

Calero County Park **Trails Master Plan**

Adopted October 8, 2013



bellinger foster steinmetz

CALERO COUNTY PARK TRAILS MASTER PLAN

ADOPTED
OCTOBER 8, 2013



Prepared for County of Santa Clara
Parks and Recreation Department

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EXECUTIVE SUMMARY



INTRODUCTION

Calero County Park is known regionally for its majestic views, rolling hill terrain, water recreation opportunities, and extensive trails system. Its large ‘back country’ area offers experiences of tranquility and solitude along its many trails. From its ridge lines, spectacular vistas open unto southern Santa Clara County and the surrounding Santa Cruz Mountain range. The park is also known for its spectacular display of spring wildflowers and the beauty of its expansive grasslands, stands of California oak woodlands, and chaparral and riparian plant communities. The variance of topography, soil type, and vegetation also supports diverse and abundant wildlife. Large areas of serpentine soils support sensitive habitat and many protected species.

The Calero County Park Trails Master Plan outlines the expansion of an existing trail system to include **limited use trails** for equestrians, hikers, and dogs on-leash and **multi-use trails**, which will allow all users (bikers, equestrians, hikers, dogs on-leash, carts), to open the recently acquired Rancho San Vicente property to the public, and to provide regional trail connections as identified in the *Santa Clara County Countywide Trails Master Plan*. The proposed improvements respond to an ever growing demand for trails by a diverse and growing population of the nearby urban centers.

PROCESS

The planning process was conducted from August 2010 to June 2013, with the involvement of numerous participants, including community members, trail user groups, soil scientists, landscape architects, and Parks staff. Several groups provided input along the way, including a Technical Advisory Committee made up of partner agencies, the Parks and Recreation Commission, and the County Board of Supervisors.

Trails identified on the Calero County Park Trails Map represent trail routes rather than exact trail alignments. Actual trail alignments will be field fit, allowing County Trails Crew to minimize resource disturbance while maximizing user benefits. Along with creating new trails, the expansion of the existing trail system will also include modifications to current trail alignments. Trails will be rerouted where hydrologic conditions, undesirable soil types, and steep terrain lead to extensive ongoing maintenance

and frequent trail closures. All abandoned trails will be restored to native habitat following established guidelines.

The Trails Master Plan nearly doubles the mileage of the existing trail system. Equestrians and hikers currently use approximately 20 miles of trails. At final build-out the expanded trail system will have grown to approximately 36 miles and will offer many trails for walkers with dogs-on-leash and mountain bikers. Unique to Calero County Park, the historic equestrian/hiker trails in the central core will be retained for these uses while expanding its user group to include dogs-on-leash. Approximately 7.5 designated trail miles will accommodate equestrians who are less comfortable on multi-use trails. Two trails have been designated for pedestrian use only, one due to steep terrain and the other to protect sensitive serpentine habitat. In consideration of the current Open Space Authority (OSA) policy that prohibits dogs on OSA lands, trails on the south side of the park that lead to OSA facilities or connect to OSA trails will not allow dogs on-leash at this time.

Overall trails will vary greatly, traversing from easy to difficult terrain, spreading from narrow single track to drivable road width, ranging from short distance to long loops and offering local to regional experiences. Consistently, long distance and regional trail connections were requested during the public outreach process. Calero County Park trails will now connect to and expand four regional trails: the West Valley Trail, the Guadalupe/Calero Trail, the Calero/Santa Teresa Trail and the Bailey Road Trail. The Bay Area Ridge Trail and Midpeninsula Regional Open Space District view Calero trails in the new Rancho San Vicente portion of the park as potential linkages for a desired cross-valley trail connection. New trail and staging area alignments in Rancho San Vicente will also facilitate future trail connections to Santa Teresa and Almaden-Quicksilver County Parks. Future trail connections crossing at McKean Road east of Calero Reservoir foresee connections to OSA's Coyote Valley Preserve.

It is anticipated that opening the park to new user groups will substantially increase the number of trail users. In support, two new staging areas are planned, one off Almaden Road and one off McKean Road. In addition, the Ranger Station staging area will be expanded. Signage, fencing and gates will be used to direct user groups.

Located within the permit area of the *Santa Clara Valley Habitat Plan* (Valley Habitat Plan) and identified as a "covered activity" under the Valley Habitat Plan, the Trails Master Plan also referenced the framework and conservation strategies of the Valley Habitat Plan for the protection of natural resources, including endangered species, as part of the planning process for new trails and supporting recreational facilities at Calero County Park.

The Trails Master Plan is currently being reviewed under the guidelines of the California Environmental

Quality Act (CEQA). Upon completion of the environmental review process, the Trails Master Plan and associated environmental documents will be considered by the County Board of Supervisors. Adoption of these documents is the first step toward implementing the Calero County Park Trails Master Plan.

CHAPTER OUTLINE

The Trails Master Plan consists of five chapters:

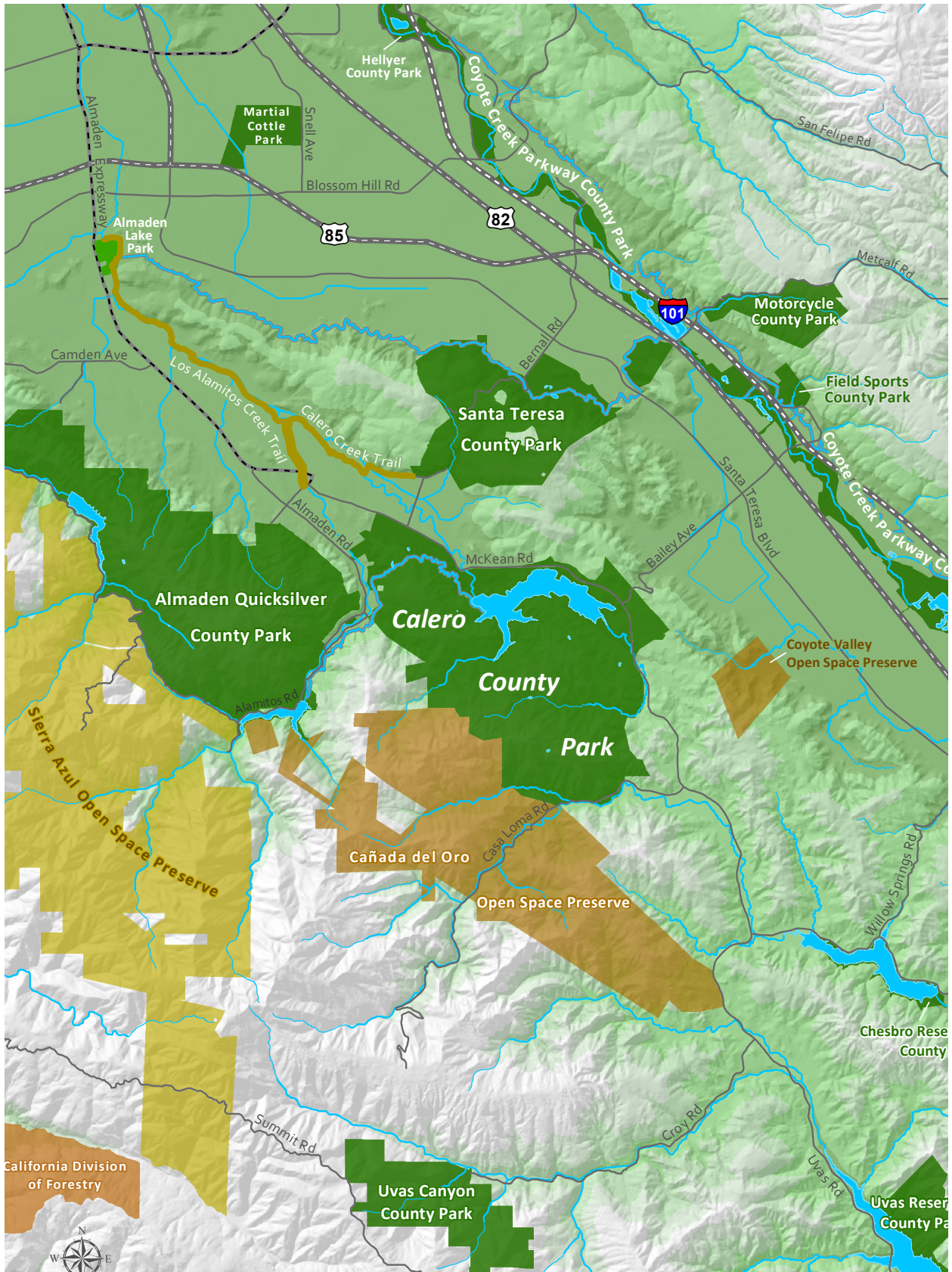
Chapter 1 – Trails Plan Overview offers an introduction to the park setting, park character and park history, outlines relevant documents that influenced the development of the master plan, and provides an overview of the master plan and public involvement process. It also introduces the goals of the trails master plan and provides a summary of key issues addressed.

Chapter 2 – Site Assessment provides an in depth description of the existing trail system, its regional interface, park land use, biological resources, geographic features, physical and cultural resources, and geologic and hydrologic conditions. Throughout the chapter trail development opportunities and constraints are assessed concluding with an explanation of applied analysis methodology.

Chapter 3 – Trails Master Plan describes the proposed trail system, including a discussion of new trail uses, and desired trail user experiences. The chapter addresses new trails, rerouted trails and trails slated for closure. Trail system design features including improvements to staging areas, fencing, gates, and signage are discussed. Trail Design Guidelines unique to or particularly important to Calero County Park are highlighted.

Chapter 4 – Implementation describes the proposed construction phasing with simultaneous implementation approaches to facilitate new user groups and access to Rancho San Vicente early in the process. Staffing needs associated with the expansion of the trail system are identified, as well as construction cost estimates. Remaining plan study areas, which will require further assessment in the future, are identified. Valley Habitat Plan Reserve Area requirements that have a potential to affect implementation are also identified.

Chapter 5 – Additional Considerations discusses non-design issues relevant to the successful implementation and operation of the Trails Master Plan such as education, training, and enforcement. This chapter also reviews volunteer and partnership opportunities, compliance with CEQA and Valley Habitat Plan and plan flexibility and updates.



MAP 1

CHAPTER 1: TRAILS PLAN OVERVIEW



PROJECT OVERVIEW, PURPOSE, SETTING

The Calero County Park Trails Master Plan summarizes preceding phases of the Calero Trails Master Plan process, including the Program Development Report (April 2011) and the Alternatives Report (April 2012). It also provides refinement to the proposed trail routes, user safety and experience, strategies for implementation, trail design guidelines, conceptual designs for staging areas, and additional information about education, management, plan flexibility, and compliance with CEQA and the Valley Habitat Plan.

Since 1989, the County of Santa Clara Parks and Recreation Department (County Parks) has been committed to integrating multi-use trails as part of new trail development. This effort reflects similar efforts all across the State in order to conserve resources and still respond to the fact that trails attract more visitors than any other public recreational activity offered. The effort has largely been successful in Santa Clara County as a result of the increasing sophistication of trail building techniques, a host of ‘lessons learned’ from earlier trails plans implementation, and the ongoing engagement of the hiking, equestrian and bicycling community in the trails planning process.

Purpose of the Calero Trails Plan

The Santa Clara County Parks and Recreation System’s Strategic Plan (approved 2003), establishes the purpose of a park-specific Trails Master Plan: “to identify opportunities to increase multiple-use trails and to ensure consistency with the *Countywide Trails Master Plan* and *Strategic Plan*.” With this direction, the Calero Trails Master Plan creates a framework for expanding trail use for a wider variety of users over a 10 year time period, while still retaining some trails limited to equestrians and hikers. It also defines regional trail connections identified in the *Countywide Trails Master Plan*. It will allow County Parks to provide a variety of recreational trail experiences in an environmentally sound and sensitive manner, compatible with available operations and maintenance resources. The expansion of Calero County Park, with the acquisition of portions of Rancho Canada del Oro in 2003, and Rancho San Vicente in 2009, makes the development of the Trails Master Plan especially timely.

Geographic Setting

Situated in the eastern foothills of the Santa Cruz Mountains, at the southern end of the Almaden Valley, the approximately 4,442 acre Calero County Park is part of the rolling hill country that dominates the eastern and western edges of Santa Clara County. Located approximately 10 miles south of San Jose’s city center, the park is within easy reach of a major metropolitan center. Its proximity to the South Valley Freeway (Hwy 101) makes it easily accessible and places it within close proximity to San Jose’s southern suburbs and to communities further south such as Morgan Hill and Gilroy.

Two other County Parks are located near Calero County Park. The 3,977 acre Almaden Quicksilver County Park, with over 33 miles of trails and the Casa Grande Historic House and Mining Museum, is located to the west. Santa Teresa County Park, with approximately 1,627 acres and over 14 miles of trails, is located to the north. In addition, the Santa Clara Valley Open Space Authority’s 3,882 acre Rancho Canada del Oro Open Space Preserve abuts the southern boundary of Calero County Park, and the Midpeninsula Regional Open Space District’s vast 17,000 acre Sierra Azul Open Space Preserve lies just beyond the western edge of Almaden Quicksilver County Park.



Serpentine Grassland and Oak Woodland

Park Character

Despite its proximity to urban development and its active water-oriented recreation components at Calero Reservoir, Calero County Park’s ‘back country’ setting has maintained its natural qualities, offering experiences of tranquility and solitude along its many trails. From its ridge lines, spectacular vistas open unto southern Santa Clara County and the surrounding Santa Cruz Mountain range. The park is well known for its spectacular displays of spring wildflowers and also for the beauty of its expansive grasslands, stands of California oak woodlands, and chaparral and riparian plant communities. The variance of topography, soil type, and vegetation also supports diverse and abundant wildlife.

Park Site History

During the era of Mexican colonization, portions of the lands that constitute Calero County Park today belonged to the Pueblo of San Jose, to the Rancho Cañada del Oro, and the large Rancho San Vicente. The early Californians both grazed and farmed the fertile lands of the area. Before colonization, the lands were inhabited by Native American peoples associated with several of the Ohlone Indian tribal groups.



Bailey-Fellows House

Many archaeological sites are known to exist within the park and the surrounding vicinity.

Connected to the more recent history of the area, the Bailey-Fellows house, a historic “Italianate” Victorian house bears witness to the Bailey family’s ownership and activities on Calero County Park lands from 1867-1903. The same ranch lands were owned and operated by the Newman Brothers from 1905-1935, at which time the property was known as the Newman Ranch. In 1935 the property was sold to the Santa Clara Valley Water

District for the proposed Calero Reservoir to expand groundwater recharge and drinking water supplies for the growing county. A levee was built around the Bailey house, ranch and orchards to protect it from eventual inundation. In 1938, Judge Edward Fellows purchased the approximately 2,000 acre “Calero Ranch,” including the Bailey House and surrounding farm complex. Upon the death of Judge Fellows in 1965, some of Calero Ranch, the house now known as the Bailey-Fellow House, and stables were sold to the Santa Clara Valley Water District. Until October 2010, the Bailey-Fellows house and adjacent structures served as the headquarters for Calero Ranch Stables.

Since 1968 the County has leased the reservoir lands from the Santa Clara Valley Water District and has developed water-oriented recreation facilities along its shores. The County acquired most of the lands known as the ‘back country’ from the Fellows family in the late 60’s and 70’s. With the assistance of other agencies, the County also purchased a portion of the 2,428 acre Rancho Cañada del Oro in 2003. From that purchase, 943 acres were added to the park, with the remainder being owned and managed by the Santa Clara County Open Space Authority. In 2009, an additional 966 acres were added to the park when the County purchased the Rancho San Vicente from the Peninsula Open Space Trust (See Map 2). Continuously in grazing since the early days of Mexican colonization, Rancho San Vicente was originally part of a 4,400 acre land grant given to Jose de los Reyes Berryessa in 1842. Berryessa was the son of an early Spanish settler of the Santa Clara Valley who married a daughter of another local family, the Bernal of the Santa Teresa area.

POLICY FRAMEWORK

A number of relevant documents have influenced the development of the Calero County Park Trails Master Plan. These documents fall into three categories:

County-wide or Park System-wide Documents – these documents provide a regional context, policies and standards to guide the Calero Trails Master Plan:

- Santa Clara County General Plan (1995-2010).
- Santa Clara County Countywide Trails Master Plan Update (1995)
- Santa Clara County Interjurisdictional Trail Design, Use, and Management Guidelines (1999)
- Santa Clara County Parks and Recreation System Strategic Plan (2003)
- Santa Clara County Parks and Recreation Department Trails Maintenance Manual (2005)
- Santa Clara County Ordinance, Division B14-Parks & Recreation, Article 4. Animals, Pets and Horses
- Santa Clara County Park Naming Policy (includes trail naming policies)
- Santa Clara County Off-road Bicycling Policy

Trails Master Plans from other County Parks – some of the approaches from previous master plans have been reviewed for consideration of criteria that may be applied to the Calero Trails Plan. These include:

- Sanborn County Park Trails Master Plan (2008)
- Coyote Lake-Harvey Bear Ranch County Park Master Plan (2004)
- Almaden Quicksilver County Park Trails Master Plan (1998)

Background information related to Calero County Park or User feedback – this information may or may not be specific to the project area but may influence trail locations, trail types and other aspects of the Calero trails plan. These include:

- “Santa Clara County Parks Trail Users 2011” Web-based questionnaire (February 2011)
- “Calero County Park Trail Users” Web-based questionnaire (November 2010 - January 2011)
- City of San Jose Greenprint (updated 2009)
- County of Santa Clara Parks and Recreation Department Equestrian Stables Location Feasibility Study (2009)
- County of Santa Clara Parks and Recreation Department Customer Comment Card Report (Annual)
- County of Santa Clara Parks and Recreation Department Needs Assessment Survey (2007)
- Calero County Park Interim Natural Resources Management Plan (2005)
- Calero County Park Canada del Oro Grazing Management Plan (2004)

Only some of the most relevant documents has been cited here, though all applicable County Parks policies apply. This summary is intended to assist in applying regional context, policies, site data and best practices to the Calero Trails Master Plan.

DEMOGRAPHICS AND TRAIL USE TRENDS

Demographics

According to the 2010 United States Census, Santa Clara County's population in 2010 was 1,781,642. Ethnically, the County is 35% White, 33% Asian, 27% Hispanic or Latino, with other groups making up less than 5% of the population. The median household income from 2007- 2010 was \$89,064. There are 1,381 persons per square mile. The population is expected to increase to 2,063,100 by 2020 and to 2,310,800 by 2030. From 2000 to 2010, Morgan Hill and Gilroy experienced a larger percent increase in population than cities in the northern part of the County. The increasing population will have a decided impact on the number of users enjoying Calero County Park in the future.

Trail Use Trends

According to the County Parks Department's Strategic Plan Draft Summary of Trends (2003), trail use by hikers and bikers continues to be the dominant use on County trails, increasing annually in overall numbers. Equestrian use is mostly static in total numbers and expected to be declining as an overall percentage of use. However, while not ranked high in terms of total use, horseback riding continues to be supported as part of the history and heritage of Santa Clara County. This is particularly important for rural residents who rely heavily on public lands for riding opportunities.

Recent Trails Use Survey Findings

Two trail use surveys were conducted in 2011 by the County as part of the Program Development Phase of the Trails Master Plan. One survey focused on current users of Calero County Park. The second surveyed trail users in all County parks. A total of 290 people responded to the Calero survey and 742 people responded to the County-wide survey. A number of salient points summarized below provided baseline information the Trails Master Plan. (Note: Where percentage responses are given (97%/98%), the first number is from the Calero survey and the second number is from the County-wide survey.)

1. In both surveys, walking/hiking is the most popular trail activity. When using a trail at Calero, most people take a fairly long trip (six miles or more), while County-wide, the average trail trip is 2-5 miles.
2. Nearly everyone (97%/98%), drives to the Park. This suggested the importance of staging areas within the Park, and access from local freeways and neighborhoods.

3. A strong majority rated their trail experience at Calero County Park as adequate or better. Generally speaking, park users appreciate the trail experience currently available at Calero and throughout the County Parks system. In both surveys, Almaden Quicksilver ranked as the most popular County Park for trail use.
4. The most important factors in determining which County Park to visit for trail use are having a variety of trails, and scenic views and vistas (if responses of 4 and 5 are combined, where 5 is “very important”).
5. Calero users would like to have more back-country trails and more loop trails. There was also interest in lakeside trails.
6. Most respondents (97%/92.5%) have used multi-use trails. Of those, most (60.5%/73% in the Countywide survey) have not had conflicts with other users.
7. Of those who have had a conflict, in the Calero survey, 61% were equestrians and in the Countywide survey, 58% were hikers/runners. In both surveys (91%/75%) the conflict occurred with a bicyclist. But in most cases (73%/89%) the conflict did not result in injury. No conflicts were cited in some parks which have already implemented multi-use trails.
8. Based upon individual comments, many equestrians have become more accustomed to riding on shared use trails. Beginning riders and horses that have not been trained on trails with bicyclists are most likely to be uncomfortable on multi-use trails.



Calero Trails Master Plan Open House, May 25, 2011

MASTER PLAN PROCESS

The Calero Trails Master Plan included three phases - the Program Development Phase, the Alternatives Phase, and the Master Plan Phase. Each phase included a number of steps.

Program Development Phase

- Review of existing policies, plans and practices
- Establishment of project goals
- Mapping of existing conditions
- Site visits and field investigations
- Establishment of project issues and design program elements
- Community input through on-line questionnaires (November 2010 and January 2011)
- Publication of the Calero Trails Master Plan *Program Development Report* (March 2011)
- Input from the community and Parks and Recreation Commissioners (April 6, 2011)

Alternatives Phase

- Community input at two open houses (Community Mtgs. #1 and #2 May 21, 2011 and May 25, 2011)
- Focused field investigations
- Development of three trails plan alternatives
- Individualized interviews with partner agencies and interested groups on alternatives
- Evaluation of three alternatives and identification of a recommended Draft Preferred Alternative Plan
- Additional Input from partner agencies through a Technical Advisory Committee
- Input on Three Alternatives from the public at Community Meeting #3 (September 15, 2011)
- Refinement of the Draft Preferred Alternative Plan based on additional public input
- Input from the community at the Parks and Recreation Commission (November 2, 2011)
- Input from the community at the Parks and Recreation Commission (March 7, 2012)
- Continued refinement incorporating the following program elements:
 1. Trail Use / Peace of Mind - accommodate request for separate trails for bicyclists and equestrians
 2. Coordination with OSA - improve access, explore shared use of Catamount Trail, restrict dog on-leash on trails with connections to OSA property
 3. Trail width - incorporate standards for trail width into the Trails Master Plan
 4. "Solutions that Work" / Trail Design and Policies - comprehensive trail design guidelines
- Publication of Calero Trails Master Plan Alternatives Report (April 2012)

Master Plan Phase

- Detailed site investigation and analysis for feasibility of proposed trail routes
- Refinement of Preferred Alternative Map based on input from Parks and Recreation Commission (PRC), PRC Subcommittee, partner agencies, regulatory agencies, focus groups and public meeting
- Development of Staging Area Concept Plans
- Development of Regional Connectivity Plan
- Development of Phasing Plan
- Development of User Interface Program
- Development of Trail Features and Amenities
- Development of Operations / Maintenance Program
- Financial Implications
- Development of Education / Training / Enforcement approaches
- Plan Flexibility
- Determination of compliance with conservation strategies described in Valley Habitat Plan
- Community Meeting #4 for Refined Preferred Alternative, Draft Phasing Plan, Regional Connections, and Focused Study Areas (May 22, 2013)
- Draft Trails Master Plan Report to Parks and Recreation Commission (June 5, 2013)
- Development of Trails Master Plan Initial Study/Mitigated Negative Declaration to identify and mitigate potential impacts to the environment per California Environmental Quality Act (CEQA) review guidelines
- 30 Day Public Review period for Initial Study/Mitigated Negative Declaration (July 10-August 9, 2013)

MASTER PLAN GOALS

The following goals established during Program Development were compiled by the project team after reviewing the existing Policy Framework, comments received from user surveys, community meetings, and Technical Advisory Committee meetings. These goals served as useful guideposts through the entire process, ensuring compliance of the final report with larger community goals.

1. Ensure consistency with *2003 Strategic Plan for the Santa Clara County Parks and Recreation System* to “identify opportunities to increase multiple-use trails.”
2. Ensure consistency with *1995 Countywide Trails Master Plan Update* to identify routes for proposed regional trails through and adjacent to Calero County Park.
3. Comply with natural resource management goals and practices, including managed grazing, as were established in relevant natural resource and grazing management plans for the park.

4. Comply with the Final Santa Clara Valley Habitat Plan requirements for defined habitat areas in Calero County Park, including the Rancho San Vicente addition.
5. Incorporate site-appropriate standards and guidelines for trail design, construction and maintenance, staging areas and access points, and trail related amenities such as signage, shade, seating, water, restrooms, etc.
6. Evaluate existing trails relative to natural resources, operations needs, and maintenance considerations. Re-route trails where necessary to assure long-term sustainability.
7. Evaluate opportunities for new trails to expand the variety of trail user experiences and to meet other functional park operations needs.
8. Integrate with long range use and management goals of the Santa Clara Valley Water District, the City of San Jose and the Open Space Authority for lands under their jurisdiction in or adjacent to Calero County Park.
9. Identify partnership opportunities with adjacent landowners and other agencies to implement the Trails Plan.
10. Consider implications of the Trails Plan recommendations in relation to existing and future operations and maintenance resources.

KEY ISSUES AND PROPOSED SOLUTIONS

The Program Development Phase summarized key issues that needed to be addressed in the Trails Master Plan. These key issues are gleaned from:

- A trails policy framework established in County Parks and other documents, such as the Santa Clara County Parks and Recreation System Strategic Plan, Countywide Trails Master Plan, County General Plan and other County Parks trails plans
- Past trail designs, construction and operations experience at Calero and other County Parks
- Site visits and existing conditions
- Public input through two online surveys, customer comment card reports, and community meetings

The issues and proposed solutions summarized in the following table will be discussed in greater detail in subsequent chapters of the Trails Master Plan.

	Key Issue	Description	Related issues	Policy Guidance	Solutions to Address Key Issues
1	Expanding Allowable Trail Uses and Integrating with Existing Uses	To date, trails at Calero County Park have been open to equestrians and hikers only. In recent years, substantial new acquisitions have almost doubled the size of the park and provided new trail use opportunities. In order to be consistent with the County Park's 2003 Strategic Plan's guidance "to identify opportunities to increase multiple-use trails" and other County policies, should uses in park be expanded to allow bicyclists and/or hikers with dogs on leash? If so, should this be permitted on some trails or all trails, or within certain areas of the park?	Maintenance; Enforcement; Trail design standards; Resource Mgmt.; Signage	Strategic Plan; Countywide Trails Master Plan; Inter-jurisdictional Trail Design Guidelines; Pets in Parks Policy	<p>Equestrian/Hiking trails have been retained in the historic core of park (park boundary that existed prior to 1992). All other existing trails and new trails to be developed will be multi-use, with two pedestrian-only trail exceptions.</p> <p>Trail Alignments will be designed so that a change in use will not occur along a travel-way. Trail use signs will be clearly posted at all junctions and other visual change of use indicators will be implemented.</p> <p>In order to be consistent with County's policy to allow dogs in County Parks, dogs on-leash will be allowed on most trails unless otherwise indicated. For more discussion, see Trail Use Compatibility below.</p>
2	Connecting to Regional Trails	Proposed regional trail routes identified in the Countywide Trails Master Plan extend through Calero County Park. How should proposed regional trails (including connector trails) be accommodated and designed in Calero County Park?	Maintenance; Enforcement; Trail design standards; Resource Mgmt.; Signage	Countywide Trails Master Plan; Inter-jurisdictional Trail Design Guidelines;	<p>All trails that connect to a regional trail identified in the Countywide Trails Master Plan will be designed for multi-use to provide trail opportunities to the broadest range of users.</p> <p>Master Plan Implementation strategies will coordinate with other agencies when necessary to facilitate regional connections to other nearby parks and trails. Staging areas have been located to promote easy access.</p>
3	Trail Use Compatibility with Adjacent Public Lands	On adjacent OSA lands (such as Rancho Canada del Oro Open Space Preserve), trails are open to bicyclists. To create a seamless trail experience, should uses on Calero trails that connect the two parks be compatible with uses on Canada del Oro trails?	Maintenance; Enforcement; Trail design standards; Resource Mgmt.; Signage	Strategic Plan; Countywide Trails Master Plan; Inter-jurisdictional Trail Design Guidelines	<p>All trails connecting to Rancho Canada del Oro Open Space Preserve trails will be redesigned for multi-use and will allow bicycles to provide a seamless experience in the trail uses allowed between the two parks.</p> <p>While County policy allows dogs on leash on park trails, dog use will be prohibited on trails connecting directly to Rancho Canada del Oro Open Space Preserve to foster compliance with OSA policy that prohibits dogs. This solution may be revised to include dogs on all trails in Calero County Park should OSA policy be revised or management objectives be updated.</p>

	Key Issue	Description	Related issues	Policy Guidance	Solutions to Address Key Issues
4	Maintenance Roads as Trails	Unpaved maintenance roads also serve as trails. Some are very wide, require extensive maintenance, and are not always a preferred user experience. Many were not designed with safe multi-use in mind. Reconsider where maintenance roads are needed and how they can be accessed. Consider other options for maintenance/operations access (such as quads) that could reduce need for road width trails.	Maintenance; Enforcement; Trail design standards; Resource Mgmt.; Signage; Trail Users	Inter-jurisdictional Trail Design Guidelines; Natural Resource Management Plan	Wide trails which also double as maintenance roads have been limited to routes needed for fire, emergency, or service access. Some wider trail routes will be retained for horse drawn cart use. Where not needed, minor reroutes or upgrades will occur to convert maintenance roads to trails and improve balance between access requirements, user experience, and natural resource management.
5	Problematic Trail Conditions	Some trails require considerable and frequent maintenance due to steepness and/ or unfavorable soil conditions. Other trails require seasonal closures due to wet, muddy conditions. Consider trail realignments to reduce seasonal closures and/or high operational costs.	Trail Users; Trails Design Standards	Trail Maintenance Manual	Trails that require frequent maintenance, are excessively steep, erode easily, or have soil types that result in long closures during wet conditions will be rerouted to maximize use and minimize maintenance. Where needed, minor reroutes or upgrades will also occur to improve user experience and natural resource management.
6	Trail Experience, Loop Trails, and Long Distance Routes	Trail users' abilities vary greatly. Some require a shorter, less steep trail, while others prefer longer trails with more elevation difference. In the winter, some might prefer trails with sun, while in the summer, trails with shade may be more desirable. A variety of destinations and scenery add interest. Consider trails to meet diverse user needs.	Trail Users; Trail Design Standards	Inter-jurisdictional Trail Design Guidelines	Trail routes have been designed to allow for the broadest user spectrum possible so that users may enjoy the variations in landscape found at Calero. Trails will be designed to maximize user experience, safety and seasonal variance. The new trail that will loop around the reservoir will be unique and provide a safe alternative to on road use of McKean Road. Public desire for loop trail options of various lengths, widths, and variety of habitat and terrain within the Park has been optimized. Connections to other parks and trails will also increase options for long distance trail users and endurance event routes.
7	Whole Access Trails	Due to terrain, it is not possible to design all trails within Calero to be whole access trails that are compliant with current ADA guidelines. However some trails could be designed for better access to people of all abilities	Trail Users; Trail Design Standards	State and Federal ADA Guidelines	Where appropriate, trails will be designed for a broad range of user abilities. Options to connect to the ADA accessible trail on Rancho Canada del Oro Open Space Preserve will be expanded and an accessible unpaved trail on County parks side of Casa Loma Road will be provided.
8	Trail Dependent Uses	While this is a Trails Master Plan and not a full Park Master Plan, consideration of some uses may influence trail location, trail type, and facilities associated with trails. These uses may include: back country camping; equestrian camping; interpretive programs; picnicking.	Trail Users; Maintenance and Operations	Strategic Plan	The Trails Plan will include two new staging areas and increased parking capacity the Ranger Office Entrance to improve options for special events, group camping events, and picnicking at Calero County Park. The Park has some remote areas that may be suitable for unimproved back-country camping in the future.

	Key Issue	Description	Related issues	Policy Guidance	Solutions to Address Key Issues
9	Compatibility with Natural Resource Management and Grazing	Natural Resource Management objectives and techniques, such as protection of sensitive habitats and endangered species, as well as the use of grazing as a resource management tool, may influence trail locations and trail types.	Trail Users; Maintenance; Operations	Natural Resource Management Plan; Grazing Management Plan	<p>The Trails Master Plan will not conflict with grazing to maintain diversity and improve habitat in the park. And while the presence of cattle is not a limiting factor for trail location, trail design will consider cattle movement to minimize ongoing maintenance issues on the trails. Mechanisms such as fencing, self-closing gates, and locating water sources away from trails will be employed.</p> <p>To avoid conflicts with trail users near the Rancho San Vicente Staging Area when cattle are concentrated in holding areas, the cattle operations area might be relocated east of current location.</p>
10	Rancho San Vicente Trail Development	As a recent acquisition to Calero County Park, Rancho San Vicente is not yet open to the public. The Trails Master Plan is an excellent opportunity to define public access to this significant property.	Natural Resource Management; Santa Clara Valley Habitat Plan;	Santa Clara Valley Habitat Plan; Strategic Plan; Trail Design Standards	<p>Opening the area to public trail use is considered a priority. Construction of trails and a staging area at this location have been identified as an early implementation project.</p> <p>To reduce impacts to the sensitive habitats in this new area of the park, trail development in this area will be minimal and the majority of trails in it will follow existing travel ways.</p>
11	Santa Clara Valley Habitat Plan	Santa Clara County is a local partner in the Santa Clara Valley Habitat Plan. The Habitat Plan may influence type and location of trails within or near habitat lands associated with the Habitat Plan.	Natural Resource Management; Rancho San Vicente	Santa Clara Valley Habitat Plan; Strategic Plan	<p>It is anticipated that a large portion of Calero County Park will be enrolled in the Habitat Plan's system of Reserve Lands. Trails and staging areas for recreational use are listed in the Habitat Plan as allowable uses within those Habitat Reserve Lands.</p> <p>Implementation of the Trails Master Plan will comply with conservation strategies identified for the habitats and species associated with Calero County Park.</p>
12	Trail Design Standards	The County's trail design preferences for multiple users have evolved with accumulated experience. (For example, trail design for bicyclists used to consider wider trails with fewer curves to accommodate longer site lines for all users. However, bicyclists can also go faster on these types of trails.) Current thinking is that narrower trails with more variations in both horizontal and vertical alignment slow bicyclists down and reduce hazards for all users. If trails will be open to bicyclists, such design standards should be considered.	Maintenance; Operations; Trail Users	Inter-jurisdictional Trail Design Guidelines; Trail Maintenance Manual	<p>Trail Design Standards outlined in the Trails Plan for will be in compliance with established County guidelines for trails design and County Parks Trails Maintenance Manual to locate and construct trails for long term sustainability, user enjoyment, and minimal impact to natural resources.</p> <p>In addition, nationally recognized trails design references such as <i>US Forest Service Equestrian Design Guidebook for Trails, Trailheads and Campgrounds</i> and the <i>International Mountain Bicycling Association (IMBA) Trail Solutions: Guide to Building Sweet Singletrack</i> have been incorporated into the Trails Plan guidelines.</p>

	Key Issue	Description	Related issues	Policy Guidance	Solutions to Address Key Issues
13	Trail Signs	A common comment by Park users is that trail signs are confusing and at times in-adequate. Consider revisions to the County's trail sign standards to enhance use and experience on trails.	Maintenance; Operations: Trail Design Standards	County Park Trails Signage Standards	<p>The Parks Department is currently reviewing their trail sign standards. New directional signs for the park will follow any updated sign standards when adopted.</p> <p>It is anticipated that in the future, access to a range of information through mobile technology will also be incorporated into trail signs, brochures, at trail head information stations, and on the Parks Department's website.</p>
14	Operations and Maintenance	The Trails Master Plan needs to take into account long-term departmental resources available for operations and maintenance of the trails system, including design, construction, maintenance, and enforcement. The Plan should be sustainable for the long-term.	All	Strategic Plan; Trail Maintenance Manual	<p>The Trails Plan will be implemented through the most sustainable trails construction methods and by three concurrent implementation strategies so as to optimize use of the Parks Department resources.</p> <p>The implementation strategy to make minor reroutes and upgrades to existing trails and the elimination of certain problematic routes will also reduce the ongoing maintenance burden.</p> <p>To maintain current level of service for the expanded trail system, some additional equipment and staff is recommended.</p>
15	Flexibility	Build flexibility into the Plan to allow for unforeseen future conditions or opportunities	All	Strategic Plan	Recommendations to accommodate changing conditions, evolving best management practices, emerging technologies, volunteer and partnership opportunities and periodic updates will be included in the Trails Plan.



Santa Teresa County Park - Hidden Springs Trail

CHAPTER 2: SITE ASSESSMENT



EXISTING TRAILS

Existing Trail System

Approximately 20 miles of back-country trails stretch across the park's rolling terrain. They are open to hikers and equestrians almost year round, and provide a variety of trail experiences through diverse ecological habitats. While neither bicyclists nor dogs-on-leash are currently permitted on trails, these users are to be allowed on designated trails as part of the Trails Master Plan process. The majority of trails are linked to create loops of varying lengths and degree of difficulty. Others provide a path to a specific place, point, or overlook. Trail amenities currently provided include parking at one trailhead, picnic areas, interpretive signs, and trail markers for wayfinding. A number of trails require continual maintenance due to layout, soil conditions, water seeps and steep slopes. The majority of trails are aligned on historic ranch roads. The newly acquired Rancho San Vicente portion of the park currently has no official public access (See Map 2).

Trail Types

Currently all Calero County Park trails allow hiking and equestrian uses. One trail allows for horse and cart activities, by permit only. Trail width and grades vary greatly throughout the park, ranging from flat to over 20% in a few spots and from three feet wide to over twelve feet wide. All trail surfaces are compacted native soil, susceptible to inclement weather impacts that trigger seasonal closure of some trails. Currently, there are no ADA-compliant trails.



Existing Trail at Calero County Park

Connection to other Parks and Trails in Vicinity

Calero County Park abuts the Open Space Authority's portion of Rancho Canada del Oro and is in proximity to Almaden Quicksilver County Park and Santa Teresa County Park. There are current trail connections between Calero County Park and the Rancho Canada del Oro Open Space Preserve. Proposed regional trails outlined in the *1995 Countywide Trails Master Plan Update* are included in this Trails Master Plan. Further discussion of regional trails context will be addressed in Chapter 3.

PHYSICAL AND CULTURAL RESOURCES

Physical site features associated with park development within Calero County Park are extremely limited and for the most part, do not intrude upon the tranquil natural character of the park. These features are noted below. (See Map 2.)

- A Ranger Station/Visitor Center is located along the main park entry off a short park road from the main entrance on McKean Road on the north-eastern side of the park. Here, visitors can register for activities, speak to park rangers, obtain park information, and view displays. Park maintenance activities are staged from the adjoining equipment yard.
- An unpaved Staging Area adjacent to the Ranger Station for up to 50 vehicles with trailers can be reserved for gatherings and organized special events. Typical uses include staging for equestrian trail activities and back country hikers. Portable restrooms and picnic tables are available at this site.
- Park Entrance Gate Pillars are the only remaining structures outside the Bailey-Fellows House that are associated with the recent history of the park before it was purchased by the County. Made of simple brick construction and painted white, they form an iconic entrance feature to the park.
- A paved Staging Area located along Casa Loma Road, owned and operated by the Open Space Authority, also provides access into the southern part of the park.
- The Calero Reservoir Launch Ramp offers access to many types of water related activities, including fishing and year-round use by power and non-power water vessels. Picnic areas along its northern shore are available on a first-come first-served basis. A group picnic area is available by reservation.
- The Bailey-Fellows House and barns is a historic site owned by the Santa Clara Valley Water District. At this time the site is not open to the public.
- Casa Loma Barn is an historic barn located off of Casa Loma Road and associated with the former Rancho Cañada del Oro. While the actual date of construction is unknown, it is the only remaining building on Calero County Park property associated with the former Rancho



Ranger Station Staging Area



Casa Loma Barn

Cañada del Oro. At this time the site is not open to the public.

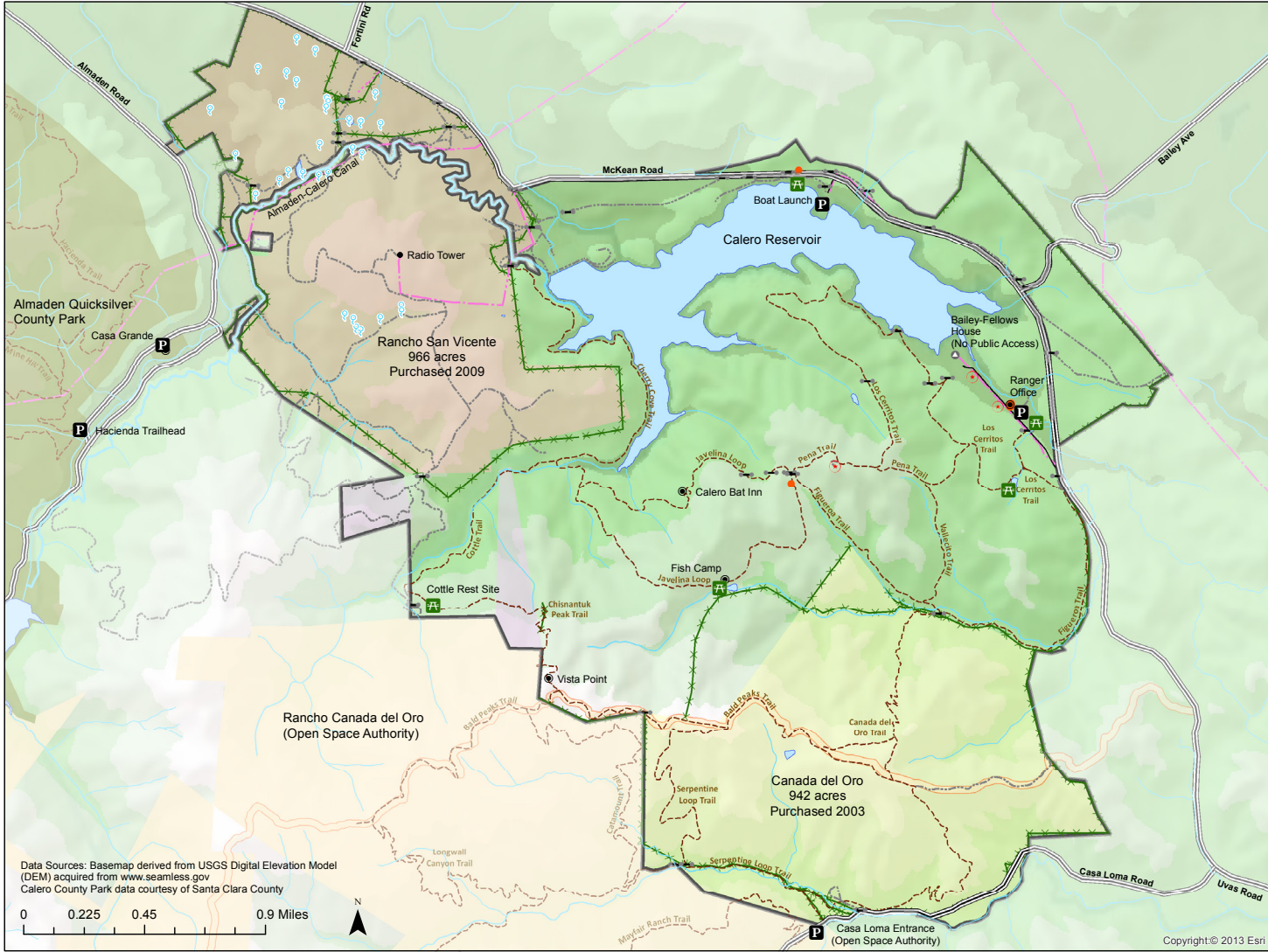
- Calero Bat Inn is located high above Cherry Cove, along the Javelina Loop Trail. Visitors can observe the nightly emergence of native bats who hunt over Cherry Cove Creek and Calero Reservoir. It is estimated that thousands of bats nest hereuse this nesting station.
- Radio Transmission Tower - Located in the middle of the Rancho San Vicente site of Calero Park a radio tower stands tall above Calero Reservoir amidst serpentine outcroppings. Accessed by a gravel ranch road off McKean Road, the site is not open to the public.
- Water Tank - A 100,000 gallon water tank with pump house and propane tank, located along Peña Trail, stores water for park use and fire suppression.
- Cottle Rest Site - The Cottle rest site along Chisnantuk Peak Trail provides a picnic facility and horse trough.
- Fish Camp and Los Cerritos Pond (formerly grazing stock ponds) offer picnic facilities, and at Fish Camp, a horse trough. Interpretive signs educate visitors and pond life invites nature observation.
- Power Transmission Lines cross the Rancho San Vicente area at two locations; one large overhead line parallels the Almaden Calero Canal and one smaller line serves the radio tower. (See Map 2.)
- Before Spanish and Mexican colonization in California, the lands were inhabited by Native American peoples associated with several of the Ohlone Indian tribal groups. A number of archeological sites relating to Native American site use are known to exist within Calero County Park and in the surrounding vicinity. Locations of sites are not publicly disclosed. Further investigation may be needed to determine if there are any sensitive cultural / archeological sites.
- No known structures associated with the recent habitation of Rancho San Vicente are still in existence. However, remnants of building foundations are known to occur in areas below the Almaden Calero Canal.



Calero Bat Inn



Fish Camp Picnic Area



Calero County Park
Trails Master Plan
**Physical Features
and Property History**



Legend

- Seeps / Springs
- Park Point of Interest
- Historical Structures
- Picnic Area
- Parking Area
- Creeks
- Park Utility Site
- Water Tank
- Gate
- Regional Roads
- Park Roads
- Service Roads
- Unpaved Trails
- Powerlines
- Fencelines
- Fuel Break
- Calero Boundary
- Rancho San Vicente
- Canada Del Oro
- Acquisitions late 1990s

Data Sources: Basemap derived from USGS Digital Elevation Model (DEM) acquired from www.seamless.gov
Calero County Park data courtesy of Santa Clara County

0 0.225 0.45 0.9 Miles



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BIOLOGICAL RESOURCES

Land Cover And Habitats

Due to a wide range of habitats, Calero County Park is one of Santa Clara County's most ecologically diverse parks, with a large number of distinct native plant communities. Most prevalent are non-native annual grasslands and Coast Live Oak Woodland. Other plant communities include Blue Oak Woodland, Valley Oak Woodland, Riparian Forest, Serpentine Grassland and Serpentine Chaparral, Sage-Chaparral Scrub and Seasonal Wetland, Pond, and Freshwater Marsh.

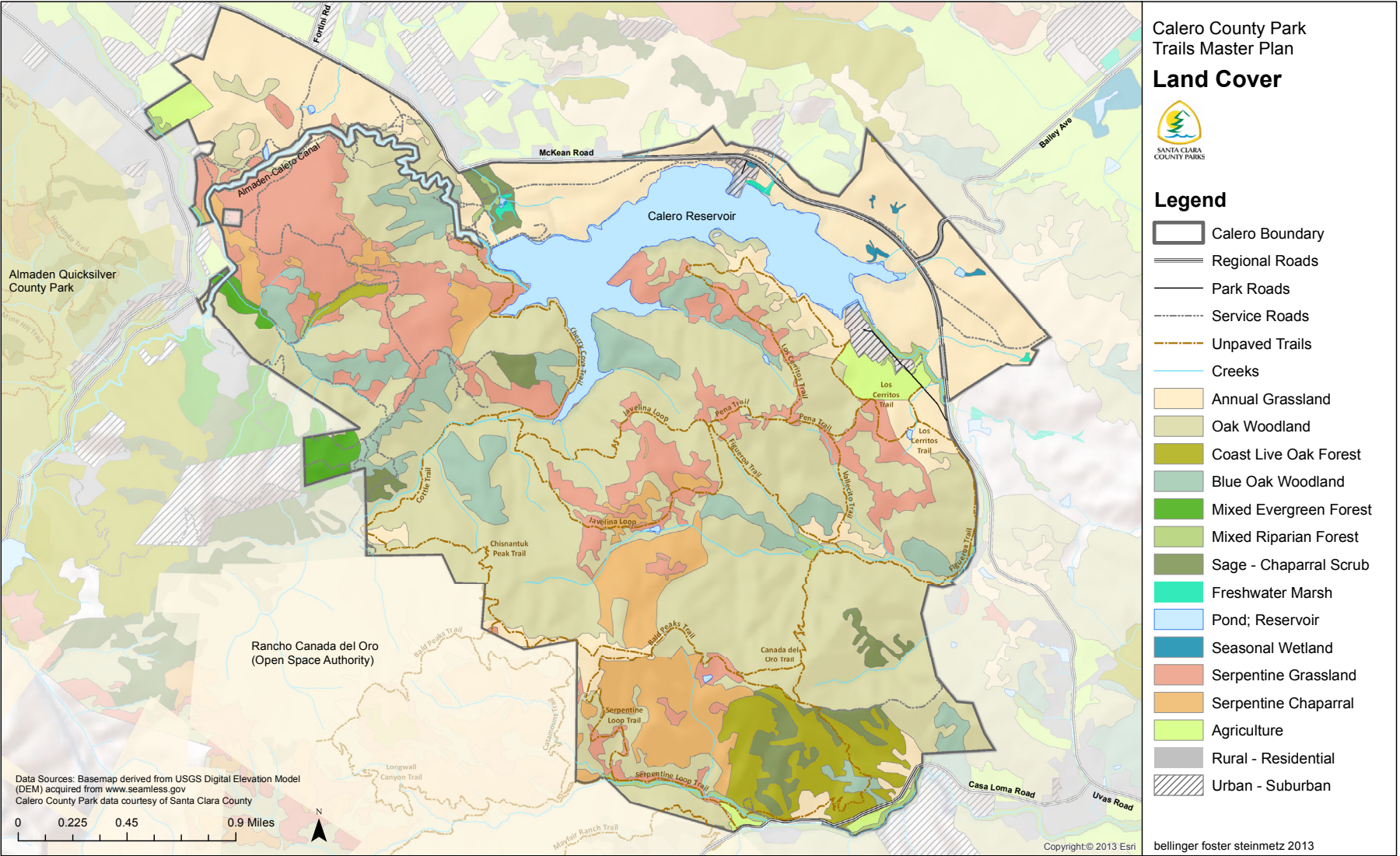
This land cover data was developed as part of the baseline biological information collected for the park in 1991, in conjunction with park master planning effort underway at that time. Additional information was gathered in 2005 after the acquisition of Rancho Cañada del Oro properties.



Calero Reservoir

Using a slightly more refined naming system and more current data sampling, these land covers, their ecosystem functions, and common wildlife associations are also described in detail in the Santa Clara Valley Habitat Plan (Valley Habitat Plan). While the Valley Habitat Plan's vegetation plan mapping was conducted at a regional scale and not ground-truthed specifically for Calero County Park, the Valley Habitat Plan contains the most recent compilation of the Department's natural communities' vegetation data and mapping available for the Rancho San Vicente portion of the park. Thus, for planning purposes, the consolidated mapping available from the Valley Habitat Plan was used to depict unified land cover designations for the entire park in this Master Plan. (See Map 3).

In particular, land covers associated with serpentine soils are considered sensitive and cover considerable areas of the park. As they contain rare and endangered species habitat, these serpentine areas and their habitats were carefully considered and avoided where feasible in planning new trail routes in Calero County Park.



LAND USE



Existing Road through Oak Woodland

Land use in the northern third of Calero County Park is defined by Calero Reservoir and facilities associated with active recreational water use. Calero Reservoir and its surrounding shoreline is owned by the Santa Clara Valley Water District. Recreational use in this area is provided by County Parks through a long-term lease between the two agencies. Recreation uses, though important, must be balanced with the reservoir's primary role as a source of safe drinking water.

The remainder of the park is made up of rolling grasslands and wooded hillsides known informally as the 'back country' and is primarily used for trails and open space. It is accessed by the park entrance

road off McKean Road, south of Bailey Avenue and from Casa Loma Road.

Much of Calero County Park lies within the limits of the City of San Jose, but is outside the boundary of the City's Urban Service Area. Except for the 3,882-acre Rancho Cañada del Oro Open Space Preserve which abuts Calero Park on its southwest border, the park is surrounded by private small ranches and rural residences, designated as Non-Urban Hillside in the City of San José's General Plan. Calero County Park is less than one mile from San Jose's South Almaden Valley Urban Reserve and the Coyote Valley Urban Reserve. The Cinnabar Hills Golf Course abuts the southern end of park lands that lie east of McKean Road.

The recently acquired Rancho San Vicente portion of the park is leased for grazing to a private operator. Access for the grazing operation is from McKean Road, near the intersection of Fortini Road. Atop the major knoll within Rancho San Vicente, a small portion of land is leased to another private entity for a radio transmission tower. Access to the radio tower is provided by the same service road as the grazing operation. The Rancho San Vicente portion of the park is also bisected by the Almaden Calero Canal. Owned by the Santa Clara Valley Water District, this concrete-lined canal is part of the District's raw water distribution system and transports water from the Almaden Valley Watershed into Calero Reservoir. The canal is not fenced and no public access is allowed along its service road. San Jose Water Company has a 2.8 acre in-holding on the western edge of the park, above the Almaden Calero Canal. Two power

transmission lines cross the Rancho San Vicente area. The southwestern portion of Calero County Park, previously part of Cañada del Oro, is slated for grazing operations starting within the next two years.

Between 1985 and 2010, a private entity named Calero Ranch Stables operated and maintained public boarding stables at Calero County Park under a lease agreement. The stables were located north of the ranger office complex, in the vicinity of the Bailey-Fellows House historic complex. Calero Ranch Stables offered boarding for 110 horses, riding lessons, and a summer riding camp program. In addition, they provided horses for rent on guided rides to park visitors. In 2006, the Santa Clara Valley Water District determined that Calero Ranch Stables operation was within the 1,000 ft. setback area of the reservoir and therefore was not compatible with recently amended public health guidelines for protection of municipal drinking water sources. In October 2010, the final extension of the lease expired, at which time the property was vacated, and all facilities not related to the historic areas associated with the Bailey-Fellows house were removed. As the underlying land is owned by the Santa Clara Valley Water District and is subject to potential inundation, should there be a failure of the dike that surrounds the area, no new land uses for this area or long-term plans for the Bailey-Fellows House have been identified by the District.

TRAFFIC AND CIRCULATION

McKean Road is an undivided two-lane road that bounds the site on its northern and eastern edge, with Bailey Avenue intersecting McKean from the east, near the main park entrance. Bailey Avenue connects the park to Hwy 101 and provides for easy access. To the west of the park, McKean Road connects to the Almaden Expressway, a major collector road into the City of San Jose. To the east and southeast of the Park, McKean Road remains rural and eventually becomes Uvas Road. Casa Loma Road intersects with McKean Road and provides park access along its southern edge. Under the Regional Parks, Trails, and Scenic Highways Element of the Santa Clara County General Plan, McKean Road, Bailey Avenue, and Casa Loma Road are all designated as a Scenic Rural Routes. A number of private roadway easements not open to the general public provide access from Bertram Road from the south/west but do not penetrate the park boundary. A gravel service road leads from McKean Road to the radio tower on Rancho San Vicente. Throughout Calero Park many of the trails also function as maintenance roads.



McKean Road

VISUAL RESOURCES

Many of the Calero County Park trails are defined by the spectacular vistas they offer along their way. From higher elevations, trail users can see the Loma Prieta Mountain, Bald Peak, and Mt. Umunhum to the west. Coyote Ridge and Mount Hamilton are visible to the east. Views to the north open upon the Calero Reservoir and the Santa Clara Valley beyond, with views of some of San Jose's residential development approaching from the northwest. Even the Sierra Azul Mountains in the distance to the southwest are visible from some vista points. More intimate views of the varied landscape and habitats define the lower trail elevations. Picnic stations at Fish Camp and Los Cerritos Pond allow for close-up observations of pond turtles and water birds.



View of Calero Reservoir

GEOLOGY, SOILS, SEISMIC HAZARDS, AND HYDROLOGY

Geology

Calero County Park lies along the eastern flank of the Santa Cruz Mountains, part of the southern Coast Range of California. The Coast Range was formed at the boundary of two major tectonic plates, the Pacific and North American plates. As a result, the region contains several major fault systems, including the well-known San Andreas Fault, along with many minor fault traces—both active and inactive.

The Park is located within the southeastern portion of the New Almaden fault block, composed primarily of highly-sheared and jumbled mix of marine sedimentary, volcanic and intrusive igneous rocks of basaltic composition (Alt and Hyndman, 2000). Several aerially-significant geologic units are mapped within the park boundary. They are: Franciscan mélangé, undifferentiated (fm); metamorphosed volcanic rocks of the Franciscan mélangé (fpv); metamorphosed basaltic rocks of the Franciscan mélangé (fmv); Serpentinized ultra-mafic rocks (Jos); Landslide deposits (Qls); Alluvial deposits (Qal); and Alluvial fan deposits (Qpf).

The three Franciscan units are not considerably different from one another from a trails planning perspective. While high potential for erosion might be present in areas where these units are faulted, highly-sheared and/or heavily weathered, rocks within these units are not generally considered highly prone to erosion. Trails in this set of units should not require extra precautions beyond typical and site-specific trail-building best management practices.

Erosion of serpentinized deposits may release asbestiform minerals into the environment, where, if inhaled in significant quantities, may pose a risk of lung cancer. It is important to note that not all serpentinized units contain asbestiform minerals in significant quantities; bulk soil testing in areas of preferred alignments can assess whether such minerals are present.



Serpentine Rock

Several large landslides are mapped in the area south of the western portion of Calero Reservoir, and northwest of the Casa Loma entrance to the park. Landslide deposits are prone to erosion and channel incision in response to concentrated surface flows, such as those that typically result from trail-building. While it is best to avoid landslide-prone areas when aligning trail routes, the presence of landslides does not preclude trail-building. Special considerations and/or allowances

should be made in these areas. If necessary, trails can cross landslide deposits perpendicular to the prevailing slope but should not run on landslide deposits more than absolutely necessary. Trail length on the actual slide deposits should be minimized. Seeps and springs are common at the foot (downslope) side of landslide deposits where groundwater exits the slide deposits at the interface of the underlying bedrock. Trails near the toe of landslides should be avoided to minimize wet trail conditions or to cause the springs to be turbid.

Similar to landslide deposits, alluvial deposits are unconsolidated and prone to erosion. Special considerations should be included to minimize impacts to the riparian zones associated with alluvial soils. Some streams within the park likely have alluvial deposits that are not of mappable scale. Even if such alluvial deposits are not present, hydrologic controls and best management practices are suggested wherever possible to protect both the streams and the trails and to buffer streams from sediment inputs.

Pleistocene alluvial fan deposits are present within the northwestern-most corner of the Park. These

are unconsolidated, poorly-sorted deposits that have a greater potential for erosion than the bedrock units within the park, but because of the presence of gravel and boulders within the deposits, are not particularly prone to excessive erosion. See Appendix A for technical memo.

Soils

As with underlying geology, soils can have varying suitability for trail construction. The soils within the park are predominately well-drained, sandy loams to clay loams that are generally not poorly-suited for trail construction, primarily due to moderate to high slopes and the presence of granular soils with fair to good infiltration rates. However, some areas are more likely than others to be subject to ponding, and/or saturated conditions. These areas are identified in Map 4.



Serpentine Soil in Rancho San Vicente

Areas underlain by serpentine rocks may present some difficulties for trail alignments. Given the different methods used to construct the maps, the soils analysis identifies some areas of serpentine soils not shown on the geologic map (and vice versa) expanding the area where special precautions are warranted. The unique geochemistry of serpentine rocks results in soils that can be harsh to many common plant species, and thus often support unique flora adapted specifically to the soil type.

Several of the soils with the park were designated in the soil survey as having particularly high stone content. The presence of large cobbles and boulders makes trail construction more difficult, and thus construction costs are likely to be higher in these soils.

Seismic Hazards

The active San Andreas Fault System, located approximately 7 miles southwest of Calero Reservoir, is the dominant tectonic feature structurally influencing the Santa Cruz Mountains. The shape of the reservoir and topography of the surrounding area has partially developed as a result of the northwest-trending inactive Calero Fault Zone, which crosses the site. A major earthquake in the region could have serious impacts to the park, although they would be less significant than those in urban areas.

Hydrology

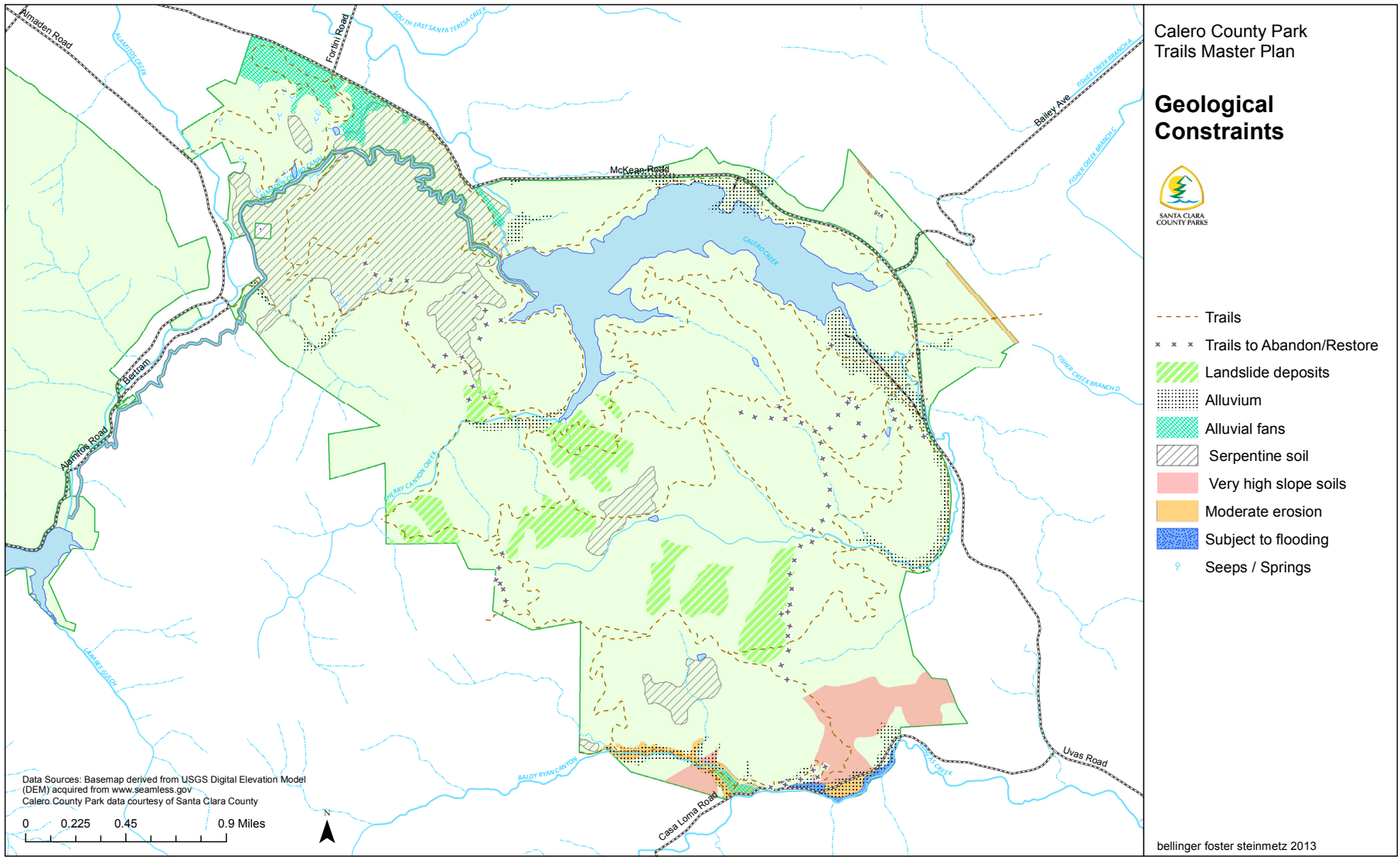
Calero County Park comprises over 50% of the land area within the 6.9 square mile Calero Reservoir watershed. Average annual precipitation with the watershed is 24.5 inches, with a range from 20 to 28 inches. The majority of the park drains into the reservoir and down through Calero Creek to the Guadalupe River. Portions of Rancho San Vicente drain west to Alamitos Creek, which also enters the Guadalupe River. Portions of the former Rancho Cañada del Oro property drain south to Llagas Creek and eventually enter the Pajaro River.

Calero Reservoir, with a maximum surface area of 347 acres and 10,054 acre-feet capacity, defines the northerly edge of Calero County Park. The reservoir was constructed in 1935 and surrounding lands are owned by the Santa Clara Water District. Cherry Canyon Creek, Calero Creek, and a number of seasonal tributaries feed the reservoir. While the reservoir is supplied mostly by local runoff, the Almaden Calero Canal facilitates inflow from Almaden Reservoir on its western end. In addition to the large reservoir, a number of human-made ponds exist, constructed primarily for cattle grazing operations. The source of potable water for park facilities is limited to small wells on both Water District and County Parks property. A 100,000 gallon water storage tank is located adjacent to the Pena trail that is used to store water for both park use and limited fire suppression.



Seep in Rancho San Vicente

Numerous seeps and springs exist in the park, many of which are associated with the lower boundary of the serpentine unit and with landslide deposits. Some of these springs are used to support watering troughs for cattle or horses. Seeps and springs, as well as areas immediately downslope, should generally be avoided when planning trail alignments, due to concerns of extended saturation and ponding on trails. Where seeps and springs are intended for use in watering horses and/or cattle, troughs should be located some distance from springs and associated saturated areas to reduce trampling and potential for contamination. Water sampling should be conducted according to Santa Clara Valley Water District standards to ensure the water is safe to drink.



MAP 4

GEOGRAPHIC FEATURES

Slope

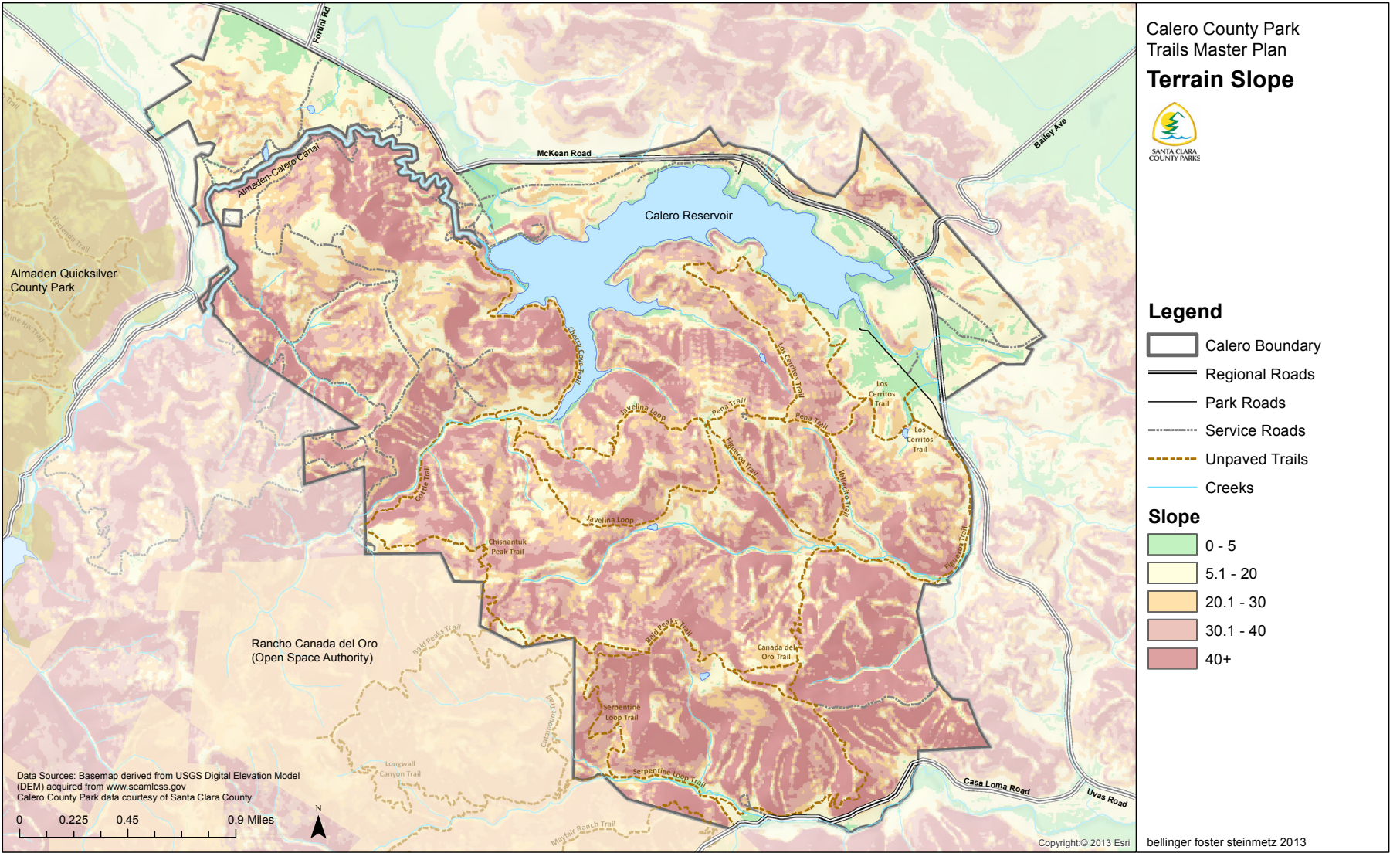
The site has a rugged topography with elevations ranging from approximately 450 feet near the northwest corner of the reservoir to greater than 1,400 feet near the southern edge of the site. Generally the flatter lands are found adjacent to the north and east shores of the reservoir. Slopes within the Back Country vary from flat (0%) to very steep (40%+). Trail development is directly related to the limitations presented by degree of slope. While trails can be developed along steep slopes by aligning switchbacks perpendicular to the slope, the cost of implementation increases with degree of slope. In addition, land disturbance associated with trail implementation increases with degree of slope and with it, the potential for erosion and increased maintenance needs in the future. As land disturbance is also directly related to potential habitat disturbance, trail development along steep slopes will be minimized in Calero County Park (See Map 5).

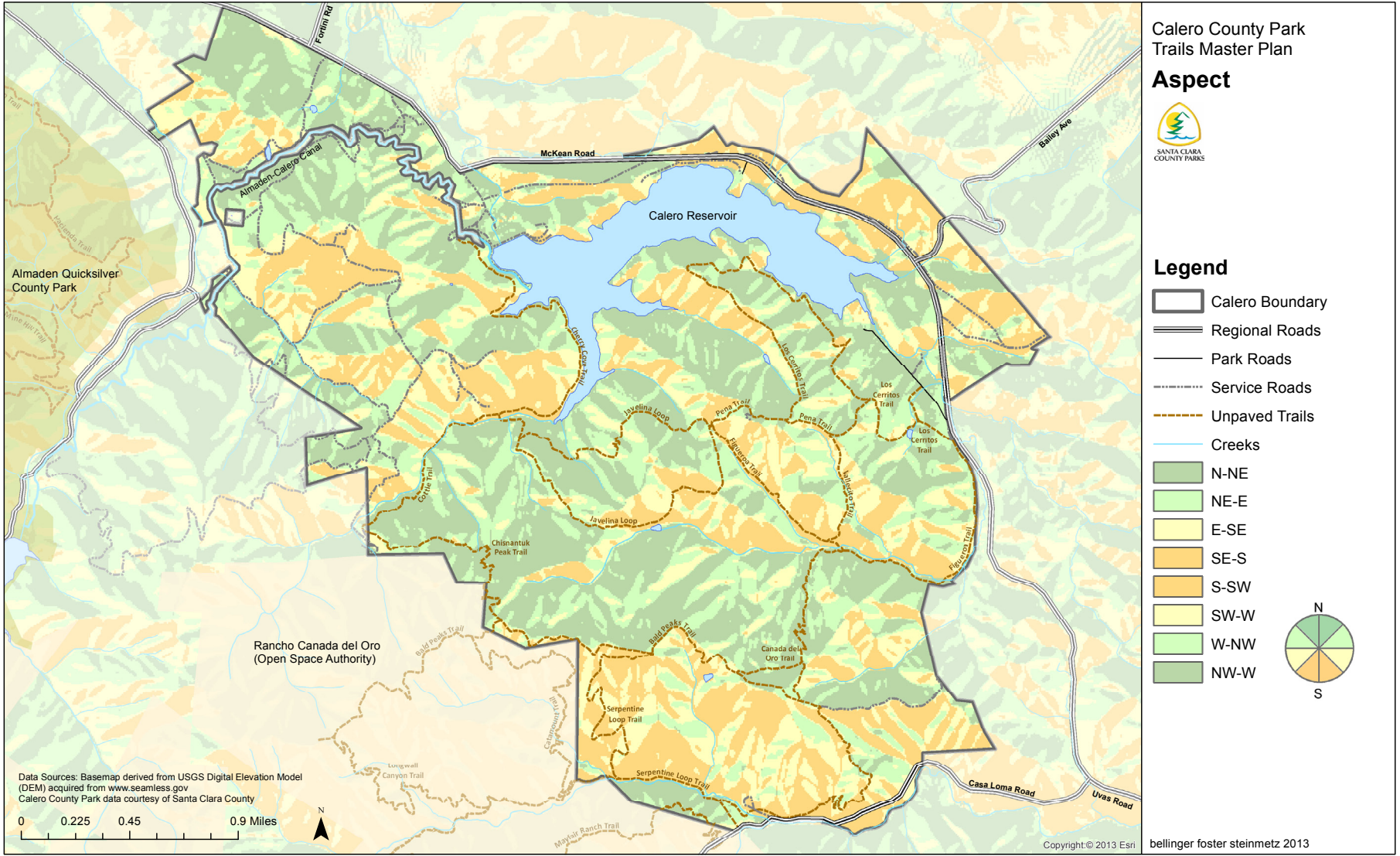


Chisnantuk Peak Trail Vista

Aspect

Aspect can be described as the direction to which a slope faces. The majority of ridges in Calero Park run east to west, with the majority of trails following this alignment. While trails with southern exposure dry out faster during the wet season, they can become uncomfortably hot for the trail user during the summer season. Many existing trails vary in exposure along their alignments and take advantage of tree cover where available. Trail aspect also affects vistas. Trails with more northern exposure open up to views onto Calero Reservoir and the Santa Clara Valley, and trails with exposures to the south and west focus on the majestic landscape and peaks of the Santa Cruz Mountain range (See Map 6).





TRAIL CONSTRAINTS METHODOLOGY



In order to provide a framework for trail alignment, a site constraints map has been created based on slope, aspect, and habitat of listed species in the Valley Habitat Plan. The data is based on large-scale raster GIS data, and does not reflect site-specific constraints or field review. Each data set has been given a range of numerical weights, based on the level of suitability for trails, which is overlaid graphically onto a single map. Areas with higher constraints and a higher numerical value appear darker; less constrained areas are lighter. (See Map 7.) Higher constraints do not necessarily mean that trail building or construction in those areas is not possible, but that those areas will require more careful planning and maintenance.

Slope

A digital elevation model for Calero County Park has been used to create a percent slope map. The slope is divided into the following categories: 0-5%, 5-12%, 12-20%, 20-20%, 30-40%, and 40%+. Areas of steeper slope are typically less suitable for trail building, so they were given a higher constraint value.

Aspect

Due to the hilly nature of the site, aspect is included as a factor for trail suitability evaluation. Aspect affects trail constructability, usability and user comfort. Typically northern slopes stay wet and moist for longer periods than south-facing slopes, which affects length of seasonal trail closures. Areas that are more north facing were given a higher constraint value, and those that are more south-facing a lower constraint value.

Habitat concentration

Modeled habitats have been created for each of the species covered in the Valley Habitat Plan. Areas more likely needed for food, breeding, refugia and/or rearing of the species are given a higher value. This data is used in the overlay map to highlight which areas are more likely to be important habitat for covered species. Additional weight is assigned for serpentine habitat, as this is a known area of species sensitivity. Areas that appear darker are more critical; lighter colored areas less critical. Trails going through areas of higher species sensitivity should be carefully considered and designed to avoid and/or minimize species impact.

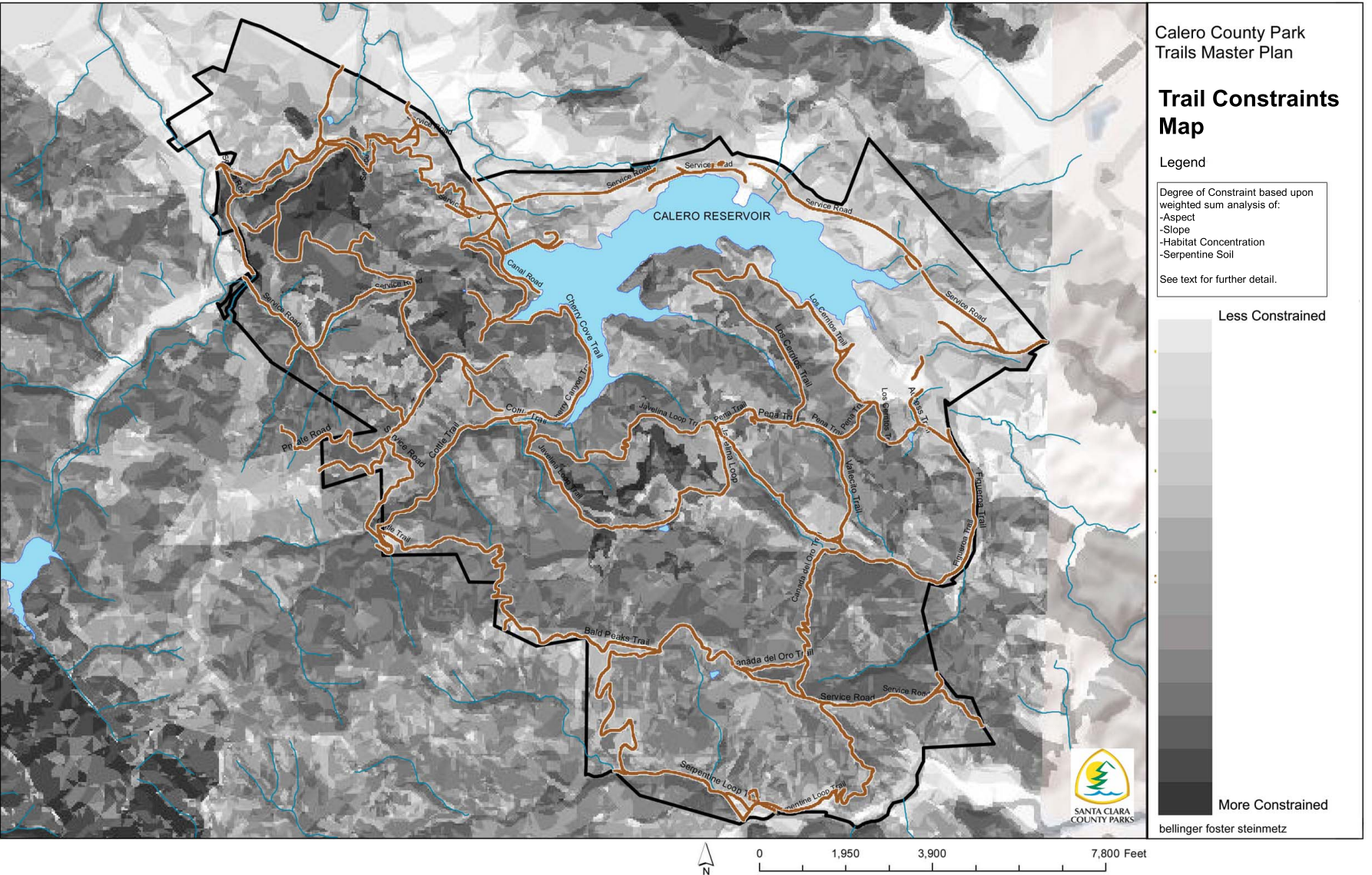
As indicated on the Trail Constraints map, some areas of the park are better suited for trails than others. However, other important factors or unavoidable physical characteristics may dictate that trails are placed in poorly suited areas. These trails can still be environmentally sensitive and sustainable, but must be carefully designed and maintained according to established trail standards and practices.



Santa Clara Valley dudleya



Mount Hamilton Thistle



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CHAPTER 3: TRAILS MASTER PLAN



INTRODUCTION

A distinct characteristic of the Trails Master Plan is that it provides a system of multi-use trails to be shared by all user groups, while still retaining some trails for equestrians and hikers with dogs only. The trail alternatives phase of the Master Plan process explored a range of trail uses, from primarily “leaving the park as is” (equestrian and hiking use only) to various ranges of expanding park use to other users (bicyclists and dogs on leash), with the knowledge that there may be equestrians that would like to ride without sharing trails with bikes. Exploration of options and input from the community was central in the effort to devise a workable plan to reduce potential conflict and improve user experience for all.

The Trails Master Plan also acknowledges site limitations, access points, and trails management objectives for the park, and reflects refinements based upon site analysis, field verification, inter-agency dialogue and Park and Recreation Commission review. Where further analysis or coordination with outside agencies or property owners is required, study areas have been established for future planning efforts.

NEW TRAIL USER GROUPS

As intended, a variety of users will share the trails at Calero County Park, including hikers, equestrians, horses and carts, people with dogs on-leash, bicyclists, and those on approved mobility devices. In order to meet the varying needs of all users, trail routes are designed to provide a variety of experiences through different types of terrain. Some trails have expansive views to points of interest, while others are shaded and narrow. All trails will incorporate sensitive trail design, safe intersections and crossings, and informational and instructional signage on sharing the trail.



Hikers enjoying a trail

Currently all Calero County Park trails are open to equestrians and hikers only, with one trail also open to horses with carts. Dogs are not permitted on trails, nor are bicycles. In keeping with County policies and the Trails Master Plan goals, which aim to increase multiple-use trails to diversify recreational opportunities, the Trails Master Plan adds new user groups to Calero County Park trails. Upon implementation of the Master Plan, dogs on-leash will be permitted on all park trails except on connector trails to Open Space



Biker enjoying a trail

Authority lands, along the southern edge of the park. Bicycles will be permitted on all trails except in the central core of the park where trails will remain open to equestrians and hikers with the addition of dogs on-leash.

Integrating Multi-Use into the Park

During the initial public outreach for the Trails Master Plan, equestrians were concerned that changes in the trail uses allowed in Calero County Park would result in the loss of a tranquil and safe riding experience. Bicyclists typically do not share the same concerns or are simply not aware of the impact of their presence on some horses or riders. Following public input and review of more than 1000 responses to the two user surveys conducted for the Trails Master Plan, the Parks Department evaluated accident/incident reports from the last ten years for County Parks and two other local agencies; the Midpeninsula Regional Open Space District and the Santa Clara Valley Open Space Authority. Little quantifiable evidence was found to substantiate the concern that shared use on trails resulted in a substantial increase in the frequency of accidents or injury. However, personal accounts of near encounters and ongoing conflicts were still an issue, and converting all trails to multi-use would limit the opportunities for trail riding for young or inexperienced equestrians. At the same time, bicyclists advocated that limiting trail use in Calero County Park would not fulfill the County's commitment to making connections to regional trails for all trail users.

Despite their differences, representatives of all user groups showed interest in learning how to share trails in Calero County Park. Access to Rancho San Vicente and trail routes along the reservoir were

considered essential to all. Equestrians were interested in retaining historic trail use patterns while bicyclists advocated for trail loops that allowed them access across the park without forcing them onto a public road to return to staging areas. As a result, the Trails Master Plan has been designed to maintain equestrian/hiking only trails in what is considered the central core of Calero County Park - areas of the park acquired prior to 1989. All other trails will either be converted to multi-use, reconstructed to accommodate multi-use, or be new trails designed and constructed as multi-use. (See Map 8)

Implementing Multi-Use Trails

Through phased development, trails design and construction techniques discussed later in this chapter, implementation of new multi-use trails will occur in a controlled sequence over a period of approximately 10 years. As discussed further in the Trails Master Plan, improvements to existing trails also will be required before they can be designated multi-use. Minor reroutes to improve sight-lines and reduce erosion will also improve user experience on both trails converted to multi-use and those that will remain equestrian and hiking only.

During the public input process, community participants and interest groups demonstrated renewed interest in volunteering time, effort and expertise to ensure that the successful integration of multi-use trails occurred at Calero County Park. In the past, training programs have been successful in raising awareness for both bicyclists and equestrians on multi-use trails in other parks or jurisdictions. The Master Plan recommends that the Parks Department foster outreach and coordinate and support annual educational sessions. Improved signage and enforcement of rules will also contribute to improved shared trail use behavior. See Chapter 5 for further discussion.

Dogs on-Leash

In accordance with County policy, all parks are open to dogs on-leash, except where special circumstances necessitate otherwise. However, to accommodate OSA policies which prohibit dogs on OSA preserves, the Trails Master Plan prohibits dogs on trails leading directly to OSA lands and connecting to OSA trails. These use restrictions will be regulated with signage and staff enforcement. In the future, changes in OSA's dog policy or other operational needs of the County may ease this restriction and may be addressed with updated trail uses for these connector trails, to provide a more seamless user experience.



Runner with dog on-leash enjoying a trail

NEW USES ON TRAILS

Healthy Trails

“Get fit while connecting with Nature” is Santa Clara County’s slogan when it comes to introducing its healthy trails program. Together with a local healthcare provider, the County entices people to join a free fitness challenge program that combines exploration of park trails with improved fitness.



Geocaching

Geocaching

Caches, or hidden storage boxes, are located along trails with the intent to find as many as possible in the shortest time possible. This type of outdoor activity is becoming increasingly popular. It allows people to practice using GPS devices while spending time in nature.

Guided nature walks

Guided walks provide an opportunity to gain a better understanding of the ecosystem through the knowledge of local experts. While watching bats at the Bat Inn or learning the names of wildflowers along a serpentine ridge, nature walks educate users about what nature has to offer.

Nature walk



Electronic mapping

Trail users are now able to use smart phones and other electronic data devices and apps to guide them, even in remote wilderness areas, as maps can now be saved to the device, and no cell phone coverage is needed.

DESCRIPTION OF PROPOSED TRAILS

The majority of proposed trails follow existing trail or road alignments. New trails provide users with a variety of experiences and access to new areas of the park, complete loops for specific user groups, or connect to neighboring parks and regional trails (Map 8). The following table outlines specific details about proposed trails, including trail name, width, description of the trail, whether it is identified as a regional connector, and whether there are special features or characteristics of the trail.

Trail #	Trail Name	User Type	Width	Description	Regional Connection	Special Features
1	TBD*	Multi-use	4'-6'	Links McKean Road Staging Area to Almaden Road Staging Area	C18	Bridge crossing Alamitos Creek
2	TBD*	Multi-use	4'-6'	From Almaden Road Staging Area to Trail #5	C18	
3	TBD*	Pedestrian	4'-6'	From Trail #5 to radio tower		Use of boardwalk or metal grating to protect serpentine habitat
4	TBD*	Multi-use	4'-6'	From Bertram Road trail entrance to Trail #5		Upgraded bridge across Alamitos Creek required
5	TBD*	Multi-use	Both 4'-6' and 10' sections	Links McKean Road Staging Area to Cottle Trail and Cherry Cove Trail. Some alignment adjustments needed away from existing ranch road and existing seeps	C18	Part of trail to be narrowed from road width to trail width
6	TBD*	Multi-use	10'	Creates loop with Cottle Trail and Trail #5		
7	TBD*	Equestrian/ Hiking	4'-6'	Connects from Javelina Loop to Chisnantuk Peak Trail		

Trail #	Trail Name	User Type	Width	Description	Regional Connection	Special Features
	Chisnantuk Peak Trail	Multi-use	4'-6'	Chisnantuk Trail topography and alignment adjustment	C18	
	Serpentine Loop Trail	Multi-use	Both 4'-6' and 10' sections	Trail realignment to avoid erodible soils and flooding		See Soils Constraints Map
8	TBD*	Multi-use	4'-6'	From Ranger Station to Bald Peaks Trail	C18	Crosses Figueroa Trail at existing stream crossing
9	TBD*	Equestrian/ Hiking	4'-6'	Pena Trail reroute from Ranger Station to Figueroa Trail to avoid steep slopes and erodible soils		
10	TBD*	Multi-use	4'-6'	From Ranger Station to Javelina Loop along southern edge of reservoir		Requires construction of several small bridges over drainages
11	TBD*	Multi-use	4'-6'	From Trail #13 east to park property line along existing trod		Requires crossing of McKean Road
12	TBD*	Multi-use	4'-6'	From Trail #13 north to park property line	C19	Requires crossing of McKean Road
13	TBD*	Multi-use	4'-6'	From Ranger Station along northern side of Calero Reservoir to Cherry Cove Trail	S6	Requires construction of several small bridges or culverts. See section on Study Areas
14	TBD*	Multi-use	4'-6'	Along McKean Road from Cherry Cove Trail to McKean Staging area	S6	

*TBD: Trail naming to be determined per County's Park and Trail Naming Policy

TRAIL MILEAGE SUMMARIES

Trail Mileage by User Type

Equestrian, Hiking, Dogs on-leash	Multi-Use A (Equestrian, Hiking, Biking, Dogs on-leash)	Multi-Use B (Equestrian, Hiking, Biking, No Dogs)	Pedestrian Only	Total
7.5	23.8	2.8	1.8	35.9

Trail Mileage by Width

Single Track (4'-6')	Drivable (10'-12')	Total
22.8	13.1	35.9

Trail Mileage by Type

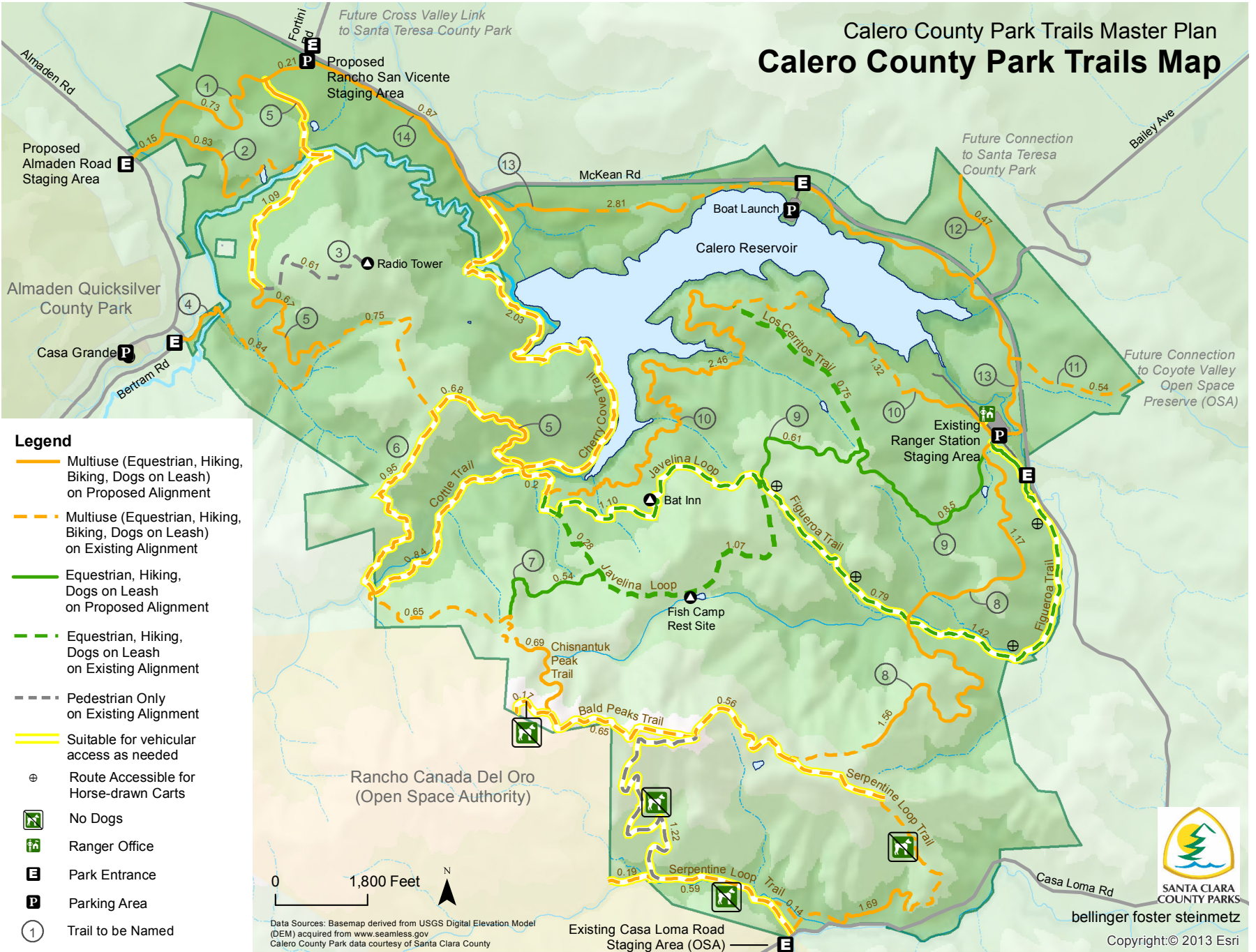
Existing	Proposed	Abandoned/ Restored*	Total
21.2	14.7	-4.9	35.9

**Abandoned / Restored Trail lengths not included in total trail mileage*



Equestrians at Ranger Station Staging Area

Calero County Park Trails Master Plan Calero County Park Trails Map



REGIONAL CONNECTIVITY

Due to its location between two large Santa Clara County Parks, Almaden-Quicksilver and Santa Teresa, as well as its juxtaposition to other agency open spaces, Calero County Park takes on an important role in providing regional connectivity. During the public outreach process regional connectivity with long-distance trails was a frequently requested feature. In addition, Technical Advisory Committee members from the Open Space Authority, Midpeninsula Regional Open Space District and Bay Area Ridge Trail emphasized the park's importance in expanding their own trail systems and in contributing to a much desired cross-valley trail connection. The *Santa Clara County Countywide Trails Master Plan Update (1995)*, which is an element of the County's General Plan, and includes regional trail routes, sub-regional trail routes, and connector trail routes (Map 9) establishes the general routes through which the regional connections are to be made. The routes below, which connect to or transect Calero County Park, are accommodated in the Trails Master Plan (See Map 10).

West Valley Trail (S6):

From Almaden Lake Park to the southern county link of the Bay Area Ridge Trail (R5-E) (Alternative Highway 152 alignment).

Guadalupe / Calero Trail (C18):

Connecting Guadalupe Reservoir and Almaden-Quicksilver County Park with Calero County Park.

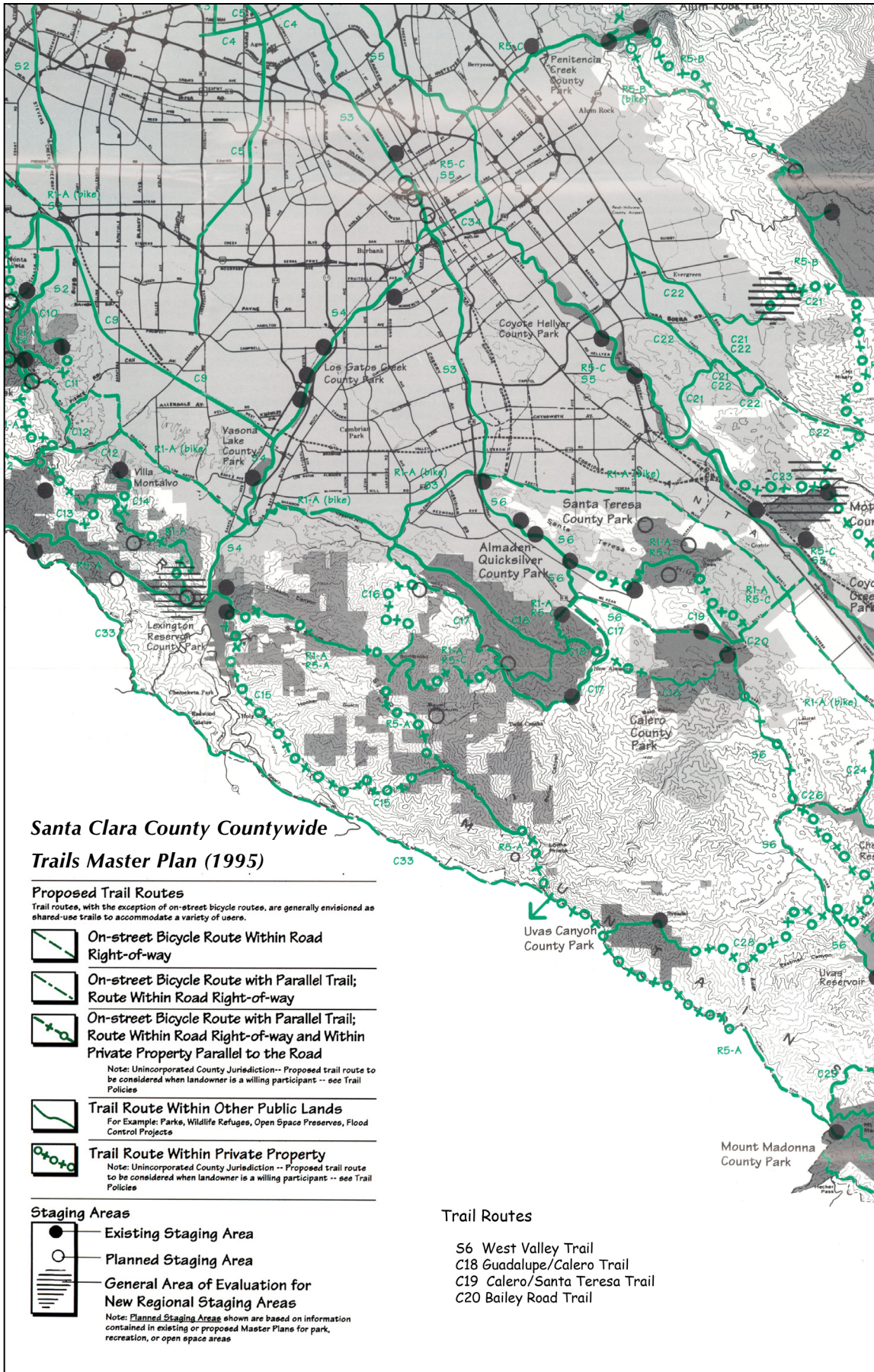
Calero / Santa Teresa Trail (C19):

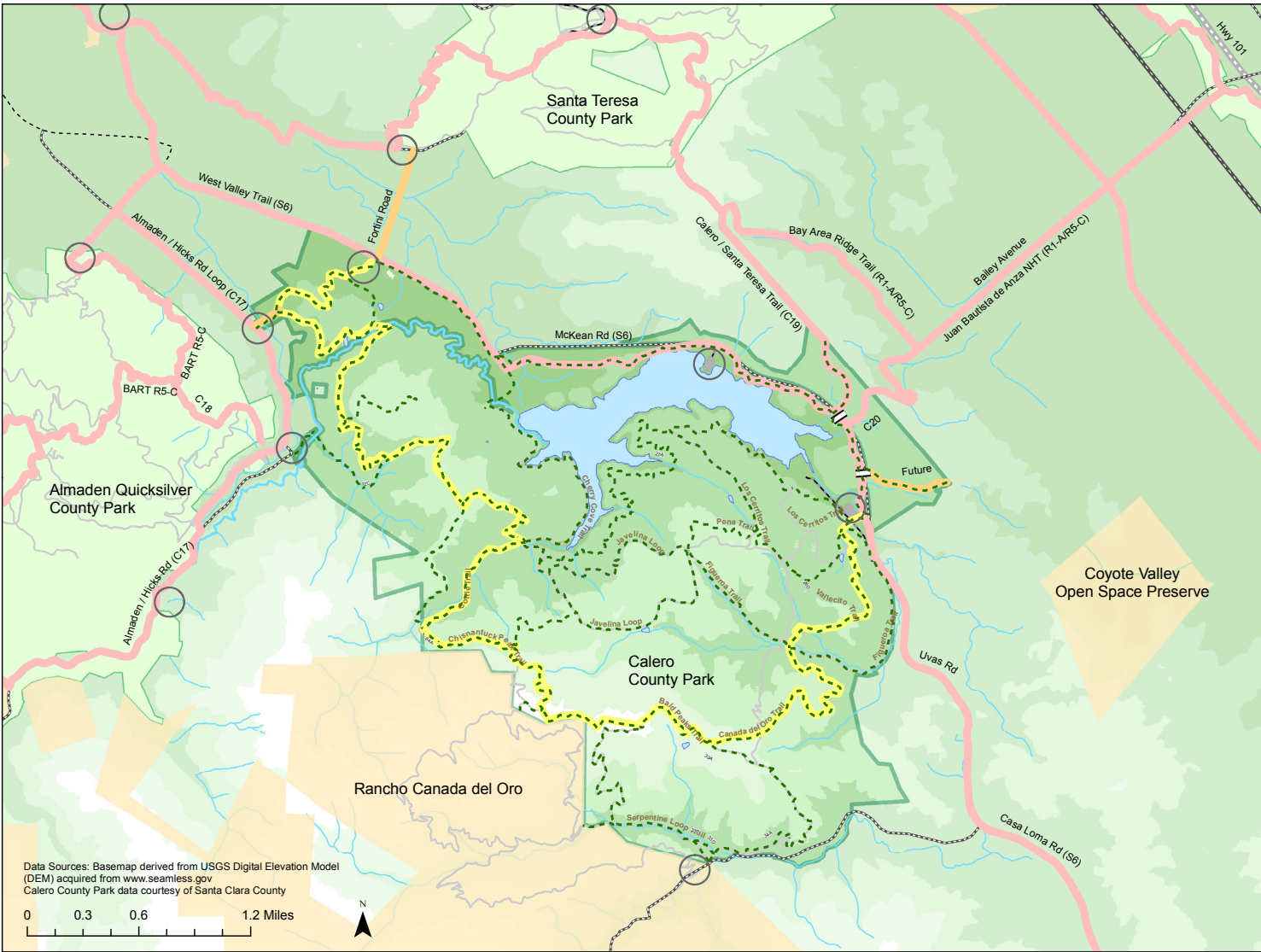
Connecting McKean Road / Calero County Park with Santa Teresa County Park.

Bailey Road Trail (C20):

Connecting Calero County Park with the Juan Bautista de Anza National Historic Trail (R1-A) and the Bay Area Ridge Trail (R5-C).

In the future, new opportunities to provide connections to other public lands, such as the newly acquired Coyote Valley Open Space Preserve by OSA, will be explored.





Data Sources: Basemap derived from USGS Digital Elevation Model (DEM) acquired from www.seamless.gov
 Calero County Park data courtesy of Santa Clara County

Calero County Park Trails Master Plan

Regional Connectivity Plan



Calero County Park Trails

--- Proposed & Existing Trails

Regional Trails*

--- Countywide Trails Master Plan Routes

--- Implementation of CWTMP C18

--- Future Trail Route

○ Staging Area

*Santa Clara County Countywide Trails Master Plan (1995)

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STAGING AREAS

Staging areas are often the first park experience for the visitor, and serve as an introduction to the amenities and character of the park. They provide a number of visitor-serving amenities, including parking, picnic and restroom facilities, as well as drinking fountains/troughs for trail users, dogs, and horses. Signage offers trail route details, regulatory requirements and helpful information about park flora and fauna.

There are four existing and two proposed staging areas included in the Trails Master Plan (See Map 11). With the expansion of the park and the addition of new user groups, it is anticipated that the number of park users will increase substantially. Although providing new amenities, the character of the proposed staging areas will remain rural in nature, in keeping with the park setting. Suggested improvements are conceptual in nature, but reflect the estimated future space requirements. A table of suggested program elements is shown in Table 4.

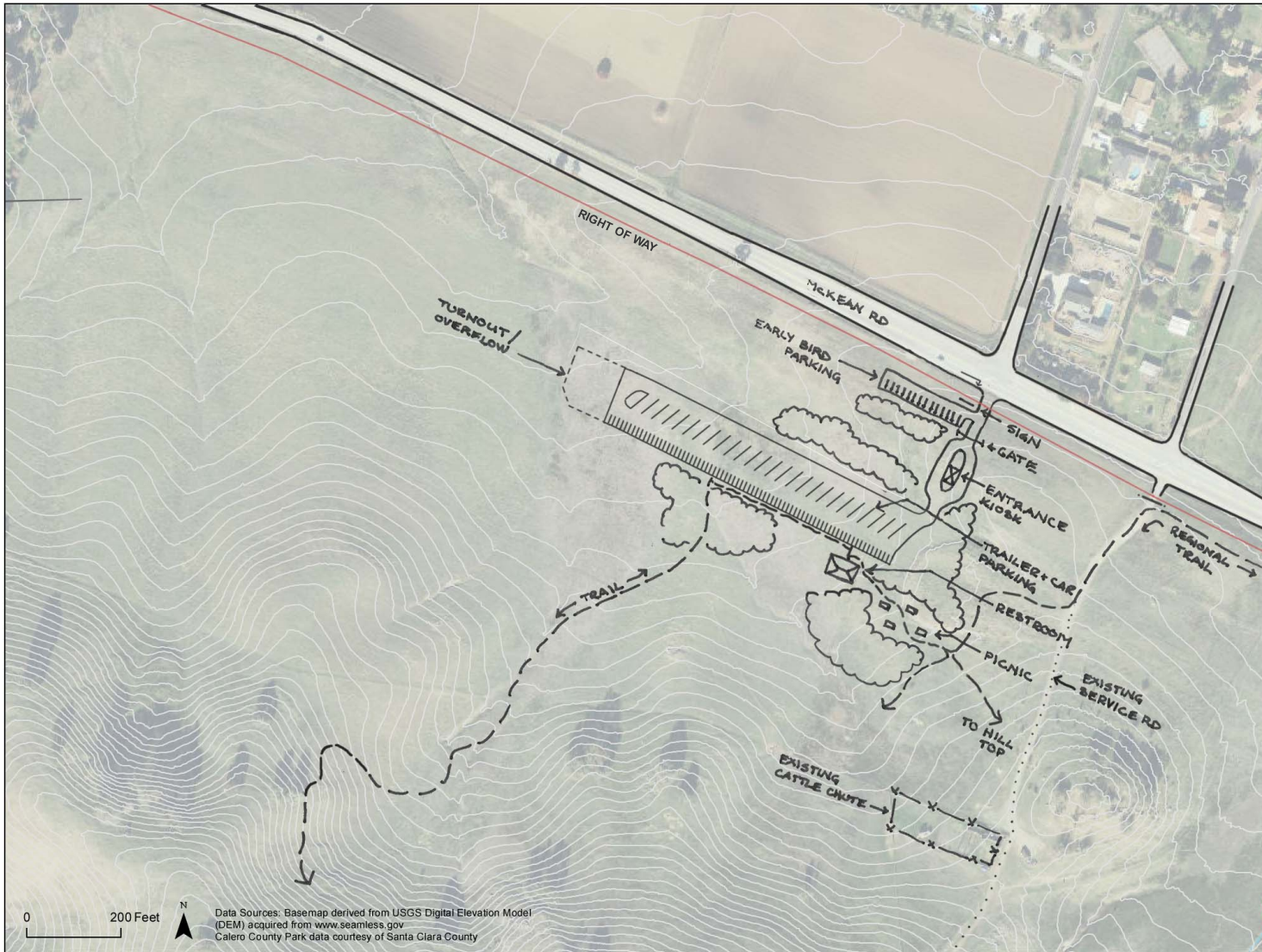
Rancho San Vicente

The proposed Rancho San Vicente staging area will provide a new park entrance off McKean Road. Aligned with Fortini Road, it will accommodate public access to a portion of the park that is currently closed to the public. It will also preserve service access for the existing cattle grazing operation, the Almaden Calero Canal (operated by the Santa Clara Valley Water District), and the radio tower leasehold. At final build-out,



Rancho San Vicente near McKean Road

connections to regional trails, Almaden Quicksilver Park and Santa Teresa Park are envisioned. Program elements include an identifiable entrance, with signage, paybooth, and gates. Space for 25 equestrian trailers and 75 passenger cars is outlined, with additional fenced turnout/parking overflow space, picnic area and restrooms. Proposed features for the equestrian area include a corral or turnout area, mounting block, hitch rail and watering trough. Maintenance of the equestrian area should include manure management, stormwater management, and upkeep of water troughs and other structures (See Figure 1).



Calero County Park
Trails Master Plan

Rancho San Vicente Staging Area

Conceptual Design Only



Features:

- 25 trailer spaces
- 15 early bird car spaces
- 75 regular car spaces
- Compact parking design
- Turnout / Overflow parking
- Restroom
- Entrance kiosk with gated car access
- Picnic area

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FIGURE 1

Ranger Station

The existing Ranger Station staging area is currently the primary access point to park trails for equestrians, and will likely continue to be so at final buildout. The current layout provides adequate space for typical day use, but lacks space for special events. To be in compliance with the Valley Habitat Plan, the staging area will be modified to keep parking out of the 150' stream buffer and will organize parking through the use of planting islands. Staging for equestrians is sized to accommodate horse trailers which can carry up to 6 horses, and a corral will facilitate temporary holding of animals near the trailhead.



Picnic area at Ranger Station

Parking for new user groups (bicycles and dogs on-leash) will be provided to the southeast of the existing staging area. Special events and overflow parking space is proposed on the southwest side of the entrance road, including a new restroom and picnic area near the trailhead (See Figure 2).



Ranger Station Staging Area



Calero County Park
Trails Master Plan

Ranger Station Staging Area

Concept Design Only



- Features:
- 75 regular car spaces 10' x 20'
 - 18 trailer spaces 28' x 55'
 - Restroom
 - Picnic Area
 - Separate car and trailer parking areas
 - Formal circulation layout
 - Equestrian corral
 - Overflow parking area

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FIGURE 2

Casa Loma Road

Access to the park off Casa Loma Road will be facilitated using the existing OSA staging area. A small picnic area is proposed in the meadow east of the Serpentine Loop trailhead. Signage will include dog access limitations between OSA and Calero County Park. Should a future needs assessment determine that additional staging is needed, such could be provided in the meadow area in Calero County Park.

Almaden Road

A small staging area is proposed off Almaden Road, with parking, picnic area and trailhead access to Rancho San Vicente. An existing bridge over Alamos Creek will require upgrades prior to use.

Boat Launch

Minor adjustments will be made to the site to accommodate and regulate access to new park trails. Equestrian staging will not be permitted at this location.

Bertram Road

Provide necessary site improvements to allow local walk-bike-ride in access. No parking provided.

Staging Area Site Amenities: Reference Photos



Restroom



Accessible Mounting Block



Corral



Hitching Rail



Watering Trough

TABLE 4

Calero Trails Master Plan - Staging Areas Programming

Site Improvements Desired	Staging Area/Park Entrance					
	Ranger Station	Rancho San Vicente	Casa Loma Road	Almaden Road	Bertram Road	Boat Launch
New Park Entrance Road		✓				
Park Entrance Feature / Standardized Park Sign	✓	✓	✓	✓		✓
Access Control Points	✓	✓	✓	✓	✓	✓
Perimeter Fencing – to manage use and ensure site safety	✓	✓	✓	✓	✓	
Future Possible Kiosk location	✓	✓				
‘Early Bird’ Parking –outside of gate for use before park opens		✓				
Equestrian Trailer Parking Capacity (28’x55’)	18 spaces	25 spaces		Open lot		
Passenger Vehicle Parking Capacity	75 spaces	75 spaces	5 spaces	Open lot		
Restrooms - prefab stalls – vault system or septic system	✓	✓				
Casual Picnic Area – picnic tables and shade structures, possible drinking fountain, recycling	✓	✓	✓	✓		✓
Information Board –Park Map, regulations, directions, trail etiquette, information, etc.	✓	✓	✓	✓	✓	✓
Interpretation Station–interpretation of park features, cattle grazing, habitats, etc.	✓	✓	✓	✓	✓	✓
Access to park trails and regional trail connections	✓	✓	✓	✓	✓	✓
ADA compliance considerations– all staging area facilities / amenities to be accessible	✓	✓	✓	✓	✓	✓
Trail gates, stiles, etc. to promote trail etiquette and access control	✓	✓	✓	✓	✓	✓
Separate Service Road – park staff, grazing operations, SCVWD, and tower, access, etc...		✓				
Horse Warm-Up/Turn-Out Corral	✓	✓				
Animal Drinking Water source	✓	✓		✓		
Hitching Posts and Mounting Blocks	✓	✓	✓	✓		
Plantings – California native plantings along trail, staging areas and in user zones	✓	✓	✓	✓		
Site Utilities – Potable water, septic system leach fields and electrical (to be determined)	✓	✓				
Overflow Parking – for staging large events	✓	✓				
Trail/Vehicle Bridge Connection				✓		

COMPATIBILITY WITH GRAZING OPERATIONS AND NATURAL RESOURCE MANAGEMENT PLAN

Trail system development and use has to be compatible with the existing grazing and natural resource management plans. While the existing grazing plan was developed for the Cañada del Oro portion of Calero County Park where grazing is planned for the future, it can be assumed that its guiding goals and recommended processes are also applicable to the current grazing operations at Rancho San Vicente. The same holds true for the Calero County Park Interim Natural Resources Management Plan which was developed for the park before the acquisition of Rancho San Vicente. Both plans aim to maintain, restore, preserve and protect the integrity of natural resources, processes, systems, functions and values. Both plans provide ecologically based management strategies.



Grazing

Both plans aim to maintain, restore, preserve and protect the integrity of natural resources, processes, systems, functions and values. Both plans provide ecologically based management strategies.

One of the primary objectives of the Natural Resources Management Plan is the protection of sensitive habitats and the protection of endangered species. Grazing is an important applied management tool that helps reduce the proliferation of exotic species, reduces dead biomass, and reduces annual grass production and thatch buildup which can compete with native species.

The grazing operation at Rancho San Vicente includes grazing infrastructure such as equipment storage areas and cattle loading/unloading features. Proximity to proposed trails and staging area may potentially result in conflicts with trail users and necessitate that the cattle operations infrastructure be moved. A potential relocation site is immediately east of its current location in proximity of the PG&E transformer station. However, cattle moving to the back country would still cross the Almaden/Calero Canal at the current bridge location. While the presence of cattle is not a limiting factor for trail location, trail design will need to consider cattle movement to prevent ongoing maintenance issues in particular during the wet season. In addition, the Master Plan proposes that fencing, self-closing gates and watering troughs be located to minimize conflicts between grazing and trail uses.

ESTABLISHED GUIDELINES

Except where otherwise determined, trails shall be designed in accordance with established Santa Clara County guidelines, including the *Santa Clara County Uniform Interjurisdictional Trail Design, Use and Management Guidelines*, the *Santa Clara County Trails Master Plan Update*, and the *County of Santa Clara Department of Parks and Recreation Trail Maintenance Manual and Best Management Practices*. In addition, the *US Forest Service’s Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds* and the *International Mountain Bicycling Association (IMBA) Guide for Managing Mountain Biking* have been referenced for the purposes of this master plan.

In addition, this Trails Master Plan provides additional guidelines specific to the character and nature of the site and of its users. It is important to note that trail layouts are schematic only; trail alignments representing general routes rather than actual marked trails. As trails are scheduled for implementation, more detailed design studies will be initiated and exact trail alignments will be determined in the field at time of construction. This approach provides flexibility to ‘fit’ trails to the existing topography, allowing adjustments for best user experiences, preservation of existing habitat, and avoidance of erodible soils, nesting species, or other constraints. Final alignments will also respond to conservation strategies and requirements of the Valley Habitat Plan and mitigation requirements of the *California Environmental Quality Act*.

RECOMMENDED TRAIL WIDTHS, SURFACING, AND CONSTRUCTION

Where feasible, trail alignments follow existing trail and service roads. New alignments will minimize grading and erosion, new stream crossings and habitat disturbance, facilitate drainage, and avoid unstable or steep slopes or seasonally flooded conditions. For user safety, good site lines and visible trail intersections will be maintained. In areas of sensitive habitat, avoidance and protective habitat



Trail alignment following existing service road

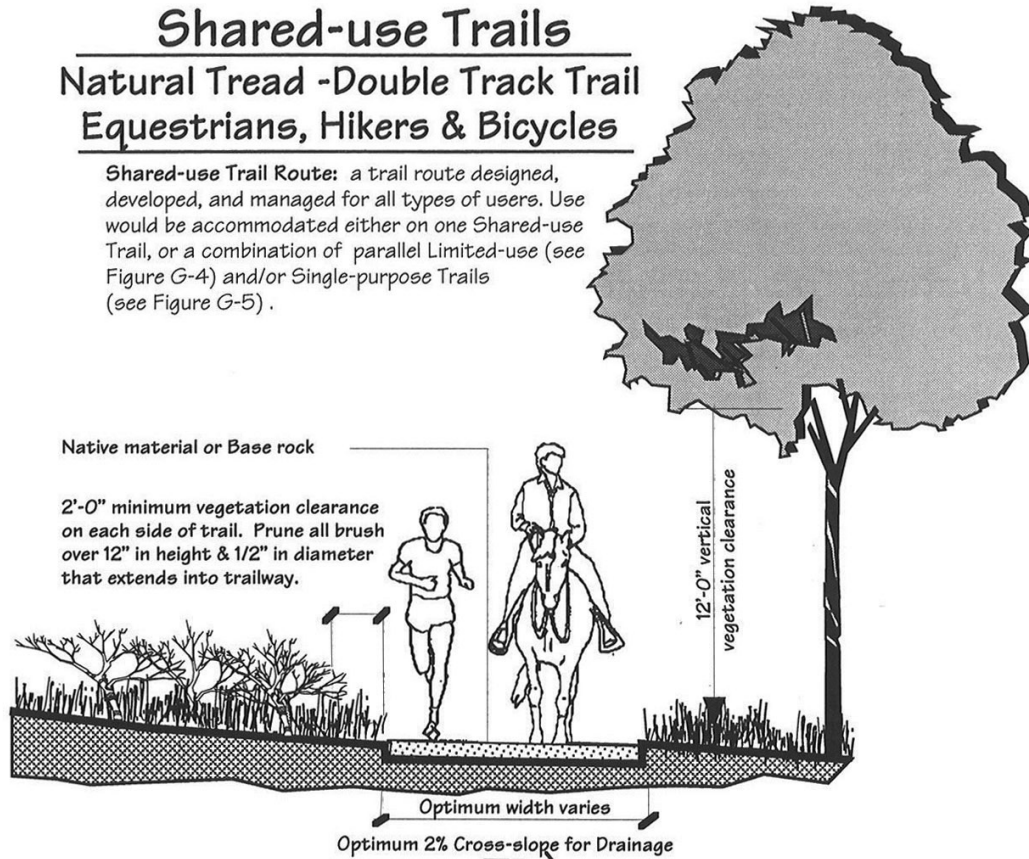
measures will be implemented. Trail classifications are defined in the Santa Clara County Trails Master Plan Update. Trail design shall follow respective diagrams; trails shall follow Figure 3 (G-3), and single-track trails shall follow Figure 4 (G-4). A portion of Calero County Park’s Bald Peaks Trail is classified as a fire break, and must be maintained as such. Calero Park trails are also classified by user type. Bicyclists, pedestrians, equestrians and

Shared-use Trails

Natural Tread -Double Track Trail

Equestrians, Hikers & Bicycles

Shared-use Trail Route: a trail route designed, developed, and managed for all types of users. Use would be accommodated either on one Shared-use Trail, or a combination of parallel Limited-use (see Figure G-4) and/or Single-purpose Trails (see Figure G-5).



Landscape Designation	Typ. Maximum Trail Grade	Average Terrain Slope	Optimum Trail Tread Width
Valley Floor Areas	8.33%	0-15%	12'-0"
		16-30%	12'-0"
		>30%	N/A
Foothill Areas	10%	0-15%	12'-0"
		16-30%	10'-0"
		>30%	8'-0"
Mountain Areas	12.5%	0-15%	6'-0"***
		16-30%	6'-0"***
		>30%	4'-0" to 6'-0"

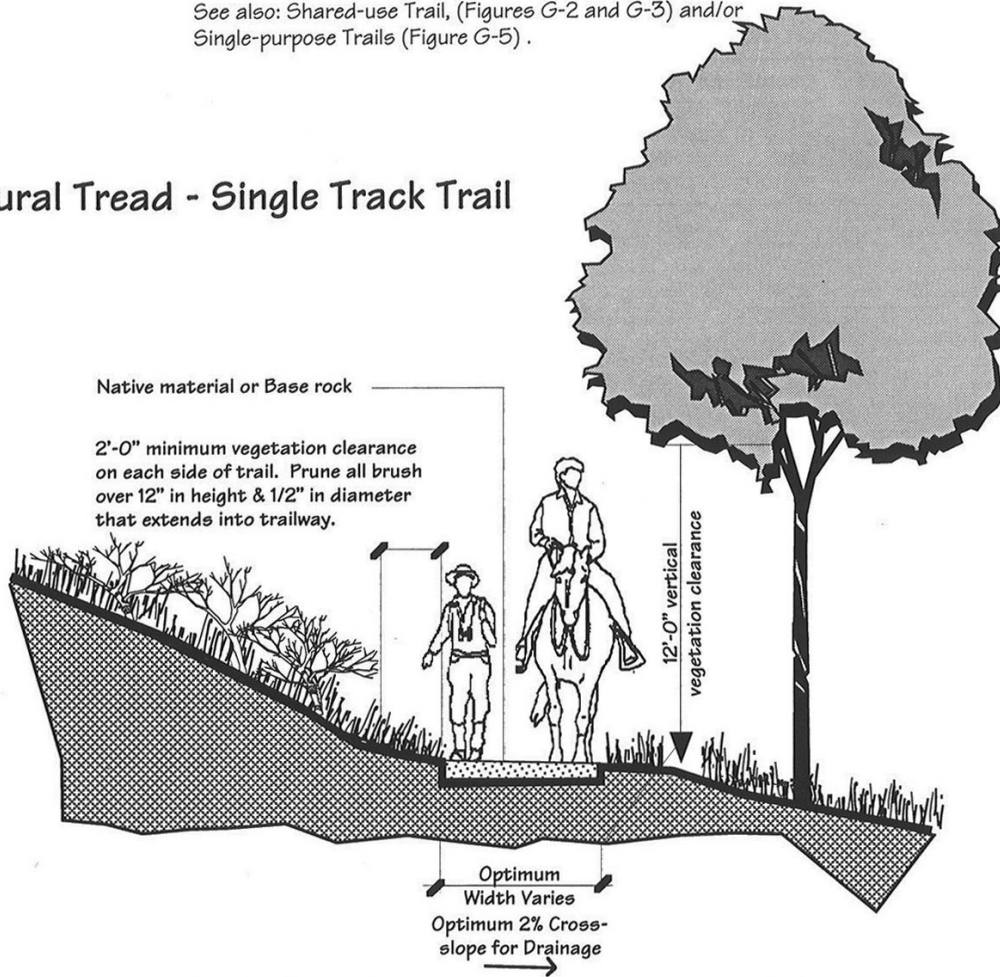
Notes:

- For trails typically outside of Urban Service Areas as shown on the County General Plan Land Use Map.
- "Optimum:" the best or most favorable condition for a particular trail situation from the perspective of responsible management.
- ** Should a situation be encountered where the optimum width indicated can not be achieved or a staged development approach is used where narrower trails precede the optimum buildout width, mitigation measures should be used to provide for trail user safety. Such measures could include, but are not limited to: brush removal and clearing to augment lines-of-sight, trail pullouts at regular intervals, one-way trail management, signage, or dismounting requirements.

Limited-use Trails

Limited-use Trail Route: a trail route designed, developed, and managed for more than one, but not all types of users. See also: Shared-use Trail, (Figures G-2 and G-3) and/or Single-purpose Trails (Figure G-5).

Natural Tread - Single Track Trail



Landscape Designation	Typ. Maximum Trail Grade	Optimum Trail Tread Width
Valley Floor Areas	8.33%	6'-0"
Foothill Areas	10%	5'-0"
Mountain Areas	12.5%	4'-0" to 6'-0"

Notes:

- "Optimum:" the best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Should a situation be encountered where the optimum width indicated can not be achieved or a staged development approach is used where narrower trails precede the optimum buildout width, mitigation measures should be used to provide for trail user safety. Such measures could include, but are not limited to: brush removal and clearing to augment lines-of-sight, trail pullouts at regular intervals, one-way trail management, signage, or dismounting requirements.



Limited use Trail

dogs-on-leash are all permitted on multi-use trails while limited use trails allow equestrians, pedestrians, and dogs on-leash only. A short section of trail between Bald Peaks Trail and the Casa Loma Road staging area and a short trail segment leading to the radio tower in Rancho San Vicente are classified as pedestrian only, accounting for difficulty in terrain and environmental sensitivity.

Trails are constructed of native soils, compacted and sloped for drainage. Gravel or crushed fines reinforcement and stabilization may be

required in some locations. All trail and related construction minimize environmental and user impacts, and are conducted with appropriate permits. Any required mitigation will be implemented per CEQA requirements. Trail construction details follow the *County of Santa Clara Department of Parks and Recreation Trail Maintenance Manual* procedures and requirements.

FENCING AND GATES

Fencing is primarily used as an access control feature, and secondarily to guide users and establish park character. Material and style shall either support the park character or are utilitarian in nature. Near staging areas and trail heads, split-rail fencing in keeping with already existing fencing in the park may be an appropriate aesthetic addition, whereas cattle control is typically achieved through wire fencing. Where trails are slated for closure, fencing or natural debris may be used to keep users out of revegetation zones. In areas of sensitive habitat, inconspicuous fencing such as cable rail may be provided to protect species. Lockable vehicular gates are needed to secure entry into the park and to prevent unauthorized vehicle access and use on trails. Self-closing gates are appropriate where grazing cattle need to be contained while allowing users onto trails within grazing zones.



Almaden Quicksilver Hacienda Staging area

SIGNAGE

Trail system signage guides, warns, informs and educates trail users. It is an important early implementation feature of the Trail Master Plan and critical to effective user way-finding. To maintain visual consistency, new directional signage should follow Santa Clara County signage standards and sign characteristics developed for Calero County Park. In response to user comments, County Parks is currently reviewing their existing signage standard. It is recommended that trail signage at a minimum include: trail name, trail length, destination name and permitted user types (Figure 5). It may also include information on trail difficulty and average trail slope, to encourage

trail users to use trails that are compatible with their skill level. Additional signage such as shared trail yield signs (Figure 6), regulatory signs or information signs should be per County standards. Signage indicating permitted user types at trailheads and intersections will encourage proper use of trails. All signs should be easily visible, and should not create user hazards or interferences.

Interpretive signs are an important tool for providing educational information to trail users. Signs should be sited at points of interest and should follow County signage standards with simple text and graphics to help visitors understand the history, ecology, or other notable features at the park. The information communicated can affect user behavior and enhance the visitor experience. Educational information may also be conveyed through the use of online trail maps or interactive guides, as emerging technologies develop.

Figure 5



Figure 6

TRAILS TO ABANDON AND RESTORE

Some existing trails which have proven difficult to maintain due to erosion, topography, or hydrologic activity are classified for abandonment and restoration. These include the Peña Trail, Vallecito Trail, portions of the Figueroa Trail and Chisnantuk Peak Trail, and portions of existing trails within Rancho San Vicente. Some proposed trails in the Rancho San Vicente portion of the park which typically follow existing road alignments will be rerouted to protect environmentally sensitive areas and to avoid seepage areas. Where trails are planned for closure, existing trails should be obliterated from view as much as possible, and replanted to a natural condition. Compacted ground should be scarified and aerated to aid natural seeding and restoration. To facilitate regrowth and to blend with the natural topography, it may be necessary to regrade heavily eroded areas. To keep users out of revegetation areas, it may be necessary to strategically place natural debris or fencing (Figure 7) and educational signage indicating that restoration is underway. Where existing trail widths exceed proposed width, width reduction should follow procedures established in the *Trail Maintenance Manual* (See Map 11).

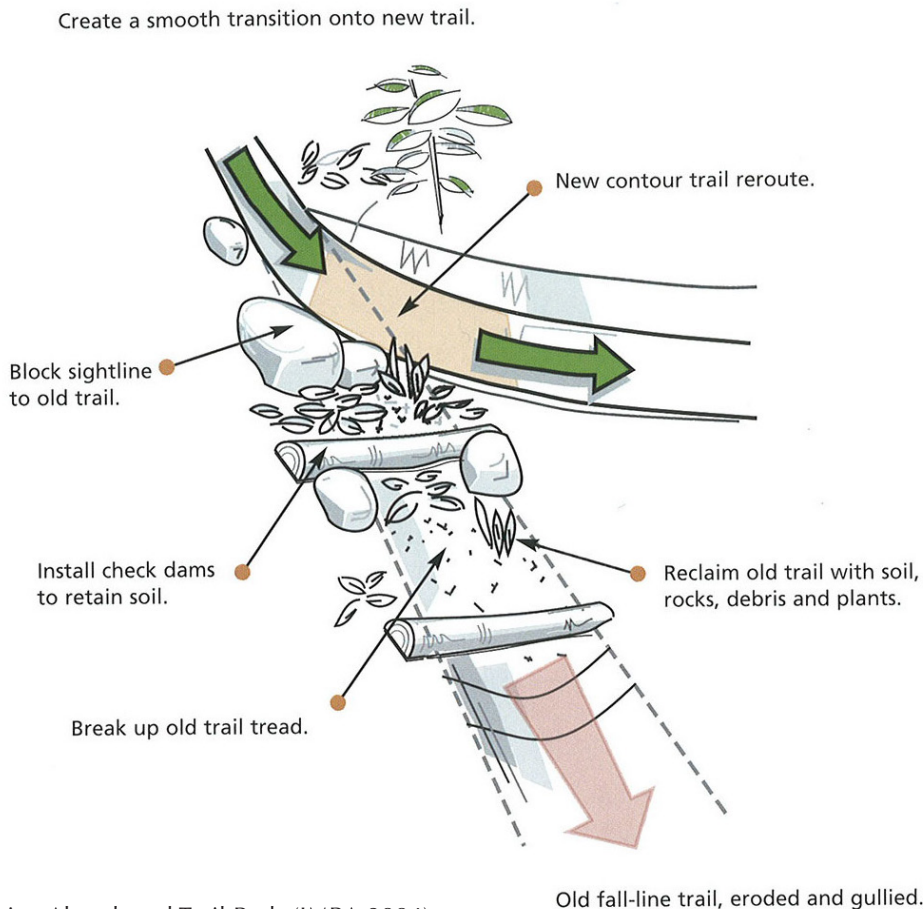
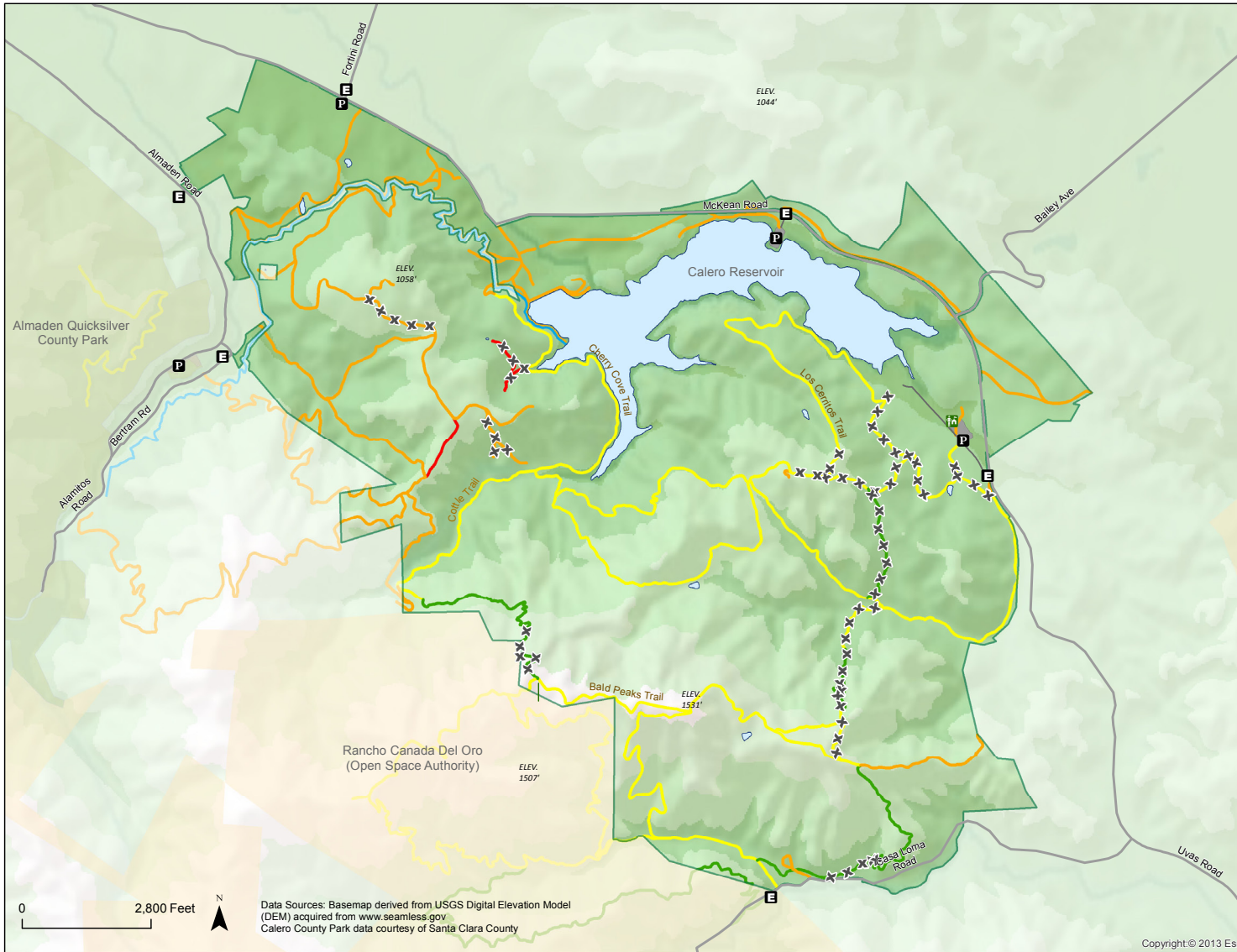


Figure 7: Restoring Abandoned Trail Beds (IMBA 2004)



Calero County Park
Trails Master Plan
**Calero County Park
Existing Trails to be
Abandoned**



Legend

Trails

x x x Abandon/Restore

Existing Trail Type

- Historic Roadbed
- Service Road
- Unpaved Road
- Unpaved Trail

- R Ranger Office
- E Park Entrance
- P Parking Area

belling foster steinmetz April 18, 2013

BEST MANAGEMENT PRACTICES

Best Management Practices are those practices determined to be the most efficient, practical, and cost-effective measures identified to guide a particular action or address a particular problem. The *Santa Clara County Countywide Trails Master Plan Update (1995)* and *Santa Clara County Parks Trail Maintenance Manual* include best management practices for trails that minimize the impact of trails on natural resources. In addition, the following Best Management Practices (BMP's) have been included, to ensure that project-related effects are minimized to the greatest extent possible. Furthermore, proposed project specific mitigation measures identified in the initial study ensure that environmental impacts from project implementation are reduced to a less than significant level, see Appendix B *Notice of Intent to Adopt a Mitigated Negative Declaration*.

Air Quality BMP's

Implement dust control measures for unpaved parking areas as appropriate. Measures may include installation of vegetative screens around parking areas, restriction of vehicle speeds to 5 mph, application of approved soil binders or gravel overlays, and seeding overflow parking areas.

Biological BMP's

To discourage the spread of Sudden Oak Death Syndrome (SOD), the following BMP's would be used:

1. Inform work crews that they are working in an area with SOD, such that unauthorized movement of plant material would be prohibited. Do not transport or move host plants, infected soil, or plant material such as firewood, wood chip or bark mulch from infested areas. When brushing, pruning or cutting live or dead host plants in an infested area, leave trunks, foliage, slash, and chips at the same area. Do not leave firewood and chips in areas such as along edges of road or at trail heads where they might be transported to another location. Locate landings, roads, chipping sites, equipment access, staging areas, and other equipment activity areas away from host plants in infested areas, especially those host plants showing symptoms of SOD. If some sites in the park are found to be disease-free or have a low incidence of disease, consider initiating work in these sites before moving to more heavily infested sites.
2. To the extent practical and feasible, choose trail alignments that avoid areas containing host plant and trees that have disease symptoms. Locate staging areas away from host plants, especially areas with disease symptoms.
3. Whenever possible, schedule tree removals from June to October when conditions are warm and dry, and avoid removing diseased trees during the wetter months which favor pathogen spread - November to May.

4. When work must be conducted during the wet season in infested areas, stay on roads or trails.
5. When cutting vegetation in infested areas, clean soil and vegetation off equipment, including pruning saws, chain saws, loppers, etc, then spray or wipe the tools with Lysol, Chlorine bleach mixture (10 parts bleach to 90 parts water), Clorox Clean-up wipes, 10% denatured alcohol, or similar substances, preferably on site.
6. Sanitizing pruning tools before pruning healthy trees is a best management practice to reduce the spread of other debilitating plant diseases including rust, pine pitch canker, and anthracnose.
7. Before relocating earthmoving, tree trimming, chipping, or mowing equipment or tractors from infested areas, sweep, wash off or otherwise remove accumulations of plant debris (especially leaves), soil and mud, and blow out air filters, preferably on site. Truck-mounted pumpers, garden hoses, or a pressure washer can be used for cleaning large equipment.
8. Whenever practical, after driving all-terrain vehicles or mules, hiking, bicycling or otherwise working in an infested areas, brush, wash off, or otherwise remove accumulations of plant debris (especially leaves), soil and mud from shoes, boots, tires and vehicles. Spray the bottom of cleaned shoes or boots and the floor mat of your vehicles with Lysol. Footwear and vehicles will be cleaned before traveling to an area not infested, preferably on site, or at the closest field office.
9. If an infested tree has died, do not remove but fall and leave in place. Cut tree as close to the ground as practical. Stump grinding is not recommended because the equipment may become contaminated by soil and result in pathogen spread when used at another location.

Geologic BMP's

The following design guidelines would be followed during detailed design of the trails so that the trails avoid geologic hazards and minimize erosion.

1. All trails should be designed in accordance with the *Countywide Trails Master Plan Design and Management Guidelines*.
2. Trails should not follow the fall line of a slope; they should contour along side slopes. Fall-line trails become watercourses, erode easily and then are difficult to maintain. Even low-slope (less than 10 percent) fall-line trails usually become the preferential flow path for water. Trails following the contour along side slopes, versus fall-line trails, help to moderate the speed of trail users.
3. Trails should be out-sloped in most cases (except for short sections at outside bends). This encourages water to run off the side of the trail, rather than along the trail. Trails should be built to have about 3 to 5 percent outslope after trail compaction has occurred, so initial outsloping should be greater than 5 percent. After a year or two, it should be expected that maintenance would be needed to return and “de-berm” sections of trail where soil compaction and displacement have exceeded the designed outslope.

4. Frequent rolling dips should be built into a trail (as a backup to outsloping), to avoid water flow along a trail. These should be placed to enhance natural grade dips. Rolling grade dips are long and gentle features (12 to 20 feet long) that avoid the short and abrupt style of traditional “water bars” (Klein, 2003; Riter and Riter, 2005). Having the outside bend of a trail as a relative high point helps reduce erosion; this is achieved because the upslope naturally slows a bicycle rider, which reduces the need to brake or skid.
5. Trail widths should be minimized to reduce the amount of bare soil subject to erosion. Contour trails should be cut on a full bench, rather than a combination of cut and fill. The cut material should be broadcast downslope, unless the trail is near a creek. Cut material can also be utilized for the ramp section of rolling dips if it is compacted one layer at a time.
6. For mountain biking trails, climbing turns or switchbacks should be located whenever possible where the side-slope is 10 percent or less, in order to create a sustainable, low-erosion trail. The actual trail gradient should be determined by site geology and terrain. The wider the turn and the lower the slope of the turn itself, the less braking and skidding (going downhill) is needed, and less wheel spinning (going uphill) is likely (Schmidt and Woolner, 2004).
7. Reduce locations where bicycles tend to brake heavily and/or have to climb steep hills, which could cause erosion. Make a conscious effort to design trails with consistent “flow” (IMBA, 2004). Exaggerate grade reversals at outside bends. Gradual flow transitions should also reduce user conflicts.

The following BMPs would be incorporated during the construction and operational phase as appropriate:

1. If landslides or slope failure occurs, cut a temporary ramp through the edge of the scarp, have the trail traverse across the slide, and then cut another ramp to go up the scarp on the other side. This would reduce the tendency for users to create volunteer trails around the head of the landslide scarp.
2. All trails in areas with active landslides should be considered for closure during wet weather and storm events.
3. Close more erodible trails during wet weather and storm events per the County Parks Department’s trail closure policy and procedures.
4. Maintain the trail corridor by trimming encroaching vegetation; a bush leaning into a trail can lead users to travel outside the trail to avoid brushing against the bush, which would eventually widen the trail over time.
5. If a trail area is too sandy, adding clay can help the tread be more cohesive.
6. Where deemed beneficial by County Parks Department Staff, reapplication of the forest duff layer, peeled back from the site at the beginning of construction, will be used on top of the new trail bed to help reduce erosion.

7. As trails approach one another they should rise gently to the junction with other trails, which will reduce water collection at the junction, and moderate the speed of trail users.

Hydrological BMP's

The following design guidelines would be followed for trails in areas of steep slopes or in areas adjacent to a creek or riparian area:

1. In order to reduce erosion and maintenance problems during construction, disturbance to the soil surface should be kept to a minimum.
2. Where a potential for significant soil erosion exists along a new trail alignment, specific erosion control plans should be developed by a Registered Civil or Soils Engineer as part of the trail construction documentation. Criteria to be used in determining the erosion potential include: slope; soil type; soil composition and permeability; and the relative stability of the underlying geologic unit as identified on local General Plans or other adopted planning documents.
3. Keep "tread watersheds" small. A tread watershed is the amount of area that drains to a specific spot off of a trail (Parker, 2004). Increasing the frequency of rolling dips is an easy way to reduce the area of each tread watershed. Reducing tread width of the trail is another way to reduce the tread watershed. Compacted trail surfaces produce more surface runoff than the uncompacted soil next to the trail; narrow trails would produce less concentrated runoff than wide trails (with all other factors being equal).
4. Frequent grade reversals should be built into a trail (as a backup to out-sloping), to avoid water flow along a trail. Also known as "rolling grade dips", they should be placed to enhance natural grade dips. Rolling grade dips are long and gentle features (12 to 20 feet long) that avoid the short and abrupt style of traditional "water bars" (Klein, 2003; Riter and Riter, 2005).
5. Contour trails should be cut on a full bench, rather than a combination of cut and fill. The cut material should be broadcast downslope, unless the trail is near a creek. Cut material can also be utilized for the ramp section of rolling dips if it is compacted one layer at a time.
6. If trails are located in riparian zones extra precautions should be taken, such as using paving stones or other rock work to armor the trail surface. Provide settling areas for trail drainage where water can infiltrate and sediment can settle out, such as brush boxes.
7. Rock drains and gravel surfaces should be used where trails cross seep areas. This is better than having trail users bypass the soggy area in ever-increasing arcs. Use soil amendments such as sand, crushed rock, or gravel to make a trail less prone to compaction and displacement; amendments can also help the tread drain better.

8. Constructed creek crossings should not greatly alter the cross-sectional shape of the channel or floodplain.
9. The approach to a creek crossing should slope downward toward the creek, and climb when traveling away from the creek, so that in the event of a blockage in the channel, the creek water would not be diverted to flow along the trail.
10. The source of water for horse troughs will only come from seeps and springs; water will not be diverted from creeks or other waterways.

SWPPP BMP's

To minimize the mobilization of sediment to creeks and other water bodies, the following erosion- and sediment-control measures would be included in a Stormwater Pollution Prevention Plan (SWPPP) prepared for the project after final design. These measures are based on standard County measures and standard dust-reduction measures.

1. Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.
2. Contain soil and filter runoff from distributed areas by berms, vegetated filters, silt fencing, straw wattles, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed areas.
3. Prohibit the placement of earth or organic material where it may be directly carried into a stream, swale, ditch, marsh, pond, or body of standing water.
4. Prohibit the following types of materials from being rinsed or washed into streets, shoulder areas, or ditches: concrete, solvents and adhesives, fuels, dirt, gasoline, asphalt, and concrete saw slurry.
5. Conduct dewatering activities according to the provisions of the SWPPP. Prohibit placement of dewatered materials in local water bodies or in storm drains leading to such bodies without implementation of proper construction water quality control measures.
6. The County Parks Department and its contractors should implement a monitoring program to verify effectiveness of the best management practices implemented as part of the SWPPP. The monitoring program would begin at the outset of construction activities and terminate upon completion of the project.

Abandoned Trail Obliteration and Restoration - BMP's

1. If a volunteer trail has been determined to be a significant risk to the health of the park resources or safety of the park users, the volunteer trail shall be blocked with local native vegetation materials such as limbs, logs, rocks and brush. These items should be placed in such a way as to create

obstacles for the volunteer trail user. If suitable native materials are not readily available or not effective, then safety railing or fencing can be installed to block off the volunteer trail.

2. Rehabilitation of a disturbed area will include the transplanting and seeding of native plant species typically found in the area. Such plants will be placed as they would grow naturally. The County Parks Departments Natural Resource Program shall pre-approve plans.
3. Transplanted vegetation will be selected and harvested from areas abundant with desired species upon pre-approval from Natural Resource Program, and attaining all necessary permits, as they apply. Harvested areas shall be left in a natural condition. Do not repeatedly use the same access point when gathering vegetation, as this creates volunteer trails.
4. The trail bed of the volunteer trail should also be rehabilitated, especially with volunteer trails with high historic usage. Entrenched trails must be filled and reshaped to the natural contours. If soil compaction has occurred, the soil must be scarified and aerated. The volunteer tread must be revegetated by planting native vegetation transplanted from the vicinity, or seeded with native species found in the area.
5. Once the obliteration and restoration has been completed, the volunteer trail should be totally obscured, present a difficult and uncomfortable route to the potential volunteer trail user, and, if possible, block the view of the trail from a designated trail.
6. In all cases, the obliterated trail shall be posted as 'not a trail' and 'habitat restoration taking place'.

SANTA CLARA VALLEY HABITAT PLAN REQUIREMENTS AND GUIDELINES

Under Condition 9, the Valley Habitat Plan specifies requirements and guidelines for the development of new trails, staging areas and recreational facilities within future parklands that would be enrolled in the new Valley Habitat Plan reserve system.

- Trails will be established on existing roads or trails wherever possible to minimize the need for new ground-disturbing activities and to reduce maintenance costs. However, this will be balanced with the need to reroute some poorly designed existing ranch roads that are difficult and expensive to maintain. In some cases, rerouting access roads may have net benefits on biological resources.
- New trails will be designed and operated to be compatible with natural resources protection. New trails will be sited to minimize impacts on sensitive species (including covered species) and natural communities as well as disturbance to adjacent landowners and land uses. Wetlands will be avoided except for educational trails, and trails through woodland or riparian habitat will avoid tree removal or substantial pruning to the extent possible. If tree removal is required, unhealthy, exotic tree

species, or trees unlikely to reach maturity due to site conditions (e.g., being shaded out by larger trees) will be targeted for removal.

- Trails built across streams or through riparian corridors will be sited and designed with the smallest footprint necessary to cross the in-stream area. Stream crossings will be perpendicular to the channel and be designed to avoid any potential for future erosion. Trails that follow a stream course will be sited outside the riparian corridor to the maximum extent feasible.
- Trails will not be paved, except as required by law, and will be sited and designed so that they do not contribute to erosion and bank failure. To provide trail access for a range of user capabilities and needs (including persons with physical limitations) in a manner consistent with state and federal regulations, the landowner would site and design new, paved trails in areas within reserves that are already disturbed and do not have the potential to affect sensitive habitat. As common practice, these types of whole-access trails would be sited near staging areas.
- Recreational uses will be controlled using a variety of techniques including fences, gates, clearly signed trails, educational kiosks, trail maps and brochures, interpretive programs, and patrol by land management staff.
- Construction of recreational facilities within reserves will be limited to those structures necessary to directly support the authorized recreational use of the reserve. Existing facilities will be used where possible. Facilities that support recreation and that may be compatible with the reserve include parking lots (e.g., small gravel or paved lots), trails (unpaved or paved as required by law), educational and informational kiosks, up to one visitor center located in a disturbed or non-sensitive area, and restroom facilities located and designed to have minimal impacts on habitat. Playgrounds, irrigated turf, off-highway vehicle trails, and other facilities that are incompatible with the goals and objectives of this Plan will not be constructed.
- Signs and informational kiosks will be installed to inform recreational users of the sensitivity of the resources in the reserve, the need to stay on designated trails, and the danger to biological resources of introducing wildlife or plants into the reserve.
- New trails will be prohibited within 100 feet of wetlands and streams that provide suitable habitat for covered amphibians and aquatic reptiles or tricolored blackbird, unless topography or other landscape characteristics shield these trails from the covered species habitat or a lack of effect of the trail on the species can be otherwise demonstrated.
- New trails will be prohibited within 250 feet of active western burrowing owl nests. If an owl pair nests within 250 feet of an active trail, Implementing Entity staff will consult with the Wildlife Agencies to determine the appropriate action to take. Actions may include prohibiting trail use until young have fledged and are no longer dependent on the nest.

CHAPTER 4: IMPLEMENTATION



STRATEGY AND CRITERIA FOR PHASED IMPLEMENTATION

It is anticipated that the Trails Master Plan will be implemented incrementally over a 10 year time period. Three concurrent implementation strategies are proposed to optimize use of County Parks resources while achieving timely completion of the Trails Master Plan (See Map 12.)

While the phasing plan provides a general direction for implementation, flexibility is needed to accommodate future unknown conditions, such as staffing resources and available funding. For example, grants for specific projects will dictate that certain facilities are to be built sooner than expected. Conversely, budget shortfalls and permitting requirements may necessitate delays in implementation.

Strategy #1 - Sequential Implementation of major Trails Plan routes:

Over a 8 year time span, work focus is on sequential implementation of trail routes that provide access to new areas of the park, converting some of the existing dual-use trails to multi-use, and creating regional trail connections through the park at relatively low cost. Improvements to existing trails requiring upgrades before they can be designated as multi-use trails are expected to be part of this strategy. It is anticipated that substantial completion of projects in this category will occur by the end of year five. Upgrades required to open the park to hikers with dogs on-leash will be implemented in conjunction with creation of new trails or on existing trails as they are upgraded in Strategy #1.

Strategy #2 - Ongoing improvements to existing trails and habitat:

Projects focus on upgrading existing trails, where no change in use has been identified, to reduce seasonal closures, minimize maintenance, improve user experience, and enhance resource protection. Additionally, trails no longer needed or have been rerouted are restored to native habitat.

Strategy #3 - Long Range projects:

Over approximately a 10 year period, work focuses on trail segments that require major capital improvements like additional, bridge crossings, road crossings, property acquisition, etc. to implement. These types of projects require longer lead times to secure funding, coordinate services, and complete acquisitions / property rights and engineering. Strategy 3 projects include trail segments that will

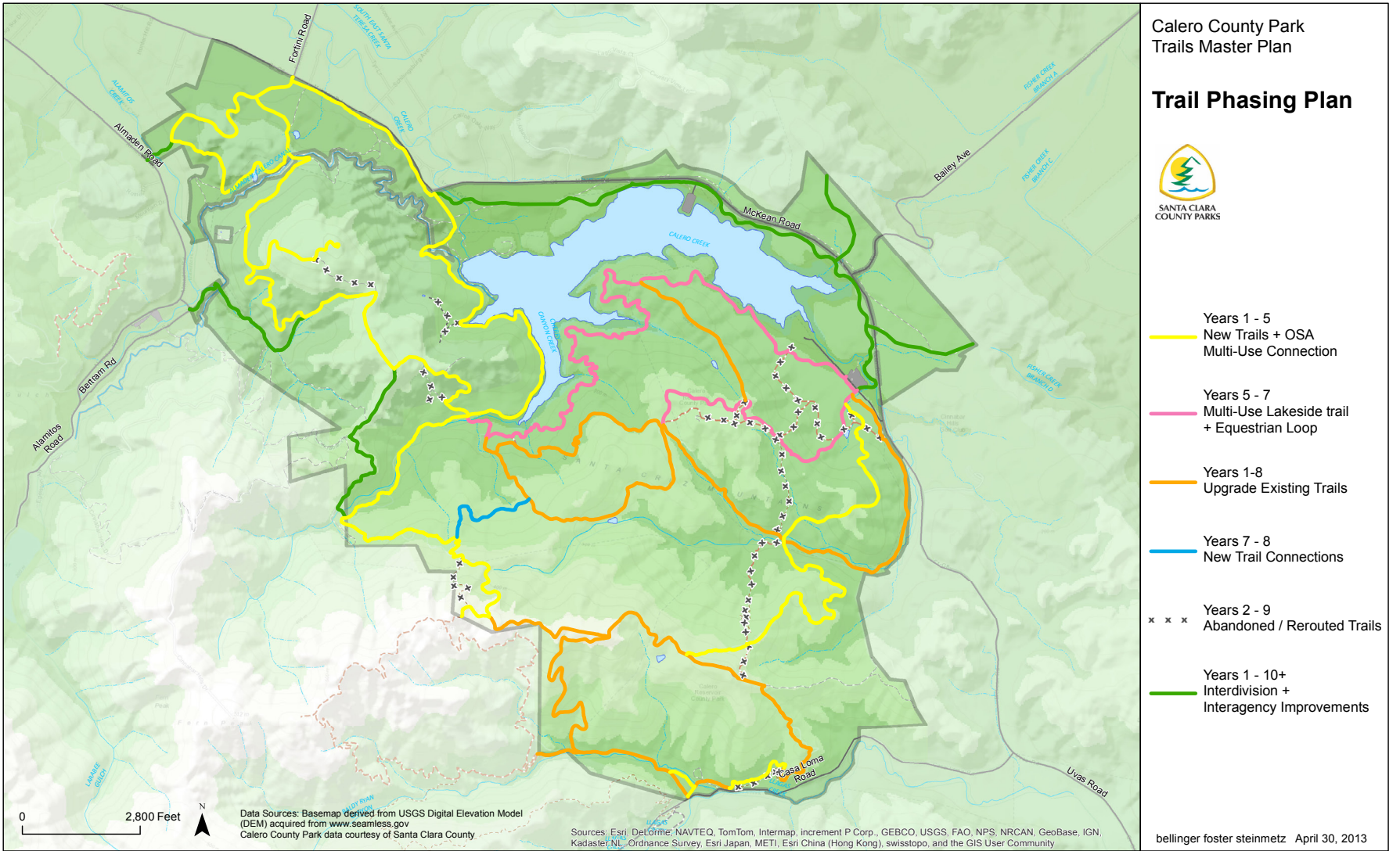
augment regional trail connections through Calero County Park by providing safer or more feasible routes than on-street routes identified in the Countywide Trails Master Plan. Supplemental project-level environmental review may be required as projects are further defined.

PHASING TIMELINE

TABLE 5

Implementation Strategy	Purpose	Implementation Years									
		1	2	3	4	5	6	7	8	9	10
Strategy #1 <i>Sequential Implementation of major Trails Plan routes</i>	Create trails in Calero County Park to open new areas of park and convert existing trails that connect to OSA trails to multi-use										
	Create new multi-use lakeside trail and increase internal loop trail options for all users										
	Complete additional new trail connections to further complete plan.										
Strategy #2 <i>Ongoing improvements to existing trails and habitat</i>	Upgrade existing trails to reduce seasonal closures, improve user experience, and enhance resource protection										
	Restore to native habitat those trails that are no longer used or that have been rerouted		X	X	X	X	X	X	X	X	
Strategy #3 <i>Long Range projects</i>	Implement trail segments that need additional major design, infrastructure or acquisition										

Note: Colors in timeline correspond to trail colors on Trail Phasing Plan (Map 12).



MAP 12

PRELIMINARY DEVELOPMENT COST ESTIMATES

Preliminary costs for development of trails and support facilities identified in the Trails Master Plan have been estimated using the standardized California State Parks Trail Work Sheet Labor and Materials Costs, in 2013 adjusted costs. Costs for additional components such as staging areas, roadwork in the public right-of-way, and vehicular bridges are based upon preliminary site investigation, schematic design, and comparison to similar projects in the County. Final development costs may differ.

Total Estimated Costs:	\$4,671,000
Total Trails Development:	\$2,086,000 ¹
Total Staging Area/Entrances (5) Improvements:	\$735,000 ²
Alamitos Creek Vehicular Bridge Crossing:	\$525,000 ³
McKean Road/Fortini Road Intersection Improvements:	\$700,000 ⁴
McKean Road Under crossings (2):	\$625,000 ⁴
Costs per Implementation Strategy:	
<i>Strategy #1: Implementation of major Trails Plan routes</i>	
New Trails and Existing Trails Converted to Multi-use, Years 1-5	\$490,000 ¹
Lakeside Trail and New Pena Equestrian Trail, Years 5-7	\$765,000 ¹
New Trail Connection to Chisnantuk Peak Trail, Years 7-8	\$85,000 ¹
Rancho San Vicente Staging Area Improvements <i>at final build out</i>	\$400,000 ²
McKean Road/Fortini Road Intersection/Park Entrance Improvements	\$700,000 ⁴
Ranger Station Staging Area Improvements <i>at final build out</i>	\$275,000 ²
<i>Strategy #2: Ongoing Improvements to Existing Trails</i>	
Upgrade Existing Trails, Years 1-8	\$132,000 ¹
Abandon and Restore Rerouted Trails, Years 2-9	\$99,000 ¹
<i>Strategy #3: Long Range Projects</i>	
Trails Work, Years 1-10	\$ 515,000 ^{1,5}
McKean Road Trail Under crossings (2)	\$625,000 ⁴
Alamitos Creek Vehicular Bridge Crossing	\$525,000 ³
Almaden Road Staging Area	\$45,000 ²
Boat Launch Ramp Staging Area	\$5,000 ²
Bertram Road Entrance:	\$10,000 ²

¹Costs include labor, materials, heavy equipment rental, tool replacement/depreciation, and administrative costs

²Total costs for improvements for 5 park entrances at build out (Rancho San Vicente, Ranger Station, Almaden Road, Bertram Road and Boat Launch Area). Interim development of entrances with minimal improvements will be less.

³Bridge costs will be substantially reduced if it is determined that a vehicular bridge is not required at this location.

⁴Entrance and Roadway under crossing improvements costs may be revised pending Traffic Study Conclusions

⁵Costs for any land acquisition that may be required have not been included

REVENUE GENERATION OPPORTUNITIES

Implementation of the Calero Trails Master Plan, including a new staging area at Rancho San Vicente and improvements to the existing staging area at the Ranger Office will provide Calero County Park with the infrastructure and parking capacity necessary to host a range of organized special trail events such as equestrian club rides, bicycling events, group hikes, endurance runs, etc. Proximity and trail connections to adjacent County Parks and other public parkland will also enhance the opportunity for Calero County Park to be considered for such events. Special events using the trails would be allowed by arrangement with the County and would be subject to the established fee schedule associated with obtaining a Special Use Permit for an event. Depending on the purpose of the event, limited overnight camping may also be allowed as part of the Special Use Permit for the event. Additional fees are collected for overnight events, based upon the number of attendees.



OPERATIONS AND MAINTENANCE

Santa Clara County Parks currently maintains over 200 miles of trails, distributed over 27 parks in the County. Regular inspection and maintenance is essential to preserve trail alignments while minimizing impacts to surrounding natural environments. The County's Trail Maintenance Manual (2005) provides guidance for the primary objectives of trails maintenance activities, sets standards for tasks to be performed, and helps establish priorities when addressing where staffing resources are best utilized. Park Unit Maintenance staff has primary responsibility for trail maintenance activities. Park Unit Ranger staff are responsible for all treadwork and brushing on narrow-width trails and new or replacement signage. They also provide additional understanding of evolving conditions on trails as a result of use and natural forces.

Operating Expenses

Calero County Park is part of a staffing unit that includes Almaden Quicksilver County Park and The Casa Grande complex. Distribution of staff time between the three facilities is on an as-needed basis. Project operating expenses developed for the Calero County Park trails system only include costs for permanently assigned staff; it does not include seasonal positions, trail construction or project crews or equipment and supplies.

With project improvements being phased over time, staffing needs for Calero County Park will gradually increase before reaching final build-out requirements. With growing demands at Calero County Park and The Casa Grande, the shared staff arrangement might need to be revisited in the future. To assist with the staffing needs planning, Trails Construction Crew, Special Project Crew, and Parks Maintenance staff descriptions and anticipated needs are noted below.



Park Ranger ATV

Trails Construction Crew: The Trails Construction Crew builds trails throughout the entire County Parks system. The crew is scheduled out on a project by project basis, typically limited to one park at a time. The crew consists of one Trails Crew Lead, three Trails Crew Staff, and as needed is assisted by three equipment operators.

Special Project Crew: The Special Project Crew completes projects throughout the entire County Parks system. The crew is scheduled out for two years and typically complete small capital projects, such as

building improvements, small bridges and the like. The crew consists of one Project Lead and three Project Staff.

Parks Maintenance Staff: The Maintenance Staff completes seasonal repairs as needed, performing routine maintenance of bridges and culverts, staging areas and associated facilities, as well as ongoing trail maintenance.

County parks staff identified the following additional personnel necessary for implementation of the Trails Master Plan:

Existing Calero Park Operations Staff Positions		Additional Staff needed as result of full implementation of Trails Master Plan	
# of Staff	Position Title	# of Staff	Position Title
1	Senior Park Ranger		
4	Park Ranger	1	Park Ranger
1	Park Service Attendant		
1	Senior Park Maintenance Worker		
3	Park Maintenance Worker	1	Park Maintenance Worker

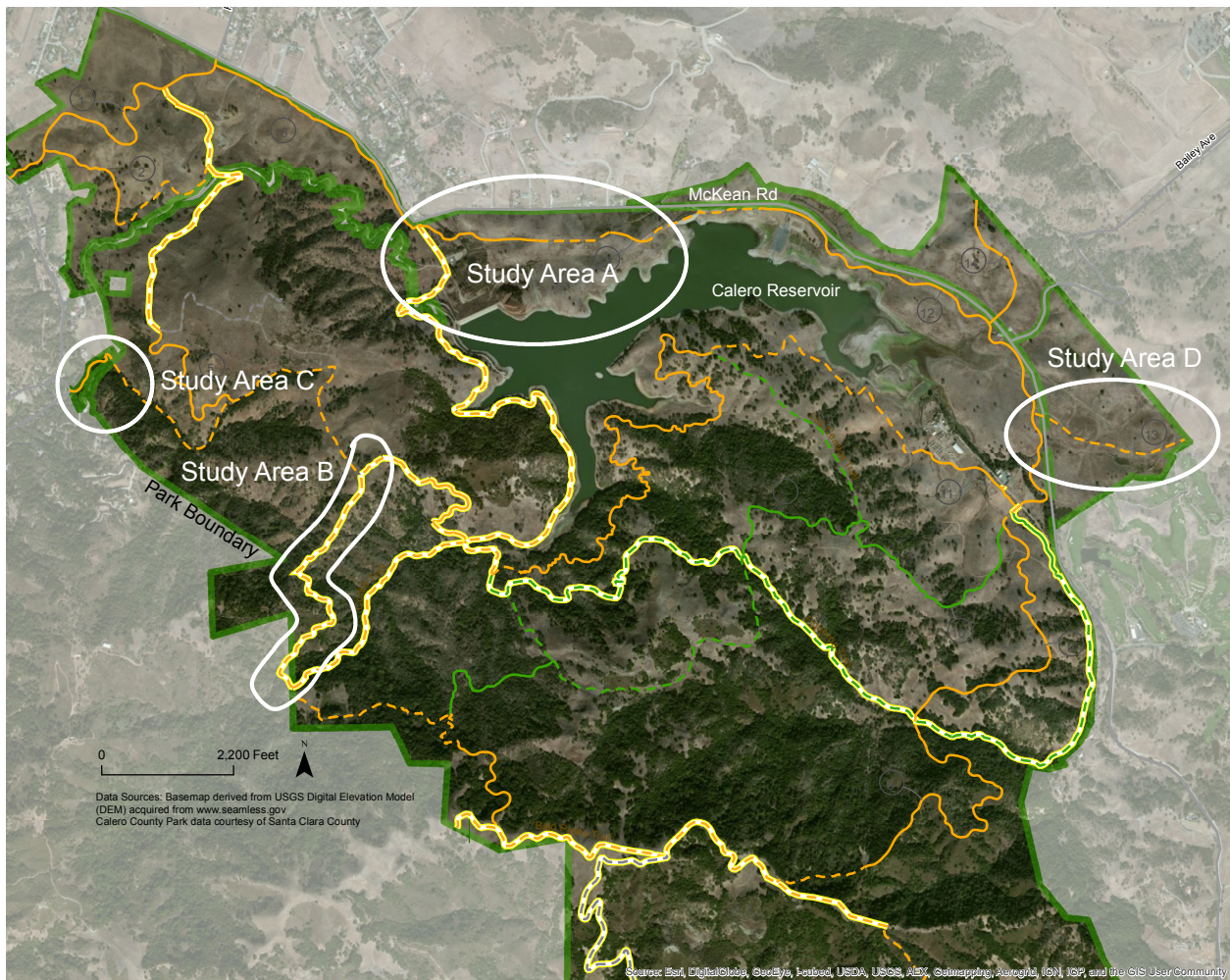
Typically maintenance staff needs are triggered by increases in permanent facilities that need daily or routine attention such as new entrances, staging areas, restrooms, picnic sites, visitor centers, and newly constructed trails. However, after a period of stabilization for new trails and elimination or repair of problematic trails, overall seasonal trail maintenance and repair work may decrease as a result of build out of the Trails Master Plan. This may offset the staff increases needed for new facilities.

Typically ranger staff needs are also triggered by increases in permanent facilities or programs that need daily or routine attention. It will be important to have a visible patrol presence on the trails to educate park visitors when new trails are opened or when existing trails are converted to allow additional users. Partnership opportunities with volunteers and docents to assist in trails watch and education programs may offset additional ranger staffing needs for the Trails Master Plan.

Even at full build out, the decision to implement staff increases will be dependent on a range of factors, including staffing needs of the larger Parks Department, seasonal demand, and budgetary constraints. It is also unclear what impact compliance with the recently approved Valley Habitat Plan will have on staffing levels with future enrollment of portions of Calero County Park into the Reserve System. Ongoing evaluation of staff level needs will occur throughout the implementation of the Trails Master Plan.

AREAS OF CONTINUING COORDINATION AND FOCUSED STUDY

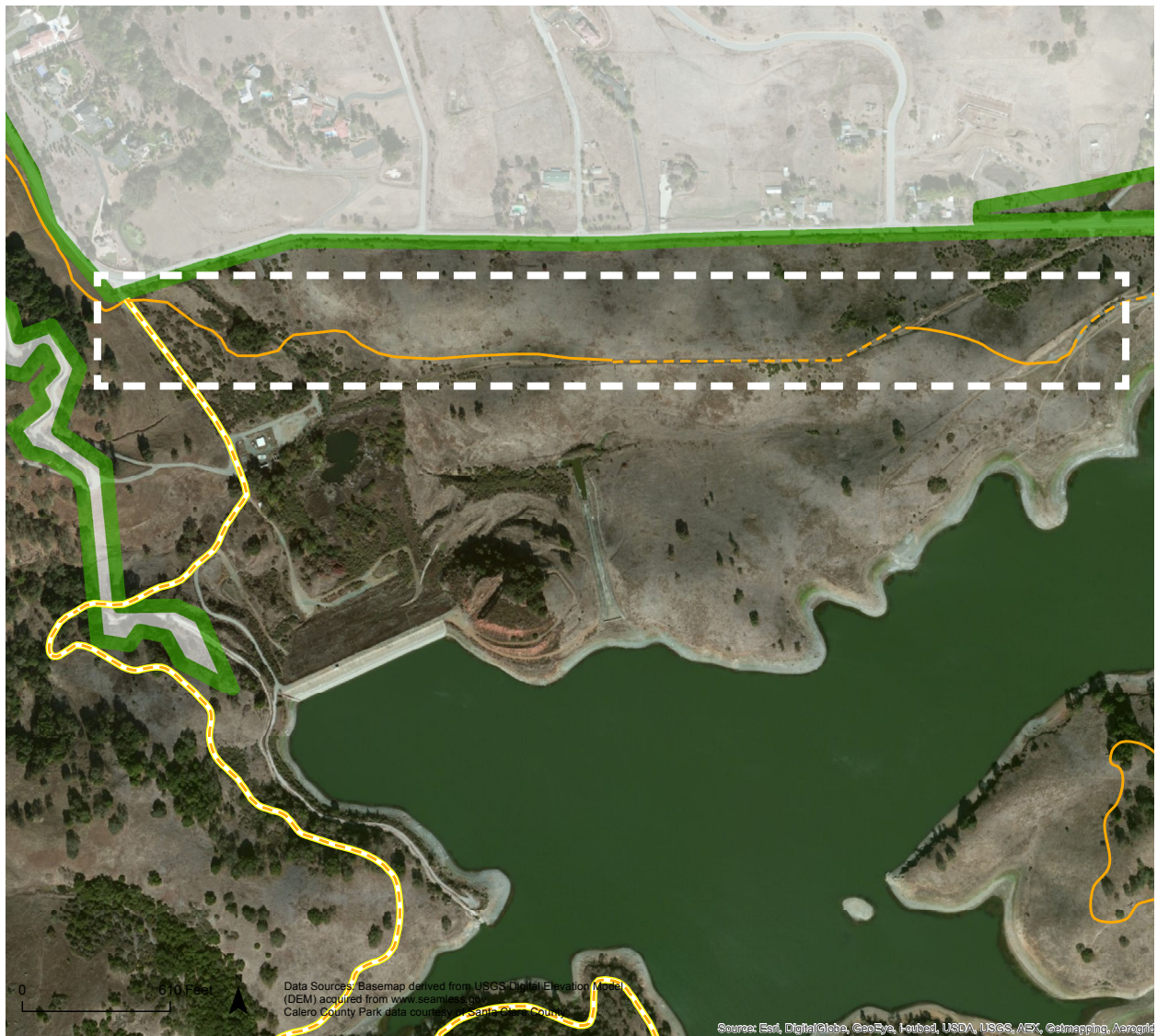
Several areas of the park have been identified as areas of continuing coordination and further study -- (See Map 13).



MAP 13

Study Area A: Trail connection between boat launch ramp and Cherry Cove Trail.

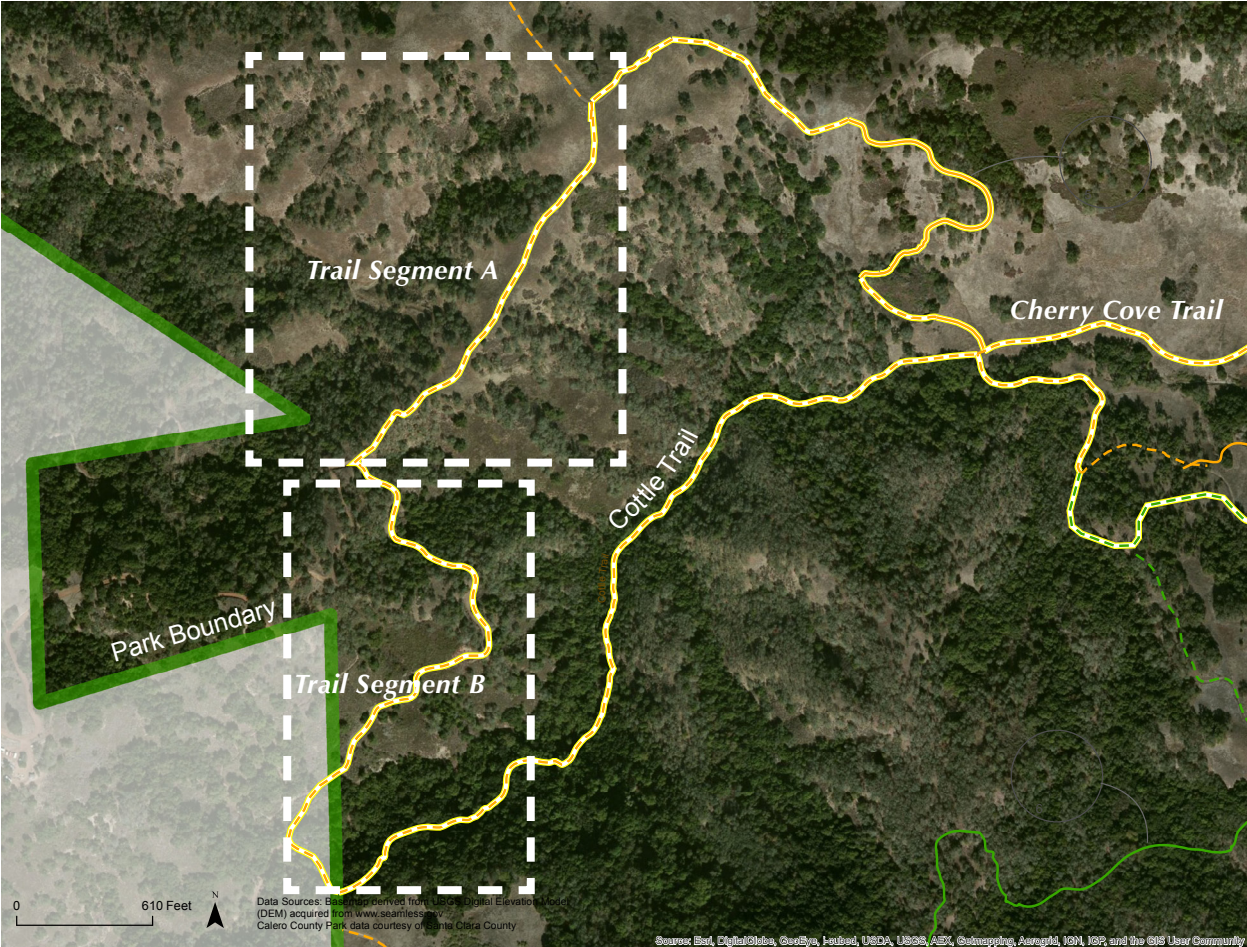
Several alignment options have been considered, including across the top of the dam, which may require frequent trail closure for dam maintenance, an alignment closer to McKean Road, which would be a less desirable user experience and which may be affected by future buildout of the road, or the preferred alignment shown below. The alignment shown crosses Calero Creek at the narrowest point possible, but even this alignment may require further evaluation due to the possibility of flooding.



MAP 14

Study area B: Trail between Rancho San Vicente Trail and western end of Cottle Trail

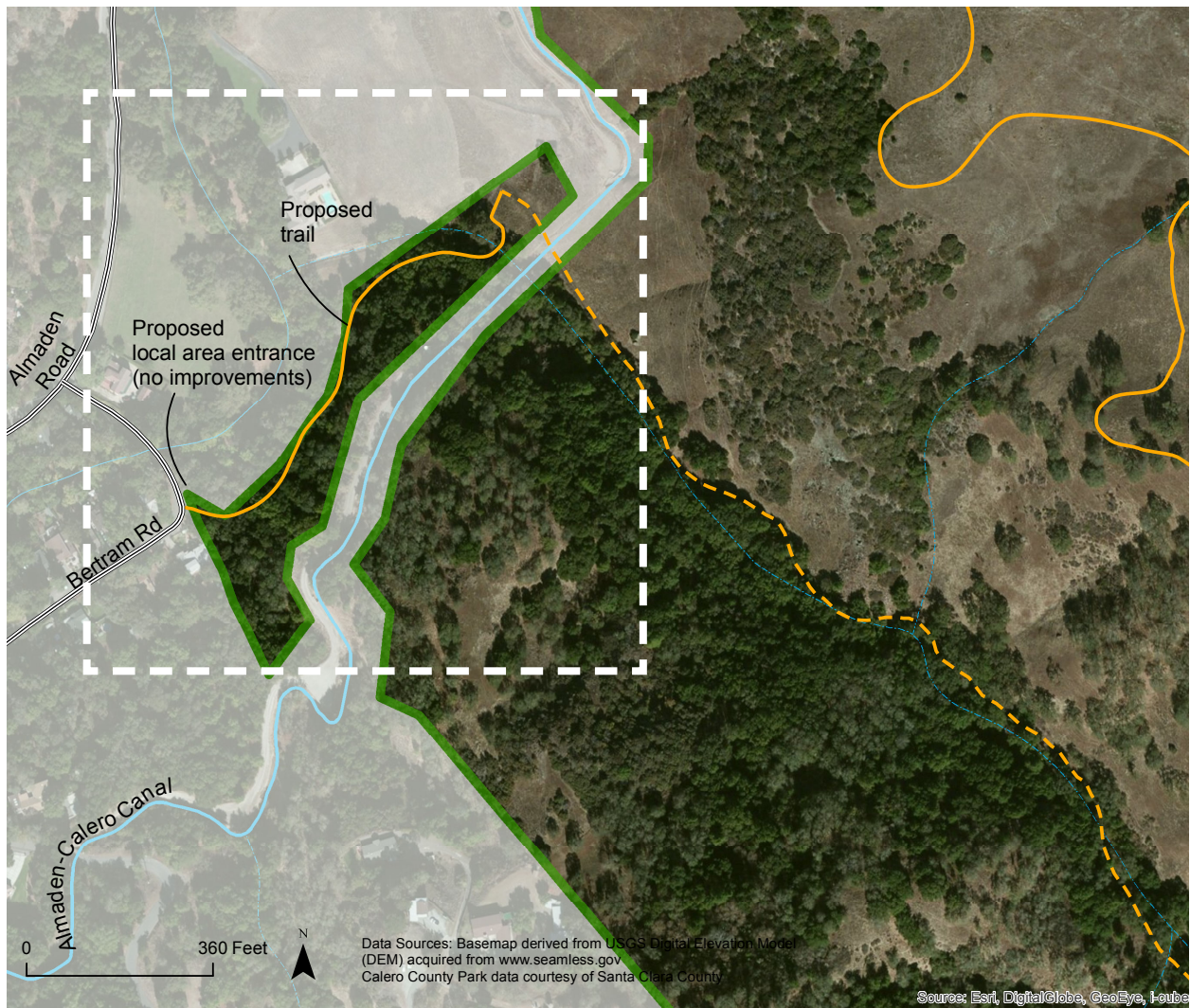
Trail segment “A” is a 10’ wide service road that together with the southern end of Rancho San Vicente trail and Cherry Cove trail constitutes a park egress route. Implementation and further review of the area will be triggered by the acquisition of private properties currently located outside of Calero County Park and needed to connect to the western end of Cottle Trail. Trail segment “B” will become a 10’ wide drivable trail, which connects to Cottle Trail and will be a park egress route following Cottle Trail and Cherry Cove Trail. In the interim, Trail segment “A” will be a 10’ wide service road that functions as a park egress route together with the southernmost portion of Rancho San Vicente Trail and Cherry Cove Trail.



MAP 15

Study Area C: Trail between Bertram Road and the Almaden Calero Canal

A walk-in entrance from Bertram Road is included in the Trails Master Plan to provide access for local residents to new trails in Calero County Park. No parking will be provided and only minimal signage will be installed. Prior to opening a park entrance at this location, further study of this area will be undertaken. County Parks will design appropriate entry features and work with the Santa Clara Valley Water District to ensure that any crossing of the Almaden Calero Canal will not impact operation of the canal.



MAP 16

Study Area D: Trail to connect to Coyote Valley Open Space Preserve

A possible future connection between the Coyote Valley Open Space Preserve operated by OSA and from Calero County Park is envisioned. However, additional study is needed prior to implementation. The trail connection will require a safe crossing of McKean Road (possibly using or improving the existing 6' high x 5' wide cattle undercrossing), detailed site investigation to determine the best alignment to avoid sensitive seasonal drainages, coordination with the Santa Clara Valley Water District that owns a portion of the area shown as parkland, and a secured route to connect to the Coyote Valley Open Space Preserve.



MAP 17

CHAPTER 5: ADDITIONAL CONSIDERATIONS



EDUCATION AND TRAINING

Education and training will occur in Calero County Park on many levels and throughout the park. Starting with signage at trailheads, trail users will be informed about trail conditions, trail etiquette, and unique experiences awaiting the trail user along the way. During certain times of the year, ranger or docent lead tours will educate park and trail users about flora, fauna and other site specific occurrences. These events are published on the County Parks website, drawing outdoor enthusiasts beyond the park's regular constituency.

With the implementation of the Master Plan, bicyclists and dogs on leash will be added to the trail user mix. While some Calero County Park trails will remain limited use, the majority of trails will be shared by all. Conveying multi-use trail etiquette to trail users will be of utmost importance in ensuring trail safety and a rewarding trail experience for all. Trail sharing rules will be brought to trail users via signage, pamphlets, trail watch volunteers and training events.

During a number of master planning public outreach meetings all user groups confirmed that they are interested in special training events geared towards learning about each user groups' unique needs and ways to share the same trails without conflict.

ENFORCEMENT

Comparable to traffic rules, trail etiquette rules and regulations are implemented to ensure rewarding and safe trail experiences for all authorized trail users. A *Trails Etiquette Brochure* has been developed by the County to assist users with understanding how they are to share the trail. It will be available at all staging areas and trailheads and posted online. With limited park ranger staff available and widespread terrain, rule enforcement is difficult and relies heavily on trail watch volunteers and trail users looking out for each other and reporting back to park staff. While not currently implemented at Calero County Park, the Trails Master Plan recommends that volunteer Trail Watch Patrollers be organized to help monitor trail safety, maintenance and usage. Trail Watch Patrollers act as the eyes and ears for park staff. Their primary role is to educate trail users about park rules and regulations and safe trail use etiquette.

Particularly during the initial phases of converting the park from a limited user group to a multi user group environment, increased presence of trained patrollers would be of benefit to all.

VOLUNTEER AND PARTNERSHIP OPPORTUNITIES

Combined with the expertise and guidance of County Parks staff, volunteer groups will assist in the construction of many of the Calero Trails Master Plan trails, thereby accelerating implementation and supporting parks staff and its resources. The County Parks Volunteer Program is well established, appealing to a wide range of interests, skill levels, and community focus. Volunteers contribute significantly to all aspects of park operations. Once trails are constructed, volunteers will also participate in important programs such as the Trails Watch, Adopt-a-Trail, Friends Groups, and trails etiquette training events that will help ensure the success of the Trails Master Plan. Volunteers will also have opportunities to lead trail maintenance events, help host special events, act as educational and interpretive docents, lead nature walks and guided rides, and fill many other positions. Student-led and Eagle Scout project opportunities also exist.

Partnership opportunities with other local agencies will play an important role in the implementation of the Trails Master Plan. As neighbors and interested parties, representatives from the County Roads and Airport Department, Santa Clara County Open Space Authority, Midpeninsula Regional Open Space District, the City of San José, and Santa Clara Valley Water District have participated closely in the Trails Master Plan process as the Technical Advisory Committee. They will continue to provide valuable knowledge, share resources, and participate in grant funding opportunities in a cooperative effort to complete implementation.



Trail maintenance

Valuable partnership opportunities also exist with regional recreation and open space advocates that have demonstrated continuing interest in the Calero Trails Master Plan. These groups include the Bay Area Ridge Trail Council, Bay Area Open Space Council, the Peninsula Open Space Trust, California Coastal Conservancy, the Nature Conservancy, California Native Plant Society, Santa Clara Valley Audubon Society, and many more. In conjunction with the support they provide for hands-on events such as Trails Days to supporting key acquisitions for trails, implementation of the Trails Master Plan will benefit greatly from their support.

COMPLIANCE WITH THE SANTA CLARA VALLEY HABITAT PLAN

Located within the permit area of the Santa Clara Valley Habitat Plan (Valley Habitat Plan) and identified as a “covered activity”¹, the Trails Master Plan project would be subject to the conditions of the approved Valley Habitat Plan and permits.

As a public agency Permittee, the County of Santa Clara (which includes Santa Clara County Parks, County Roads and Airport Department and other County departments) would be subject to a project compliance process for public projects covered under the Valley Habitat Plan. To fulfill the conditions of the Valley Habitat Plan, Santa Clara County Parks would submit a Habitat Plan application package for the implementation of the Trails Master Plan to the new Habitat Agency and pay appropriate Habitat Plan mitigation impact fees to the Habitat Agency. In lieu of paying mitigation impact fees, the County of Santa Clara would



enroll portions of Calero County Park, including Rancho San Vicente lands, in a new reserve system for the Valley Habitat Plan, whereby enrolled parklands would need to comply with the Valley Habitat Plan’s conservation strategies and permit conditions. New trails, staging areas and other recreational facilities will follow the Valley Habitat Plan’s requirements and guidelines including, but not limited to, establishing trails on existing service/ranch roads to minimize the need for new ground-disturbing activities. Chapter 3 provides the Valley Habitat Plan requirements and guidelines for the development of new trails, staging areas and recreational facilities on future parklands that would be enrolled in the new reserve system.

Consistent with the Valley Habitat Plan conservation strategy, public access would be allowable on future reserve lands that are owned by Santa Clara County Parks, whereby a recreation plan will be developed to manage public access to reserves. The Final Calero County Park Trails Master Plan provides the basic planning framework for the future recreation plan for lands at Calero County Park enrolled in the reserve system. Recreation plans will be reviewed by the new Santa Clara Valley Habitat Agency for consistency with Condition 9 of the Valley Habitat Plan and integrated into the applicable reserve unit management plan, which will be reviewed and approved by the Permittees (i.e. County Parks) and the Wildlife Agencies.

¹Santa Clara Valley Habitat Plan, Chapter 2 – Land Use and Covered Activities, pg. 2-91 to 2-92

PLAN FLEXIBILITY, REVIEW AND FUTURE UPDATES



As the Trails Master Plan is implemented over time, conditions which originally drove implementation strategies, trail and amenity design or determined goals during the planning phase might change. Plan flexibility is needed to accommodate future unknown conditions. To keep the Trails Master Plan valid over its implementation span, it was developed with maximum flexibility in mind. In addition, many County Park Management Policies were written to facilitate adaptability.

Trail Routes

Trail alignments shown on the Trails Plan represent trail corridors rather than actual trail alignments. This allows for maximum alignment flexibility during trail implementation. Trail construction crews in the field will determine most favorable alignments taking into account existing conditions such as topography, soil conditions, hydrology, sensitive habitats.

Staging Areas

Rancho San Vicente Staging Area: Facility layout allows for expansion of early bird and regular parking areas. Initial implementation of temporary parking areas allows County to assess user numbers prior to final build-out.

Ranger Office Staging Area: implementation of an overflow parking area for additional equestrian staging, special events staging, and special events-related camping allows the County to maximize staging flexibility. In the event that the Santa Clara Valley Water District raised reservoir levels which might necessitate that the Ranger Station and associated facilities be moved, this low cost implementation strategy would result in few, if any, financial losses to the County.

Almaden Road Staging Area: to maximize user flexibility this staging area will be an open ended design, allowing for easy changes should facility assessment determine that defined parking is preferable.

Casa Loma Road Staging Area: shared use of this OSA staging area might lead to other beneficial inter-agency collaborations. Because of the shared use, the “meadow” area remains undeveloped during the initial implementation phases of the Master Plan. However, staff field investigation has determined that this area is well suited and should be considered for a potential staging area expansion in the future if needed. The same considerations apply to lands adjacent to the historic Casa Loma barn.

Whole Access Opportunities

The Master Plan has identified a half mile level unpaved trail loop along Baldy Ryan Canyon Creek. This trail loop is located at the south end of the park and utilizes a section of Serpentine Loop Trail that follows the bank of the creek. The trail loop will be made accessible from Casa Loma Road and the OSA



Pedestrian Bridge over Baldy Ryan Canyon Creek

Casa Loma Road Staging Area by improving the gated entrance to be ADA accessible. The trail will provide an opportunity for those with limited mobility to experience a quiet backcountry trail and observe streamside flora and fauna at close range from the pedestrian bridge that crosses the stream. Conditions on the trail are also capable of supporting an approved motorized mobility device during most of the year. As the trail is connected to a larger trail at both the north and east end of the loop, there are opportunities to explore further as abilities allow. This trail will also

compliment the paved fully whole access trail that is located on the OSA property adjacent to the Casa Loma Road Staging Area. Options to connect directly to the OSA ADA trail will also be explored.

In addition, County Parks trails design policies strive to build most new trails no steeper than 10% (1 foot rise in 10 foot linear distance) and identify trail grades to be ideal if they are between 1% to 7% (Trails Maintenance Manual, 2005). Where trail designs cannot achieve these grades, sections of lesser grades are interspersed with steeper grades to provide overall undulations that reduce long stretches of steep uphill/downhill (Trails Maintenance Manual, 2005). Thus, where appropriate, trails will be designed for a broad range of user abilities. When the Santa Clara Valley Water District determines their strategy for preservation of the Bailey Fellows House, other opportunities for fully compliant ADA accessible trails may become available close the Ranger Office. All proposed staging area improvements will meet current ADA accessibility requirements.

In the future, detailed trail information, including information on trail profiles, elevation change, slope, and special conditions will be available for park trails and accessible through the County Parks' website, smart phone apps, and other materials in order to assist users in determining which trails are appropriate for their level of mobility.

Dog Access

To provide continuity in trail uses and to be compatible with OSA policies the Master Plan prohibits dogs on trails leading to OSA lands and connecting to OSA trails. Possible changes in OSA policy, management approach, or operational needs related to dogs on-leash will allow the Parks Department to modify this determination in the future.

Emerging Technologies

With new technologies emerging continuously way finding and public information systems will require period reviews and updates.

Adaptive Management for Trails

Adaptive management is a structured, interactive process of robust decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously meets one or more resource management objectives and, either passively or actively, accrues information needed to improve future management. Adaptive management will be a process used by Calero Parks staff to maintain and monitor trails.



Trails will be managed in accordance with existing Santa Clara County Guidelines and Policies including the *Uniform Interjurisdictional Trail Design, Use, and Management Guidelines*, the *Countywide Trails Master Plan Update*, the *Trail Maintenance Manual*, and the *Valley Habitat Plan*.

Master Plan Reviews and Updates

The Trails Master Plan is designed to be flexible so that future conditions can be addressed as they arise. To capture changes that may occur over time the Trails Master Plan should be reviewed on a 5-10 year basis to determine if the goals are being

met and implemented successfully or if plan changes are needed to address new conditions. Flexibility has been incorporated into the plan so that minor modifications may be made without triggering a full review of the Plan. Subsequent projects that do not impact the integrity of the Trails Master Plan may be implemented after appropriate review and CEQA analysis.

Existing Management Guidelines

Existing Santa Clara County guidelines and policies include flexible management tools allowing the Parks Department to modify existing procedures as needed. These include trail closure, which can happen for a great number of reasons including for maintenance, special events, ponding water or species protection, and staging area closure, which might get invoked for service access, grazing operation needs, or when parking capacity is reached. Other flexible guidelines exist for Speed Limits on Trails, Dogs on-leash, Trail Use Designations, and Trail Use Hours.

COUNTY TRAIL NAMING POLICY

The Trails Master Plan creates many new trails within Calero County Park. Some of the new trails evolved to accommodate new park user groups, others to create access to the recent Rancho San Vicente addition to the park and some to facilitate regional trail connections to other valley open space agencies and other County parks. Some new trails are existing trail reroutes that were developed in response to ongoing maintenance issues with current alignments.

New trail names will be researched and chosen by the master plan project team, and approved by the Parks and Recreation Commission and Board of Supervisors following the Santa Clara County Park Naming policy process. Names will be selected based on topographic, geographic, natural or historic criteria identified with the area and unique to the park setting. In some instances existing trail names may be changed to more closely reflect their natural setting.

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APPENDIX A

Geologic and Hydrologic Constraints Technical Memo (2011)

Memorandum

To: Elke Ikeda (Bellinger Foster Steinmetz)
cc: Lee Steinmetz and Joy Long (Bellinger Foster Steinmetz)
From: Scott Brown, PG, and Jonathan Owens
Date: August 4, 2011

Subject: Geologic and hydrologic opportunities and constraints for trail planning, Calero County Park, Santa Clara County, California.

1. Introduction

Bellinger Foster Steinmetz has asked Balance Hydrologics for assistance in a trails assessment/planning study for Calero County Park in southern Santa Clara County. This memorandum summarizes Balance's analysis of soils, geology, and other hydrologic factors that affect potential trail alignments within the Park. Analysis included assessment of the regional geology (McLaughlin and Helley, 2001) and soils (Lindsey, 1974; SCS, 1968) along with reconnaissance-level field surveys and our professional knowledge of soil and geologic characteristics of the project area and hydrologic best management practices for trail construction.

This memorandum is intended to provide information specifically to guide trail planning and assessment on a broad basis, and is not intended as a comprehensive geologic, geomorphic, hydrologic, and/or soils report.

2. Analysis

2.1 Field reconnaissance

Balance staff visited the park site with the project team on June 7, 2011, and also visited the park separately on two other occasions, June 9 and June 23, 2011. The intent of the field reconnaissance was to canvass 'typical' problems associated with existing trails, brainstorm ideas for potential trail alignments and best management practices, and otherwise develop preliminary recommendations to address potential hydrologic concerns. This section briefly summarizes field observations that were made as well as preliminary recommendations based on these field observations and as recorded in the field. The following observations were made during the trails reconnaissance:

1. Numerous seeps and springs were observed, particularly in serpentine bedrock areas. Some seeps and springs may be associated with the serpentine contact with the underlying geologic unit. Other seeps and springs may be associated with landslide slumps.

2. Locations of serpentine bedrock are generally visually obvious, marked by numerous surface boulders and, typically, distinct vegetation.
3. Some trail surfaces showed signs of pock-marking by cattle during wet conditions with subsequent drying, leaving a hard and irregular trail surface.
4. Many existing trail sections are too steep and lack proper drainage. Basic trail-design guidelines for slope and drainage (10% max trail grade¹, drain dips, critical dips in reentrants, selective outsliping, etc.) have not yet been applied to most areas. One notable exception is the east end of the “Serpentine Loop Trail”, which is distinctly well-designed and –constructed.

Associated suggestions and discussion points based on the numbered observations follow below:

1. a) Avoid routing trails near or downstream of spring areas to avoid saturated trail conditions; b) test springs and springs intended to supply horse watering troughs for mercury concentrations; c) alternatively, as a first-cut approach, locations for horse watering troughs can be selected by testing for salinity (specific conductance) and favoring those spring locations with lower salinity, which may indicate springs that are less likely to contain elevated levels of mercury.
2. If narrow trails are located on serpentine bedrock areas, these trails will tend to have a rocky, irregular surface (as opposed to a smooth soil surface). These locations would be suited for making more-difficult “technical” bike trails. If a more family-oriented trail is desired through a serpentine bedrock area, it would likely need heavy equipment to smooth the bedrock and end up being a wider trail.
3. a) Integrate trail route suggestions with the current grazing-management plan. b) Impacts on trails will be mainly during the wet season. c) Assess current locations of pock-marked trails and try to avoid similar conditions that lead to soft muddy trails. d) Adding gravel to roads reduces cow impacts and mud, but ranchers typically don’t like cattle getting gravel stuck in their hooves. e) Adding wood chips to trail surfaces can sometimes also help with muddy trail section, where positive drainage cannot be reliably maintained.
4. Site-specific trail routing and design will be important for selecting optimum routes to reduce erosion and drainage problems. New trail segments should implement drainage principles similar to those used in the construction of the eastern portion of the Serpentine loop.

2.2 Geology

Calero County Park lies along the eastern flank of the Santa Cruz Mountains, part of the southern Coast Range of California. The Coast Range was formed at the boundary of two major tectonic plates, the Pacific and North American plates. As a result, the region contains several

¹ 10% max trail grade or no more than half the predominant land-surface slope in low-slope areas.

major fault systems, including the well-known San Andreas Fault, along with many minor fault traces – both active and inactive.

The Park is located within the southeastern portion of the New Almaden fault block, composed primarily of highly-sheared and jumbled mix of marine sedimentary, volcanic and intrusive igneous rocks of basaltic composition (Alt and Hyndman, 2000). Just west of the park is the New Almaden mining district, known primarily for the abundant mercury deposits (Bailey and Everhart, 1964); however the lack of evidence of old mine operations within the park area suggest that the economically viable mercury-bearing units are not prevalent within the park itself.²

Seven aerially-significant geologic units are mapped within the park boundaries (summarized from McLaughlin and Helley, 2001; map abbreviations for each unit are shown in parentheses; see Figures 1 and 2):

Franciscan mélange, undifferentiated (fm); metamorphosed volcanic rocks of the Franciscan mélange (fpv); metamorphosed basaltic rocks of the Franciscan mélange (fmv)

These units are variations of metamorphosed volcanic and marine sedimentary units, commonly with blocks of chert and limestone, and are exposed throughout the park. The three Franciscan units noted above are not considerably different from one another from a trails planning perspective. Properties will vary more *within* units than *between* units, and thus they are considered the same unit for the purposes of trail planning. While high potential for erosion might be present in areas where these units are faulted, highly-sheared, and/or heavily weathered, the types of rocks within these units are not generally considered highly prone to erosion. Trails in this set of units³ should not require extra precautions beyond typical and site-specific trail-building best management practices.

Serpentinized ultra-mafic rocks (jos)

These rocks occur within a broken band extending from west of the Calero Reservoir southeastward toward the Casa Loma entrance to the park. The San Vicente Ranch portion of the park, west of the reservoir, contains the largest exposure of serpentinized rocks, with exposures to the southeast being spotty and much less continuous. Serpentinized rocks may contain chrysotile and other asbestiform minerals, formed in voids created by shearing, fracturing and faulting of the host rocks (Wrucke, 1995). Erosion of serpentinized deposits may release asbestiform minerals into the environment, where, if inhaled in significant quantities may pose a risk of lung cancer. It is important to note that not all serpentinized units contain asbestiform minerals in significant quantities; bulk soil testing in areas of preferred alignments can assess whether such minerals are present.

² A single set of quarries is shown within the park on the geologic map (McLaughlin and Helley, 2001) and are noted as a source of limestone. These are the namesake of the park, which refers to a source of lime. Additional ‘mining’ activities are shown on the soils survey (SCS, 1968), but this is associated with source material for Calero Dam. No other mines or quarry activities are noted on the geologic map, nor were significant mercury deposits described near Calero Reservoir by Bailey and Everhart (1964).

³ As well as other units that do not have significant aerial extent within the park: chert (ch), foraminiferal limestone (fpl), amphibolite blocks (am), basaltic volcanic rock blocks (v), radiolarian chert (fmc); none of which are considered highly prone to incision.

A small exposure of silica carbonate rocks (sc) is shown associated with the serpentinized ultramafics on the ridge just south of the northern arm of Calero Reservoir. This unit, a result of hydrothermal alteration of serpentine rocks, is commonly associated with mercury-bearing deposits, especially in the New Almaden mining district to the west of Calero County Park (Bailey and Everhart, 1964). The silica carbonate rocks are also present north of the Calero Reservoir, but these exposures are not located within the Park itself. For the purposes of this analysis, we include the silica carbonate rocks with the associated serpentinized rocks.

In our experience, serpentinized rocks in this part of Santa Clara County often (but not always) tend to be well-drained due to their tendency to weather to granular soils and the high degree of fracturing and shearing. With the exception of potential asbestos concerns noted above and the sensitive vegetation they support, they are often well-suited for trail construction from a hydrologic perspective.

Landslide deposits (Qls)

Several large landslides are mapped in the area south of the western portion of Calero Reservoir, and northwest of the Casa Loma entrance to the park. Landslide deposits are prone to erosion and channel incision in response to concentrated surface flows, such as those that typically result from trail-building.

While it is best to avoid landslide-prone areas when aligning trail routes, the presence of landslides does not preclude trail-building. Special considerations and/or allowances should be made in these areas.

- If necessary, trails can *cross* landslide deposits perpendicular to the prevailing slope but should not run on landslide deposits more than absolutely necessary.
- Trail length on the actual slide deposits should be minimized.
- Seeps and springs are common at the foot (downslope) side of landslide deposits where groundwater exits the slide deposits at the interface of the underlying bedrock. Trails near the toe of landslides should be avoided to minimize wet trail conditions or to cause the springs to be turbid.

Alluvial deposits (Qal)

Alluvial deposits are present primarily within the valleys just upstream of Calero Reservoir and along Casa Loma Creek at the south of the park. Similar to landslide deposits, alluvial deposits are unconsolidated and prone to erosion. Special considerations should be included to minimize impacts to the riparian zones associated with alluvial soils⁴.

It is important to note that some streams within the park likely have alluvial deposits that are not of mappable scale. Even if such alluvial deposits are not present, hydrologic controls and

⁴ Stream channel deposits (Qhc) are present within the Park to limited extent, and are combined with the Qal unit for the purposes of this assessment.

best management practices are suggested wherever possible to protect both the streams and the trails and to buffer streams from sediment inputs.

- Direct drainage connections between trails and creeks should be avoided through the use of buffer zones, except at designated crossings.
- Trails constructed on alluvial deposits are prone to occasional inundation by floodwaters. Trails along streams should be designed to minimize potential for 'capture' of the stream, especially in small watersheds. Undulating trail grades and setting trail alignments oblique to the prevailing land-surface slope will help alleviate such problems.
- Seasonally-saturated conditions may be present within areas underlain by alluvial deposits. Consider wet-weather closures of trails in alluvial and riparian areas.
- Creek crossings should minimize impacts to the stream channel through the use of bridges, puncheons, rock fords or stepping stones, etc.

Alluvial fan deposits (Qpf)

Pleistocene alluvial fan deposits are present within the northwestern-most corner of the Park⁵. These are unconsolidated, poorly-sorted deposits that have a greater potential for erosion than the bedrock units within the park, but because of the presence of gravel and boulders within the deposits are not particularly prone to excessive erosion. As such, we recommend the following:

- Trails should have frequent grade reversals to limit the potential for stormwater runoff accumulation. While this is generally good practice for any trail design, it will be more important within the alluvial fan areas.
- Reduce the maximum allowable trail grade in areas of alluvial fan deposits, possibly to as low as 6-percent (or less than one-half the prevailing land-surface slope, where surface slope is low).

2.3 Soils

As with underlying geology, soils can have varying suitability for trail construction. The soils within the park are predominately well-drained, sandy loams to clay loams that are generally not-poorly-suited for trail construction. Using the available soil survey data, we highlight several factors to avoid when planning trail alignments⁶. These are described below and shown in Figure 3 (see also Table 1). Figure 4 highlights areas where soil-type indicates where constraints to trail-building may be present.

⁵ The Santa Clara formation (QTsc), also alluvial fan deposits, also outcrops in the park, but is of limited aerial extent.

⁶ Most mapped soils include areas, or inclusions, of other associated soil types. Site-specific conditions should always be used when these conflict with the mapped soil types.

Slope

Trail construction in steep terrain can be problematic, both logistically during construction and for long-term erosion control. We recognize that it is not feasible to completely avoid steep areas in Calero County Park, but do encourage that trails not be routed for extended distances in soils with a 'representative' slope greater than 50 percent (Table 1; Figure 4). It is important to note that while we identified soil types with particularly high slopes for this analysis, DEM analysis is the preferred method for trail route planning, as it provides better spatial resolution and higher accuracy slope values than the generalized soils mapping units.

- To reduce the potential for trail erosion, multi-use trails should generally be routed 'along contour' rather than parallel to the prevailing slope, and have grades of less than 10% (up to 15% for hiker-only trails).
- Even in low-slope areas, trail erosion may occur. Where prevailing slopes are below 20 percent, trail grades should be less than one-half of the prevailing slope.

Ponding/flooding

In general, soils within the park are well-drained, primarily due to moderate to high slopes and the presence of granular soils with fair to good infiltration rates. However, some areas are more likely than others to be subject to ponding, and/or saturated conditions. We identified such soils in several ways:

- 1) Soils that are designated as 'flood-prone' within the soil surveys.
- 2) Soils designated as prone to 'frequent ponding' in the soil surveys (note that all of the soils in the park were listed as having 'none' for this category);
- 3) Soils with very high clay content, based on soil textural descriptions; and
- 4) Low-slope soils categorized in hydrologic group D (an indication of soils with low infiltration rates, likely to remain ponded or wet after rain storms⁷).

While areas prone to ponding/flooding should generally be avoided when planning trail corridors, it is important to note that not all areas within the soils noted above will be prone to saturated conditions. Site-specific studies in these areas are encouraged. In addition, several techniques can be used in wet locations to avoid long-duration ponding problems. These include:

- Temporary trail closures after rainstorms

⁷ Soils within hydrologic group D with higher slopes were not counted, as none had appreciable clay content that would suggest a likelihood of prolonged saturation. Despite having low infiltration rates, moderate- to high-slope, D-group soils are not likely pond water if proper trail-building techniques are employed (outsloping, rolling dips, etc.)

- Raised 'boardwalks' through ponding- or flood-prone areas
- Gravel surfacing and/or other soil amendments
- Rock drains

Serpentine soils

As described in Section 2.1, areas underlain by serpentine rocks may present some difficulties for trail alignments. Even though the serpentine areas were highlighted in the 'geology' analysis (Figure 2), it is important to highlight these areas using the soils information as well. Given the different methods used to construct the maps, the soils analysis identifies some areas of serpentine soils not shown on the geologic map (and vice versa) expanding the area where special precautions are warranted. Recommendations for testing in areas of serpentine soils are the same as those for the serpentinized ultra-mafic rocks discussed above.

In addition to the issues noted above, the unique geochemistry of serpentine rocks results in soils can be harsh to many common plant species, and thus often support unique flora adapted specifically to the soil type⁸.

Stone content

Several of the soils with the park were designated in the soil survey as having particularly high stone content. Soils within Calero County Park with this designation are the same as those designated as serpentine-derived soils, consistent with our field observations (see Section 2.1 above). The presence of large cobbles and boulders makes trail construction more difficult, and thus construction costs are likely to be higher in these soils. While the presence of large stones certainly does not preclude the building of suitable trails, it does affect the style of trail that should be used. In these areas, trails should be more 'tight and technical' rather than 'open and flowing' (IMBA, 2004)⁹.

Erosivity

Soil 'k-factor' is a quantitative description of the susceptibility of a soil to sheet and rill erosion based on percentages of sand, silt, and clay, as well as other hydrologic properties. K-factor values vary between 0.02 and 0.69¹⁰. For the purposes of this analysis, we consider k-factor between 0.35 and 0.5 to be moderate erosivity, and values between 0.5 and 0.69 to be high erosivity soils¹¹. Soils with high erosion potential should be avoided (note that no high-erosivity

⁸ Biologic considerations of serpentine areas are considered separately from this analysis.

⁹ Open and flowing trails support higher speeds, but need better sight lines so trails users can see each other coming. Transitions from 'open and flowing' to 'tight and technical' sections should be gradual so that sudden excessive braking is not needed for an unexpected tight corner.

¹⁰ <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>; k-factor does not consider slope when assessing erodibility. Many of the soils at the site are considered highly erodible simply because of their high slope and position in the landscape. Given that slope is already being considered elsewhere in the trails analysis, we have not included that factor as it specifically relates to soils, in an effort to better differentiate areas more-susceptible to erosion within the high-relief landscape of the Park.

¹¹ We used 'k-factor, whole soil' (Kw) for our analysis. Kw accounts for the presence of rock fragments in a soil. 'K-factor, rock free' is typically used in agricultural areas, where rock fragments are likely to be mechanically removed from the soil.

soils, based on k-factor alone, were identified in the park). Soils with moderate erosivity potential would be best to avoid as well, but with proper trail building techniques should not be problematic.

2.4 Groundwater

As discussed above, numerous seeps and springs were identified during the field reconnaissance, many associated with the lower boundary of the serpentine unit and associated with landslide deposits. It is our understanding that some of these springs may be used to support watering troughs for horses at specific points along the trail system. The following summarizes several recommendations related to seeps and springs:

- Seeps and springs, as well as areas immediately downslope, should generally be avoided when planning trail alignments, due to concerns of extended saturation and ponding on trails (as discussed above).
- Where seeps and springs are intended for use in watering horses, troughs should be located some distance (we suggest at least 30 feet) from springs and associated saturated areas to reduce trampling and potential for contamination.
- All springs intended for use to supply watering troughs should be tested for the presence of mercury, due to the presence of known mercury deposits in the region. Springs near the lower boundary of the serpentine-bearing rocks are most likely to contain traces of mercury, especially in areas where silica carbonate hydrothermal alteration of serpentine rocks has been noted (see serpentine discussion in section 2.2, above).
- Useful testing for mercury typically requires much more exacting sampling than most other trace elements. We suggest using SCVWD's mercury sampling protocols (c.f., Owens and others, in prep), which is probably best done by a water-quality professional and with appropriate Quality Assurance Project Plan (QAPP) documentation, such that they will be credible to regulatory entities.

2.5 Other recommendations

There are a number of other generalized guidelines for trail construction to reduce hydrology-related impacts. While not explicitly included in our scope, we feel that it is important to summarize some of the most important of these practices here for reference. Many of these guidelines are described in detail in the International Mountain Biking Associations trail building guide (IMBA, 2004) and other trail-building guides and assessments (c.f. Edwards and others, 2006; Ritter and others, 2005; Porter and others, 2007; Parker, 2004; and Schmidt and Woolner, 2004).

- Trails should generally be out-sloped, though in-sloping is ok for trails at outside bends (slope 'noses').
- Trails should have frequent grade reversals to prevent accumulation of flowing water within any one trail segment (commonly called 'rolling grade dips').

- Trails should always slope down toward stream crossings and swale/gully/valley bottoms (concavities), and slope upward away from such features to limit the potential for trails to capture water flowing down the gully during storms. (This is sometimes referred to as “critical dip”)
- Trail slopes should generally be less than 10% grade, though up to 15% is acceptable for technical, hiker-only trails. Where land-surface slopes are less than 20%, trail grades should be no greater than half the land-surface slope to reduce the potential for trails to capture and accumulate runoff.

3. Conclusions and Recommendations

Conclusions:

- Geology and soils within the Park are generally quite homogenous, with little difference (for trail planning purposes) between many of the major units. This is in stark contrast to some other parks within Santa Clara County (such as Grant Ranch and Mt. Madonna County Parks) which exhibit much higher variability and thus are more amenable to geologic and soils differentiation.
- There are few areas within Calero County Park that are truly poor locations for trail corridors, from a geologic and soils perspective (exclusive of slope concerns, analyzed separately). In general, the locations highlighted in Figures 2 and 4 should be avoided, if possible, but potential concerns can be alleviated by implementing common trail building best management and erosion control practices.
- Areas of serpentine rocks/soils comprise the most extensive geologic/soils/hydrologic trail planning constraint within the park¹². Though there are certainly some geologic/soils concerns (asbestos, presence of large stones) in building trails through serpentines, trail corridors through such areas are more likely to be guided by biologic constraints.
- Landslide areas are an erosion concern, and should be avoided, if possible.
- Other significant constraints (ponding/flooding, moderate to high erosivity, etc.) are contained within small segments of the park and/or relevant to variability *within* specific units and thus not identifiable in a broad-brush assessment. While the small areas that are noted on Figures 2 and 4 should be easily avoidable, common trail-building practices are available to help mitigate constraints should trail alignments cross through such areas.
- It is important to remember that in almost all cases, a well-built trail within a ‘poor’ trail corridor is still better than a poorly-built trail in a ‘good’ trail corridor.

¹² Second to high-slope, which (as described in section 2.3) is more appropriately analyzed through DEM rather than soils analysis, and was not included in this report.

Summary of recommendations:

- Testing of bulk soil material for the presence of asbestos should be conducted along potential trail alignments within serpentine areas.
- Trail routes should avoid mapped landslides as well as down-slope areas, where possible.
- Stream buffer zones and trail-building practices intended to avoid 'stream capture' should be incorporated into areas underlain by alluvium, as well as in other areas adjacent to streams and headwater gullies.
- Trail alignments should avoid areas prone to ponding or flooding. Where avoidance is not feasible, site-specific BMPs should be incorporated to avoid or limit excessive ponding on the trails.
- Trails in areas of soils with high stone content (in Calero, typically within serpentine soils) should be planned to be 'tight and technical' rather than 'open and flowing', and transitions between these two trail types should be gradual.
- Trail grades should be no greater than 10% (15% for 'hiker-only' trails); OR no greater than half the prevailing land-surface slope in areas where slopes are less than 20%.
- Springs planned to supply watering troughs should be tested for the presence of mercury, especially those that appear to be associated with serpentinized rocks.
- Horse watering troughs should be located at least 30 feet from springs and associated saturated areas, to reduce the risk of trampling and contamination within such areas.
- Trail planning should be integrated with the grazing management plan to prevent cattle pock-marks on trails. Pock-marks are less of a problem on 'tight and technical' trails, and thus constraining grazing to areas of such trails during wet periods may be advisable¹³.

4. Limitations

This memo summarizes reconnaissance-level work intended for generalized trail planning purposes. Site-specific factors along individual proposed routes should be assessed once preferred alignments are drawn. This memo describes some hydrologic and erosion control best management practices for trail building, but should not be considered an extensive summary of all site-specific preferred trail construction techniques.

¹³ In fact, grazing in areas of serpentine soils, where we suggest the 'tight and technical' trails be located, may be beneficial in that it reduces non-native grassland species. (see http://www.greenfoothills.org/news/2002/10-2002_CoyoteRidge.html) Further investigation is suggested to see if this applies to Calero.

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Table 1. Properties of soils relevant to trail planning and generalized suitability ranking, Calero County Park, Santa Clara County, CA. See text for description of factors and site-specific recommendations. It is important to note that a high number of "flags" does not necessarily mean that a particular soils is a poor place for trails, but rather areas where greater care should be taken when constructing the trails. Soils data based on review of soils data in the two Santa Clara soils surveys (Lindsey, 1974; SSURGO, 2010).

Soil Symbol	Soil Name	Area of coverage within Park (m ²)	Susceptible to ponding/saturated conditions				Serpentine?	High stone content? ³	High slope? ⁴	Moderate (M) or high (H) erosivity (K-factor) ^{5,6}	Total number of "flags" ⁷
			Susceptible to ponding? ¹	Susceptible to flooding? ¹	High clay content?	Low-slope, hydrologic group D soil? ²					
560	Katykat-Mouser-Sanikara complex, 30 to 50 percent slopes	8,811,870	--	--	--	--	--	--	n/r	0	
386	Alumrock-Zeppelin complex, 9 to 15 percent slopes	2,167,634	--	--	--	--	--	--	n/r	0	
303	Montara-Santerhill complex, 15 to 30 percent slopes	1,954,333	--	--	--	--	Y	Y	--	2	
561	Footpath-Mouser complex, 30 to 50 percent slopes	1,285,332	--	--	--	--	--	--	n/r	0	
W	Water	1,167,675	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
143	Flaskan sandy clay loam, 5 to 9 percent slopes	381,696	--	--	--	--	--	--	--	0	
569	Katykat-Sanikara complex, 8 to 30 percent slopes	341,541	--	--	--	--	--	--	n/r	0	
LfG	LOS GATOS GRAVELLY LOAM, 50 TO 75 PERCENT SLOPES	216,114	--	--	--	--	--	Y	--	1	
335	Montavista-Togasara complex, 2 to 9 percent slopes	188,909	--	--	--	--	--	--	--	0	
LhG	LOS GATOS-GAVIOTA COMPLEX, 50 TO 75 PERCENT SLOPES	188,759	--	--	--	--	--	--	--	0	
LfF	LOS GATOS GRAVELLY LOAM, 30 TO 50 PERCENT SLOPES	179,857	--	--	--	--	--	--	--	0	
MfG2	MAYMEN ROCKY FINE SANDY LOAM, 50 TO 75 PERCENT SLOPES, ERODED	171,148	--	--	--	--	--	Y	--	1	
302	Montara-Rock outcrop complex, 30 to 50 percent slopes	131,017	--	--	Y ⁸	--	Y	Y	--	3	
301	Montara sandy loam, 15 to 50 percent slopes	129,263	--	--	--	--	Y	Y	--	2	
IsG3	INKS STONY CLAY LOAM, 30 TO 75 PERCENT SLOPES, SEVERELY ERODED	129,068	--	--	--	--	--	--	--	0	
GoG	GILROY CLAY LOAM, 50 TO 75 PERCENT SLOPES	89,247	--	--	--	--	--	Y	--	1	
316	Cropley clay, 2 to 9 percent slopes	59,591	--	--	Y	--	--	--	--	1	
334	Urban Land-Montavista-Togasara complex, 9 to 15 percent slopes	52,112	--	--	--	Y	--	--	n/r	1	
409	Zamora loam, 2 to 9 percent slopes	50,571	--	--	--	--	--	--	M	1	

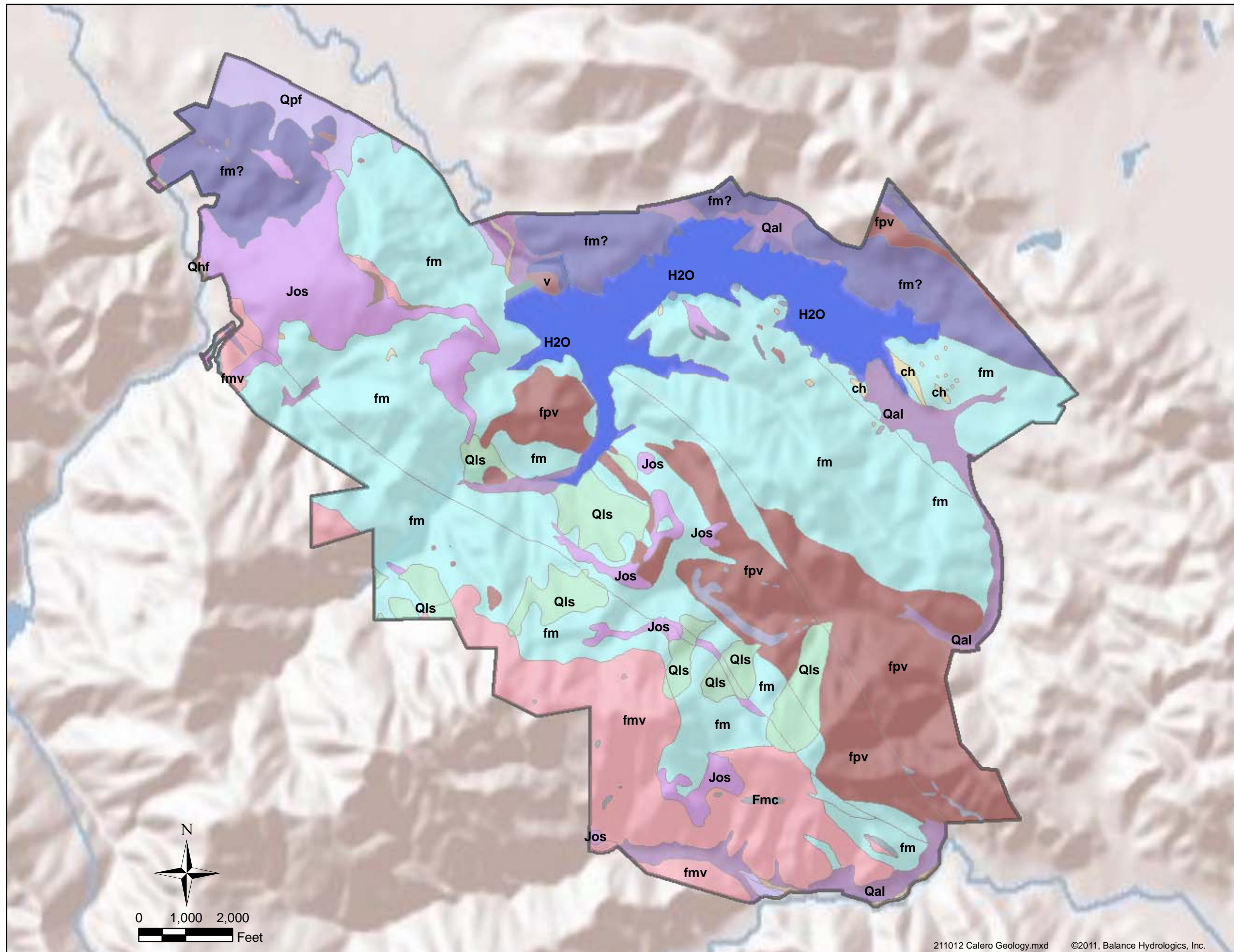
Table 1. Properties of soils relevant to trail planning and generalized suitability ranking, Calero County Park, Santa Clara County, CA. See text for description of factors and site-specific recommendations. It is important to note that a high number of "flags" does not necessarily mean that a particular soils is a poor place for trails, but rather areas where greater care should be taken when constructing the trails. Soils data based on review of soils data in the two Santa Clara soils surveys (Lindsey, 1974; SSURGO, 2010).

Soil Symbol	Soil Name	Area of coverage within Park (m ²)	Susceptible to ponding/saturated conditions				Moderate (M) or high (H) erosivity (K-factor) ^{5,6}	Serpentine?	High stone content? ³	High slope? ⁴	Total number of "flags" ⁷
			Susceptible to ponding? ¹	Susceptible to flooding? ¹	High clay content?	Low-slope, hydrologic group D soil? ²					
175	Urban land-Botella complex, 0 to 2 percent slopes	50,304	--	--	--	Y	--	--	--	n/r	1
ZaC	ZAMORA LOAM, 2 TO 9 PERCENT SLOPES	48,259	--	--	--	--	--	--	--	M	1
Rg	RIVERWASH	40,496	--	Y	--	Y	--	--	--	--	2
115	Pits, mine	33,941	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ZaA	ZAMORA LOAM, 0 TO 2 PERCENT SLOPES	32,564	--	--	--	--	--	--	--	M	1
LfE2	LOS GATOS GRAVELLY LOAM, 15 TO 30 PERCENT SLOPES, ERODED	32,032	--	--	--	--	--	--	--	--	0
VaE2	VALLECITOS ROCKY LOAM, 15 TO 30 PERCENT SLOPES, ERODED	19,375	--	--	--	--	--	--	--	M	1
DAM	Large dams	19,306	n/a	n/a	n/a	n/a	n/a	n/a	--	n/a	n/a
GoF	GILROY CLAY LOAM, 30 TO 50 PERCENT SLOPES	17,589	--	--	--	--	--	--	--	--	0
137	Stevens Creek sandy clay loam, 0 to 2 percent slopes	16,436	--	--	--	--	--	--	--	--	0
PpC	PLEASANTON GRAVELLY LOAM, 2 TO 9 PERCENT SLOPES	8,758	--	--	--	--	--	--	--	--	0
VaG2	VALLECITOS ROCKY LOAM, 50 TO 75 PERCENT SLOPES, ERODED	2,433	--	--	--	--	--	--	Y	M	2

Notes:

n/a = not applicable; n/r = not rated

- As reported in the soil surveys
- Soils in lower-slope areas in hydrologic group D likely have high clay content or a shallow water table (i.e. high runoff is due to low infiltration and not to steep slopes), which may result in ponded water.
- Soils with high stone content may require additional construction costs for clearing of stones; these soil types would be amenable to 'tight and twisty' trails, but not 'broad and flowing' trails.
- Greater than 50%; "Representative slope", as reported in the soil surveys. This only highlights the very steepest soils. Other slope determinations are better characterized using the 'slopes' coverage derived from the DEM.
- Used 'K-factor, whole soil' for our analysis.
- K-factor varies between 0.02 and 0.69; between 0.35 and 0.50 were considered moderate; >0.50 considered high; none of the soils within the Park have a 'high' K-factor (whole soil)
- Generalized trail suitability ranking based on soils data contained within this table. Maximum 'score' would be 7 (a soil can either be 'High slope' or 'Low-slope hydrologic group D' so a score of 8 is not possible)
- High clay content is present in scattered patches within this soil complex

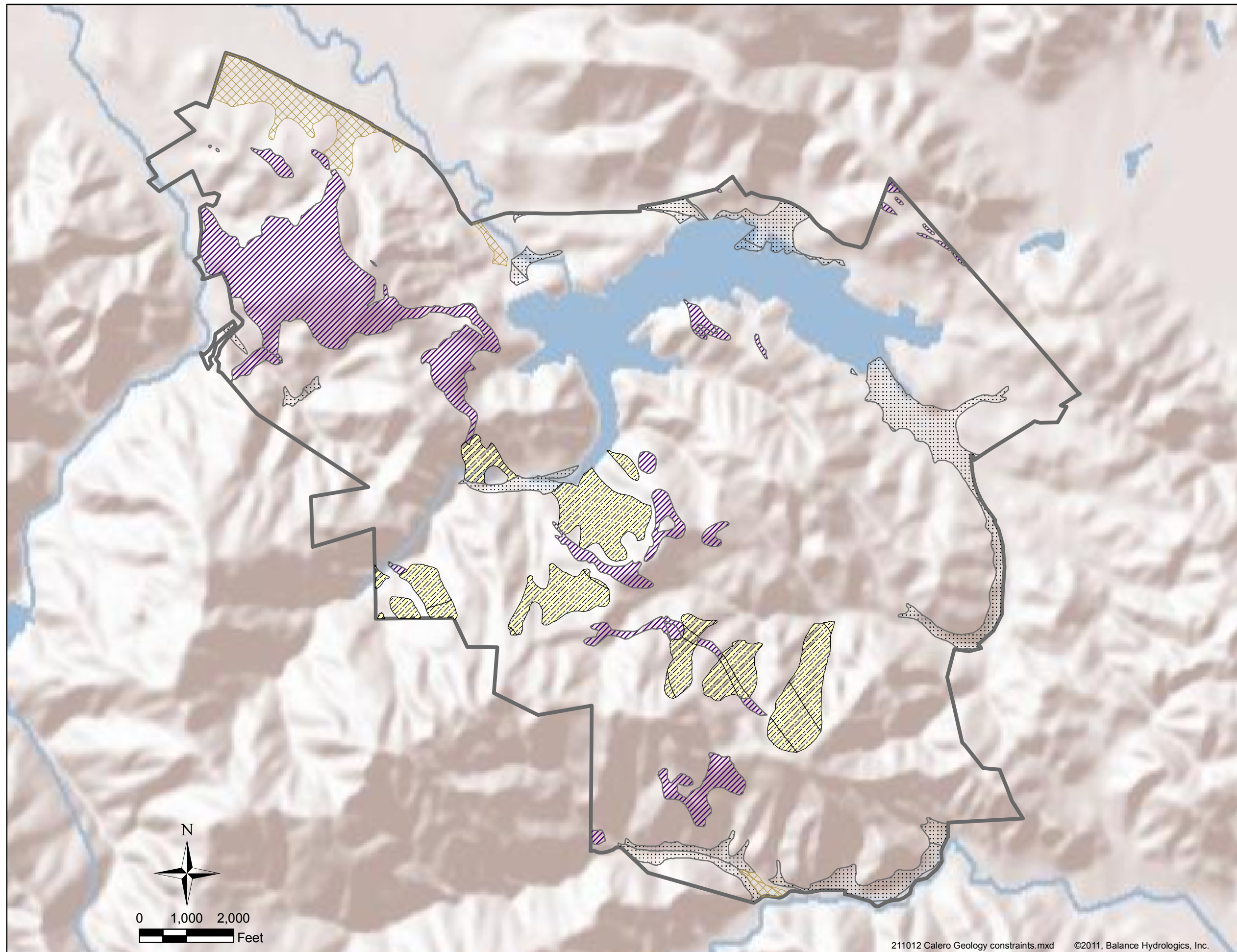


Legend





 H2O	 ch
 Jos	 fm
 Qf	 fm?
 Qhc	 fmc
 Qhf	 fpl
 Qls	 fpv
 Qp	 fpv?
 af	 sc
 am	 v
 bs	

Source:
 SHEET 4: SANTA TERESA HILLS
 AND SOUTHWESTERN PART OF
 THE MORGAN HILL QUADRANGLES
 By R.J. McLaughlin and E.J. Helley
 GEOLOGIC MAPS AND STRUCTURE
 SECTIONS OF THE SOUTHWESTERN
 SANTA CLARA VALLEY AND
 SOUTHERN SANTA CRUZ MOUNTAINS,
 SANTA CLARA AND SANTA CRUZ
 COUNTIES, CALIFORNIA

Figure 1. Geology Map See text and tables for additional explanation and descriptions.

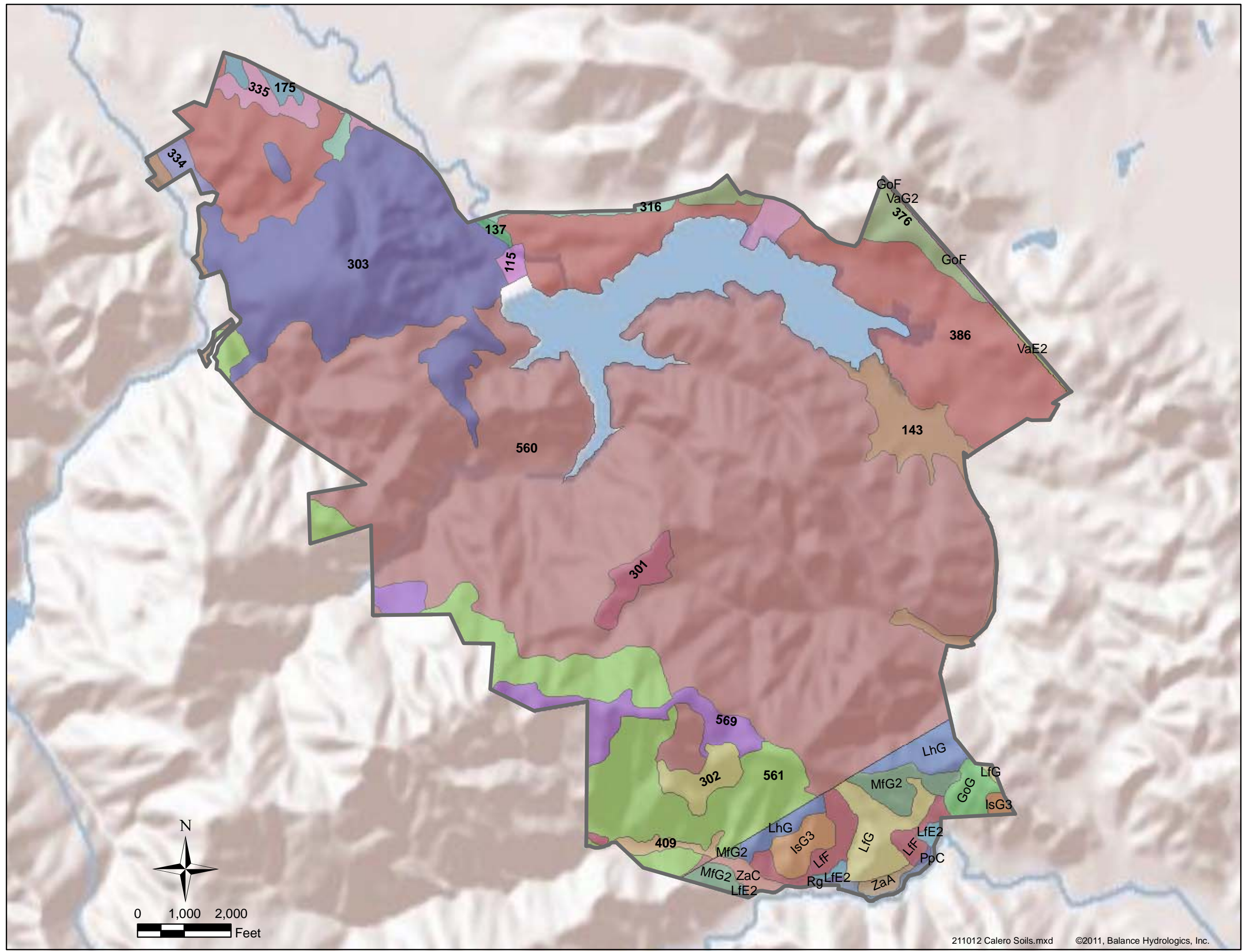


Geology constraint types

-  Serpentinized ultra-mafics
-  Landslides
-  Alluvium
-  Alluvial fans

1. Serpentine-bearing rocks
--special considerations
2. Landslides
--avoid
3. Alluvial deposits
--avoid and/or special considerations
4. Alluvial fans
--moderate erodibility

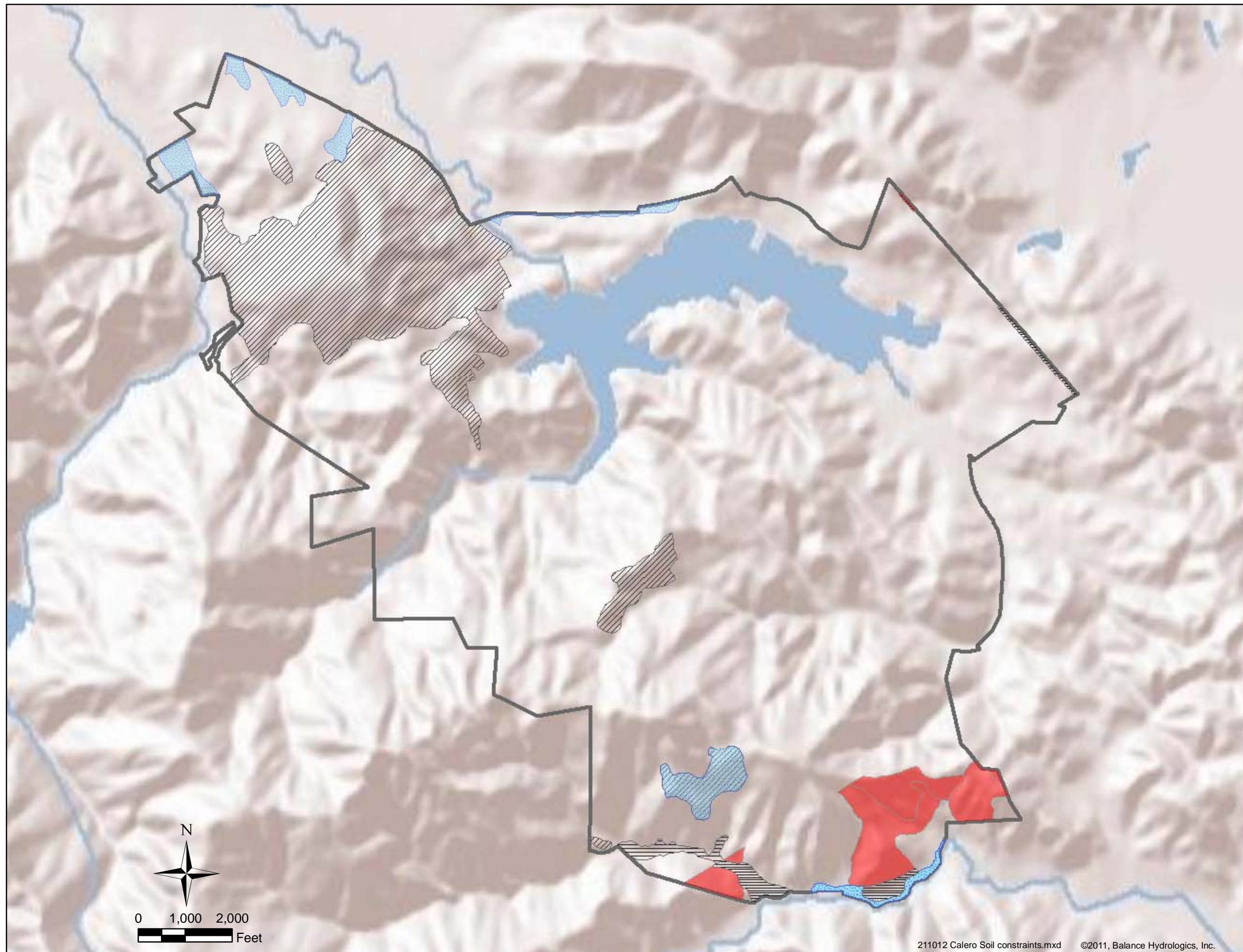
Figure 2. Geology Constraints Map Analysis of site geology for trail planning purposes. See text for additional explanation and recommendations.







- ### Soils Types
- 115
 - 137
 - 143
 - 175
 - 301
 - 302
 - 303
 - 316
 - 334
 - 335
 - 376
 - 386
 - 409
 - 560
 - 561
 - 569
 - GoF, GILROY
 - GoG, GILROY
 - IsG3, INKS
 - LfE2, LOS GATOS
 - LfF, LOS GATOS
 - LfG, LOS GATOS
 - LhG, LOS GATOS
 - MfG2, MAYMEN
 - PpC, PLEASANTON
 - Rg, RIVERWASH
 - VaE2, VALLECITOS
 - VaG2, VALLECITOS
 - ZaA, ZAMORA
 - ZaC, ZAMORA

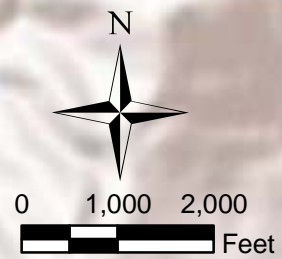
Sources: Soil Survey, Eastern Santa Clara Area, digitally published California 1/11/2005;
Soil Survey, Santa Clara Area, California, Western Part, digitally published 7/27/2010.

Figure 3. Soils Map See text and Table 1 for additional explanation and descriptions.



Soils Constraint Types

-  1. Subject to flooding/saturated conditions
-  2. & 3. Serpentine, high stone content
-  4. Very-high-slope soils
-  5. Moderate erosion hazard



211012 Calero Soil constraints.mxd ©2011, Balance Hydrologics, Inc.

Figure 4. Soils Constraints Analysis of site soils for trail planning purposes. See text and Table 1 for additional explanation and recommendations

APPENDIX B

Notice of Intent to Adopt a Mitigated Negative Declaration

**County of Santa Clara, California*Parks and Recreation Department
*Planning & Development Section***

Notice of Intent to Adopt a Mitigated Negative Declaration

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et sec.) that the following project when implemented will not have a significant impact on the environment.

File	APN(s)	Date
None	70833001; 70833005-007; 70847015; 71217014; 71217017; 71217020; 71217021; 71217026; 71217027; 74202012; 74205015; 74206032; 74208031; 74208033; 74208057; 74208058; 74209007; 74209036; 74209037; 74209038; 74209039; 74209040; 74209041; 74209042; 74209043; 74209046; 74209049; 74209050; 74210003; 74210013; 74210015; 74210017; 74210018; 74210019; 74210020; 74210021; 74210022; 74212007; 74212009; 74213008; 74213009; 74213011; 74233003	July 8, 2013
Project Name	Project Type	
Calero County Park Trails Master Plan	Trails Master Plan	
Owner	Applicant	
County of Santa Clara	County of Santa Clara, Parks and Recreation Department	
Project Location		
Calero County Park consists of approximately 4,442 acres of land located partially within the City of San Jose and partially in unincorporated Santa Clara County approximately 10 miles south of the city center and outside the urban services area. The main entrance to the park is located at 23205 McKean Road, approximately three miles southwest of U.S. Highway 101.		
Project Description		
<p>The proposed Draft Calero County Park Trails Master Plan (Trails Master Plan) provides a framework for expansion of the existing park trail system into a multi-use trail network over 10-year time period, while supporting protection and enhancement of the sensitive cultural and environmental resources within the park. The proposed Trails Master Plan will:</p> <ul style="list-style-type: none"> ▪ Allow 966 acres of newly acquired areas in the park to be opened for recreational trail use; ▪ Expand the existing trail system by approximately 14.7 miles to 35.9 miles at build-out; ▪ Designate 23.8 miles of trails as multi-use, to be shared by hikers, bicyclists and equestrians; ▪ Retain 7.5 miles of trails as limited use for equestrian and hiking only; ▪ Designate 1.8 miles of trails as hiking only; ▪ Remove 4.9 miles of existing service road and trails and restore to native landscape; ▪ Remove dogs on-leash restriction on most trails in the park; ▪ Upgrade existing in-stream creek channel crossings with bridges spanning the creek/drainage ways or other crossing techniques to minimize in-channel hiking, bicycle, and equestrian water quality disturbance; ▪ Expand existing trail head staging facilities at Calero Park Ranger Station; ▪ Create new trail head staging facility off McKean Road; ▪ Create new trail head staging facility off Almaden Road; ▪ Install new fences, gates, signage, picnic and rest facilities and pet waste stations; and ▪ Install surface drainage facilities at new and existing trail head facilities that will maintain or improve storm water quality. 		

As outlined above, the Trails Master Plan nearly doubles the mileage of the existing trail system. Equestrians and hikers currently use approximately 20 miles of trails. At final build-out, the expanded Calero County Park's trail system will have grown to approximately 36 miles and will offer many trails for walkers with dogs on-leash and mountain bikers while still retaining historic, limited trail use for equestrians and hikers on some trails. In addition, the Trails Master Plan will provide regional trail connections as identified in the Santa Clara County Countywide Trails Master Plan (1995).

The full text of the Draft Trails Master Plan and Initial Study may be viewed at the following locations:

- *County of Santa Clara Parks and Recreation Department Administration Offices:* 298 Garden Hill Drive, San Jose, CA 95132
- *Calero County Park Ranger Office:* 23205 McKean Road, San Jose, CA 95120
- *Casa Grande:* 21350 Almaden Road, San Jose, CA 95120
- *Almaden Library Reference Desk:* 6445 Camden Avenue, San Jose, CA 95120
- *County of Santa Clara Parks and Recreation Department website:* www.parkhere.org

Purpose of Notice

The purpose of this notice is to inform you that the County of Santa Clara Parks & Recreation Department Staff has recommended that a Mitigated Negative Declaration be adopted for this project. Action is **tentatively** scheduled on this proposed Mitigated Negative Declaration before the County of Santa Clara Board of Supervisors on October 8, 2013 in the **Board Chambers, 70 W. Hedding, San Jose**. It should be noted that the adoption of a Mitigated Negative Declaration does not constitute approval of the project under consideration. The decision to approve or deny the project will be made separately. Meeting information will be posted on the County of Santa Clara's website at www.sccgov.org under Board Agendas or contact the Office of the Clerk of the Board at (408) 299-5001.

Review Period

The public review period for this document **begins** on July 10, 2013 and **ends** August 9, 2013 at 5:00 pm. Public comments regarding the correctness, completeness, or adequacy of this Mitigated Negative Declaration are invited. Such comments should be **based on specific environmental concerns**. Written comments must be received on or before the close of the public review period and should be addressed to the **County of Santa Clara, Department of Parks and Recreation, Planning and Development Section, 298 Garden Hill Drive, Los Gatos, CA 95032, Tel (408) 355-2236**, attention **Elish Ryan, Park Planner** or via email to Elish.Ryan@prk.sccgov.org. Oral comments may be made at the meeting. A file containing additional information on this project may be reviewed at the Department of Parks and Recreation office or online at www.parkhere.org. When requesting to view this file, please refer to the project title appearing at the top of this form.

Responsible Agencies sent copy of this document

Santa Clara Valley Water District

Santa Clara Valley Habitat Implementing Entity

This document has also been distributed to various public agencies through the State Clearinghouse.

The full text of the Initial Study may be viewed at the County of Santa Clara Parks and Recreation Department website: www.parkhere.org

Basis for Negative Declaration Recommendation

The Planning and Development Section of the Department of Parks and Recreation has reviewed the initial study for the project and, based upon substantial evidence in the record, finds that the proposed project could not have a significant effect on the environment, or although the proposed project could initially have a significant effect on the environment, there will not be a significant effect on the environment because of mitigation measures that have been incorporated into the project.

This finding is based on the following considerations

The initial study indicates that the proposed project has the potential to result in significant adverse environmental impacts. However, the mitigation measures identified in the initial study would reduce the impacts to a less than significant level. There is no substantial evidence, in light of the whole that the project, with mitigation measures incorporated, may have a significant effect on the environment.

See the following project-specific conditions (mitigation and avoidance) measures:

A. Air Quality

- AQ-1. *The Trails Master Plan will be revised to include best management practices for dust control on unpaved parking lots.*
- AQ-2. *The following Air District basic construction mitigation measures will be incorporated into the Trails Master Plan and/or all future construction documents:*
- a. *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. Material stockpiles may be covered in accordance with Trails Master Plan Stormwater Pollution Prevention Plan best management practices No. 1.*
 - b. *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
 - c. *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.*
 - d. *All vehicle speeds on unpaved roads shall be limited to 15 mph.*
 - e. *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
 - f. *Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.*
 - g. *All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.*
 - h. *Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.*
- AQ-3. *The following measures shall be incorporated into the Trails Master Plan and/or all future construction documents, applicable to areas identified as containing serpentine rock, if soil disturbance is anticipated during construction of the trail or abandonment of old trails:*
- a. *Upon determination of a precise trail alignment, soil sampling shall be conducted in not less than one location for each one-half mile of alignment within the area identified as containing serpentine rock, and in any case, no less than one sample for any trail segment within the area identified as containing serpentine rock. California Air Resources Board Test Method 435 should be used unless otherwise directed by the Air District.*
 - b. *Soil samples shall be analyzed by an approved laboratory for asbestos materials content, and characterized as to concentration and resultant potential for adverse health effects to workers or trail users.*
 - c. *If asbestos levels are high enough to warrant precautions, County Parks shall develop a mitigation plan in accordance with Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (California Air Resources Board 2009).*

B. Biology

- BIO-1. *To avoid impacts to special-status plants, for the impact area of each project phase, focused botanical surveys will be conducted prior to construction by a qualified biologist or County Parks Natural Resource Program staff for all special-status plant species with potential to occur in the various plant communities as identified above. The surveys will conform to current protocols established by the CDFW and CNPS, and will include surveys during the appropriate blooming periods for every target species (which will overlap for many species during spring months). Optimal survey times vary from year to year depending on temperature, rainfall amount and*

timing, etc., so will be confirmed by the monitoring of known reference populations for as many target species in the project vicinity as possible. The final field positioning of each project component will avoid all observed special-status plant species occurrences.

BIO-2. To avoid potential adverse impacts to nesting birds (including raptors), trail building/construction activities (including any tree trimming/removal or generation of loud, sustained noises) should be scheduled to take place outside the breeding bird season (February 1 through August 31). If trail building/construction activities will occur during the breeding bird season, then a qualified biologist or County Parks Natural Resource Program staff will conduct a pre-construction survey for nesting birds to ensure that no nests would be disturbed during project implementation. This survey will be conducted no more than 15 days prior to the initiation of disturbance activities during the early part of the nesting season (February 1 through April 30) and no more than 30 days prior to the initiation of disturbance activities during the late part of the nesting season (May 1 through August 31).

If no active nests are present within 500 feet of project activities, then activities can proceed as scheduled. However, if an active nest is detected during the survey within 500 feet of project activities, then the establishment of a protective buffer zone around each active nest (typically 250 to 500 feet for raptors but possibly 1,000 to 1,300 feet for ground-nesting and/or special-status raptors, with appropriate setback distance to be determined by a qualified biologist or County Parks Natural Resource Program staff) and 75 to 250 feet for passerines [perching and songbird species]) will be clearly delineated or fenced by the qualified biologist or County Parks Natural Resource Program staff until the juvenile bird(s) have fledged (left the nest), unless the biologist determines that proposed activities would not impact nesting success or fledgling/juvenile rearing. Limited monitoring of active nests located within 500 feet of trail or facility construction is recommended in order to monitor nesting activities and to prevent nest failure or abandonment.

BIO-3. To avoid/minimize impacts to special-status animals, for each project phase, impact areas will be positioned away from high quality habitat features such as burrows or wetlands as determined prior to construction by a qualified biologist or County Parks Natural Resource Program staff through a trail location survey. In particular, new trails and facilities will be sited in the field prior to construction to avoid potential American badger den sites/active burrows, seasonal wetlands, and other features that could provide habitat for special-status species. Further, temporary exclusion barriers will be utilized to keep wildlife out of construction sites, as deemed appropriate by a qualified biologist or Parks Natural Resource Program staff. Construction monitoring will be conducted periodically by a qualified biologist or Parks Natural Resource Program staff to ensure that disturbance limits are correctly established and that avoidance/minimization measures are implemented properly.

BIO-4. To minimize/avoid impacts to Santa Clara Valley Habitat Plan covered species, all applicable conditions listed in Table 7, Valley Habitat Plan Covered Species: Conditions on Covered Activities, for each covered species with potential to be impacted will be implemented during each phase of the project.

BIO-5. Mitigation will be required for the removal of any tree which measures over thirty-seven and seven-tenths (37.7) inches in circumference (twelve (12) inches or more in diameter) measured four and one-half (4.5) feet above the ground, or which exceeds twenty (20) feet in height. In compliance with the Santa Clara County Tree Preservation Ordinance, an administrative permit will be obtained from the County Planning Department prior to removal of protected trees on the project site and any stipulated mitigation will be completed, such as the planting of replacement trees in appropriate sites.

C. Cultural Resources

CR-1. County of Santa Clara Parks and Recreation Department will ensure that the two previously unrecorded historic resources (home site and a wooden barn) noted during the archaeological survey are documented on Department of Parks and Recreation (DPR) forms and recorded to the California Historic Resources Information System (CHRIS).

CR-2. Prior to construction, staging areas and trails plans will be finalized in consultation with a qualified historian to avoid areas of known historic sensitivity.

CR-3. Due to the possibility that significant previously unknown historic resources might be found during future construction activities, the following language will be incorporated into the Trails Master Plan and/or all future construction documents:

"If historic resources (i.e. historic sites, and/or isolated historic objects that appear likely to have historic or cultural significance) are discovered during construction, work shall be halted at a minimum of 200 feet from the find, County of Santa Clara, Parks and Recreation Department shall be notified, and the area shall be staked off. County of Santa Clara, Parks and Recreation Department shall retain a qualified professional historian that meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in history, to evaluate and determine the significance of the find. If the find is determined to be significant, appropriate mitigation measures shall be formulated and implemented."

CR-4. Prior to construction, staging areas and trails plans will be finalized in consultation with a qualified archaeologist to avoid areas of known archaeological sensitivity. Where this is not feasible, archaeological monitoring shall be carried out during earthmoving activities for trail construction within sensitive areas, as defined in the Archaeological Investigation. In the event that proposed trails pass through recorded archaeological resources, an archaeological testing program will be developed for these areas consistent with professional archeological standards and State and County requirements. The nature and extent of the testing program will be dependent on the level of site disturbance, and topological and environmental factors.

CR-5. Due to the possibility that significant buried prehistoric cultural resources might be found during future construction and trail improvement activities, the following language will be incorporated into the Trails Master Plan and/or all future construction documents:

"If prehistoric archaeological resources (including but not limited to dark soil containing shellfish or groundstone) are discovered during construction, work within the immediate vicinity of the find will be halted at a minimum of 200 feet from the find and the area will be staked off. County of Santa Clara, Parks and Recreation Department will then determine if it is feasible to relocate the trail to avoid and/or minimize impacts. If the trail cannot be rerouted and impacts cannot be avoided, then work will cease in the area until the archaeological evaluation has been completed. The County of Santa Clara Parks and Recreation Department will retain a qualified professional historian and/or archaeologist that meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in archaeology to evaluate and determine the significance of the find. If the find is determined to be significant, appropriate mitigation measures will be formulated and implemented."

CR-6. In the event of an accidental discovery or recognition of any human remains, the following language will be incorporated into the Trails Master Plan and/or all future construction documents in accordance with CEQA Guidelines section 15064.5(e):

"If human remains are found during construction there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of Santa Clara

County is contacted to determine that no investigation of the cause of death is required and procedures outlined in the County Ordinance Relating to Indian Burial Grounds (County of Santa Clara, 1987) and State Public Resources Code can be implemented. If the coroner determines the remains to be Native American the coroner will contact the Native American Heritage Commission within 24 hours.

The Native American Heritage Commission will identify the person or persons it believes to be the most likely descendent from the deceased Native American. The most likely descendent may then make recommendations to County of Santa Clara or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code Section 5097.98. The County of Santa Clara or its authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if: a) the Native American Heritage Commission is unable to identify a likely descendent or the likely descendent failed to make a recommendation within 24 hours after being notified by the commission; b) the descendent identified fails to make a recommendation; or c) the County or its authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.”

D. Land Use and Planning

See BIO-4 above

E. Recreation

The potential for impacts as a result of park expansion is evaluated throughout the Initial Study. Where project implementation is identified to result in environmental impacts, mitigation is provided to ensure that impacts are reduced to a less than significant level. See mitigation measures provided in this subsection.

F. Transportation/Traffic

- T-1. The tree located about 400 feet south the Ranger Station entrance on the east edge of McKean Road of the entrance shall be trimmed to increase and sight distance to a minimum distance of 430 feet. The trimming shall be regularly maintained to ensure sight distance is preserved.
- T-2. The following improvements will be incorporated into the Trails Master Plan and implemented prior to opening the San Vicente Staging Area:
- a. A Rectangular Rapid Flashing Beacon (RRFB) or other pedestrian crossing provisions to be developed in coordination with County of Santa Clara Roads and Airports Department prior to final design and implementation shall be installed on McKean Road at the Fortini Road intersection to alert drivers of crossing pedestrians.
 - b. A high-visibility crosswalk adjacent to the RRFB or other pedestrian crossing provisions to be developed in coordination with County of Santa Clara Roads and Airports Department prior to final design and implementation shall be installed to direct pedestrians to the proper crossing location on McKean Road.
 - c. Pedestrian and equestrian warning signs (W11-2 and W11-7) shall be placed approximately 20 feet in advance of the high-visibility crosswalk on McKean Road. Actual configuration to be further coordinated with County of Santa Clara Roads and Airports Department prior to implementation.
 - d. The Rancho San Vicente driveway entrance shall include one inbound and one outbound lane.
 - e. Remove a vehicle parking space at the trail entrance to provide adequate space to enter and exit the trail.
 - f. An eastbound right-turn deceleration lane and a westbound left-turn pocket shall be added on McKean Road. The deceleration lane and turn-pocket shall extend approximately 200 feet from the intersection. Actual configuration to be further coordinated with County of Santa Clara Roads and Airports Department prior to final design and implementation.
 - g. The Rancho San Vicente entrance sign shall be installed perpendicular to McKean Road to maximize its visibility.

Almaden Road Staging Area Improvements

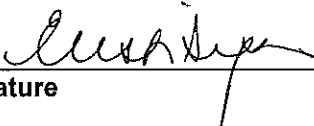
T-3. The following improvements will be incorporated into the Trails Master Plan and implemented prior to completing improvements at the Almaden Road Staging Area:

- a. Pedestrian and equestrian warning signs (W11-2 and W11-7) shall be installed on Almaden Road to alert drivers for pedestrians and equestrians in the roadway. Actual configuration to be further coordinated with County of Santa Clara Roads and Airports Department prior to implementation.
- b. The Almaden Road staging driveway entrance shall include one inbound and one outbound lane.
- c. The Almaden Road staging area entrance sign shall be installed perpendicular to Almaden Road to maximize its visibility.

Note: A reporting or monitoring program must be adopted for measures to mitigate significant impacts at the time the Mitigated Negative Declaration is adopted or the project is approved, in accord with the requirements of Section 21081.6 of the Public Resources Code.

Prepared by:

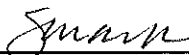
Elish Ryan, Park Planner
Santa Clara County Parks


signature

7/8/13
date

Approved by:

Julie Mark, Deputy Director
Santa Clara County Parks


signature

7.8.13
date

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