conceptualized, would cross a parcel you own. As noted in Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*, the proposed project is conceptual in nature, and the locations of proposed trails are subject to adjustment should development be pursued. Additionally, if the property owner were to grant a trail easement to the County, the County would work collaboratively with them to find a route that works for both parties. The County is not proposing to develop without the property owner's consent.

D3.
Asim Altamimi (2)
Real Estate Broker
santamonican@yahoo.com

Response to Comment No. D3.1:

The County does not have any immediate plans to develop the Interstate Paintball Trail, which conceptually passes through your property. As noted in Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*, the proposed project is conceptual in nature, and the locations of proposed trails are subject to adjustment should development be pursued. Should the County decide to pursue development in the future, the County will work collaboratively with the property owner to grant a trail easement to the County.

D4.
Brandan Blankenship
bablankenship@my.canyons.edu

Response to Comment No. D4.1:

As indicated in Response to Topical Comment No. A1, *Notification*, notices were sent to property owners located in or adjacent to the approximately 75-square-mile Castaic Project Area using the mailing addresses from the County's Assessor Office. The County has reviewed the County Assessor's data. There are five parcels located within the Castaic Project Area or a half-mile radius of the Castaic Project Area with the owner listed as "Blakenship" (none are noted as "Brandan"). None of the proposed trails in the Trails Plan cross these five parcels (AINs 2810-055-179, 2810-075-022, 2810-084-010, 2865-082-050, and 2865-093-065). To avoid noticing issues for other projects in the future, County Parks recommends that you check your mailing address with the County Assessor and, if outdated, submit a request to change your mailing address.

Response to Comment No. D4.2:

Thank you for bringing your concerns regarding potential increased fire danger, theft, and trespassing as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

D5.
Brian Boorsma
Boorsma.brian@gmail.com

Response to Comment No. D5.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the County Board of Supervisors.

D6.
Kevin Eng
Kevin_eng@att.net

Response to Comment No. D6.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the County Board of Supervisors.

D7.
Roy and Robin Gist
31019 Hasley Canyon Road
Castaic, CA 91384
ogbirdie@aol.com
roy.gist@aol.com

Response to Comment No. D7.1:

Thank you for bringing your concerns regarding potential increased vandalism and trespassing as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. D7.2:

Thank you for bringing your concerns regarding potential increased fire hazards as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. D7.3:

Please see Response to Topical Comment No. A3, *Traffic Impacts*.

Response to Comment No. D7.4:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the County Board of Supervisors.

D8.
Ronnie Holguin
Gilmour Ranch
31025 Hasley Canyon Road
Castaic, CA 91384
ronnieholguin@gmail.com

Response to Comment No. D8.1:

Thank you for bringing your concerns regarding potential increased theft as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. D8.2:

Thank you for the comment expressing concern about the dangers of wildlife towards trail users in the Santa Clarita Valley. A countywide master sign program for identification, regulatory, cautionary, carsonite mileage markers, and potential development of app is an independent effort not associated with the proposed project that will be installed in the 5th Supervisorial District by end of summer. The signage program would be installed first in District 5, then 1, then 4, for all new projects.

County Parks has Safety Guidelines on its trails website that provide general information about natural hazards such as rattlesnakes (https://trails.lacounty.gov/SafetyGuidelines). Additionally, for each existing County trail, County Parks has created a printable guide to the trail that contains emergency contact information (emergency and non-emergency phone numbers) and common hazards on the trail, including rattlesnakes and ticks.

Response to Comment No. D8.3:

Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. D8.4:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the County Board of Supervisors.

D9.
Christine Kelly
kelly.home@roadrunner.com

Response to Comment No. D9.1:

As a property owner located in or adjacent to the approximately 75-square-mile study area, you received the notice of intent to present the MND for consideration for adoption by the Board of Supervisors. If the Board of Supervisors adopts the MND, then they may undertake consideration of approval of the Trails Plan. The proposed conceptual trail alignments are not located within the parcels specified in your comment (AINs 3247-028-003, 3247-028-004, 3247-028-014, and 3247-028-017).

D10.
Pamela Lampman (1)
plampman@galpin.com

Response to Comment No. D10.1:

The proposed trail segment HC1 is currently aligned to pass through four of your parcels (3247-027-010, 3247-029-009, 3247-029-007, and 3247-027-011) and within 15 feet of a fifth parcel (3247-029-008). The proposed Hasley Canyon Trail is conceptual in nature, and the location is subject to adjustment should development of the trail be pursued. Additionally, Wherever feasible the alignments have been rerouted to minimize encroachment on parcels where the homeowner has expressed opposition to accommodating a trail segment. The County is not proposing to develop without the property owner's consent.

D11.
Pamela Lampman (2)
pamela_lampman@yahoo.com

Response to Comment No. D11.1:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. The County does not have any immediate plans to develop the Hasley Canyon Trail, which passes through four of your parcels (3247-027-010, 3247-029-009, 3247-029-007, and 3247-027-011) and within 15 feet of a fifth parcel (3247-029-008). Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*. Trails would be aligned to avoid active oil rigs.

Please see Response to Topical Comment No. A4, *Private Property Rights*.

D12.
Zen Lerner
Gilmore Ranch
31025 Hasley Canyon Road
Castaic, CA 91384
Lerner.zen@gmail.com

Response to Comment No. D12.1:

Thank you for bringing your concerns regarding potential property owner liability due to increased vandalism, stealing, and trespassing as a result of the Trails Plan to the County's attention. Please see Response to Topical Comments No. A1, *Safety and Security*, and No. A3, *Private Property Rights*.

Response to Comment No. D12.2:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. The proposed trail alignments would not cross your property on Gilmore Ranch. Please see Response to Topical Comment No. A1, *Notification*.

D13.
Ben Norman
ctekie@gmail.com

Response to Comment No. D13.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors.

D14.
Lisa Park (owner) and Lynn Wilson (broker)
9101 Esperanza
Irvine, CA 92618
lisapark0111@gmail.com
lynnwilson4re@gmail.com

Response to Comment No. D14.1:

Thank you for participating in the community meeting regarding the proposed project. The County has emailed you a map that shows the boundary of your property in relation to previously adopted trails (2007) and the Trails Plan. As the map illustrates, the proposed Charlie Canyon Trail crosses one of the referenced parcels: APN 3244-023-018. No new trails are being proposed as part of the Trails Plan; however, the proposed Charlie Canyon Trail that was adopted as part of the County's General Plan in 2007 (Parks and Recreation Element / Figure) remains in the same location. The adopted alignment was retained during the 2035 General Plan Update, approved in October 2015. This Trails Plan makes no further changes to the adopted alignment. The proposed Charlie Canyon Trail is conceptual in nature and subject to adjustment upon further review should development of the trail be pursued. Additionally, if a trail easement were granted to the County, the County would work collaboratively with you to find a route that works for both parties.

Response to Comment No. D14.2:

Landowners who are interested in selling or donating property or providing an easement to accommodate development of multi-use trails in the 5th Supervisorial District should contact Ms. Olga Ruano at oruano@parks.lacounty.gov. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*. County Parks will work closely with its Land Management section to determine the County's interest in your property and the value it may add to the proposed trail network.

You have been added to the project contact list. Please see http://www.castaicmultiusetrails.org/ for periodic notifications related to the proposed project. County Parks will also provide notification to those who have requested such notification of the anticipated date of consideration of adoption of the MND by the Board of Supervisors. If the Board adopts the MND, they may then undertake consideration of approval of the Trails Plan. If you request notification from the County regarding this project, County Parks will keep you notified of any changes or updates to the Trails Plan as it moves forward towards adoption, which is currently expected in November 2016.

Response to Comment No. D14.3:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. The proposed Charlie Canyon Trail is conceptual in nature, and the location is subject to adjustment should development of the trail be pursued. Wherever feasible the alignments have been rerouted to minimize encroachment on parcels where the homeowner has expressed opposition to accommodating a trail segment. The County is not proposing to develop without the property owner's consent.

Response to Comment No. D14.4:

Thank you for the comment requesting information on liability regarding public use. Please see Response to Topical Comment No. A4, *Private Property Rights*.

D15.
Lisa Park
lisapark0111@gmail.com

Response to Comment No. D15.1:

Thank you for the comment expressing concern about the potential unauthorized use of the *de facto* Tapia Canyon, as a result of the development of the Charlie Canyon Trail. Please see Response to Topical Comment No. A2, *Safety and Security*. County Parks has Safety Guidelines on its trails website that provide general information about the inherent risks and hazards of trail use, as well as language directing trail users to use marked, authorized trails only and obey all posted rules and regulations (https://trails.lacounty.gov/SafetyGuidelines). Additionally, for each existing County trail, County Parks has created a printable guide to the trail that contains emergency contact information (emergency and non-emergency phone numbers) and common hazards on the trail, including rattlesnakes and ticks. Consistent with section 4.3.6.2, *Regulatory Signs*, of the County Trails Manual, new County trails developed under the Trails Plan would include "crossing private lands" signs near the interface between a trail network and adjacent communities, as well as boundary signs alerting trail users and landowners of the presence of a trail easement.

Response to Comment No. D15.2:

Landowners who are interested in selling or donating property or providing an easement to accommodate development of multi-use trails in the 5th Supervisorial District should contact Ms. Olga Ruano at oruano@parks.lacounty.gov. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. D15.3:

You have been added to the project contact list. Please see Response to Topical Comment No. A1, *Notification*.

D16.
Linda Pyburn (1)
pyburn.ll@gmail.com

Response to Comment No. D16.1:

As a property owner located in or adjacent to the approximately 75-square-mile study area, you received notice of intent to recommend adoption of an MND and present the Trails Plan to the Board of Supervisors for consideration. The specified parcels (3247-028-007, 3247-028-008, 3247-028-009, 3247-028-010, 3247-035-003, 3247-035-004, 3247-036-010, 3247-036-011, and 3247-036-020) are not located in the proposed conceptual trail alignment.

D17.
Linda Pyburn (2)
pyburn.ll@gmail.com

Response to Comment No. D17.1:

Your comment requesting that proposed trail alignments are not moved to your property shall be taken into consideration by the Board of Supervisors during the decision-making process related to the proposed project.

D18.
Karl Reinecker
25643 Tapia Canyon Road
Castaic, CA 91384
skreinecker@gotsky.com

Response to Comment No. D18.1:

Thank you for the question about acquiring necessary property from "unwilling sellers." Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. D18.2:

The proposed Tapia Canyon Trail is conceptual in nature and subject to adjustment upon further review should development of the trail be pursued.

Response to Comment No. D18.3:

Please see Response to Topical Comments No. A2, *Safety and Security*, and No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. D18.4:

A cost estimate for project implementation has not yet been developed. The cost estimate would be developed consistent with the hard costs, soft costs, and cost considerations described in Section 5.5, *Planning-Level Cost Summary*, of the Trails Plan.

D19.
Bruce Saidi
bruice@visionsav.com

Response to Comment No. D19.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors.

D20.
Manuel Santana
25208 Wheeler Road
Newhall, CA 91321

Response to Comment No. D20.1:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. No proposed trails cross the four parcel numbers you provided. AIN 3247-029-016 is located 1,200 feet away from the nearest proposed trail, 3247-034-004 is located approximately 0.35 mile from the nearest proposed trail, 3247-033-011 is located approximately 150 feet from the nearest proposed trail, and 3247-034-021 is located approximately 0.40 mile from the nearest proposed trail. Please see Response to Topical Comments No. A2, *Safety and Security,* and No. A4, *Private Property Rights*.

D21.
Paul R. Santana
25208 Wheeler Road
Newhall, CA 91321
pauls_1023@icloud.com

Response to Comment No. D21.1:

Thank you for the comment requesting information on liability regarding public use. Please see Response to Topical Comment No. A4, *Private Property Rights*.

D22.
Robert Sjoberg
rjselectricinc@aol.com

Response to Comment No. D22.1:

Your opposition to the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. The proposed Charlie Canyon Trail crosses one of the parcels you own, APN 3244-023-011. No new trails are being proposed as part of the Trails Plan; however, the proposed Charlie Canyon Trail that was adopted as part of the County's General Plan in 2007 (Parks and Recreation Element / Figure) remains in the same location. The adopted alignment was retained during the 2035 General Plan Update, approved in October 2015. This Trails Plan makes no further changes to the adopted alignment. The proposed Charlie Canyon Trail is conceptual in nature and subject to adjustment upon further review should development of the trail be pursued. Additionally, if a trail easement were granted to the County, the County would work collaboratively with you to find a route that works for both parties. The County is not proposing to develop without the property owner's consent.

D23.
Janice Smalley
janicesmalley@att.net

Response to Comment No. D23.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors.

D24.
Hunt Williams
Sterling Ranch Estates Project
P.O. Box 681007
Park City, UT 84068
Huntwilliams2002@yahoo.com

Response to Comment No. D24.1:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors.

Response to Comment No. D24.2:

Table 4.3.1-1, *Trail Classification Guidelines*, of the County Trails Manual specifies a natural surface for four of the five County trail classifications. Similarly, Table 4-2, *Trail Category Conversion*, of the Trails Plan specifies three natural surface trail categories for more rural locations. Your request that trail segments CO3 and CO4 be kept as natural as possible is noted and shall be taken into consideration during the design and development process of these two trail segments.

D25.
Alex Zitser (1)
azitser@att.net

Response to Comment No. D25.1:

Thank you for bringing your concern about increased noise, inconvenience to residents, and decreased property values as a result of the Trails Plan to the County's attention. The intersection of Seco Canyon Road and Hazel Street in Saugus is located approximately 0.3 mile east of the Castaic Project Area. Please contact the City of Santa Clarita regarding your concerns, which may be a utility service road (if it is the dirt road directly north of Fig Court) or within Mountain View Park.

As stated Section 2.13, *Noise*, of the MND, the proposed project would result in a less than significant impact in regard to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas. The primary sources of noise within the Castaic Project Area can be attributed to conversational noise from recreational uses such as hiking, bike riding, and equestrian riding along with other environmental factors such as wind. A normal conversation at 5 to 10 feet would typically measure 60 dBA, which would not exceed the measured existing ambient noise level (62.7 dBA). As a result, the operation of the proposed project would not result in substantial permanent increases in ambient noise levels in the vicinity above levels existing without the proposed project. Therefore, the proposed project would result in a less than significant impact in regard to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, including noise from parking areas, and no mitigation would be required.

Please see Response to Topical Comments No. A2, *Safety and Security,* and No. A6, *Trail Easement and Open Space Acquisition*. Economics is not an environmental issue pursuant to CEQA. However, numerous studies have indicated that property values increase the closer the property is to trails, parks, and access to trailheads.[40,41,42] A study in Boulder, Colorado, found that, all other variables being equal, the average value of property adjacent to the greenbelt would be higher than those 3,200 feet away.[43] Trails ranked as the second most important community amenity out of a list of 18 choices in a 2002 survey of homebuyers, conducted by the National Association of Homebuilders.[44] The majority of real estate agents state that they use trails as a selling point.[45]

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[40] Nelson, A. 1986. Using Land Markets to Evaluate Urban Containment Programs. *APA Journal*, Spring, pp. 156–171.

[41] Lagerwey, P., and B. Puncochar. 1988. Evaluation of the Burke-Gilman Trails Effect of Property Values and Crime. *Transportation Research Record* 1168: 57–59. Washington, D.C.: Transportation Research Board.

[42] Rivers, Trails, and Conservation Assistance, National Park Service. June 1995. *Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors: A Resource Book*. Oakland, CA.

[43] Correll, Lillydahl, and Singell. May 1978. *The Effects of Greenbelts on Residential Property Values: Some Findings on the Political Economy of Open Space*. Madison, WI: University of Wisconsin Press.

[44] National Association of Realtors and National Association of Home Builders. April 2002. *Consumer's Survey on Smart Choices for Home Buyers*. Washington, DC.

[45] The Conservation Fund and Colorado State Parks State Trails Program. 1995. *The Effect of Greenways on Property Values and Public Safety*. Denver, CO.

D26.
Alex Zitser (2)
azitser@att.net

Response to Comment No. D26.1:

Thank you for your question. The provided address (28423 Seco Canyon Road) is located approximately 0.2 mile (approximately 1,280 feet) east of the Castaic Project Area. The nearest proposed trail, segment CE6, would be located approximately 0.8 mile northwest of your address.

E. PUBLIC VERBAL COMMENTS – MAY 18, 2016 COMMUNITY MEETING

Multi-purpose Room at Castaic Middle School
28900 Hillcrest Parkway, Castaic, California 91384
Wednesday, May 18, 2016, from 6:00 p.m. to 8:00 p.m.

Response to Comment No. E1:

Thank you for the comment expressing concern about trespassing and unmaintained open space in the City of Santa Clarita. There is no City of Santa Clarita property located in the Castaic Project Area. Please see Response to Topical Comments No. A2, *Safety and Security,* No. A4, *Private Property Rights*, and No. A7, *Trail Maintenance*.

Response to Comment No. E2:

Thank you for the question expressing concern about who is responsible for what on constructed trails. Please see Response to Topical Comment No. A4, *Private Property Rights*. Complaints would need to be directed to the County Sheriff (LASD).

Response to Comment No. E3:

Thank you for the question whether more detailed maps are going to be made. The Trails Plan is a programmatic document that would provide a framework to guide and promote new multi-use trails and recommend improvements to existing trails, providing a continuous alignment with seamless transitions throughout the Castaic Project Area to areas, jurisdictions, and prime destinations within and adjacent to the Castaic Project Area, as stated in Section 2.1, *Goals and Objectives*, of the Trails Plan and Section 1.10, *Statement of Objectives*, of the MND. As stated in Section 1.2 of the Trails Plan, the Trails Plan takes various factors into consideration, including circulation, accessibility and connectivity, and property rights. The maps in the Trails Plan are intended to show the overall routes that proposed trail system would provide, although land acquisition and design at the project level would be determined on a case-by-case basis based on property rights and site-specific conditions. Therefore, detailed maps would be developed at the project level of analysis of specific trail segments proposed for development. If you have any inquiries about a specific proposed trail route, please contact Ms. Olga Ruano at oruano@parks.lacounty.gov.

Response to Comment No. E4:

Thank you for the comment expressing concern about who will maintain the trails. Please see Response to Topical Comment No. A7, *Trail Maintenance*.

Response to Comment No. E5:

Thank you for the comment expressing concerns about an orange rectangle in Hasley Canyon. Alta Planning+Design, Inc. provided the answer to your question during the community meeting.

Response to Comment No. E6:

The Trails Plan is supportive of improving trail conditions and active use of trails, which will encourage shifting of activities to reduce offset highway hazards. The Trails Plan is being envisioned to improve community recreation and enhance trail experience.

Response to Comment No. E7:

Thank you for bringing your concern that the Trails Plan would make existing trespassing worse to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E8:

Thank you for bringing your concern about whether the County will force egress to the County's attention. The County would not use eminent domain for trail development. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E9:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors. Seven of the 21 proposed trailheads in the Trails Plan (shown on Figure 4-9, *Proposed Trail Related Faculties and Trail Segment Details*) are located in the immediate vicinity of existing neighborhoods. One proposed trailhead, Tapia Canyon Road, would provide an access point to a proposed neighborhood development. Trailheads have been proposed within the Castaic Lake State Recreation Area and at Castaic Sports Complex to facilitate recreation access on already County-managed property. One proposed trailhead at Hasley Canyon Equestrian Center would provide a connection to the existing Hasley Canyon Trail segment, and the two trailhead along Ridge Route Road would provide potential access to recreation in the Angeles National Forest. The Chiquito Canyon trailhead would provide a connection to the regional Santa Clara River trail.

Response to Comment No. E10:

Your support of the Trails Plan shall be taken into consideration during the decision-making process by the Board of Supervisors, including the comment that trails are an opportunity to add rules and regulations to avoid trespassing.

Response to Comment No. E11:

Ease of vehicle access to the trail parking lot or trailhead is a planning consideration taken into account in development of the Trails Plan. Following an active public engagement process, the Trails Plan has been developed with input of the public. Currently, five trailhead locations are proposed. The evaluation criteria used to develop the current trailhead and trails locations are based on the following reasons, as outlined in Section 4.3 of the Trails Plan: proximity of trails to roadways, constraints due to the terrain of the trail locations, easements provided by proposed development, streamlining the trail alignments into a regional network connecting to designated priority designation, and minimizing impact on the environment. The Del Valle Park trailhead location is one of the priority destinations being considered because of the trailhead's proximity to

community park resources and walking path. The concern you have on traffic, parking, and congestion is noted, and will be assessed in consideration of impacts.

Response to Comment No. E12:

Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E13:

Thank you for the comment expressing a need for the dirt bike community to access the Angeles National Forest through Sloan Canyon Road. Dirt bikes are not within the scope of this project. This comment has been provided to the County OHV specialist and to the USFS Angeles National Forest.

Response to Comment No. E14:

Thank you for the comment requesting that the Trails Plan be downsized. This is a regional trails plan to guide development of trails at a project level. As reported by multiple parties during the scoping process, unsanctioned recreational use occurs in the Castaic Area. The purpose of the Trails Plan is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E15:

There will be no fees instituted to access County trails. As allowable by California Code of Regulations, 14 CCR § 4302, parking fees are charged for vehicular access to the Castaic Lake State Recreation Area. Removal of such fees is beyond the scope of analysis of the proposed project.[46]

Response to Comment No. E16:

The proposed trails would be clearly marked at each trailhead and along the trail, with trail markers situated every quarter mile along each trail. County Parks has Safety Guidelines on its trails website that provide general information about the inherent risks and hazards of trail use, as well as language directing trail users to use marked, authorized trails only and obey all posted rules and regulations (https://trails.lacounty.gov/SafetyGuidelines). Additionally, for each existing County trail, County Parks has created a printable guide to the trail that contains emergency contact information (emergency and non-emergency phone numbers) and common hazards on the trail, including rattlesnakes and ticks.

[46] Thomas Reuters. Accessed 6 July 2016. *Barclays Official California Code of Regulations*. Title 14. Natural Resources, Division 3. Department of Parks and Recreation, Chapter 1. General. § 4302. Use of Facilities, Payment. Available at: https://govt.westlaw.com/calregs/Document/IA4D56180D48511DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

Response to Comment No. E17:

The parking near trailhead and staging areas will be set up to accommodate future access and improve existing uses. In Section 4.4.1 of the Trails Plan, parking amenities for existing conditions are assessed based on existing availabilities, taking into consideration lot sizes and number of spaces available. Turnover rates and options for nearby parking is a criteria used for assessing future needs for further parking, as well as connectivity to other access points based on proposed amenities.

Response to Comment No. E18:

Thank you for the comment regarding funding for maintenance. Trails would be developed under the County's supervision, funded by Quimby (recreation development) fees or subdivision developers who have a recreation requirement for housing projects. The maintenance of all trails is the responsibility of the County. Please see Response to Topical Comment No. A7, *Trail Maintenance.*

Response to Comment No. E19:

Thank you for the concern about parking fees at Castaic Lake State Recreation Area. As allowable by California Code of Regulations, 14 CCR § 4302, parking fees are charged for vehicular access to the Castaic Lake State Recreation Area. Removal of such fees is beyond the scope of analysis of the proposed project.[47]

Response to Comment No. E20:

Thank you for the comment expressing concerns that funds should be spent in areas already developed. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

As described in Section 2.2, *Planning Process*, of the Trails Plan, multiple parties reported during the scoping process that there is a demand for trails and unsanctioned recreational use occurs in the Castaic Area. The purpose of the Trails Plan is to replace unsanctioned use with a designated trail system that facilitates safe and secure recreational use. As described in Sections 2.14, *Population/Housing*, and 2.16, *Recreation*, of the MND, more trails will be needed to provide recreation opportunities as the population increases. There is a need for sanctioned recreation use in the Castaic Area that must be fulfilled as the area is developed. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E21:

Thank you for the suggestion about prioritizing trail buildout in areas that have the most existing unsanctioned recreational use. Section 5 of the Trails Plan includes a priority strategy that is based on trail use data collection from August to October 2015. Section 5.3*, Phasing*, of the Trails Plan prioritizes trails on property currently owned or managed by the County, providing connections to

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[47] Thomas Reuters. Accessed 6 July 2016. *Barclays Official California Code of Regulations*. Title 14. Natural Resources, Division 3. Department of Parks and Recreation, Chapter 1. General. § 4302. Use of Facilities, Payment. Available at: https://govt.westlaw.com/calregs/Document/IA4D56180D48511DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

existing trail segments, areas that have the most existing unsanctioned recreational use, and areas identified by the community with the greatest interest based on community outreach conducted in 2015.

Response to Comment No. E22:

Thank you for your comment regarding Ventura County's proposed Class I bikeway. The Trails Plan would apply only to unpaved, multi-use trails within Los Angeles County. Paved bikeways are within the jurisdiction of the County of Los Angeles Department of Public Works.

Thank you for your comment regarding the potential historic designation for the Old Ridge Route and its potential to be designated as a component of the U.S. Bicycle Route System. The U.S. Bicycle Route System is similar to the interstate system in that it creates a numbered interconnected series of bike paths in order to connect communities. The Trails Plan's proposed trail IP1 crosses the Old Ridge Route in the northern portion of the Castaic Project Area (see Figure 1.9-1). Designation of the Old Ridge Route as a segment of the U.S. Bicycle Route System would not be expected to preclude designation as a historical resource in the California Register of Historical Resources because they are separate and unrelated designations. However, if it is a historical resource under CEQA, then further development of the Old Ridge Route could result in a substantial adverse change to a historical resource.

Response to Comment No. E23:

Thank you for the question regarding whether there would be any Americans with Disabilities Act (ADA) accessible trails in the Castaic Area, and for the information about a precedent, the City of Santa Clarita River Village ADA trail. ADA accessible trails are appropriate near population centers, and the County would need to consider the design and development of ADA accessible trails on a segment by segment basis. As defined in the County Trails Manual and described in Table 4-1, *Trails Manual Classification Guidelines*, of the Trails Plan, an Urban Pedestrian Trail has the capability to be designed to be ADA accessible.

Response to Comment No. E24:

The City of Santa Clarita is required by State law to adhere to the Local Agency Formation Committee (LAFCO) process for annexations. Among the purposes of LAFCO are discouraging urban sprawl, preserving agricultural and open space lands, and encouraging the orderly formation and development of local government agencies based upon local conditions and circumstances (California Government Code § 56301). The Commission regulates, through approval and denial, the boundary changes proposed by other public agencies or individuals. In reviewing proposals for boundary changes, the Commission is required to consider certain factors such as the conformity between city and county plans, current service levels and the need for future services to the area, and the social, physical, and economic effects that agency boundary changes present to the community (§ 56841).[48] As a result, annexations by the City of Santa Clarita will preserve agricultural and open space lands. Additionally, County trails would remain part of the County trails system if areas are annexed by the City of Santa Clarita.

[48] Kern County Administrative Office. June 2011. A Citizen's Guide to Annexations by Cities. Available at: https://www.co.kern.ca.us/lafco/pdf/citizensguide.pdfe

Response to Comment No. E25:

Thank you for your comment regarding consistency of the Trails Plan with One Valley, One Vision Plan, the organization of governance, property rights, patchwork problem, access, and open space rights. The County General Plan is required to be consistent with State law. If the Trails Plan is adopted by the County, then the General Plan, inclusive of the One Valley, One Vision Plan, would be updated accordingly. The General Plan also is required to ensure that development, including open space planning occurs in an organized manner. Access, water rights, and open space rights are beyond the scope of this analysis.

Response to Comment No. E26:

Please see Response to Topical Comment No. A2, *Safety and Security*. Parking on private roads is a potential concern during trail development and use. Frequent and active of signs to guide users will encourage re-direction of traffic to designated parking location. Patrols will be enforcing parking regulations. Fines will be imposed, and parking area for public clearly marked, to avoid private property trespassing and parking.

Response to Comment No. E27:

Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E28:

Thank you for bringing your concerns about development pushing out recreational use to the County's attention. Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E29:

Complaints need to be directed to the County Sheriff (LASD).

Response to Comment No. E30:

Thank you for bringing your concerns about who is responsible for emergency response in rural trails to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E31:

Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E32:

The County Trails Manual recommends rerouting trails around mature trees and avoiding removal of trees wherever possible. Only in extreme situations would trees be removed. If a mature oak or walnut tree needs to be removed, it would be required to be replaced consistent with the County's Oak Tree Ordinance.

Response to Comment No. E33:

Please see Response to Topical Comment No. A1, *Notification*.

Response to Comment No. E34:

Thank you for bringing your concerns regarding potential impacts to agricultural uses (cow-tipping) as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E35:

Thank you for bringing your concerns regarding potential impacts to fire stations as a result of the Trails Plan to the County's attention. Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E36:

Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E37:

Thank you for the suggestion to communicate with equestrian clubs/groups for trail maintenance to ensure that erosion and runoff concerns are addressed promptly. Please see Response to Topical Comment No. A7, *Trail Maintenance*.

Response to Comment No. E38:

Thank you for the comment concerning the presence of critical habitat in the Castaic Project Area. As indicated in the MND, Volume II, Appendix C, *Biological Resources Assessment*, Figure 5, there is designated critical habitat for three species within the Castaic Project Area: least Bell's vireo, southwestern willow flycatcher, and arroyo toad. Mitigation Measure BIO-1 requires consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to ensure that there is no net adverse effect to the survival and recovery of listed species through avoidance monitoring, avoidance, and compensatory mitigation to achieve no net adverse effect.

Response to Comment No. E39:

Thank you for the question regarding the trail configuration in the northwestern (Santa Felicia SEA) portion of the Castaic Project Area. As stated in Section 2.1, *Aesthetics*, of the MND, trails are a normally considered a compatible use within Significant Ecological Areas (SEAs). The trail alignment within the Santa Felicia SEA has been designed to provide access for recreational enthusiasts to experience the unique biological resources that are the basis of the SEA designation, while at the same time minimizing the potential for habitat fragmentation. As part of the Trails Plan development and environmental review process, County Parks provided the Trails Plan to the existing property owner for review and comment. In addition, at the time of circulation of the MND, the Trust for Public Land (TPL) was engaged in discussion with the property owner

regarding the potential purchase of a portion of the land in the SEA. Therefore, the Trails Plan was also provided to TPL for review.

Response to Comment No. E40:

Thank you for the comment expressing concern that more mountain biking trail use should be provided. It is the County's trails policy to have a regional multi-use trail system, which allows for mountain biking use on all County trails where biking is not explicitly prohibited, and it is not within the scope of this project to revise the policy.

Response to Comment No. E41:

As required pursuant to CEQA and Assembly Bill (AB) 52, the Native American Heritage Commission provided the list of Native American Groups that represent the Most Likely Descendants based on the Castaic Project Area boundaries.

Response to Comment No. E42:

A records search was conducted at the South Central Coastal Information Center to determine the location of all known archaeological and historical resources, and outreach with Native American tribal groups was undertaken to determine the location of all known tribal cultural resources. The conceptual alignment has been designed to avoid impacts to known resources. However, the proposed study area is highly sensitive for cultural resources. Therefore, at the time that any segment of trail is proposed for development that would require ground-disturbing activities in soils that have been predominantly in situ during the past 50 years, the records and archival information shall be reviewed and updated as needed to determine if there are any recorded unique archaeological resources, significant historical resources as defined in Section 15064.5 of the State CEQA Guidelines within 60 feet of the trail alignment. A qualified archaeologist who meets the Secretary of the Interior's professional qualification standards for archaeology shall conduct a Phase I Walkover Survey to ascertain the presence or absence of unique archaeological and/or significant historic resources. If the survey determines potential unique archaeological resources or significant historical resources, including potential tribal cultural resources, then one of two courses of action shall be employed. Where avoidance is feasible, the trail alignments shall be realigned to avoid the potentially significant resource. Where avoidance is not feasible, a Phase II evaluation of the cultural resources shall be undertaken to determine the significance of the cultural resource. If the Phase II investigation identifies a unique/eligible cultural resource within the area proposed for ground-disturbing work, the County shall determine whether to avoid the resource through redesign or to proceed with a Phase III data recovery program consistent with the provisions of a Cultural Resource Management Plan. In addition, a qualified archeologist shall monitor construction activities that have the potential to disturb cultural resources. A Native American monitor shall also be present where there is a potential to encounter Tribal Cultural Resources, as defined in CEQA and AB 52.

Response to Comment No. E43:

Complaints need to be directed to the County Sheriff (LASD).

Response to Comment No. E44:

Please see Response to Topical Comment No. A5, *Parking*.

Response to Comment No. E45:

Please see Response to Topical Comment No. A3, *Traffic Impacts*.

Response to Comment No. E46:

Please see Response to Topical Comments No. A2, *Safety and Security*, and No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E47:

Please see Response to Topical Comment No. A2, *Safety and Security*.

Response to Comment No. E48:

The proposed Trails Plan is conceptual in nature, and trail alignments are subject to adjustment upon further review should development of the trail be pursued. The County is not proposing to develop without the property owner's consent. Additionally, if a trail easement were granted to the County, the County would work collaboratively with the property owner to find a route that works for both parties.

Response to Comment No. E49:

Please see Response to Topical Comment No. A6, *Trail Easement and Open Space Acquisition*.

Response to Comment No. E50:

Please see Response to Topical Comment No. A1, *Notification*.

Response to Comment No. E51:

The County would be responsible for trail maintenance within trail easements (County property). Please see Response to Topical Comment No. A7, *Trail Maintenance*.

Response to Comment No. E52:

Please see Response to Topical Comments No. A2, *Safety and Security*, and No. A4, *Private Property Rights*.

Response to Comment No. E53:

The Trails Plan does not authorize parking on private driveways. As indicated in Section 4.4, *Proposed Trail Related Facilities*, the Trails Plan anticipates parking requirements and provides for development

of parking areas. The Sheriff (LASD) is responsible enforcing parking regulations. Violations should be reported to the County Sheriff (LASD).

Response to Comment No. E54:

Complaints need to be directed to the County Sheriff (LASD).