Attachment 2

San Vicente Redwoods Public Access Plan

SAN VICENTE REDWOODS PUBLIC ACCESS PLAN

PUBLIC REVIEW DRAFT

JUNE 2018

POST

Sempervirens Fund

Save The Redwoods League

LAND TRUST OF SANTA CRUZ COUNTY

PLACEWORKS

SAN VICENTE REDWOODS PUBLIC ACCESS PLAN

PUBLIC REVIEW DRAFT

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1 INTRODUCTION

The San Vicente Redwoods is generally located in the Santa Cruz Mountains between the Davenport and Bonny Doon communities. As shown in Figure 1-1, San Vicente Redwoods is a contiguous 8,160-acre property with the exception of the 373-acre area located to the southeast of the main property that is referred to as San Vicente Redwoods: Laguna Tract. Combined, the main property and the Laguna Tract total 8,533 acres.

The purchase of the property by the Peninsula Open Space Trust (POST), Sempervirens Fund, Save the Redwoods League (SRL), and the Land Trust of Santa Cruz County (Land Trust) in December 2011 resulted in the creation of approximately 27,500 acres of contiguous protected land, as it fills a long standing gap between the numerous protected lands that surround it. Although San Vicente Redwoods is currently owned by POST and Sempervirens Fund, the ongoing protection of the San Vicente Redwoods is due to the successful collaboration between these organizations and the Land Trust and SRL, with additional financial assistance from other organizations. The two owners are currently responsible for the protection and management of the property, the Land Trust is responsible for implementing the San Vicente Public Access Plan as the Public Access Manager, and the SRL will provide Conservation Easement monitoring and enforcement. These four organizations are collectively referred to as the Conservation Partners, and their roles and responsibilities are further described in Chapter 6, Implementing the Plan.

FIGURE 1-1
REGIONAL CONTEXT

The land uses and activities envisioned for the San Vicente Redwoods property are both as complementary and diverse as the stakeholders that have come together towards the property's protection. The Conservation Vision (completed in 2011) for the property envisions integration of preservation, restoration, and sustainable timber harvesting with research, education, and recreation. Recreation, education, and research activities at the property provide unique opportunities to further the property's Conservation Values, which contribute to the property's on-going protection. Recreation and education increases public exposure to and therefore understanding of these unique ecosystems and natural processes, and research can inform successful management of San Vicente Redwoods and other properties. Together, such uses have the potential to make a substantial impact towards the conservation goals for San Vicente Redwoods.

PURPOSE OF THE PUBLIC ACCESS PLAN

The provision of access for the purposes of recreation, research, and education is a core component of the Conservation Vision, and allowing for public access is a requirement of the Conservation Easement that protects the property. The San Vicente Redwoods Public Access Plan defines the vision for providing this access as well as the tools that will be necessary to establish initial access and maintain appropriate access into the future.

The Public Access Plan includes a Recreational Access Plan and a Research and Education Access Plan, though the focus of the Public Access Plan is recreational access and regional trail connections. While all research and educational activities are not necessarily open to the public, they are included as part of the Public Access Plan because of the education potential and because research and education will be supported by the same trails and access features required for recreational access. Research access will be managed by the owners, while educational and special use will be managed by the Land Trust.

This Public Access Plan will be used by the Conservation Partners and any other partners to guide the management of public access on the property. Members of the organized groups and/or general public with an interest in public access at San Vicente Redwoods may use the Public Access Plan to understand opportunities for use and identify avenues for participation. The Public Access Plan is intended to guide the provision of access for at least 10 years, at which

point it may be revisited and updated as necessary, in accordance with the Conservation Easement. The Plan may also be revised if another entity assumes public access management responsibilities, as further discussed in Chapter 6. This Plan will remain the active plan until revised.

THE PLANNING PROCESS

The development of the Public Access Plan included background and on-site research, coordination with related planning efforts, consultation with experts and Regulatory agencies, and extensive public outreach.

The Conservation Partners provided guidance throughout the planning process, with designated representatives of each Partner participating in the 'Working Group.' Working Group meetings were held almost every week from 2013 to 2017, and members engaged Conservation Partner leadership at quarterly meetings of the Living Landscape Initiative.

The outcomes of background research and field reconnaissance are summarized in Chapter 2, San Vicente Redwoods Overview. A summary of related planning efforts, consultation with experts and regulatory agencies, and the community engagement conducted as part of the planning process are provided below.

RELATED PLANNING EFFORTS

Prior to the development of this Public Access Plan, substantial planning work was conducted for the San Vicente Redwoods property, including existing conditions analysis and the development of an strategy to conservation, the preparation of the Conservation Vision (2011), Conservation Easement (2014), and the first Timber Harvest Plan (2015). Timber harvest activities on the property are governed by Timber Harvest Plans, which further inform the development of the Public Access Plan and are summarized below as they pertain to public access.

SAN VICENTE REDWOODS ANALYSIS AND CONSERVATION STRATEGY

The Conservation Partners have mapped and analyzed various features of the site, including aquatic, marbled murrelet, and mountain lion habitat; climate resilience based on stream buffers and topographic shading; vegetation communities; geology, soils, and erosion sensitivity; and road density, usage, steepness, and hydrologic connectivity. Relative Conservation Values were then

applied for each feature type to the 21 "Planning Watershed" units that were identified on the property. Based on the cumulative analysis, the "Planning Watersheds" were further grouped and delineated as two Preservation Reserves, three Restoration Reserves, and two Working Forest Reserves of various acreages. These management areas are the basis for the conservation strategies that the Conservation Partners will incorporate into all planning and management efforts. The management areas are described below.

- **Preservation Preserve.** Two areas were delineated as Preservation Reserves. These areas are to be managed to preserve and maintain existing old forest and other rate plant communities.
- **Restoration Reserve**. Three areas were delineated as Restoration Reserves. These areas are to be managed to allow limited timber harvesting primarily for the restoration and enhancement of native ecosystem values.
- **Working Forest**. Two areas were delineated as Working Forest. Working forests are areas to be managed to emphasize Sustainable Forest Management.

SAN VICENTE REDWOODS CONSERVATION EASEMENT

The general purpose of the Conservation Easement, executed December 2014, is to preserve and protect in perpetuity the natural, ecological, habitat, scenic, open space, and forestry resources located on the property, including management and maintenance by the Grantor (POST and Sempervirens Fund) and the Grantor's successors. The Conservation Easement gives the SRL the right to allow public access. The Conservation Easement identifies seven Conservation Values and explains the role San Vicente Redwoods plays in providing each value. These are summarized in Chapter 2. The full text of the Conservation Values is provided in Appendix 1 (Conservation Values).

TIMBER HARVEST PLAN

Timber harvesting activities are governed by the California Forest Practice Rules and other relevant statutes, and Timber Harvest Plans describe individual harvest projects. The Timber Harvest Plan (THP# 1-14-117 SCR) for the first harvest at San Vicente Redwoods was approved by CAL FIRE in 2015. Subsequent timber harvest plans are anticipated for the property.

CONSULTATION WITH EXPERTS AND REGULATORY AGENCIES

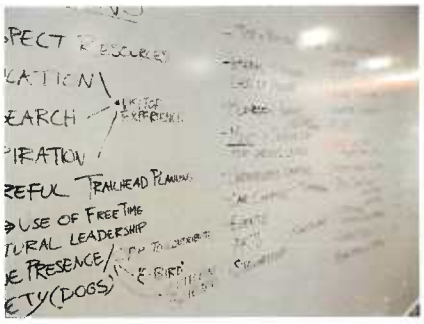
The Land Trust and the Conservation Partners solicited guidance from experts in the fields of conservation science, public access management, biological resources, cultural resources, and engineering. In addition, Regulatory Agency staff was consulted in an effort to minimize potential resource impacts through proactive planning and design. These efforts include but are not limited to:

- The Working Group consulted the University of California Santa Cruz Puma Project to understand the areas of the property that support mountain lion denning, movement and foraging, and supplemented their data with game camera data managed by the San Vicente Property Manager.
- Potential trail corridors and staging area were flagged on site by professional trail designers and builders; evaluated by the civil and environmental engineers for stability related to erosion and geotechnical considerations; and surveyed by biological and cultural resource experts. Through close coordination with technical experts, trail alignments were refined to minimize potential impacts to resources.
- Site visits were conducted with representatives from the County of Santa Cruz and the California Department of Fish and Wildlife (CDFW). In addition, the proposed project was presented to California Coastal Commission.

PUBLIC OUTREACH AND ENGAGEMENT

Public outreach for the project consisted of interviews with key stakeholders, including the owners, partners, and potential buyers/leasers; two facilitated meetings, one with recreation stakeholders and the other with research/education stakeholders; a community meeting in March 2014, which built upon the initial public meeting held in May 2012; an online questionnaire open to the public; and additional neighborhood outreach. The public was notified of the opportunity to participate through extensive media coverage of the topic, including newspaper articles (five in the Santa Cruz Sentinel, one in the Contra Costa Times), television stories (one on KSBW, two on KION), and news websites (three stories on Hilltromper.com). Adjacent property owners and several government agencies were contacted by phone or email. Outreach efforts are summarized below.

- **Interviews.** A series of interviews and small meetings with interested parties was conducted by the Land Trust between October 2013 and July 2014. This effort focused on people and organizations that could be substantially affected by the project, such as: owners of adjacent lands, emergency service providers, water purveyors, utilities, law enforcement, and local community groups. Local experts and agencies were also consulted from the following fields: biology, geology, forestry, cultural resources, recreation, and education. Approximately 150 individuals and groups were identified and contacted. In total, such meetings were held with approximately 190 people. The meetings covered a range of topics typically set by the interviewee. Additional interviews were conducted between 2014 and 2017 as part of ongoing outreach by the Land Trust.
- **Stakeholder Meetings.** In addition to interviews, two small group meetings were held, one for education and research interests, and one for representatives of recreational user groups. Both meetings were facilitated by PlaceWorks and involved a short overview of the project, followed by a roundtable discussion about opportunities and constraints. Attendees of the education meeting included representatives from Swanton Pacific Ranch and University of California Santa Cruz. Attendees of the recreational meeting included hikers, mountain bikers, equestrians, dog-walkers, nature interpreters, representatives from the Sierra Club, the Mountain Bikers of Santa Cruz County, Bureau of Land Management, the Santa Cruz Bird Club, the 8 Shields Institute, and the Fungus Federation.
- **Questionnaire.** To gain a broad understanding of public concerns and interest in public access, an online questionnaire was hosted from November 2013 through April 2014 to seek public input from neighbors, residents, agency staff and others. Survey participants were asked to express their hopes and concerns for the project by indicating their preferences for various recreational activities, by selecting their top concerns, and by judging proposed access points. The survey also allowed participants the opportunity to provide public and private feedback. To reach individuals without computer access, hard-copies of the survey were distributed by request. Additionally, in May 2014, questionnaires were also shared with a local non-profit to interface with the local Spanish speaking community. In total 2,326 people filled out the questionnaire. In June 2014, questionnaire responses were downloaded and summarized. Public



comments were also organized. The results and public comments are posted and accessible on the Land Trust's website, and provided in Appendix 3 (Questionnaire Summary).

- **Community Meetings.** A community meeting was hosted in March 2014 by the Land Trust. Over 300 people attended the meeting to share their views on public access. At the meeting, the draft access map was presented, and attendees were asked to form small groups to discuss opportunities and constraints. Each group was given the opportunity to share their views and conclusions in front of all the attendees as well as the planners. An additional community meeting was held in September 2014 to present the Draft Public Access Plan (2014) and hear from the community regarding preferences, priorities and concerns. Approximately 150 people attended this meeting, and the Public Access Plan has been revised to reflect feedback received from the public.
- **Neighborhood Outreach.** Neighborhood outreach included presentations at four meetings of the Rural Bonny Doon Association and more than 15 smaller meetings.

Throughout the planning process, the community was engaged through over 125 separate meetings and interviews with a cumulative attendance of over 1,500. The Land Trust, in collaboration with the other Conservation Partners, continues to engage and reach out to local stakeholders during the planning process.

ORGANIZATION OF THE PLAN

The Public Access Plan is organized as follows:

- Chapter 1 – Introduction
- Chapter 2 – San Vicente Redwoods Overview
- Chapter 3 – Goals and Policies
- Chapter 4 – Recreation Access Plan
- Chapter 5 – Education and Research Access Plan
- Chapter 6 – Implementing the Plan
- Chapter 7 – Design and Maintenance Guidelines

The first three chapters of the Public Access Plan provide an overview of the property and establish broad goals and objectives for the project. The Recreational Access Plan and the Research and Educational Access Plan are provided as Chapters 4 and 5, respectively. Chapters 6 and 7 provide further detail to guide the development and management of public access.

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2 SAN VICENTE REDWOODS OVERVIEW

This chapter provides a brief overview of the 8,532-acre San Vicente Redwood property with respect to the biological resources, cultural resources, existing access and circulation system, views, and adjacencies, as well as opportunities for regional connectivity, as they pertain to access opportunities and constraints. An overview of the property is provided in Figure 2-1. The Conservation Easement defines the Conservation Values for which the property was protected. These seven Conservation Values are: (1) statewide and regional conservation significance, (2) forests, (3) biodiversity, (4) watershed protection, (5) viewshed protection, (6) landscape and habitat connections, and (7) public recreation, education, and scientific study.

BIOLOGICAL RESOURCES

San Vicente Redwoods is comprised of a range of habitat types, including, but not limited to, redwood forest, chaparral and riparian habitats, which together have the potential to support a wide range of plant and animal species. An existing conditions review and biological sensitivity analysis were conducted by professional biologists with the purpose of identifying potential biological constraints in relation to the implementation of the Public Access Plan.

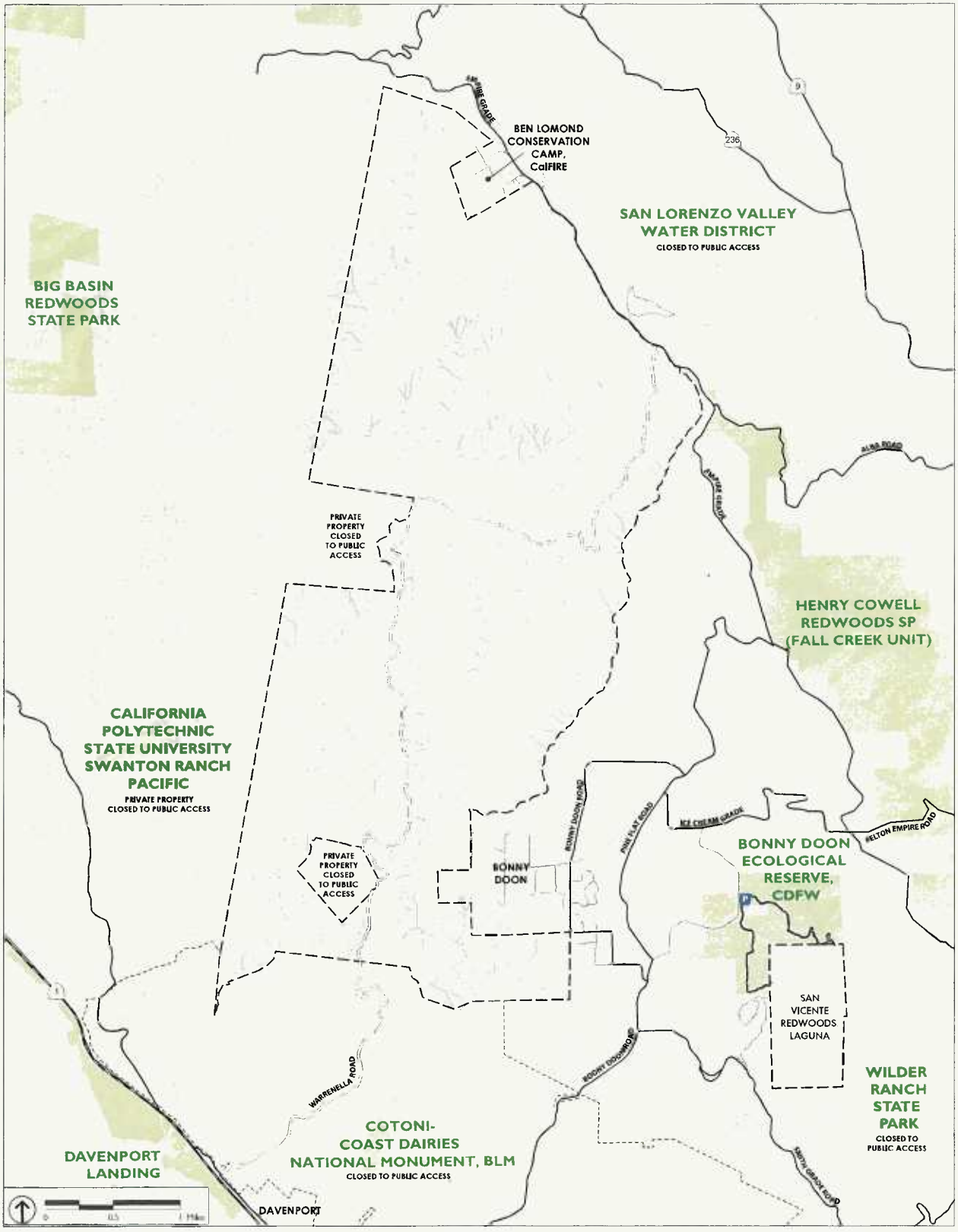

FIGURE 2-1
EXISTING CONDITIONS

The review and analysis was based on review of existing plans and data, including, but not limited to, the Conservation Blueprint for Santa Cruz County (2011), a California Department of Fish and Wildlife (CDFW) California Native Diversity Database (CNDDB) search (2016), the United States Fish and Wildlife Service (USFWS) Santa Cruz County quadrangle list of listed species (2016), the California Native Plant Society (CNPS) rare plant list (2016), and review of the University of California Santa Cruz Puma Project.

Based on this review and analysis, it has been determined that the property either has or has the potential to support onsite and offsite sensitive biological resources, including, but not limited to, the following:

- Special-status wildlife species such as the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), the Oak titmouse (*Baeolophus inornatus*), the anadromous steelhead (*Oncorhynchus mykuss*), the coho salmon (*Oncorhynchus kisutch*), the Townsend's big-eared bat, (*Corynorhinus townsendii townsendii*), the California red-legged frog (*Rana draytonii*), as well as the Marbled murrelet (*Brachyramphus marmoratus*).
- Special-status plant species such as the Anderson's manzanita (*Arctostaphylos andersonii*), Point Reyes horkelia (*Horkelia marinensis)*, Santa Cruz Mountains pussypaws (*Calyptridium parryi* var. *hesseae*), Dudley's lousewort (*Pedicularis dudleyi*), Santa Cruz Mountains beard tongue (*Penstemon rattanii* var. *kleei*), white-flowered rein orchid (*Piperia candida*), Brewer's red maids (*Calandrinia breweri*), bristly sedge (*Carex comosa*), deceiving sedge (*Carex saliniformis*), robust spineflower (*Chorizanthe robusta* var. *robusta*), and the mountain lady's-slipper (*Cypripedium montanum*).
- Movement corridors for mountain lions (*Puma concolor*) along gentle slopes and broad ridge top lands, as well as denning sites in other areas.
- Unique and sensitive terrestrial and aquatic habitat types such as maritime chaparral, coastal scrub, coast live oak woodland, redwood forests, the endangered Anderson's manzanita (*Arctostaphylos andersonii*) habitat, seeps and seasonal wetlands, shrub-scrub wetlands, and the Zayante sandhills habitat.

CULTURAL RESOURCES

During the time of European settlement, the land that is now the San Vicente Redwoods property was inhabited by the Awaswas division of Ohlone, who were hunter-gatherers that lived in large settlements, often near fresh water sources and surrounded by diverse and abundant plant and animal life. Through the second half of the 19th century, the majority of the property was part of the San Vicente (Escamilla) Land Grant and homesteading occurred on portions of the property. Logging activities began in the early 20th century on the northern portion of the property by the San Vicente Lumber Company. Ocean Shore Railroad built a rail line that connected the property down to the coast, which was then sold to San Vicente Lumber Company in 1920 and abandoned when the logging company went out of business in 1923. The Santa Cruz Portland Cement Company also constructed a rail line from their cement plant on the coast to a limestone quarry on the property, following San Vicente Creek. This quarry supported the small community of Bella Vista, which was destroyed in a 1962 landslide.

Based on the available historical and archeological data from the Northwest Information Center (NWIC), as well as additional sources including the office at the CAL FIRE Archaeology Program in Santa Rosa, examination of the library and files of Tom Origer & Associates, field inspection of the project location, meeting with Santa Cruz Forester Nadia Hamey, and contact with the Native American community, there are approximately 25 known cultural resource sites located on the property. However, the property has not been subjected to a survey that covers the entirety of the property and there is the potential for more unknown resources to exist. The areas where development is planned as part of the Public Access Plan (see Chapter 4, Recreation Access Plan) have been surveyed by professional archeologists (2016 and 2017). As part of these surveys, it was determined that five of the identified sites appear to be within or in close proximity to the where development is proposed. These sites are avoided by the trail network layout, and measures will be taken to detect additional sites during construction as further described in Chapter 7.

EXISTING ACCESS AND CIRCULATION

Existing access points, internal roads and trails, and the potential for regional trail connectivity are discussed below.

EXISTING ACCESS POINTS

Perimeter and internal gates restrict access on the San Vicente Redwoods roads. However, due to vulnerability to trespass, the perimeter of the property is intensively managed to successfully minimize trespassing through use of frequent patrol as well as fencing, signage, and gates. These efforts will be emphasized in areas where trails approach neighboring private property, and will be coordinated with neighboring property owners. Limited perimeter access points are located along the northern edge of Empire Grade and along the southern edge that borders the Cotoni-Coast Dairies property.

EXISTING ROADS AND TRAILS

There are a variety of existing roads and trails on the San Vicente Redwoods property, including over 80 miles of double lane and single lane roads, the railroad line, tractor roads used for timber harvest operations, and narrow trails. Many of the roads were developed for historic timber and quarry operations, and some continue to provide access for ongoing timber operations, fire, utility access, private easements, and general property management. The primary road that extends from the north to the south of the property is the private Warrenella Road. This road is used for timber harvest activities and also serves as the sole access road for several private properties. While the Warrenella Road and many other existing roads are currently used and maintained, others are not passable due to overgrowth of vegetation and maintenance needs. The road assessment conducted as part of the planning process determined that some of the existing roads are suitable for use as recreational trails. The assessment was based on numerous factors, including trail grade and alignment and the viability of water crossings.

REGIONAL TRAIL CONNECTIVITY

San Vicente Redwoods is well situated to increase connectivity between inland and coastal open space, and between open space to the east and west of the property. Adjacent and nearby open space includes, but is not limited to, Big Basin Redwoods State Park (including Little Basin), Henry Cowell Redwoods State Park (Fall Creek Unit), San Lorenzo Valley Water District property (closed to the public), the Bonny Doon Ecological Reserve, and the Bureau of Land Management's Cotoni-Coast Dairies, which is part of the California Coastal National Monument property.

A future opportunity is to create a trail connection through San Vicente Redwoods from the Fall Creek Unit to Cotoni-Coast Dairies, which would require bridging the gap between the Fall Creek Unit and the San Vicente Redwoods property.

Potential connectivity between CDFW's Bonny Doon Ecological Reserve and San Vicente Redwoods: Laguna is relatively unconstrained as existing, informal trail connections are already present between these properties. Given that formalization of this trail connection is a component of this Plan, coordination with CDFW will still be necessary to address access and management concerns.

Other trails could connect San Vicente Redwoods to nearby State Parks and other recreational sites, such as Henry Cowell Redwoods State Park and Wilder Ranch State Park to the west, and Big Basin Redwoods State Park to the east.

EXISTING VIEWS AND ADJACENCIES

SCENIC VIEWS

San Vicente Redwoods offers breathtaking views over Cotoni-Coast Dairies to the Pacific Ocean coastline.

NEIGHBOR VIEWS AND ADJACENCIES

San Vicente Redwoods is surrounded by a variety of neighbors, including single-family residential, institutional, and recreational uses. The following properties border San Vicente Redwoods:

- Ben Lomond Conservation Camp, a California Department of Corrections and Rehabilitation facility, to the north, on the same side of Empire Grade Road.
- The Bonny Doon community.
- Bureau of Land Management Cotoni-Coast Dairies to the south.
- Cal Poly Swanton Pacific Ranch, owned by the Cal Poly Corporation, a private non-profit.
- Private residential property inholding.
- Private timber land.

- Other private properties, including the private residences in the town of Davenport and the Swanton Road area.

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3 GOALS AND POLICIES

The Public Access Plan identifies goals and policies that will guide the development of public access at San Vicente Redwoods which are identified below. Each goal is listed in bold and followed by a list of respective policies that support it. Policies are also referenced in Table 6-2 of Chapter 6, Implementing the Plan, showing how the policies guide implementation. Policies include both general and focused direction that the Public Access Manager and Conservation Partners shall adhere to as part of Public Access Plan implementation.

GENERAL ACCESS GOALS AND POLICIES

ACCESS 1	PROVIDE SUSTAINABLE ACCESS CONSISTENT WITH THE CONSERVATION VALUES OF THE PROPERTY.
ACCESS 1.1	Follow appropriate steps to minimize impacts to sensitive resources when opening any areas, roads, or trails for public or management and maintenance access.
ACCESS 1.2	Open designated trails to the public and ensure baseline level of public access.
ACCESS 1.3	Develop framework/strategies to ensure financial sustainability of public access.

Sustainability means meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.

–The Bruntland Commission of the United Nations, March 20, 1987

ACCESS 1.4	Implement Visitor Registration System and Special Use Permit System to control and monitor access.
ACCESS 1.5	Coordinate public access with other property uses, including timber harvest, restoration, and conservation.
ACCESS 1.6	Monitor the condition of access features, including staging area, trails, to assess condition of features and impacts to resources; utilize findings for adaptive management.
ACCESS 1.7	Abide by the requirements of the Conservation Easement.
ACCESS 1.8	Patrol and monitor closed areas for the protection of natural resources.
ACCESS 1.9	Provide robust education and management policies to prevent nuisance trash that attracts corvids.

ACCESS 2	MANAGE RISK AND SAFETY.
ACCESS 2.1	Provide patrol, monitoring, security, and signage for public safety and protection of resources.
ACCESS 2.2	Provide trail etiquette coaching to users and safety monitoring.
ACCESS 2.3	Work with partners to ensure adequate provision of emergency services.
ACCESS 2.4	Collect and maintain incident and accident reports and respond accordingly to reduce hazards.
ACCESS 3	ENGAGE A VARIETY OF PARTNERS IN PUBLIC ACCESS MANAGEMENT.
ACCESS 3.1	Establish user-agreements with organized user groups that identify responsibilities of user groups
ACCESS 3.2	Engage organized groups and individuals in stewardship activities, such as volunteer patrols, interpretation, and trail construction and maintenance, where appropriate.

ACCESS 4 MINIMIZE THE IMPACT ON THE SECURITY, PRIVACY, AND RURAL CHARACTER OF THE NEIGHBORHOODS NEAR THE PROPERTY, WHILE ACHIEVING THE OTHER GOALS OF THE PLAN.

ACCESS 4.1 Provide buffers between public access features and neighboring properties where feasible.

ACCESS 4.2 Utilize signage and surveillance to minimize impacts to neighboring properties caused by trespassing or other activities.

ACCESS 4.3 Design access features to complement the natural character of the San Vicente Redwoods property and the Santa Cruz Mountains, as well as adjacent rural neighborhoods.

RECREATIONAL ACCESS GOALS AND POLICIES

RECREATION 1 PROVIDE OPPORTUNITIES FOR NON-MOTORIZED RECREATION.

RECREATION 1.1 Open trails within San Vicente Redwoods for low impact recreation.

RECREATION 1.2 Allow hiking on designated trails.

RECREATION 1.3 Allow bicycle use on designated trails.

RECREATION 1.4 Allow dogs on leash on designated trails.

RECREATION 1.5 Allow equestrian use on designated trails.

RECREATION 1.6 Allow for quiet enjoyment of nature.

RECREATION 2 PROVIDE FOR PUBLIC STAGING/PARKING.

RECREATION 2.1 Provide a staging area off of Empire Grade.

RECREATION 3 PROVIDE A TRAIL NETWORK THAT SUPPORTS MULTIPLE USES WHILE MINIMIZING CONFLICTS.

RECREATION 3.1 Provide trail opportunities that offer a variety of experiences through different habitats, different trail lengths, and difficulty levels.

RECREATION 3.2 Follow appropriate steps to ensure that trail routes avoid the following, to the extent possible: neighbor views, safety hazards, impacts to sensitive resources, and interference with timber harvest operations, other natural resource management, and ongoing general operations.

RECREATION 3.3 Provide multi-use access on designated existing roads.

RECREATION 3.4 Construct new trails that allow for bicycle and equestrian uses to be separated or improve sustainability of multi-use trails.

RECREATION 3.5 Provide loop trails, especially in the northern part of the property where they can be accessed from the Empire Grade staging area.

RECREATION 3.6 Provide through-trails that connect from the Empire Grade staging area to the Cotoni-Coast Dairies property.

RECREATION 3.7 Collaborate with the Bureau of Land Management on potential loop trails accessible from the Cotoni-Coast Dairies property.

RECREATION 4 PROMOTE REGIONAL TRAIL CONNECTIONS.

RECREATION 4.1 Designate a Skyline-to-Sea Trail corridor through San Vicente Redwoods, extending from Empire Grade to the Cotoni-Coast Dairies property.

RECREATION 4.2 Coordinate with adjacent open space managers to facilitate regional trail connections.

RECREATION 4.3 Provide additional trail connections to other public open space lands where feasible.

RECREATION 5 PROVIDE AMENITIES THAT SUPPORT NON-MOTORIZED RECREATION ACTIVITIES.

RECREATION 5.1 Provide trail-related amenities, such as signage and benches.

RECREATION 5.2 Provide amenities at the staging area; amenities may include signage, benches, trash receptacles, restrooms, and bicycle parking.

RECREATION 5.3 Provide picnic facilities and allow for informal gathering in designated areas.

EDUCATION AND RESEARCH ACCESS GOALS AND POLICIES

All of the recreation goals listed above also apply to education and research, but additional goals include the following.

EDUCATION 1 PROVIDE THE OPPORTUNITY FOR PARTNERS TO CONDUCT RESEARCH AND EDUCATION ABOUT THE RESOURCES AND ACTIVITIES AT SAN VICENTE REDWOODS.

EDUCATION 1.1 Allow partners to interpret the natural and cultural resources of San Vicente Redwoods, as well as active uses of the property (sustainable timber harvest and restoration activities).

EDUCATION 1.2 Allow for use of property by school groups, tours, and other educational groups.

EDUCATION 2 UTILIZE RESEARCH AS A MANAGEMENT TOOL.

EDUCATION 2.1 Encourage research projects that will inform management of public access, such as studies that monitor environmental impacts of visitors on the reserves.

EDUCATION 2.2 Consider research outcomes in management decisions and any updates to the Public Access Plan.

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4 RECREATION ACCESS PLAN

Photo courtesy of Ian Bornarth.

The Recreation Access Plan is intended to guide the development of high-quality non-motorized recreation opportunities that meet the goals for access defined in Chapter 3, Goals and Policies, as well as the conservation goals for the property. Non-motorized recreation activities appropriate for San Vicente Redwoods are defined as allowable uses, below.

The types of recreational use that are allowable at San Vicente Redwoods, as well as concepts for providing baseline (minimum) and maximum levels of trails and other access features to support recreational use, are identified in this Plan. The Plan aims to provide immediate and long-term recreational access for the local and regional communities, and to build regional connectivity. In order to successfully monitor the impacts of recreational use, public access will be phased by gradually opening more trails and visitor activities. Phase 1 will open a limited network of trails for a variety of recreational uses, and later phases will include more visitor access as management success is demonstrated. Strategies for gauging successful management are identified in Chapter 6, Implementing the Plan. Additional guidance for implementing this Plan is provided in Chapters 6, Implementing the Plan, and Chapter 7, Design and Maintenance Guidelines. All components of the Plan must be in compliance with the California

Environmental Quality Act (CEQA), the purpose of which is to identify and reduce environmental impacts.

ACCESS OVERVIEW AND ALLOWABLE USES

The Conservation Easement for San Vicente Redwoods gives Save the Redwoods League (SRL) the right to provide public access. With the exception of trails that are designated for public access and posted as open, all areas of the property will be closed to public access. The Conservation Partners will collaboratively provide opportunities for non-motorized recreation activities at San Vicente Redwoods as identified in this section. Figure 4-1 shows the Recreation Access Plan at buildout, and Figure 4-2 shows the phased approach to trail network implementation.

The first portion of this chapter applies to the main San Vicente Redwoods property. The Laguna Tract is described in a separate section at the end of this chapter.

ALLOWED RECREATIONAL USES

Allowable recreational uses are dependent on project phasing and will differ for different access features and geographic areas. For instance, each trail will have designated allowable uses that may change over time. The following recreational uses may be allowed at the staging area and on designated trails:

- Hiking
- Biking
- Horse-riding
- Dog-walking (on-leash)
- Picnicking and small group gatherings
- Nature observation

Recreational uses for the main property and the Laguna Tract will be limited to daylight hours, with public access facilities generally opening a half hour after sunrise and closing a half hour before sunset.

Other non-motorized recreational activities that require limited infrastructure and are not identified as a prohibited use (refer to page 4-5) may be allowed as determined appropriate by the Public Access Manager, defined in Chapter 6,

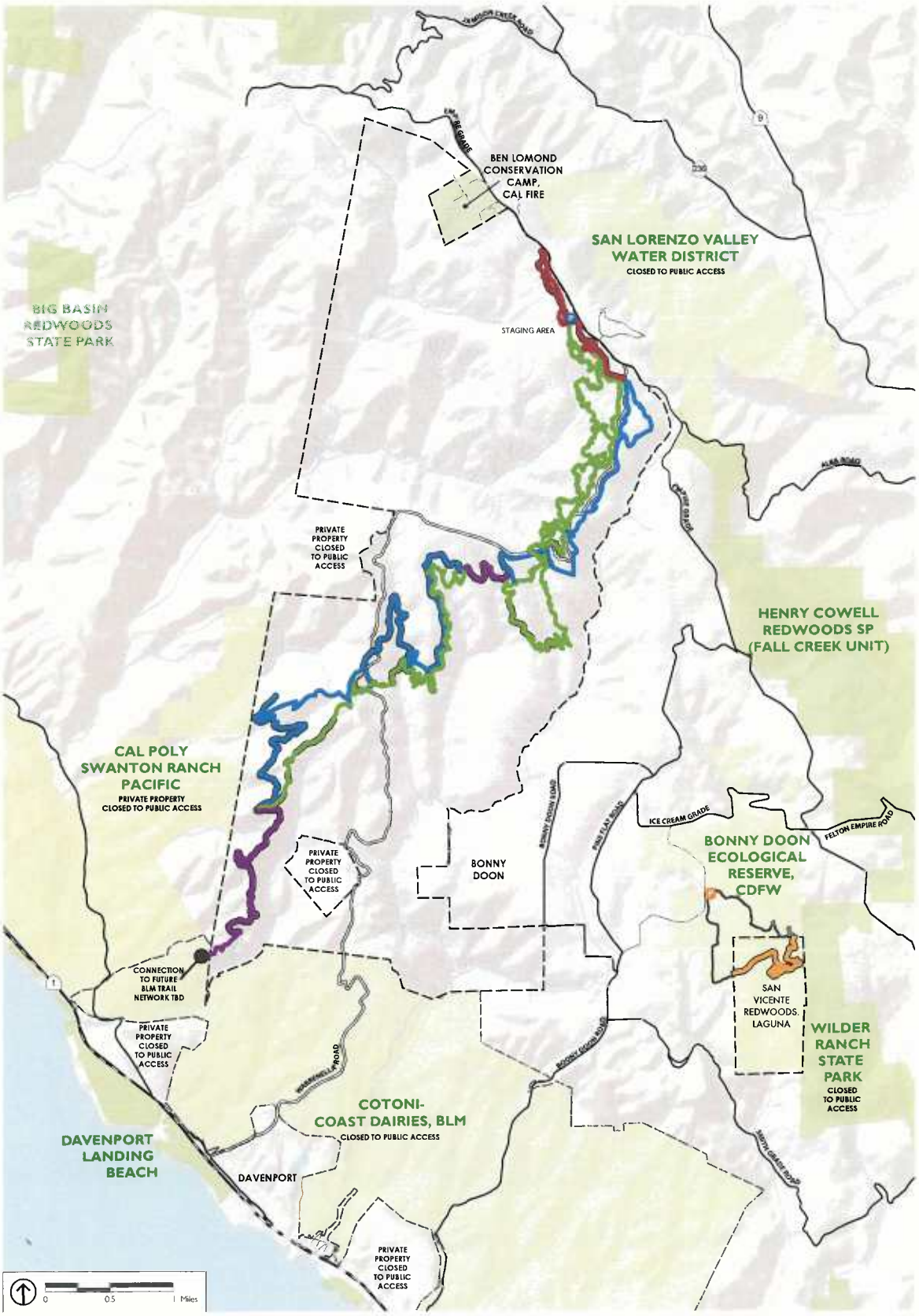

FIGURE 4-1
ACCESS AT BUILDOUT

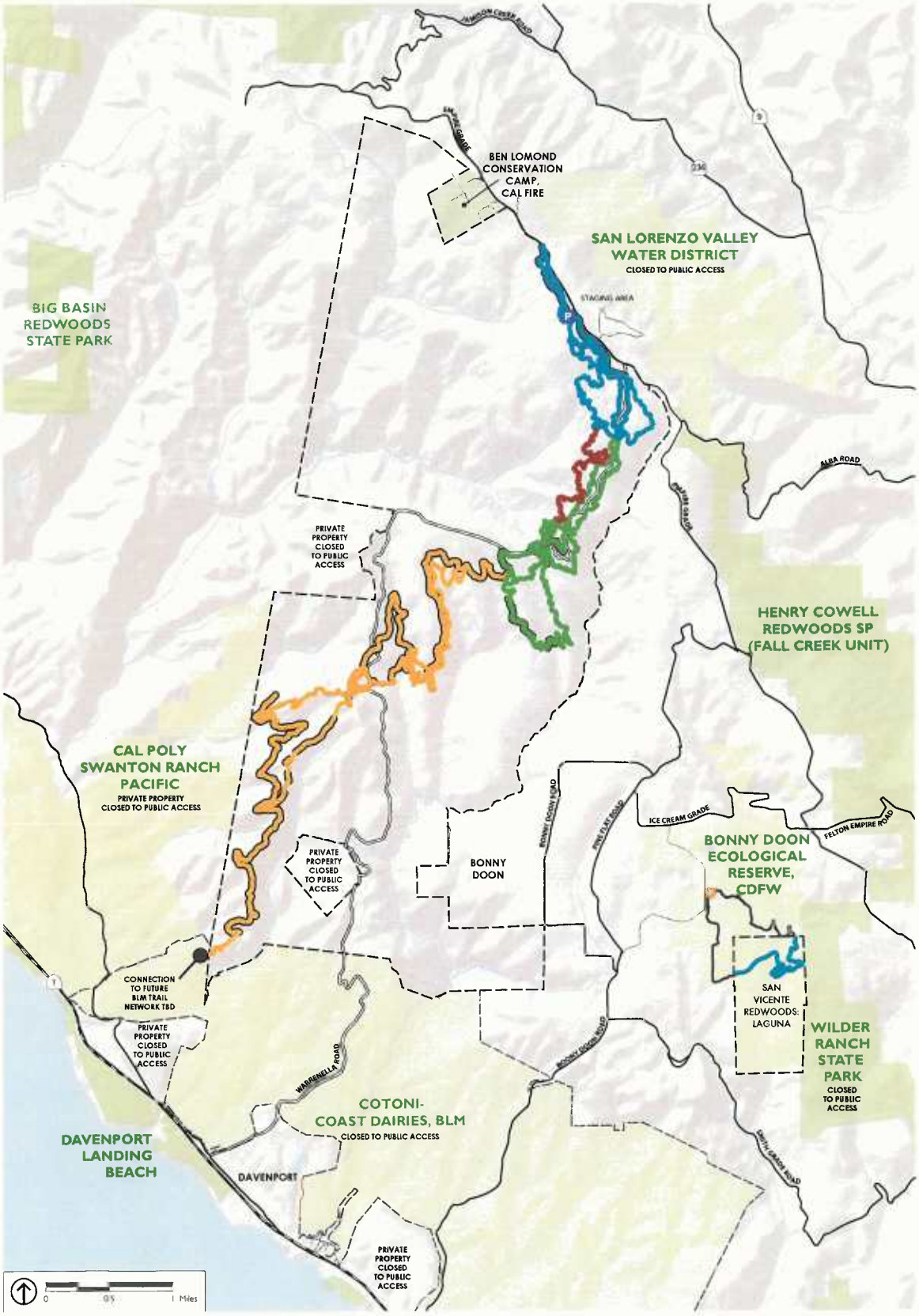

FIGURE 4-2
PHASE I: TRAIL PLANNING

and its partners. Uses that are identified as prohibited in this Plan or that are determined by the Public Access Manager and its Partners to have the potential to contribute additional impacts to resources will not be allowed under any condition.

VISITOR REGISTRATION

All recreational visitors will be expected to register using the free Visitor Registration System prior to use of public access. To register, individuals must provide contact information to the Public Access Manager to be used in case of an emergency and also sign up to receive updates on site conditions and status. Once registered, visitors must sign-in upon arrival to the property. The Public Access Manager will reduce potential barriers to registration by providing both electronic and paper (hard copy) options for registration. Following registration, visitors will be issued a pass (or permit).

Permits may also be required for parking at the designated staging area and/or for certain on-trail recreational use at the discretion of the Public Access Manager, Owner(s), and Conservation Easement Holder.

Visitors will be required to carry their permits on their person, and display a copy on the dashboard of their car when parked at the staging area. Failure to comply with rules may result in the revocation of access permits, as well as citation as further discussed in Chapter 6, Implementing the Plan.

SPECIAL USE PERMITS

Recreational activities will require a special use permit if they are either (1) not identified as an allowed use, (2) would take place outside of daylight hours, or (3) would not be limited to designated public access trails and use areas. Permits will also be required for groups with more than 20 individuals, any special events (such as organized trail runs), or any off-trail activities.

Implementation of a permit program, including permit application review, is further discussed in Chapter 6, Implementing the Plan.

PROHIBITED USES

Activities and recreational uses that will not be allowed on the property through special use permits or under any circumstance include, but are not limited to,

fire making, collecting, hunting, fishing, off-leash dogs, off-road vehicles or motorized dirt biking (including electric bikes), trail building and rock climbing, and rappelling. Camping was considered as a use, but ultimately not included due to fire management concerns. Commercial uses, defined as activities where a fee is charged for a good or service with the intention of making a profit, are prohibited under the Conservation Easement and will not be allowed on the property under any circumstances. The designated Closed Area will be managed to receive minimal visitor activity. Smoking and unpermitted alcohol use will not be allowed on the property under any circumstance.

STAGING AREA

Staging for recreational use on the San Vicente Redwoods property will be limited to one staging area located off Empire Grade. Prior to opening the staging area, 'No Parking' signs will be posted along Empire Grade frontage near the property and pullouts on the property. The staging area lot will be opened in Phase 1 with capacity for 25 to 40 vehicles, including two spaces for horse trailers and two accessible parking spaces. The staging area may be expanded and improved to accommodate up to 90 parking spaces as needed to ensure sufficient parking is provided to prevent parking along the road shoulder in order to protect viewsheds. The staging area will be designed to meet the accessibility requirements of the United States Access Board's Final Guidelines for Outdoor Developed Areas (ODA). See Chapter 7 for additional details and design guidance.

Access features associated with the staging area may include entry gates, signage, informational kiosks or bulletin boards, benches, picnic area/gathering area, wildlife-proof trash and recycling receptacles, dog-courtesy stations, restrooms (composting or pump-out toilet), and water tanks with combined capacity of 9,800 gallons for fire protection purposes.

Where trail connections are established between San Vicente Redwoods and adjacent open space, the adjacent open space may provide additional staging opportunities for San Vicente Redwoods trail users. This is anticipated at the Cotoni-Coast Dairies property and Bonny Doon Ecological Reserve, and will require coordination with managing entities.

TRAIL NETWORK

At full build-out, the network of public access trails on the San Vicente Redwoods property will include multi-use and separate-use trails, as well as loop and through trails. Trail alignments shown in Figure 4-1 include existing roads that will be converted to trails, as well as alignments for newly constructed trails. The trail network will be constructed and opened for public uses in gradual phases, as described below and in Chapter 6, Implementing the Plan.

Key design goals that guided the development of the trail network shown in Figure 4-1 are listed below. Chapter 7, Design and Maintenance Guidelines, provides greater detail regarding requirements for trail design and maintenance.

- Provide for a variety of experiences through different habitats.
- Concentrate loop trails in the northern part of the property, where they can be accessed from the Empire Grade staging area(s).
- Establish through trails connecting the Empire Grade staging area down to the Cotoni-Coast Dairies property.
- Provide buffers around private property.
- Accommodate other property uses, including but not limited to habitat restoration, timber harvest, and research uses.
- Avoid, to the extent possible: neighbor views, safety hazards, and impacts to sensitive resources including but not limited to water sources, forest restoration and management areas, habitat areas, specifically mountain lion communication centers and dens, and cultural resources.

TRAIL NETWORK AT FULL BUILDOUT

Complete implementation of the Public Access Management Plan would result in approximately 38 miles of recreational trails, with over 30 percent of the trails located on existing roads. Through-trails connect from Empire Grade to Cotoni-Coast Dairies property, providing continuous connections for hiking, biking, and equestrian use. Numerous loop trails connect to the through-trail, providing unique recreational experiences and allowing for the separation of use types to reduce user conflicts and improve trail experience. Trail mileage at buildout is summarized in Table 4-1 according to potential designated uses.

TABLE 4-1 TRAIL NETWORK SUMMARY (BUILDOUT)

Initial Trail Use*	Located on Existing Road/Trails (Miles)	New Construction (Miles)	Total Trails at Buildout (Miles)
Main Property			
Horse	0	0.2	0.2
Hike and Horse	5.0	6.8	11.8
Hike and Bike	2	17.1	19.1
Hike, Bike, Horse	2.4	0.5	2.9
Hike, Bike, Horse, Dog	1.3	1.2	2.5
Subtotal (Main Property)	*10.7*	*25.8*	*36.5*
Laguna Tract			
Hike	1.3	0.2	1.5
Subtotal (Laguna Tract)	*1.3*	*0.2*	*1.5*
Total			~38 miles

* Trail use may be strategically adjusted as part of adaptive management.

While this summary of trails assumes that most trails are dual- or multi-use at full implementation, trail use designations may be revised through the adaptive management process discussed in Chapter 6. It is possible that certain areas could remain as single use trails. Trail mileage estimates for trails located on existing roads are estimated based on GIS analysis of existing road length. Trail mileage estimates for newly constructed trails is measured based on 100-foot corridor study areas using GIS and increased by 13 percent to allow for sinuosity, grade changes, and other anticipated variations in trail alignment.

Trails are described below according to initial trail use as illustrated in Figure 4-1. As discussed above, use designations may be revised through the adaptive management process.

SINGLE-USE TRAILS

Trail use designations are subject to change in response to trail conditions and feedback on visitor experiences. Single-use trails are limited to the 1.5-mile hiking-only trail within the Laguna Tract, and a short 0.2-mile trail horse-only connection on the main property. The latter trail connection is a steep trail that is not suited for other uses.

DUAL-USE TRAILS

Dual-use trails are trails that allow hiking and either biking or equestrian uses. There are 19.1 miles of dual use trails that allow hiking and biking, with connections from the Empire Grade to the multi-use trail in the southern portion of the property. Loop hiking and biking trails are concentrated in the northern portion of the property.

The 11.9 miles of dual-use trails that allow hiking and equestrian comprise most of the through-trail experience for equestrian uses, with connections to multi-use trails at the northern and southern ends of the property.

MULTI-USE TRAILS

Multi-use trails are trails that allow more than two uses. There are 2.9 miles of multi-use trails that allow hiking, biking, and equestrian use. These trail segments are located in constrained areas where separate use trails are less feasible, including the southern end of the through-trail and a short segment in the central are of the through-trail.

Approximately 2.5 miles of multi-use trail allows hiking, biking, and equestrian uses as well as on-leash dogs. These trails are located primarily along an existing frontage road that parallels Empire Grade, and is the only trail where dogs are allowed on the property.

PHASED IMPLEMENTATION OF TRAIL NETWORK

The trail network will be constructed and implemented in phases as shown in Figure 4-2 and described in Table 4-2 and below.

TABLE 4-2 TRAIL PHASING

Trail Phasing*	Located on Existing Road/Trails (Miles)	New Construction (Miles)	Total Trails (Miles)
Main Property			
Phase 1	1.3	7.1	8.4
Phase 2 (additional trails)	1	8.3	9.3
Phase 3 (additional trails)	8.4	8.1	16.5
TBD (additional trails)	0	2.3	2.3
Laguna Tract			
Phase 1	1.3	0.2	1.5
Total Trails at Buildout	*12*	*26*	**~38 miles**

Phase 1 includes approximately 8.4 miles of trails located in the northern area in proximity to the staging area, as well as the 1.5-mile Laguna Tract trail segment to the south. The network of loops in the north offers a range of trail experiences, with initial allowable uses shown in Figure 4-1. Phase 2 will add an additional 9.3 miles of trails, extending the network of new loops south towards the middle of the property. Phase 3 will consist of up to 16.5 miles of trails and complete the through-trail experience from Phase 2 trails to Cotoni-Coast Dairies. Phasing of approximately 2.3 miles of additional trails that would offer hiking and biking loops in the northern area of the main property will be determined based on adaptive management strategies discussed in Chapter 6.

OTHER ACCESS FEATURES

Other access features may include overlooks and gathering areas, signage, limited site furnishings, and gates and fencing for security and safety. Signage should be used to communicate regulatory, directional, hazard, and interpretive information to the public. Limited site furnishings may include benches along the trail network and at scenic vistas or other destinations, as well as picnic

tables in designated areas. See Chapter 7, Design and Maintenance Guidelines, for additional information on access features.

LAGUNA TRACT

The Laguna Tract trail is an existing trail that is to be improved with minor reroutes to reduce potential for erosion. This trail will be accessible only through existing trails on the California Department of Fish and Wildlife's (CDFW) Bonny Doon Ecological Reserve. Trail planning for the Laguna Tract has been conducted in coordination with CDFW. The Laguna Tract is located east of the main property, as shown in Figure 4-1. Management of trails, visitor activities and parking will be coordinated with CDFW to be consistent with management of the Bonny Doon Ecological Reserve. Allowable uses at the Laguna Tract are limited to hiking and nature observation from designated trails. The Conservation Partners will allocate resources to assist with patrol, maintenance and volunteer coordination, as discussed in Chapter 6 below.

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5 EDUCATION AND RESEARCH ACCESS PLAN

Research and educational uses are similar in that they share the goal of increasing knowledge and understanding. While research uses strive to generate new information and understanding, education is focused on sharing experiences, concepts, and information.

Activities associated with primary and secondary education, or community education conducted by organized community or non-profit groups, are unique types of public access. While such uses are complimentary to recreational access, the requirements and implications of successful educational access programs are unique and therefore addressed independently in this chapter.

This chapter identifies potential education uses that are allowable types of public access, as well as the facilities and management framework necessary for successful programs. While research is not considered a type of public access, public access features may support research uses and therefore an overview of potential research uses is provided in this chapter. Goals and policies for education and research are provided in Chapter 3, Goals and Policies.

ACCESS OVERVIEW AND ALLOWABLE USES

There are endless opportunities for educational activities and research at San Vicente Redwoods. However, permits will be required for all research projects and for educational uses, except where such uses are indistinguishable from recreational uses and will only occur on publicly accessible trails and staging area(s). Potential educational and research uses are discussed below.

PRIMARY, SECONDARY, AND COMMUNITY EDUCATION USES

Education uses considered as public access uses may include but are not limited to interpretive tours, field classes, eco-tourism, and restoration-based education and stewardship activities. San Vicente Redwoods is well situated to provide rich experiences for students of all ages, although group size may be limited depending on the intended location and duration of the activity.

Educational programs may be organized by primary or secondary schools, non-profit organizations, or other partners. Educational themes may include the ecological, historical, and social aspects of the property. In addition, San Vicente Redwoods may become an ideal location to showcase the synergist relationship between public access, resource protection, and resource management (timber harvest).

HIGHER EDUCATION AND RESEARCH USES

As discussed above, research is not considered a type of public access but is discussed in this chapter because public access features have the potential to support research uses. Research uses may include a variety of project types ranging from short- to long-term projects; private projects to student or class projects; and site-based to landscape scale studies. San Vicente Redwoods provides ample opportunities for both natural and social science studies, as well as for research that extends across multiple protected open space areas. Research may be conducted within restoration, conservation reserves, or the working forest, pending a permit as discussed under Permit System, below, and in Chapter 6, Implementing the Plan. Research and higher education uses are not considered public access.

Universities and others interested in conducting research on the property should coordinate directly with the Save the Redwoods League (SRL) as the SRL will hold the conservation easement for the property. The Public Access Manager can facilitate appropriate introductions on request.

PHYSICAL REQUIREMENTS

The physical and spatial requirements for research and education projects will vary according to the project and/or activity. However, the following physical requirements generally satisfy the key demands of uses appropriate for the properties:

On-Road Access. Given that research and education may be permitted at various areas throughout the property, use of access points and roads beyond those identified for public access may be required in many situations. Such use will need to be carefully coordinated with other property uses, including restoration and timber harvest.

Off-Road Access. In addition to utilizing existing roads, research and education uses may require off-road access throughout the property, including but not limited to, watercourses, sensitive habitats, and active areas of the working forest. During the permit review process, areas affected by proposed projects and/or programs and their potential impacts will need to be assessed.

Gathering Spaces. Gathering spaces may be necessary for certain education projects and programs, depending on the specific project and the number of individuals involved. Gathering spaces can be informal, and should be located in areas where tree removal and/or vegetation clearing will not be required. The intent of establishing such areas is to concentrate impacts in specified areas while creating desirable places to gather in terms of meaningful views, physical comfort and unique experiences. Chapter 7, Design and Maintenance Guidelines, provides additional guidance for the development of informal gathering spaces.

CONTROLLING AND MONITORING ACCESS

Special use permits are the primary tool for controlling and monitoring access by primary and secondary education. Special use permits will be required for all

primary and secondary educational uses, except where such uses are indistinguishable from recreational uses that will only occur on publicly accessible trails and staging area(s) and are allowed through the visitor registration system. Implementation of the visitor registration system and special use permit program is discussed in Chapter 6, Implementing the Plan.

6 IMPLEMENTING THE PLAN

This chapter is intended to guide implementation of the Public Access Plan (Plan), including development of public access features and management of recreational uses. Key components of this chapter include the identification of an appropriate management framework under the Initial and Future ownership scenarios; a phasing plan that also defines the baseline and maximum level of access to be provided; implementation strategies; financial considerations; and a discussion of future planning and environmental review. Implementation of the Public Access Plan is dependent upon adequate funding for capital improvements and ongoing operations and maintenance, and adherence to the adaptive management approach described in this Chapter. Specific design and maintenance guidelines are provided in Chapter 7, Design and Maintenance Guidelines.

MANAGEMENT FRAMEWORK

Although Save the Redwoods League (SRL) holds the right to provide and responsibility to allow for public access under the terms of the Conservation Easement with the owners, it is anticipated that other entities will take on management responsibilities under contracted agreements with the SRL or the owners. This section describes the key parties responsible for providing, or supporting provision of, public access at San Vicente Redwoods; identifies the legal agreements that will define relationships and responsibilities; and

describes potential organizational structure under the Initial and Future access scenarios. The purpose of this framework is to (1) support coordination between responsible parties, and (2) ensure the protection of the seven conservation values through proactive adaptive management. As discussed in Chapter 2, the Conservation Values include: (1) statewide and regional conservation significance, (2) forests, (3) biodiversity, (4) watershed protection, (5) viewshed protection, (6) landscape and habitat connections, and (7) public recreation, education, and scientific study. Phased implementation and adaptive management will allow for managers to balance visitor experience and protection of the Conservation Values. The distribution of management responsibilities amongst key parties will depend on potential changes in ownership of the property. In order to provide clear guidance as well as flexibility given the unknown future ownership of the property, management structure under current ownership and under potential future ownership scenarios are discussed in this Plan. The Laguna Tract, as it is accessible only through the CDFW's Bonny Doon Ecological Reserve, will be subject to certain differences in management as indicated below.

Photo courtesy of Nadia Hamey.

RESPONSIBLE PARTIES

Key parties with responsibility to provide management, or support the provision of public access at San Vicente Redwoods, are identified below. Responsibilities of each party are detailed in the Implementation Plan, and relationships between these parties are described below under Organizational Structure. The Conservation Easement Holder, property owners, and Public Access Manager comprise the four Conservation Partners..

- **Conservation Easement Holder.** The SRL will hold the Conservation Easement, and therefore has the right to provide and responsibility to allow for public access consistent with the Public Access Plan.
- **Landowner.** Peninsula Open Space Trust (POST) and Sempervirens Fund are the Landowners. The owners are the entities holding title to the land. The owners will provide broad management and steer stewardship of the entire property.
- **Public Access Manager.** The Land Trust of Santa Cruz County (Land Trust) is responsible for implementing the Plan as the Public Access Manager. The Public Access Manager does not need to conduct all of the tasks identified

in the Implementation Plan, but will be responsible for ensuring that they are carried out through coordination with and oversight of the Conservation Partners and other entities. The Public Access Manager will be responsible for financial management, marketing, and fundraising for public access, and managing maintenance and security of parts of the property opened for or affected by public access. In addition, the Public Access Manager will monitor access demand and impacts, and update management and maintenance plans pertaining to public access as necessary to ensure that the Public Access Goals identified in this Plan are met.

- **Property Manager:** The Property Manager is a contractor to the property owners with expertise in forestry, ecology, and land management. The Property Manager will oversee stewardship activities that are outside the scope of the Public Access Manager, but that are essential to upholding the Conservation Values.
- **Law Enforcement:** The Santa Cruz County Sheriff's Office (County Sheriff) will provide law enforcement to ensure compliance with state laws, and provide for public safety and protection of the Conservation Values. If Santa Cruz County Parks Department (County Parks) acquires the capacity to provide peace officers, the role of law enforcement may be transferred from County Sheriff to County Parks.
- **Steward:** County Parks will provide stewardship, interpretation, and maintenance services for the first three years of implementation. After that time, financial considerations may change this role.
- **Emergency Response:** CAL FIRE will provide emergency medical and firefighting services, consistent with delivery of services in the Santa Cruz County Fire Department.
- **California Department of Fish and Wildlife (CDFW):** CDFW owns the Bonny Doon Ecological Preserve, through which access to the Laguna Tract trails are provided. The Public Access Manager will coordinate with CDFW and provide appropriate signage, maps and patrols on the Bonny Doon Ecological Preserve and the Laguna Tract, and to assist in the maintenance of the parking area.

ADDITIONAL PARTNERS

Partnerships with user groups, institutions, and others will be important to successful implementation. Potential partners include but are not limited to recreational user groups, such as Mountain Bikers of Santa Cruz and the Santa Cruz County Horsemen's Association; local schools and school districts; and other groups with interest and capacity to help realize the conservation vision for the properties. Tasks that partners may assist with may include trail development and maintenance, trail etiquette and safety patrol, monitoring, and provision of educational programming and interpretation. Written agreements will need to be developed where the use of the property is contingent upon fulfillment of specified responsibilities.

DOCENTS AND VOLUNTEERS

Volunteers are significant in building a community of regular visitors with a strong stewardship ethic, which will become the culture of the property and influence the behavior of other visitors. Multiple roles for volunteers are envisioned, which will cater to different personalities and capacities: patrol, maintenance, interpretation, and trail construction. Hikers, horseback riders, and bike riders have all expressed enthusiasm for helping make the trail construction and management process successful.

LEGAL FRAMEWORK/AGREEMENTS AND LIABILITY

- **Conservation Easement.** The Conservation Easement is the legal agreement between the Landowners (POST and Sempervirens Fund) and the Easement Holder (the SRL) that identifies specific terms for conservation and potential uses of the property. As the holder of the Conservation Easement, the SRL has the right to provide and the responsibility to provide for public access.
- **Access Management Agreement.** An Access Management Agreement will be established between the Conservation Partners, giving right and responsibility for management responsibilities identified in the Implementation Plan to the Public Access Manager.
- **Use Agreements.** Use Agreements may be established between the Public Access Manager and organized user groups. Such agreements may be used to establish conditions under which user groups may access the property,

and specify the type of access allowed. An example of a use agreement would be for an organized trail run.

It is important that all responsible parties, including the Landowners, Conservation Easement Holder, and Public Access Manger, maintain appropriate liability protection insurance. However, successful control and monitoring of access will minimize liability concerns for all responsible parties, as well as potential for conflicts between the various uses of the property (including recreational, research, educational, conservation, restoration, and timber harvest, and other). For instance, liability can be reduced by ensuring that all the users are aware of allowed activities, appropriate behavior and trail etiquette, hazards, and any other access limitations (including boundaries). Strategies for ensuring that users understand and agree to conditions include implementing a registration and permit program; providing on-site signage identifying regulations, allowed uses, and user responsibilities; and conducing orientation programs for user groups.

ORGANIZATIONAL STRUCTURE

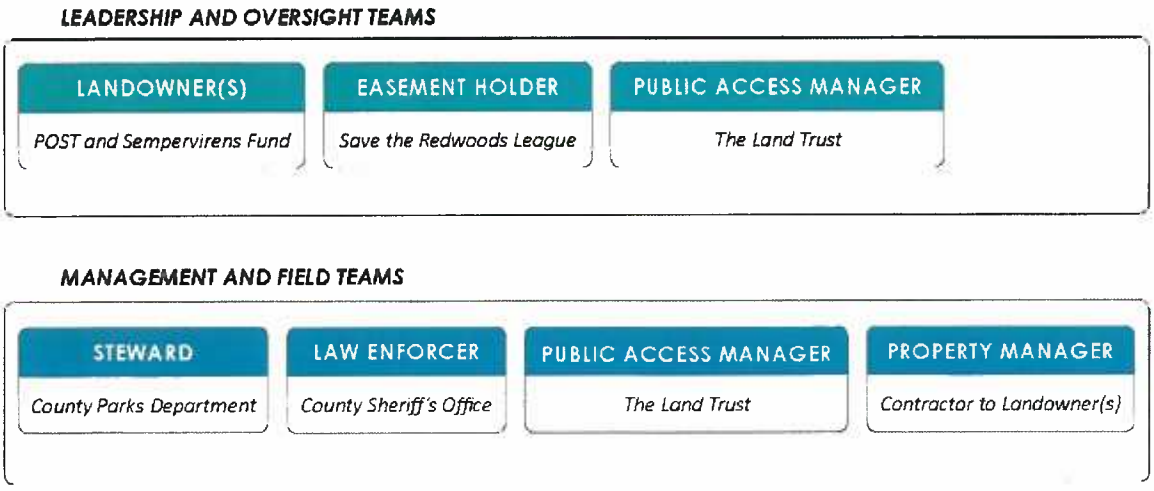
Organizational structure under the Initial access and Future access scenarios is described below and illustrated in Figure 6-1. Within the figures, solid arrows indicate decision making authority and coordination between entities. As discussed above, the SRL has the right to provide and responsibility to allow for public access regardless of property owner or management structure.

INITIAL ACCESS

The management structure for providing initial access is applicable as long as POST and Sempervirens Fund retain ownership of the property. Under this management structure, the Landowners and the Easement Holder (the SRL) would provide oversight and leadership but would not be responsible for managing public access. The Public Access Manager will be the Land Trust, and would manage access under an agreement with the Landowners and Easement Holder. To facilitate long-term and ongoing management, the responsible parties described above will work in Public Access Coordination Teams as described below and in Figure 6-1. This structure will ensure that all responsible parties are aware of conditions and activities on the property.

- **Leadership and Oversight Teams.** Representatives from the landowners, Easement Holder, and Public Access Manager will comprise both the Leadership Team and Oversight Team. The Leadership Team will be tasked with fundraising and communications policy, as well as conflict resolution, with the landowners and easement holder having ultimate decision-making authority. The Oversight Team will also manage access related to higher education and research.
- **Management and Field Teams.** The Public Access Manager, County Sheriff's Office, and County Parks Department will comprise the Management Team and Field Team. The Management Team, which will also include the Property Manager, will be responsible for collaborating on week-to-week decisions, and the Field Team will manage day-to-day operations related to public access including recreation and primary, secondary and community education. The Field Team will collaborate with Public Access Volunteers.

Figure 6-1 Initial Access Organizational Structure



FUTURE ACCESS

Public access on San Vicente Redwoods is governed by this Plan until replaced by another Public Access Plan. That plan will be subject to review and approval by the Conservation Easement holder, per the conservation easement. In the event of an ownership change, where POST and Sempervirens Fund transfer fee title for the property to another entity, the parties to that transfer will reexamine the Public Access Plan and amend as appropriate. If that future landowner is not in a position to manage public access, key parties would determine the appropriate approach for continued management of public access. Under that scenario, the Land Trust anticipates continuing to manage public access. If amendments to the Public Access Plan are significant, they will be subject to additional environmental review.

MANAGEMENT ZONES

Three unique management zones will guide public access management activities at San Vicente Redwoods. These zones and the implications to management, maintenance and operations are identified below.

- Staging Area (4.7 acres). This zone is limited to the staging area vicinity and will receive the highest level of concentrated use, and will require regular management and maintenance.
- Public Access Area (460 acres). This zone includes a 100-foot-wide corridor centered on the trail, with 50 feet on either side. Ongoing maintenance and management will be required in this area, including management and monitoring to ensure that use is limited to designated trail alignments.
- Closed Area. Most of the property (approximately 94 percent) is closed to routine public access. As part of the research and education component of the proposed Public Access Plan, these uses would be permitted throughout the property on a case-by-case basis. The Management Team will focus management efforts in this zone on approving appropriate research and education uses and preventing access and addressing any trespass.

RULES AND REGULATIONS

Extensive rules and regulations will protect the seven Conservation Values. Rules and regulations will include but not be limited to:

- Access is restricted to designated trails and the staging area (Public Access Area and Staging Area Zones).
- Trail users must comply with designated allowable trail uses.
- Dogs are allowed on-leash only on designated trails and the staging area.
- Public access is limited to daylight hours.
- Uses that will not be allowed on the property under any circumstance include, but are not limited to:
  - smoking
  - unauthorized alcohol use
  - fire making
  - hunting
  - camping
  - mushroom harvesting
  - firewood gathering
  - fishing
  - building log or rock pile dams
  - off-leash dogs
  - off-road vehicles or motorized dirt biking (including electric bikes)
  - unauthorized trail building
  - rock climbing and rappelling

PHASING PLAN

The Public Access Plan provides a guide for implementation sequencing. However, adjustments may be required based on future unknown conditions such as available funding, contributions of partner organizations, opportunities for creating regional connections, and changes in ownership and management. As a first step, implementation of the Public Access Plan will also be informed by the adaptive management strategies discussed below under Implementation Plan, including routine monitoring, clear metrics for success, and regular review, which allow for adjustments to phasing. Successful achievement of adaptive

management indicators will be used to guide advancement from one phase to the next as well as to inform any changes to trail use designations.

Three phases of implementation are identified for San Vicente Redwoods, as summarized in Table 6-1 and further described below. With each phase, opportunities for recreational use would be expanded pending successful implementation for the previous phase. Impacts that result from public access will be monitored during each phase, and if successful management is demonstrated, implementation of the next phase would be appropriate. Similarly, the number of parking spaces in the staging area will be expanded based on implementation phase as well as adaptive monitoring and management. For instance, if the parking area is regularly filled to capacity, the Oversight Team may decide to expand the parking area to avoid visitor parking on the shoulder of Empire Grade. The staging area will provide 25 to 40 parking spaces in Phase 1 and can be expanded to 98 spaces as needed. Phasing is further described below, and trail alignments are described in Chapter 4.

TABLE 6-1 PHASING STRATEGY

Phase	Visitor Activities	Total Cumulative Trail Miles	Estimated Timeline for Phase Initiation
Phase 1	Hike (all trails) bike, horseback ride, dog walk (on select trails)	9.9	Year 1 (staging area and trails available at opening)
Phase 2	Hike (all trails) bike, horseback ride, dog walk (on select trails)	19.2	Year 3, 4 or 5, assuming success in Phase 1
Phase 3	Hike (all trails) bike, horseback ride, dog walk (on select trails)	35.7	Year 5, 6 or 7, assuming success in Phase 2 and completion of connecting trails at the Cotoni-Coast Dairies property
To Be Determined	Additional trails near Phase 2 trails	38	To be determined

PHASE 1

The focus of the first phase of implementation is to provide the baseline level of public access. This includes establishing the staging area with 25 to 40 parking

spaces, opening of 8.4 miles of trails within the main property, and providing necessary signage and security measures. This trail network and the staging area is intended to be complete prior to the opening of the property for public access, and is envisioned to provide visitors the opportunity to recreate on the property for at least two hours if bicycling and four hours if hiking. If monitoring of visitor impacts demonstrates successful management of Phase 1, it will be appropriate to advance to Phase 2. Phase 1 also includes the opening of a 1.5-mile trail within the Laguna Tract that will be for hiking-only use. The opening of this trail would be independent of the 8.4 miles of Phase 1 trails for the main property, but is anticipated to occur prior to the initiation of Phase 2.

PHASE 2

Phase 2 of the Plan will focus on providing loop trail opportunities. Additional trails opened to the public in Phase 2 will include up to 8.3 miles of new construction and 1 mile of improved existing road, bringing the total network to 19.2 miles. To accommodate additional visitors, the staging area may be expanded to up to 98 spaces.

PHASE 3

Phase 3 of the Plan will focus on extending the trail network and establishing regional trail connections. Up to 16.5 miles of trail will be added, with trail connections from the San Vicente Redwoods staging area through the property to Cotoni-Coast Dairies property, creating opportunities for ridgeline to the shoreline experiences. Implementation of this phase is dependent on establishment of connecting trails at the Cotoni-Coast Dairies property.

ADDITIONAL TRAILS: PHASING TO BE DETERMINED

Approximately 2.3 additional miles of trail may be established if adaptive management monitoring determines that management of public access in previous phases has successfully protected Conservation Values. These additional trails include three segments, each of which would offer a unique loop experience that connects to Phase 1 or Phase 2 trails. Implementation of these trails would be independent of Phase 3 implementation, but would not be established until successful implementation of Phase 2 trails has been established.

IMPLEMENTATION PLAN

The Implementation Plan identifies tasks and responsible parties for implementation under the initial organizational structure described under Management Framework, above. The Implementation Plan utilizes all five overarching management strategies utilized by the National Park Service to manage visitor impacts, including site management, rationing (capping use), regulations, deterrence and enforcement, and visitor education. The Implementation Plan, shown in Table 6-2, presents the implementation tasks and related policies, which are defined in Chapter 3, Goals and Policies. Table 6-2 also identifies in which management zone each task will be implemented.

TABLE 6-2 IMPLEMENTATION PLAN

Task	Management Zone	Related Policies
Capital Improvements Implementation Tasks		
Improve existing roads for use as trails.	Staging and Public Access Areas	ACC.1.2 REC.3.3
Design and construct new trails.	Staging and Public Access Areas	REC.3.1 REC.3.2 REC.3.4
Construct/install other access features (staging, signage, benches, restrooms, wildlife-proof trash receptacles, etc.).	Staging and Public Access Areas	ACC.2.1 ACC.4.3 REC.2.1 REC.5.1 REC.5.2
Construct/install security features	All	ACC.2.1 ACC.4.2
Safety, Security and Maintenance Tasks		
Open and close trail access as necessary.	Staging and Public Access Areas	ACC.1.5 REC.3.2
Remove litter and waste.	All	ACC.1.6
Maintain public access features.	Staging and Public Access Areas	ACC.1.6
Provide professional security and safety patrol.	All	ACC.1.6 ACC.2.1

TABLE 6-2 IMPLEMENTATION PLAN

Task	Management Zone	Related Policies
Provide emergency services.	All	ACC.2.3
Provide trail etiquette and safety monitoring.	Staging and Public Access Areas	ACC.2.2
Visitor Education and Use Management Tasks		
Provide visitor education.	Staging and Public Access Areas	ACC.2.2
Establish and manage a visitor registration system.		ACC.1.4
Establish and manage a permit system and fee system.		ACC.3.1 RES.1.2
Manage Parking.	Staging Area	
Manage Mountain Bike Use	All	ACC.1.1, 1.2, 1.4, 1.6, 2.1 and 2.2
Other Management and Administrative Tasks		
Coordinate with responsible parties and management teams		ACC.1.5
Coordinate with adjacent open space managers and other neighbors.		REC.2.2
Develop and implement the financial management strategies; update as needed.		ACC.1.3
Develop and implement a trail maintenance system; update as needed.		ACC.1.1 RES.2.3
Develop and implement adaptive management strategies.		ACC.1.7

Three broad categories of tasks are identified in the Implementation Plan: Implement Capital Improvements; Provide Ongoing Maintenance and Security; and Manage Public Access. All tasks will need to be conducted in all phases, with the possible exception of construction of new trails. Implementation tasks and recommended strategies for completing the tasks are discussed below according to category.

CAPITAL IMPROVEMENTS

The design and construction of capital improvements should adhere to the guidelines provided in Chapter 7, Design and Maintenance Guidelines, as well as any permit requirements.

Access features may include staging, signage, informational kiosks or bulletin boards, benches, picnic tables, restrooms, trash receptacles, dog courtesy stations, and other site furnishings. No visitor centers, amphitheaters or other large built elements are planned. Security features installed on-site are anticipated to include gates, fencing, signage, and cameras. Up to two portable staff offices sized for a parking space may be located in the staging area for use as staff offices and equipment storage. The portable offices may be shipping containers with appropriate upgrades and aesthetic treatments. The Land Trust will collaborate with the CDFW to support improvements they make to their Martin Road staging area.

SAFETY, SECURITY, AND MAINTENANCE AND OPERATIONS

Recommended strategies for implementing safety, security, maintenance and operations tasks are provided below. The Management and Field Teams will be responsible for these efforts, with the Public Access Manager leading efforts and County Sheriff's Office and County Parks providing support. The County Sheriff's office will provide law enforcement to ensure compliance with State laws and County ordinances, provide for public safety, and protect the Conservation Values. County Parks Department will provide maintenance and patrol services for trails and access roads, as well as visitor engagement and education. The level and type of effort required will vary for each management zone as described above. The Sheriff's Office and County Parks Department have committed to provide these services. The Conservation Partners will offset costs of the Sheriff's Office and County Parks Department's participation, as described below under Implementation Costs.

OPEN AND CLOSED TRAIL ACCESS

The Public Access Manager will be responsible for opening and closing staging area(s) and trails using gates and/or signage as described below:

- Open and close gates daily for Empire Grade staging area. Public access will be limited to daylight hours. Staging Area gates shall be opened

approximately 30 minutes after sunrise and closed 30 minutes before sunset. Close trails and/or staging areas based on seasonal or extended closures, as necessary to accommodate other property uses including timber harvest, conservation, restoration, and extreme fire danger (including National Weather Service 'red flag' days). The property should also be closed if wet weather conditions limit the ability of emergency vehicles to access the property.

- Utilize temporary re-routes and/or trail closures to minimize potential conflicts with timber harvest activities.
- Close trails that do not meet the maintenance criteria identified in Chapter 7, Design and Maintenance Guidelines, until the trails are improved to meet criteria.
- Close property to mountain bikes and/or other user groups if unauthorized use cannot be effectively managed.
- The Public Access Manager will collaborate with the CDFW to support management of the CDFW's Martin Road staging area.

LITTER AND WASTE MANAGEMENT

Trash shall be removed at least weekly, and at a frequency sufficient to prevent trash overflow at the receptacles and to minimize wildlife-attracting odors. All trash and recycling receptacles will be wildlife-proof. Signage and visitor education should instruct visitors to pack out and/or properly dispose of all waste. Litter, food scraps, and dog waste should be picked up and disposed of as part of regular monitoring and patrol activities.

MONITOR AND MAINTAIN PUBLIC ACCESS FEATURES

The staging area, trails, and other public access features (such as water tanks, signage, furnishings, and monitoring equipment) should be monitored and maintained by the Management and Field Teams to meet guidelines and criteria provided in Chapter 7. Features that do not meet conditions specified in Chapter 7 should be improved or closed to public use until improvements can be completed. Monitoring and maintenance should address drainage, vegetation, and graffiti or damage to the property. Specific guidelines for trail maintenance are provided in Chapter 7. Monitoring and maintenance activities should include but not be limited to:

- Inspect restrooms three times a week and maintain restrooms at least weekly and more frequently when necessary.
- Clean graffiti and fix vandalism within 48 hours of discovery to demonstrate evidence of stewardship and resistance to vandalism.
- Ensure maps and educational materials are stocked.
- Monitor trail conditions and maintain trails to encourage visitors to stay on trails by rapidly clearing down trees that fall onto or affect access along the trail, and maintaining brush, drainage, signs, gates, and barriers. Respond with increased effort and/or a more rapid response if off-trail use takes place due to trail maintenance issues. Conduct cross country scouting (contour patrols) to locate unauthorized trails, decommission as quickly as possible, and respond with increased patrol, engagement, and enforcement including prosecution.
- Monitor the Public Access Area for occurrences of California Invasive Plant Council high and medium priority 'Red List' species, and manage those populations for eradication, if feasible, and containment, if infeasible.
- Track the availability of parking, and whether the parking area is regularly filled to capacity.
- Monitor water tanks quarterly to ensure tanks are at least 80 percent full and showing structural integrity.
- Provide separate maps for the main property and the Laguna Tract to clearly distinguish between these two distinct recreational opportunities, and collaborate with the CDFW to show the closed areas of the Bonny Doon Ecological Reserve on maps.

PROVIDE PROFESSIONAL SECURITY AND SAFETY PATROL

Public access features, including staging area(s) and trails, will be patrolled on a regular basis by the Management and Field Teams, including the County Sheriff's office. The County Sheriff will ensure a rapid response and a credible deterrent to those who would violate laws and regulations (see rules and regulations, above).

In addition to patrol, trails may be monitored using photographic monitoring in the Closed Area and for nighttime monitoring of the Staging Area and Public

Access Area. Patrol and enforcement activities should be initiated when construction activities begin. For instance, on discovery of an unauthorized trail, the trail should be dismantled as rapidly and completely as possible, and tools or equipment should be confiscated. County Sheriff should attempt to identify builders and users and engage them, with enforcement as necessary, to motivate compliance with rules. If necessary, the Public Access Manager will prosecute and make civil court claims where appropriate.

The Management and Field Teams should track visitor compliance with Closed Area, nighttime, and weather related closures, and increase management effort as needed to ensure compliance. Estimated labor cost for provision of patrol is identified under Financial Considerations, below.

PROVIDE EMERGENCY SERVICES

Emergency services include police, fire, and medical services. Emergency services will be provided by the Santa Cruz County Fire Department, which is managed by CAL FIRE The Land Trust will develop a safety and emergency management plan in collaboration with CAL FIRE and the Santa Cruz County Sheriff's Office that identifies specific roles and responsibilities. The plan will include but not be limited to the response strategies identified in Table 6-3.

PROVIDE TRAIL ETIQUETTE AND SAFETY MONITORING

Patrol activities should demonstrate a stewardship presence, and foster a culture of responsibility among visitors to increase user compliance with closed area designations, and rules regarding litter, food scraps and dog waste. Patrol should also provide education on safe trail use, including educating visitors on trail options for their selected use. Bike bells, which jingle to alert visitors of approaching cyclists, may be provided to users to further reduce potential use conflicts. Specific tasks for providing visitor education include but are not limited to:

- Engage and educate horseback riders and other visitors about actions they should take to avoid the introduction of non-native plants and animals.
- Educate horse and dog owners in the actions they must take to protect water quality by cleaning up their animal waste, especially in proximity to streams. Provide bags and trash receptacles in convenient locations.

TABLE 6.3 EMERGENCY PREVENTION AND RESPONSE STRATEGIES

Threat	Prevention	Response
Injury or Health Emergency	▪ Use restrictions ▪ Education and signage ▪ Areas closures ▪ Trail design and maintenance ▪ Hazard tree inspections and removal	▪ Signage and maps to locate victims and emergency response meeting locations ▪ Call box at staging area ▪ Emergency response meeting locations along trail network
Lost or Missing Persons	▪ Good trail maps and wayfinding signs along trails ▪ Closed area signs and wayfinding signs in closed areas ▪ Visitor registration system	▪ Search and rescue training ▪ Routine patrols
Wildfire	▪ Use restrictions ▪ Coordination of trail network design with shaded fuel breaks	▪ Response planning with CAL FIRE ▪ Incident training with CAL FIRE ▪ Frequent patrols for early identification ▪ Firefighting tanks at staging area, along trail network, and in closed areas

- Educate mountain bike riders and other visitors about the gradual approach to phasing, with observed success being necessary for the implementation of future phases.
- Work with members of the bike community to exert peer pressure on their fellow riders to comply with all rules and regulations.
- Educate mountain bike riders on trail courtesy and etiquette in order to minimized potential conflicts with other trail users.
- Engage hikers, mountain bike riders, dog walkers and horseback riders to ensure they appreciate the privilege of visiting the property and that they contribute to the culture of stewardship.

Patrol requirements may be offset by volunteer patrol efforts provided by docents or by organized user groups under a formal Use Agreement. Volunteer patrols should be prioritized for high-use times and days. Other strategies for

ensuring user safety and reducing liability of owners and managers include conducting orientations for user groups, as well as use of visitor registration system to ensure users are aware of and agree to conditions of use.

VISITOR AND USE MANAGEMENT TASKS

Recommended strategies for providing visitor education and managing level of use are provided below. These tasks, unless specified, will not apply to the Laguna Tract.

PROVIDE VISITOR EDUCATION

Visitor education is an opportunity to inspire the conservationists of tomorrow (and today), as well as to educate users about rules and regulations. Fostering a stewardship culture that deters visitor impacts (such as unauthorized trail construction) is a primary strategy for minimizing visitor impact. In addition to the tasks described under trail etiquette and safety monitoring, above, visitor education strategies include providing educational and interpretive signage, providing staff and volunteer training, and supporting educational efforts. This task will apply to the Laguna Tract.

ESTABLISH AND MANAGE A VISITOR REGISTRATION SYSTEM

This large property has poor cellular coverage, dense vegetation, rugged terrain, and roads in closed areas, which may contribute to visitors becoming lost. Furthermore, the property is subject to forest management operations, including tree falling and log hauling, for restoration and commercial purposes. The Public Access Manager will establish a visitor registration system for the main San Vicente Redwoods property to facilitate visitor awareness of site conditions, notify regular visitors of closures, and facilitate the identification and prosecution of abusive visitors, including revoking access privileges. The registration system will include both electronic and paper (hard copy) options. Following registration, a visitor will be issued a visitor use permit that they will be required to carry on their person and to display a copy on the dashboard of their car while parked at the staging area. Permits are further discussed below.

ESTABLISH AND MANAGE PERMIT PROGRAMS/FEE PROGRAMS

Permit programs are an effective way to ensure that all users agree to conditions of use and to monitor and document use. While commercial use of the property is prohibited, certain permits may or may not have associated fees

to cover some of the costs of management, as described below. Different permits will require different levels of review by the Public Access Manager and the Conservation Partners, as well as other advisors that they deem appropriate. Permits for approved uses such as parking at dedicated staging areas should be obtainable through an on-site and/or on-line permit system. Other permits may require direct coordination with the Public Access Manger and the Conservation Partners. Permits would be revoked if conditions of use are not met.

All permitted uses must be in compliance with the Conservation Easement and consistent with requirements for 501(c)(3) status. Permit requests that are likely to conflict with protection of the Conservation Values or the intent of the Conservation Easement, including activities that leave materials behind or manipulate the environment, will require a greater level of review and may not be permitted. No activities identified as prohibited in Chapter 4 will be permitted. Permit approval will be limited to minimize the potential for visitation on days with special use permits to exceed that of typical (days without special events) high-visitation days and to ensure that staging area capacity is not exceeded.

Permits which may be required for public access include:

- **Visitor Use Permits.** A visitor use permit would demonstrate that a visitor has completed the visitor registration system.
- **Parking Permits.** If utilized, parking permits for use of the staging area(s) would allow for monitoring of daily use, and provide a framework by which each visitor agrees to the conditions of use for public access.
- **Special Use Permits.** As discussed in Chapters 4 and 5, special use permits would be required for any use that does not take place on dedicated public access trail or at a staging area requires a special use permit, for groups larger than 20, for special events (such as organized trail run), and for primary, secondary and community education groups. Special use permits are intended for use on a limited basis only, and will be managed so that all use, enjoyment, and conservation values will be maintained. In addition to the considerations for permit approval discussed above, special use permit review should consider duration and timing of the activity, the number of individuals involved, proposed location(s), potential conflicts with other property uses and activities, and potential impacts to the property's

resources. Special Use Permits will require that facilities for special uses would be limited to the staging area, trails, gathering areas, and benches, with no vegetation clearing beyond the guidelines described in Chapter 7, Design and Maintenance Guidelines.

Fees may be charged for parking and special use permits at the discretion of the Public Access Manager and the Conservation Partners. A fee schedule should be developed by the Public Access Manager. Fees would be nominal so as not to create a deterrent to visiting the property or participating in the permit system. Fees would be structured to, at most, offset some of the costs of managing public access.

As discussed in Chapter 5 and under Organizational Structure, above, research and higher education are not considered public access. Requests for research and higher education uses will be reviewed, authorized, and managed by the Landowners and the Conservation Easement Holder, and other advisors as they deem necessary.

MANAGE PARKING

Use of the staging area should be monitored and tracked as described above, and expanded to full capacity as necessary to ensure adequate capacity. The Public Access Manager will collaborate with the Santa Cruz County Department of Public Works to ensure that road shoulder parking does not become an established pattern, through the use of strategies such as no-parking zones and towing.

MANAGE MOUNTAIN BIKE USE

Managing visitor impact to protect the Conservation Values involves special considerations with mountain biking as an allowed use. Open space in the Santa Cruz Mountains hosts various examples of non-sustainable and environmentally damaging trails primarily used by mountain bikes. The damage is primarily caused by erosion, trail widening, and unauthorized trail use and/or construction.

Several examples also exist in the region of high quality trail stewardship led by responsible members of the mountain bike community.

The Public Access Manager will implement prevention-based strategies to mountain bike use that includes visitor education, monitoring, and enforcement (described above), as well as engagement of users in trail building and other activities. As discussed above, the property will be closed to mountain bikes if unauthorized use cannot be effectively managed. The Laguna Tract will be managed as closed to mountain bike use.

OTHER MANAGEMENT AND ADMINISTRATIVE TASKS

Recommended strategies for conducting other management and administrative tasks are provided below.

COORDINATE WITH RESPONSIBLE PARTIES AND MANAGEMENT TEAMS

The Public Access Manager will be responsible for conducting routine meetings and providing ongoing coordination with the Leadership, Oversight, Management, and Fields Teams to determine when actions are needed to ensure protection of the seven Conservation Values. Public access must accommodate timber harvest and restoration forestry, and operations may necessitate re-routing or temporarily closing trails for visitor safety. Although most potential conflicts and opportunities will be identified in advance, there is potential for unforeseen conflicts (such as those requiring trail closures) or opportunities (new discoveries or research needs) to arise.

COORDINATE WITH ADJACENT OPEN SPACE MANAGERS AND OTHER NEIGHBORS

Ongoing coordination will also be necessary with adjacent open space managers and neighboring residents and property owners. It is recommended that a system for recording and responding to neighbor input be established. The level of coordination required with adjacent open space managers will depend upon the status of trail connection projects and unforeseen opportunities. Given the anticipated connection to the Cotoni-Coast Dairies property and the Bonny Doon Ecological Reserve, coordination with the Bureau of Land Management and CDFW is of high importance.

DEVELOP AND IMPLEMENT ADAPTIVE MANAGEMENT STRATEGIES

The Public Access Manager will implement adaptive management strategies to ensure protection of the seven Conservation Values. In addition to phased implementation of the staging area and trail network, adaptive management

strategies should include monitoring and tracking of use and site conditions, followed by proactive management actions. The following will be monitored and tracked to inform management decisions: visitor compliance with regulations; development of unauthorized trails; trail and drainage feature conditions; signage and furnishings conditions; occurrence of food waste, dog waste, and horse waste; available capacity of the staging area; perspectives of the Property Manager and restoration project managers; and visitor satisfaction. The Public Access Manager will monitor and respond to a variety of indicators, as described below.

Monitoring and tracking should be conducted as part of patrol activities discussed above, as well as trail assessments discussed in Chapter 7. Response to visitor impacts may include increased patrol, increased communication, increased enforcement, and additional use restrictions, including potentially banning particular uses from the property. Specific adaptive management strategies for ensuring protection of each of the seven Conservation Values are identified in Table 6-4. Additional context for these strategies, including the specific constraints addressed and related preventative strategies, is provided in Appendix 2 (Adaptive Management Overview).

TABLE 6-4 OVERVIEW OF ADAPTIVE MANAGEMENT STRATEGIES

Conservation Value	Adaptive Management Strategy
Statewide and Regional Significance	▪ Monitor and enforce rule violations; adjust engagement and enforcement effort.
	▪ Monitor closed areas for unauthorized access; adjust education and enforcement effort.
	▪ Track visitor satisfaction; respond to meet expectations to the extent feasible.
Forests	▪ Maintain trails so they don't widen or erode; adjust effort if problems arise.
	▪ Track the satisfaction of working forest and restoration project managers; increase collaboration effort with partners as needed.
	▪ Track unauthorized visitors on 'red flag' fire hazard days; adjust patrol effort, engagement and enforcement
	▪ Monitor and maintain tanks to ensure they are full and in good condition.

TABLE 6-4 OVERVIEW OF ADAPTIVE MANAGEMENT STRATEGIES

Conservation Value	Adaptive Management Strategy
Biodiversity	▪ Patrol for unauthorized trail construction; prosecute and/or sue violators; decommission unauthorized trails; impose use restrictions.
	▪ Track food waste; adjust visitor engagement and waste management effort.
	▪ Monitor and manage invasive plants in the public access area.
Watershed Protection	▪ Monitor trails for sediment delivery to streams or wetlands; remediate problems promptly.
	▪ Monitor and enforce closures; adjust staffing as needed.
	▪ Track and remediate horse and dog waste near streams and wetlands; adjust engagement; impose use restrictions.
Viewshed Protection	▪ Inspect trails routinely for widening and erosion; adjust maintenance effort; adjust alignments and grade.
	▪ Track the availability of parking and expand the parking area only as needed.
Landscape and Habitat Connections	▪ Monitor and enforce closed areas for unauthorized access; adjust patrol and enforcement effort; impose use restrictions.
	▪ Review and revise strategies for protecting core habitat in response to research.
	▪ Monitor and enforce night time and area closures; adjust patrol and enforcement effort.
Conservation Value: Public Recreation, Education, and Research	▪ Survey visitor satisfaction; respond to the extent feasible with changes to trails, including use designations.
	▪ Track and evaluate incidents and accidents; identify and implement corrective measures.

DEVELOP AND IMPLEMENT THE FINANCIAL MANAGEMENT STRATEGIES

The Public Access Manager will be responsible for developing financial management strategies for the provision of public access. Strategies will be informed by the financial considerations and preliminary cost estimates provided in this chapter, and will be updated as needed. Strategies should be designed to ensure long-term financial sustainability.

DEVELOP AND IMPLEMENT A TRAIL MAINTENANCE PLAN

A trail maintenance system will be developed by the Management Team and reviewed by the Leadership and Oversight Teams. The maintenance guidelines provided in Chapter 7 are intended to guide the system, including the requirement that trails be inspected every spring and fall.

ESTABLISH AND MANAGE A VOLUNTEER PROGRAM

The San Vicente Access Manager will manage the volunteer program and collaborate with County Parks and County Sheriff's Office staff to ensure their programs receive volunteer support. The San Vicente Access Manager will ensure that each volunteer benefits from education and training in the natural history of the property, and will collaborate with the Oversight Team to confirm the content of that educational material. Volunteer roles may include the following:

- The most experienced and trusted docents will patrol the property. Patrol volunteers will be eyes on the property, but all enforcement activities will be handled by Land Trust, County, or Sheriff staff.
- Interpretive docents will engage visitors with educational experiences about the cultural and natural history of the property and its context in the Santa Cruz Mountains.
- Maintenance docents will help with the upkeep of facilities such as roads, trails and picnic tables, and collect rubbish.

The San Vicente Access Manager will be responsible for ensuring this training occurs, and that all volunteer work is managed such that the activities and products are consistent with design guidelines and construction protocols provided in Chapter 7, and all permits and regulatory authorizations. Specific constraints addressed and related preventative strategies, is provided in Appendix 2 (Adaptive Management Overview).

FINANCIAL CONSIDERATIONS

This section provides an overview of projected capital improvement costs, annual operations and maintenance costs, potential revenue, including

donations, generated by the implementation of the Plan, as well as secured and pledged funding. Table 6-5 summarizes the financial analysis conducted.

TABLE 6-5 SUMMARY OF FINANCIAL ANALYSIS

Description	Phase 1	Buildout
Capital Improvements	$800,000–$1,200,000	$3-5 million[b]
Projected Annual Operations Costs[a]	$250,00–$500,000	
Potential Annual Revenue[c]	$10,000–$50,000	$100,000–$400,000
Funding Secured for Capital Improvements and Initial Operating Costs[d]	$2.25 million	
Contribution by Non-Profit and Agency Partners[e]	$1.25 million	

[a] Annual cost based on average cost of first ten years of implementation.
[b] These costs would be partially offset by volunteer trail construction (equestrian and mountain bike).
[c] Revenue is projected to be generated by the Land Trust through donations, grants, contributions from volunteers, partner non-profits and agencies, and fees.
[d] Funds were raised through Land Trust of Santa Cruz County Capital Program.
[e] Pledged financial contributions by Sempervirens Fund, Save the Redwoods League, and in-kind contributions by the Santa Cruz County Sheriff's Office and the Santa Cruz County Parks Department.

IMPLEMENTATION COSTS

Providing public access at San Vicente Redwoods, including construction and management activities, is estimated to cost $5 to $10 million during the first ten years of implementation. Financial elements include:

- Oversight Team and Management Team staffing.
- Administrative, legal and planning costs.
- Access management staffing.
- Maintenance (Roads and Trails).
- Construction.
- Payments for services to the County Sheriff's Office, County Parks Department, and the Santa Cruz County Fire Department.

The annual cost of providing public access will increase as the number of trails increases; however, the maintenance cost per mile of trail will decrease due to economies of scale.

POTENTIAL REVENUE

The Land Trust has secured donations and commitments valued in excess of $3.5 million to initiate the project. The Land Trust is responsible for securing adequate funding for operations and maintenance of public access through donations, grants, financial and in-kind contributions from non-profit, agency partners, and volunteers, and through permit fees, among other sources. If adequate operating funds cannot be secured in the future, the Land Trust will have to close the property to public access. If financial planning indicates that closure of the property will be necessary, a reserve of funds will be retained by the Land Trust to finance the closure, including patrols and enforcement, to protect natural resources on the property and nearby communities. As discussed above, advancing from one phase to the next will also be dependent on available funding.

Donations and permit fees could generate up to $50,000 in Phase 1 and $400,000 at buildout. Given the limited revenue anticipated from fees, it is anticipated that donations and contributions will be the primary revenue source, and will directly affect the level of access provided.

FUNDING SOURCES

Funding sources are anticipated to include the following:

- **Donations and Contributions.** Donations and contributions from individuals and organizations are anticipated to be the primary source of funding. Fees may supplement these amounts. Secured donations and commitments are described above under Potential Revenue.
- **Coastal Conservancy.** The California Coastal Conservancy made a generous grant in support of the development of this plan, and may be a source of additional funding for implementation. The Coastal Conservancy Grant programs fund projects that are consistent with the Agency's goals to "protect, restore, and enhance coastal resources, and to provide access to the shore." Proposals for funding from the Conservancy are accepted on a

continuous basis, and there are no established grant minimum or maximum amounts.

- **Wildlife Conservation Board.** The Wildlife Conservation Board (WCB) provides public access funding and can enter into cooperative project agreements with local agencies or nonprofit organizations for the development of facilities for "public access for hunting, fishing, or other wildlife-oriented recreation," such as wildlife viewing and bird watching. The WCB may fund the construction of project elements such as trails, boardwalks, interpretive facilities. Applications are accepted on a continuous basis.
- **Federal Land and Water Conservation Fund (LWCF).** This fund can be used to reimburse development costs for outdoor recreation areas and facilities. The funds provide matching grants to cities and counties seeking funds covering up to 50 percent of project costs.
- **Other Grants.** The Public Access Manager should identify other grants for public access and pursue in partnership with other entities, as appropriate given grant requirements. Resources for identifying grant opportunities include American Trails, which maintains a list of federal grant programs at http://www.americantrails.org/resources/funding/index.html; and the International Mountain Bicycling Association maintains a similar list at https://www.imba.com/resources/grants.

FUTURE PLANNING AND ENVIRONMENTAL REVIEW

This Plan was developed based on an understanding of current environmental, economic, and financial conditions, as well as assumptions regarding recreational demand and other uses of the properties. The Public Access Plan is intended to guide the provision of access for 10 years, at which point it may be revisited and updated as necessary, in accordance with the Conservation Easement. This will remain the active plan until revised. In addition, further planning may be necessary in order to address future conditions. Future planning efforts may expand upon the information put forward in this Plan, and all efforts should also be consistent with the vision, goals, and guidelines described in this Plan.

Preparation of environmental review documents will be coordinated with Santa Cruz County, who will serve as the lead agency for CEQA review of the Public Access Plan.

7 DESIGN AND MAINTENANCE GUIDELINES

This chapter provides guidance for the design and construction of the features outlined in the Public Access Plan, as well as for the maintenance of the trails. All development of public access features must comply with requirements of the California Environmental Quality Act (CEQA) to identify and mitigate potential environmental impacts, and must meet the standards and protocols identified in this chapter.

The development of Public Access Features must also comply with any permits or regulatory authorizations issued by the agencies listed below.

- Santa Cruz County
- California Department of Fish and Wildlife (CDFW)
- United States Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USACE)
- National Marine Fisheries Service (NMFS)
- Central Coast Regional Water Quality Control Board (RWQCB)

TRAIL DESIGN GUIDELINES

Trail design guidelines are intended to facilitate the design and construction of trails as identified in Chapter 4. Trails that do not meet these standards or

comply with the protocols may be closed for public use until maintenance can be completed.

Conceptual trail alignments identified in Chapter 4 indicate appropriate trail corridors where trails should be located; exact alignment may vary as necessary to address field conditions and meet design guidelines provided in this chapter.

Given the existing conditions and planned uses at San Vicente Redwoods, trail design guidelines are organized based on construction-type rather than trail type: (1) roads to be maintained for vehicles and used as trails, (2) roads to be decommissioned and converted into trails, and (3) trails to be built along completely new alignments. Trail characteristics according to planned use that apply to all types of construction are provided below, followed by design guidelines based on construction type. Standard Details providing construction detail relevant to all trail types are provided at the end of this chapter.

TRAIL GUIDELINES ACCORDING TO PLANNED USE

Regardless of planned use, all trail routes should be designed to provide for a variety of experiences through different habitats, and should be coordinated with other property uses, including timber harvest and research uses. In

addition, trail routes should avoid the following, to the extent possible: neighbor views, safety hazards, impacts to sensitive resources, and interference with timber harvest operations. Where feasible, buffers should be provided around private property, and views of neighboring houses should be obstructed by vegetation where necessary.

Table 7-1 provides general trail dimensions for each trail type envisioned at San Vicente Redwoods, including multi-use, hiking and equestrian, and mountain bike and hiking trails. Accessible trails are further discussed below.

TABLE 7-1 TRAIL DIMENSIONS BY USE TYPE*

Trail Type	Tread Width	Vegetation Clearance	Maximum Grade
Accessible Trails	Constructed Width: 5 feet + Maintained Width: 5 feet +	2 feet horizontal; 10 feet vertical	<5% (ADA)** 10% (ODA)***
Multi-Use Trails	Constructed Width: 5 feet+ Maintained Width: 2 to 5 feet +	1-foot horizontal; 10 feet vertical	15% for any extended section
Equestrian Hiking Trails	Constructed Width: 2 to 5 feet Maintained Width: 2 to 5 feet	1-foot horizontal; 10 feet vertical	15% for any extended section
Mountain Biking Hiking Trails	Constructed Width: 2 to 4 feet Maintained Width: 2 to 4 feet	1-foot horizontal; 10 feet vertical	15% for any extended section

*Where trails utilize roads that are to be maintained for vehicle use, dimensions will be dictated by vehicular requirements.
**Americans with Disabilities Act (ADA).
*** United States Access Board Final Guidelines for Outdoor Developed Areas (ODA)

ACCESSIBILITY

Americans with Disabilities Act (ADA) Accessibility guidelines address accessible routes between facilities, but currently do not address trails. The United States (U.S.) Access Board is currently reviewing guidelines for shared use paths and public right-of-way that will include trails, but there is no schedule for their anticipated release. The Final Guidelines for Outdoor Developed Areas[1] (ODA) are considered best management practices and standards for pedestrian trails and it is recommended that they are used until updated ADA Accessibility

[1] U.S. Access Board, 2013. *Final Guidelines for Outdoor Developed Areas*. https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/final-guidelines-for-outdoor-developed-areas.

guidelines are released.[2] The ODA guidelines provide detailed accessibility recommendations for pedestrian/hiker designated trails. Due to constraints related to the natural terrain, most of San Vicente Redwoods trails will not meet ADA or ODA requirements. However, efforts should be made to meet guidelines to the extent that is practical. The northern frontage trail can be designed as an accessible trail. The ODA guidelines for trail surface, slope, and signage are as follows:

- **Surface.** The ODA guidelines do not provide a list of specific surface materials that are accessible. Instead, the guidelines require that "surface of trails, passing spaces, and resting intervals to be firm and stable. A firm trail surface resists deformation by indentations. A stable trail surface is not permanently affected by expected weather conditions and can sustain normal wear and tear from the expected uses between planned maintenance." The ODA guidelines also require that openings in trail surfaces, such as grates, be no more than 0.25-inch-wide and that 2-inch vertical obstacles are allowed on surfaces other than asphalt and concrete. The ODA guidelines are clear that surfaces are required to be firm and stable and that materials other than concrete or asphalt are allowed.
- **Slopes.** The ODA guidelines include requirements that running slopes for trails must be less than 10 percent and where slope is steeper than 5 percent resting intervals are included per the ODA guidelines. Cross slope and clear ground spaces of trails must be 2 percent maximum with 5 percent allowed on surfaces other than asphalt, concrete or boards when necessary for drainage.
- **Signage.** Trailhead signage must include length, surface type, typical and minimum trail width, and typical and minimum running and cross slopes.

ROADS TO BE MAINTAINED FOR VEHICLES AND USED AS TRAILS

Where existing roads will be used as trails and also maintained for limited vehicular use for property operations and maintenance. Upgrades should be based on the trail maintenance system, discussed in Chapter 6, and proposed

[2] January 9, 2014. Webinar. "Trails and the New Federal Accessibility Guidelines" from American Trails (A National Trails Training Partnership).

use type. Signage and design will depend on whether the road will be used for regular, intermittent, or emergencies only.

Improvements to existing roads shall be designed to minimize erosion and extend the life of the trails while avoiding disturbance of the surrounding landscape. Any drainage features shall be built for longevity and require minimal maintenance.

ROADS TO BE DECOMMISSIONED AND CONVERTED INTO TRAILS

An historic railroad grade, which also served as a road historically, will be converted to use as a trail. Most of this landform is stable and should not be regraded. In these segments, the trail should be installed on the inboard edge of the road as shown in Standard Detail 1, *Trail Installation- Road to Trail Conversion*. Existing stream crossings should be fully excavated during road-to-trail conversions, and may be narrowed and upgraded for trail use. As the road approaches the crossing, the trail alignment is meandered toward the inboard edge of the road to intersect with the stream on contour. An appropriate crossing structure should be installed at stream crossing; refer to discussion of stream crossings for new trails (below) for preferred crossings. Existing culverts that are in good condition and adequately sized will be retained. Existing culverts in poor condition may be improved or replaced with hardened crossings. Refer to Standard Details 2, 3, and 4.

Many other roads were considered for decommissioning and use as trails, but were determined to be unsuitable for use as trails as a result of grade, location, or drainage.

NEW TRAILS

New routes may be created when existing routes are not able to provide desired connectivity or have drainage issues or other problems that make trail sustainability infeasible. For the construction of new trails on the San Vicente Redwoods property, the following design guidelines should be utilized.

LAYOUT

- The trail should be laid out and construction overseen by a qualified design professional with experience in backcountry trail management.

- The trail shall be laid out to conform to the natural terrain to create a visually pleasing alignment, engineered for resilience and to discourage the establishment of unauthorized trails. The trail should have a curvilinear alignment that avoids long straight reaches. The alignment should incorporate natural terrain features (e.g., trees, rocks) to form required grade reversals, while minimizing tree removal and impacts to roots. In addition to a curvilinear alignment, a narrow trail design will help maintain the aesthetic character of the surrounding viewsheds.
- The trail should avoid active unstable and other hazardous areas, sensitive plant and animal habitats, archaeological resources, steep sideslopes, and unstable watercourse crossings. Sensitive habitats include wetlands and non-wetland waters, riparian habitats, plant communities listed by the CDFW with a Global (G) or State (S) Rank of 1, 2, or 3, and occurrences of special-status plant and wildlife species. To ensure avoidance of sensitive habitats, trails corridors should be surveyed by a qualified biologist. The trail network shall leave large, intact habitat blocks undisturbed by recreational visitors, in particular disturbance of the mountain lion movement corridors.

TRAIL ORIENTATION

- **Trail Alignment:** Trails shall avoid fall line orientations. A fall line trail is a trail that drops directly down the hillside following the same path that water flows, thereby focusing water down the length. These routes are difficult, if not impossible, to drain, and often experience higher rates of ongoing erosion. Instead, trails on slopes should follow a contour alignment. Retaining walls may be required where additional support is needed to ensure trail sustainability on steep slopes. Refer to Standard Details 5, 6, 7 and 8, respectively.
- **Trail Grade:** As a general rule, the trail should have a grade no steeper than half the grade of the native hillside. For example, a trail crossing a 10 percent gradient hillside shall have a grade no steeper than 5 percent. The maximum sustained trail grade should generally be less than 10 percent, preferably 5 to 7 percent, and the trail grade should not exceed 15 percent for a distance of more than 50 feet unless otherwise approved by the project design professional. Trails steeper than 15 percent tend to have

greater erosion problems and require more maintenance than trails less than 15 percent.

SWITCHBACKS AND CLIMBING TURNS

Switchbacks and climbing turns should be constructed to reverse the direction of travel on hillsides and to gain elevation in a limited distance. A switchback is a sharp turn with a flat landing, whereas a climbing turn has a wider radius with a constant grade through the turn. The advantage of climbing turns are that they allow for better user flow, especially with mountain bikes which sometimes cannot easily navigate a switchback, are easier to construct, and generally require less maintenance. The climbing turns also discourage user created short-cuts when brush, ridgelines, and logs are strategically located to block short-cut options. However, climbing turns are restricted to moderate gradient slopes less than about 45 percent. To the extent feasible, the trail should be laid out to minimize switchbacks and where necessary avoid stacking.

NATURAL CHOKE POINTS

Trails for bicycles should be designed and constructed to be undulating. A 5 to 7 percent grade is ideal, with a 15 percent maximum for trails that allow bikes. Natural choke points, turns, and adequate line of sight are necessary design features to limit speeds downhill and to reduce visitor conflict.

TRAIL DRAINAGE

Trails should be designed, constructed, and upgraded to cause minimal disruption of natural drainage patterns. As a general rule, runoff should not be allowed to concentrate from one catchment to another. Other guidelines for trail drainage include the following:

- **Grade Reversals:** Trail shall be drained with grade reversals that are incorporated into the trail at the time of construction in order to avoid concentrated water flow by creating a drainage dip in the trail. Refer to Standard Detail 9.
- **Grade Reversal Spacing:** Grade reversals shall be installed at minimum spacing of 150 feet. Grade reversal location should be identified and flagged in advance of trail construction by the project design professional.

- **Decomposed Granitic Soils:** Tighter spacing and larger grade reversals are required in areas underlain by decomposed granitic soils, as applies to many areas of San Vicente Redwoods.
- **Wet Soils:** In excessively wet areas the road tread may need to be armored or the trail built up on a causeway or low puncheon (a small, low, elevated structure spanning the drainage). The locations of these areas are often known prior to construction and should be avoided to the extent possible during trail layout. Refer below to discussion of Stream Crossings.

GRADING AND EXCAVATION

Trails should be constructed at width not to exceed those specified in Table 7-1. Trails should be constructed on a full bench with fill spread downslope of the trail at a depth less than 6 inches. Refer to Standard Details 3, 4, and 5.

STREAM CROSSINGS

Trail routes should avoid watercourse crossings where channel gradient is steep, as well as at deeply entrenched streams with potential unstable streamside slopes. Routes preferably should be located such that drainage areas are crossed high in their watershed locations where streams are less defined in order to avoid stream disturbance. Site-specific field review will be needed to determine suitability of new stream crossings. Existing water crossings should be used where doing so would minimize environmental impacts and continue to allow for a desirable trail alignment in terms of sustainability and user experience. Guidelines for stream crossings include the following:

- **Design:** All stream crossings shall be designed to avoid impacts to streams, riparian areas, and wetlands. Stream crossings shall be properly designed by a qualified trail professional.
- **Type:** Appropriate crossings include bridges, armored crossings, puncheons, and existing culverts. Bridges and puncheons are the preferred crossing type for streams. Armored crossings are the preferred crossing type for swales that lack a defined channel. As discussed above, existing culverts that are in good condition and adequately sized will be retained. Existing culverts in poor condition may be replaced with hardened crossings. Refer to Standard Details 10, 11, 12, and 13.

- **Size:** All bridges shall be designed to accommodate 100-year flood flow, including sediment and debris. All drainage improvements shall be sized to convey flood overflows for the 25-year storm in compliance with Santa Cruz County Design Criteria.
- **Approach:** Avoid steep trail grades leading to stream crossings. The crossing should be as close to perpendicular to the stream as possible in order to shorten the span of crossing.

VEGETATION CLEARING

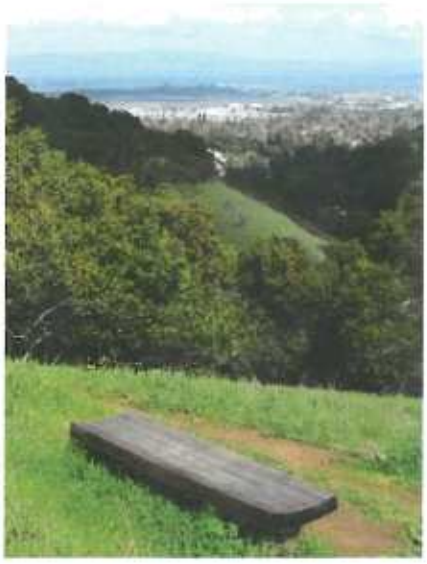
Guidelines for vegetation at trails include the following:

- Final trail alignment shall be determined with consideration to minimize impacts to trees larger than 12 inches in diameter at breast height (DBH).
- The trail bed and the area extending 1 foot to either side of the trail bed may be cleared of trees and logs less than 12 inches DBH. Trees greater than 12 inches DBH within the trail bed shall be removed only if indicated on the plans or with the authorization of the landowner representative.
- Vegetation should be maintained for views and seating at up to 10 overlooks. Maintenance may include removal of trees and shrubs less than 12 inches in DBH. An overlook may be up to 10 feet by 20 feet.
- All roots exposed during construction shall be clean cut to avoid tree damage.
- Branches that extend into the trail corridor may be trimmed to leave a minimum 10-foot-high vertical clearance.
- When pruning, prevent branches from damaging tree or stripping the bark when the branch falls to the ground.

ADDITIONAL DESIGN GUIDELINES

Specific guidelines are provided below to aid in the design and construction of other public access features, including the entrance gateway(s), security gates, the staging area, picnic areas, site furnishings, and signage.

The character of San Vicente Redwoods will be defined by its natural setting and the historic and ecological features that are located on the property. For this



reason, it is important that all public access components be designed and constructed to be consistent with the property's historic character and environmental setting. Where possible, access features should be constructed with natural and durable materials, such as concrete, metal, wood, or locally sourced stone. Guidelines for ensuring that the design of specific access features and elements reflect the natural beauty and unique history of the property, while allowing for flexibility and innovative design solutions, are provided below.

ENTRANCE GATEWAY(S) AND SIGNAGE

The entrance to the staging area(s) should be a threshold/gateway that will provide a strong sense of arrival and exemplify the character of the property. The gateway should be constructed with natural materials that are appropriate for the site, such as stone, concrete, metal, and/or wood. Signage at the entrance should be visible for approaching vehicles coming in both directions on Empire Grade, yet it should also complement the neighborhood and be subdued. Roadside parking should be discouraged through an inviting and easy-to-access staging area, as well as clear roadside signage.

SECURITY GATES AND FENCING

Gates and/or appropriate signage should be installed at certain roads and trails to allow for areas/trails to be closed off to the public when needed. Gates should be designed for utility and resistant to vandalism, to the extent feasible. All gates and bollards should be made of durable materials, such as metal, with a natural finish.

Fencing should be provided at entrances to the property and where necessary to restrict access. Three-strand wire, split-rail fencing, or other low, rustic fencing constructed of natural materials and designed to ensure permeability for local wildlife, is preferred when the purpose is to visually communicate restrictions where security concerns exist. However, chainlink fence and guardrails should be used when necessary to protect resources and ensure safety, but without impeding wildlife movement.

STAGING AREA

A staging area provides parking as well as visitor information, amenities, and trailhead access. Parking at the staging area should be designed for efficient

circulation, to maximize permeable surfaces and shade, minimize vegetation disturbance, and to meet ADA Accessibility Guidelines to the extent possible. The surface for parking areas should be unpaved with road base material, and the accessible parking spaces shall be surfaced with concrete. Sufficient parking should be provided to prevent accumulation of vehicles parked along road shoulders in order to protect surrounding viewsheds.

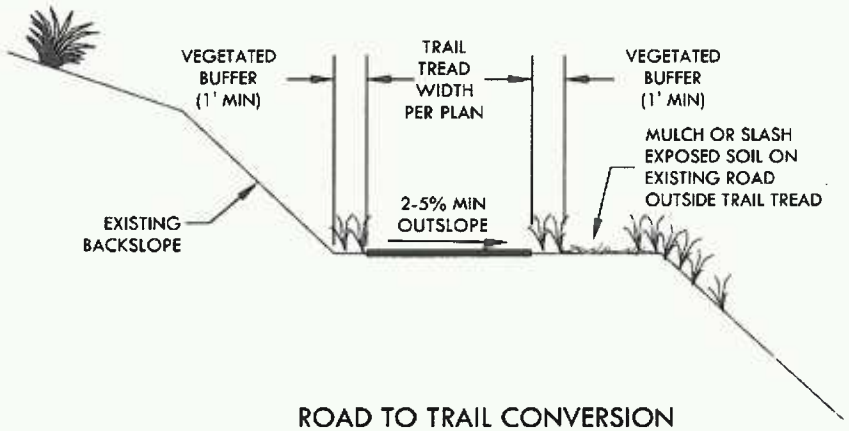
The staging area should include a kiosk with informational signage, restrooms, benches, and receptacles for trash and recycling. Trash receptacles must be wildlife-proof, particularly for corvids and raccoons. Water tanks for fire protection purposes, and dog and horse courtesy stations may be included, as needed.

Bicycle parking should be provided at the staging area as well. Bicycle racks should be galvanized steel U-racks, looped-racks, or racks of a similar design, with a metal finish. If paint is necessary, racks should be painted with neutral tones.

PICNIC AREAS AND GATHERING AREAS

Picnic areas should include one or two tables and be located near the staging area. Picnic areas should be easy to locate from staging areas, yet have some visual buffer for a pleasing appearance. Picnic tables and benches must be located outside of the dripline of redwood trees. Picnic areas should either include wildlife-proof trash receptacles or clear signage stating that trash must be packed out. See Site Furnishings below for additional guidance.

As discussed in Chapter 5, gathering spaces are informal areas that do not require tree removal and/or vegetation clearing. A gathering area may be up to 20 feet by 40 feet. Gathering spaces may be developed where regular and/or on-going use is anticipated and supported by the Public Access Manager and its partners. The intent of establishing such areas is to concentrate impacts in specified areas while creating desirable places to gather in terms of meaningful views, physical comfort, and unique experiences. Elements within semi-formal gathering areas should be limited to seating, preferably constructed with onsite materials such as fallen logs.



ROAD TO TRAIL CONVERSION (MINIMAL CUT OR FILL)

NOTES:

1. TRAIL INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL TREAD SHALL BE CONSTRUCTED WITH WIDTH PER PLAN WITH 1 FOOT MIN VEGETATED BUFFERS ON BOTH SIDES OF TRAIL.
3. TRAIL TREAD SHALL BE LOCATED ON THE CUT SLOPE (BACKSLOPE) SIDE OF THE ROAD SECTION.
4. CLEAR BRUSH, TREES AND ROOTS WITHIN LIMITS OF TRAIL INSTALLATION. ROOTS SHALL BE CLEAN CUT TO AVOID TREE DAMAGE.
5. CLEAR TOP SOIL DOWN TO CONSOLIDATED STABLE SOIL.
6. BACKFILL TRAIL TREAD TO MATCH EXISTING GRADE. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
7. FILL ROOT HOLES TO CREATE A SMOOTH OUTSLOPE TRAIL TREAD.
8. COMPACT TRAIL TREAD.
9. OUTSLOPE IN DIRECTION OF NATURAL DRAINAGE WITH A MINIMUM OF 5% SLOPE, 2% FOR ACCESSIBLE TRAILS.
10. ACCESSIBLE TRAILS MUST MEET ODA/ORAR GUIDELINES.
11. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
12. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

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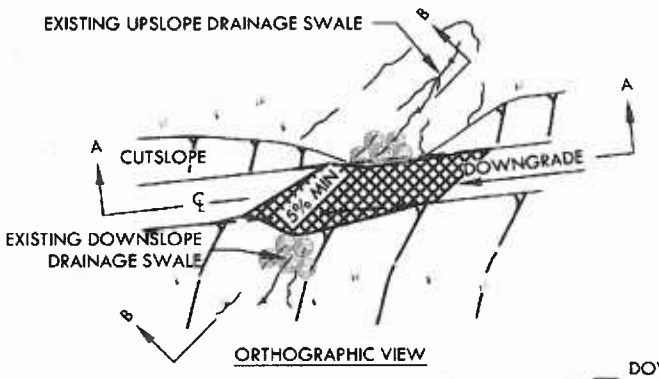
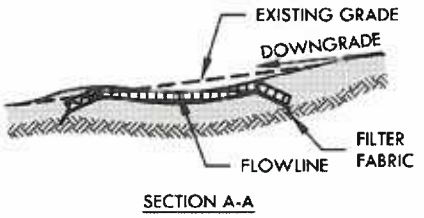
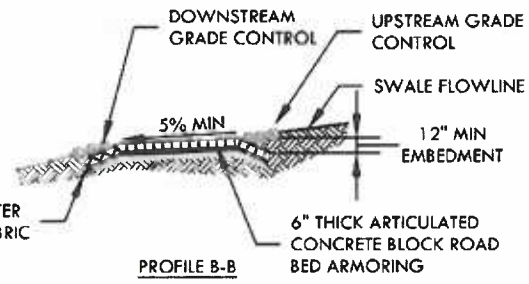
STANDARD DETAIL 1
TRAIL INSTALLATION
ROAD TO TRAIL CONVERSION



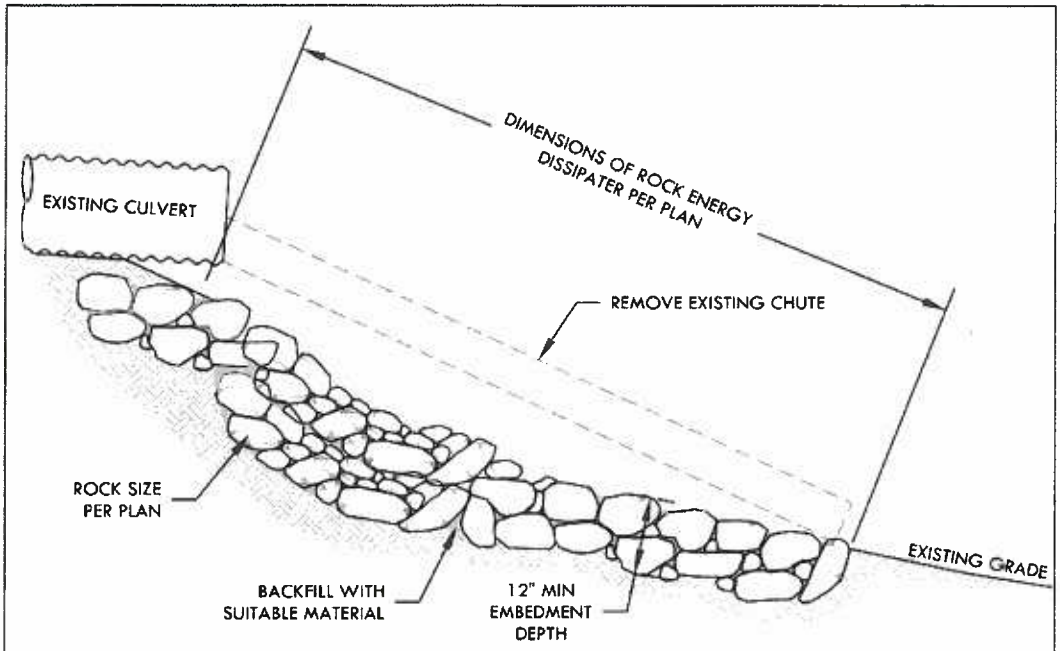




NOTES:

1. CROSSING INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
3. SUBGRADE SHALL BE OVEREXCAVATED AND RECOMPACTED TO AVOID SETTLING OF ARTICULATED CONCRETE BLOCKS.
4. BACKFILL TO PROVIDE LEVELING AND SUPPORT OF ARTICULATED CONCRETE BLOCKS. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
5. COMPACT BACKFILL IN 6 INCH LIFTS TO 95% RELATIVE COMPACTION.
6. ARTICULATED CONCRETE BLOCKS TO BE BEDDED AND BACKFILLED WITH COMPACTED FINES TO CREATE A SMOOTH DRIVING SURFACE.
7. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
8. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

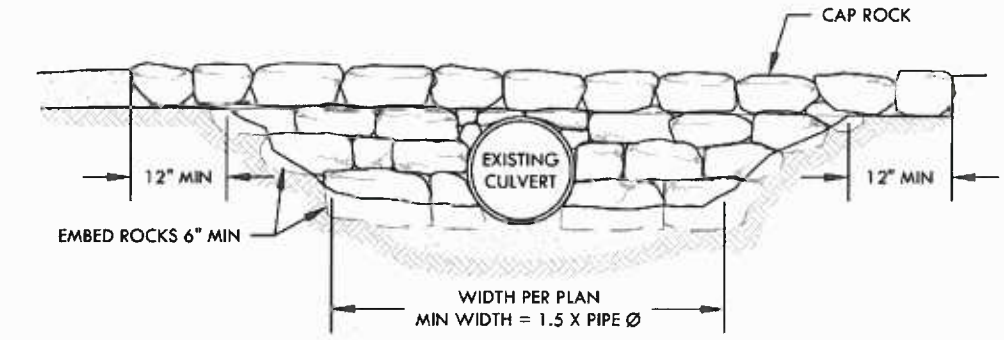
	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 2 ARMORED ROAD CROSSING

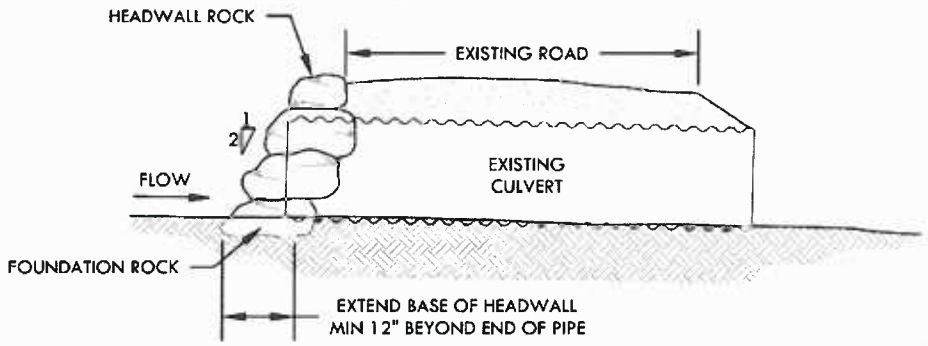


NOTES:

1. CULVERT IMPROVEMENT SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. ROCK ENERGY DISSIPATER SHALL BE CONSTRUCTED WITH APPROVED, WELL-GRADED, SOUND, DURABLE, ANGULAR ROCK. D50 ROCK SIZE PER PLAN.
3. OVEREXCAVATE AND COMPACT BACKFILL TO PROVIDE LEVELING AND SUPPORT OF BASE ROCK. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
4. LAY ROCK WITH A MINIMUM OF 3 POINTS OF CONTACT WITH ADJACENT ROCKS.
5. LAY ROCKS IN A RANDOM ARRANGEMENT.
6. ROCKS SHALL BE KEYED IN PLACE AND VOIDS FILLED WITH FINER MATERIAL.
7. FILL VOIDS WITH BROKEN ROCK OR SUITABLE BACKFILL. COMPACT BACKFILL TO LOCK IN PLACE.
8. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
9. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 3 CULVERT IMPROVEMENTS - REMOVE CHUTE AND INSTALL ROCK ENERGY DISSIPATER

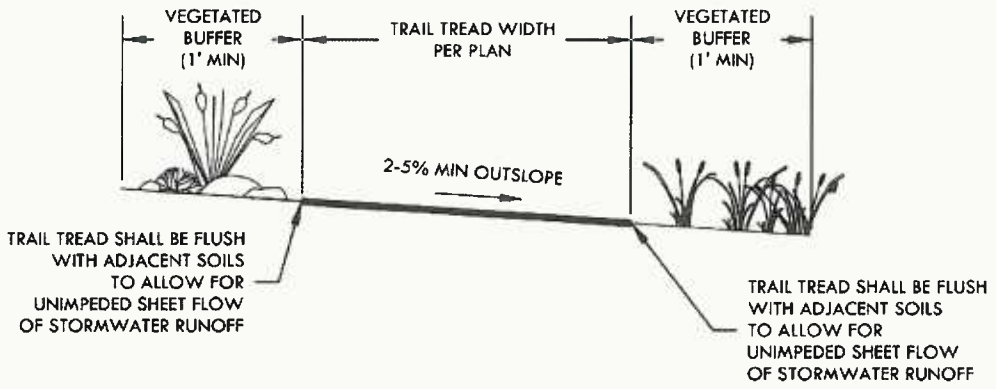




NOTES:

1. CULVERT IMPROVEMENT SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. HEADWALL SHALL BE CONSTRUCTED WITH APPROVED, SOUND, DURABLE, ANGULAR ROCK.
3. OVEREXCAVATE AND COMPACT BACKFILL TO PROVIDE LEVELING AND SUPPORT OF HEADWALL. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
4. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
5. ROCKS SHALL BE KEYED IN PLACE AND VOIDS FILLED WITH FINER MATERIAL.
6. FILL VOIDS WITH BROKEN ROCK OR SUITABLE BACKFILL. COMPACT BACKFILL TO LOCK IN PLACE.
7. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
8. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 4 CULVERT IMPROVEMENTS - INSTALL CULVERT HEADWALL

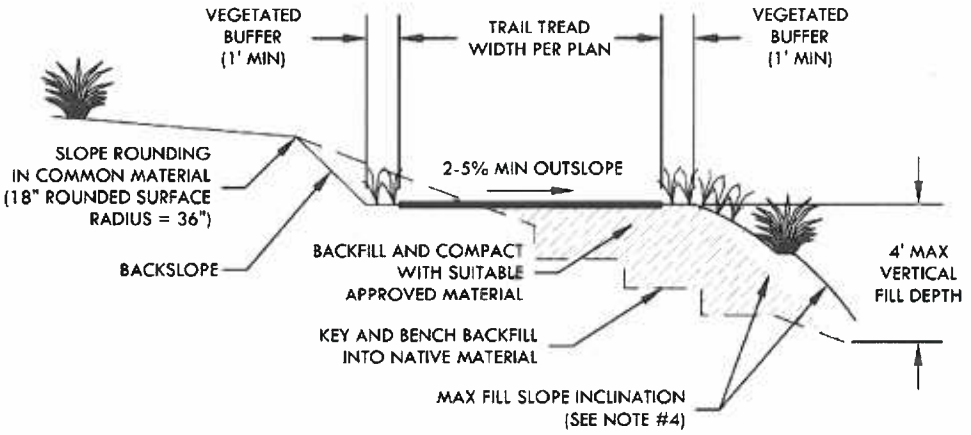


INSTALL TRAIL ON GRADE (MINIMAL CUT OR FILL)

NOTES:

1. TRAIL INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL TREAD SHALL BE CONSTRUCTED WITH WIDTH PER PLAN WITH 1 FOOT MIN VEGETATED BUFFERS ON BOTH SIDES OF TRAIL.
3. CLEAR BRUSH, TREES AND ROOTS WITHIN LIMITS OF TRAIL INSTALLATION. ROOTS SHALL BE CLEAN CUT TO AVOID TREE DAMAGE.
4. CLEAR TOP SOIL DOWN TO CONSOLIDATED STABLE SOIL.
5. BACKFILL TRAIL TREAD TO MATCH EXISTING GRADE. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
6. FILL ROOT HOLES TO CREATE A SMOOTH OUTSLOPE TRAIL TREAD.
7. COMPACT TRAIL TREAD.
8. OUTSLOPE IN DIRECTION OF NATURAL DRAINAGE WITH A MINIMUM OF 5% SLOPE OR 2% FOR ACCESSIBLE TRAILS.
9. ACCESSIBLE TRAILS MUST MEET ODA/ORAR GUIDELINES.
10. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
11. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 5 TRAIL INSTALLATION INSTALL TRAIL ON GRADE

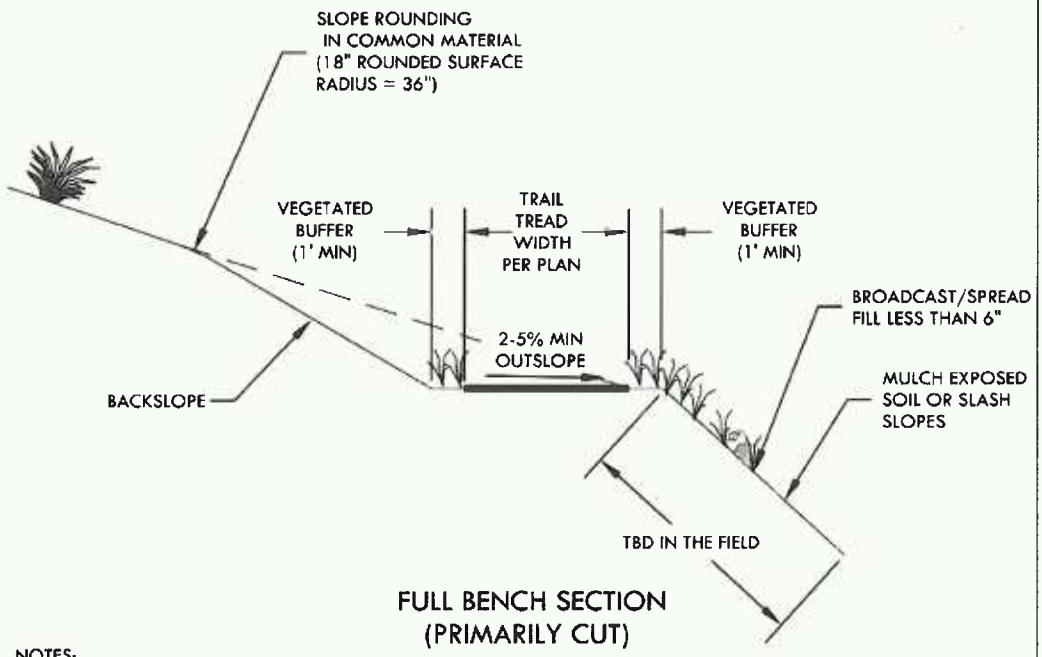


PARTIAL BENCH SECTION (CUT & FILL)

NOTES:

1. TRAIL INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL TREAD SHALL BE CONSTRUCTED WITH WIDTH PER PLAN WITH 1 FOOT MIN VEGETATED BUFFERS ON BOTH SIDES OF TRAIL.
3. WHERE FILL IS TO BE PLACED ON EXISTING SLOPES STEEPER THAN 5:1 (HORIZONTAL:VERTICAL), KEY AND BENCH INTO EXISTING NATIVE MATERIAL.
4. MAX CUT SLOPE (BACKSLOPE) AND FILL SLOPE (FRONTSLOPE) INCLINATION OF 1:1 (HORIZONTAL:VERTICAL) IN BEDROCK; 2:1 IN SOIL; ALTERNATIVE STEEPER SLOPES MUST BE APPROVED BY GEOTECHNICAL ENGINEER.
5. IF THESE CUT SLOPE OR FILL SLOPE INCLINATIONS RESULT IN MORE EXTENSIVE GRADING THAN DESIRABLE, AND IF INCREASED TRAIL MAINTENANCE IS ACCEPTABLE, THEN SLOPES COULD BE CONSTRUCTED AT STEEPER INCLINATIONS WHEREVER BEDROCK IS ENCOUNTERED.
6. MINIMUM COMPACTION 85% FOR ALL FILL SLOPES.
7. CLEAR BRUSH, TREES AND ROOTS WITHIN LIMITS OF TRAIL INSTALLATION. ROOTS SHALL BE CLEAN CUT TO AVOID TREE DAMAGE.
8. CLEAR TOP SOIL DOWN TO CONSOLIDATED STABLE SOIL.
9. BACKFILL TRAIL TREAD TO MATCH EXISTING GRADE. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
10. FILL ROOT HOLES TO CREATE A SMOOTH OUTSLOPE TRAIL TREAD.
11. COMPACT TRAIL TREAD.
12. OUTSLOPE IN DIRECTION OF NATURAL DRAINAGE WITH A MINIMUM OF 5% SLOPE, 2% FOR ACCESSIBLE TRAILS.
13. ACCESSIBLE TRAILS MUST MEET ODA/ORAR GUIDELINES.
14. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
15. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 6 TRAIL INSTALLATION PARTIAL BENCH SECTION

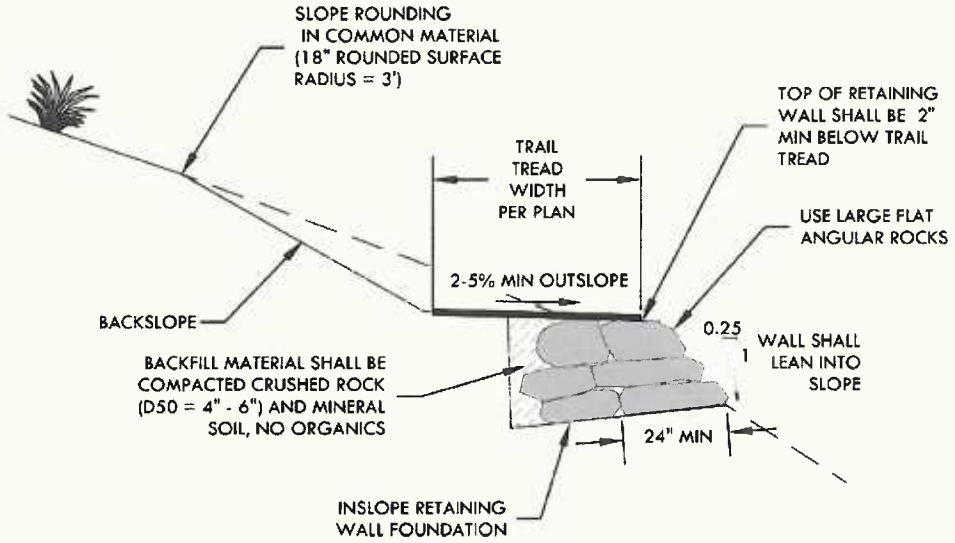


FULL BENCH SECTION
(PRIMARILY CUT)

NOTES:

1. TRAIL INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL TREAD SHALL BE CONSTRUCTED WITH WIDTH PER PLAN WITH 1 FOOT MIN VEGETATED BUFFERS ON BOTH SIDES OF TRAIL.
3. WHERE TRAIL CONSTRUCTED WITH FULL BENCH, BROADCAST EXCAVATED SOILS BELOW TRAIL TO A DEPTH LESS THAN 6 INCHES.
4. MAX CUT SLOPE (BACKSLOPE) INCLINATION OF 1:1 (HORIZONTAL:VERTICAL) IN BEDROCK; 2:1 IN SOIL; ALTERNATIVE STEEPER BACKSLOPES MUST BE APPROVED BY GEOTECHNICAL ENGINEER.
5. IF THESE CUT SLOPE INCLINATIONS RESULT IN MORE EXTENSIVE GRADING THAN DESIRABLE, AND IF INCREASED TRAIL MAINTENANCE IS ACCEPTABLE, THEN CUT SLOPES COULD BE CONSTRUCTED AT STEEPER INCLINATIONS WHEREVER BEDROCK IS ENCOUNTERED.
6. CLEAR BRUSH, TREES AND ROOTS WITHIN LIMITS OF TRAIL INSTALLATION. ROOTS SHALL BE CLEAN CUT TO AVOID TREE DAMAGE.
7. CLEAR TOP SOIL DOWN TO CONSOLIDATED STABLE SOIL.
8. BACKFILL TRAIL TREAD TO MATCH EXISTING GRADE. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
9. FILL ROOT HOLES TO CREATE A SMOOTH OUTLOPE TRAIL TREAD.
10. COMPACT TRAIL TREAD.
11. OUTSLOPE IN DIRECTION OF NATURAL DRAINAGE WITH A MINIMUM OF 5% SLOPE, 2% FOR ACCESSIBLE TRAILS.
12. ACCESSIBLE TRAILS MUST MEET ODA/ORAR GUIDELINES.
13. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
14. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 7 TRAIL INSTALLATION FULL BENCH SECTION

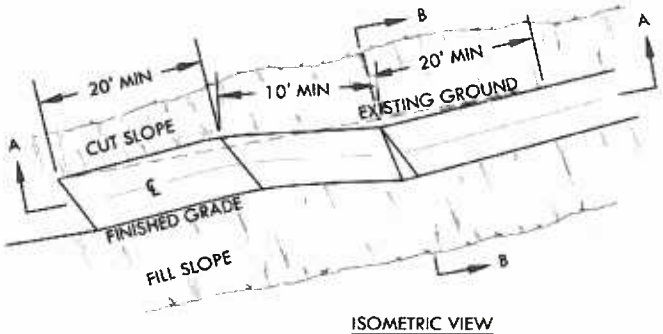


FULL BENCH SECTION WITH WALL
(PRIMARILY CUT)

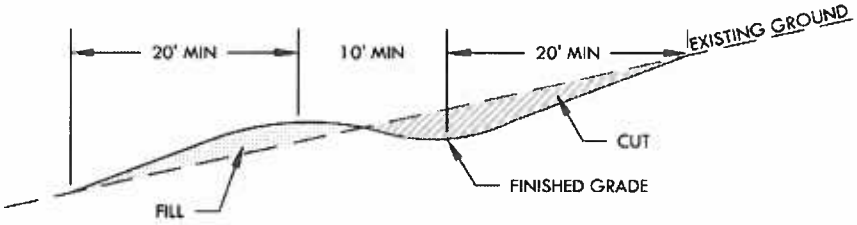
NOTES:

1. TRAIL TREAD SHALL BE CONSTRUCTED WITH WIDTH PER PLAN WITH 1 FOOT MIN VEGETATED BUFFERS ON BOTH SIDES OF TRAIL.
2. MAX CUT SLOPE (BACKSLOPE) INCLINATION OF 1:1 (HORIZONTAL:VERTICAL) IN BEDROCK; 2:1 IN SOIL; ALTERNATIVE STEEPER BACKSLOPES MUST BE APPROVED BY GEOTECHNICAL ENGINEER.
3. IF THESE CUT SLOPE INCLINATIONS RESULT IN MORE EXTENSIVE GRADING THAN DESIRABLE, AND IF INCREASED TRAIL MAINTENANCE IS ACCEPTABLE, THEN CUT SLOPES COULD BE CONSTRUCTED AT STEEPER INCLINATIONS WHEREVER BEDROCK IS ENCOUNTERED.
4. LARGE FLAT ANGULAR ROCKS (50-150 POUNDS EACH) SHALL BE USED IN RETAINING WALL.
5. CUT SLOPE BACKFILL SHALL BE CRUSHED ROCK (D50 = 4" - 6") AND MINERAL SOIL, CONTAINING NO ORGANICS.
6. CLEAR BRUSH, TREES AND ROOTS WITHIN LIMITS OF TRAIL INSTALLATION. ROOTS SHALL BE CLEAN CUT TO AVOID TREE DAMAGE.
7. CLEAR TOP SOIL DOWN TO CONSOLIDATED STABLE SOIL.
8. BACKFILL TRAIL TREAD TO MATCH EXISTING GRADE. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
9. FILL ROOT HOLES TO CREATE A SMOOTH OUTSLOPE TRAIL TREAD.
11. COMPACT TRAIL TREAD.
12. OUTSLOPE IN DIRECTION OF NATURAL DRAINAGE WITH A MINIMUM OF 5% SLOPE, 2% FOR ACCESSIBLE TRAILS.
13. ACCESSIBLE TRAILS MUST MEET ODA/ORAR GUIDELINES.
14. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
15. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

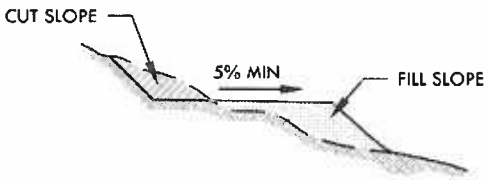
	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 8 TRAIL INSTALLATION FULL BENCH SECTION WITH WALL



ISOMETRIC VIEW



SECTION A-A

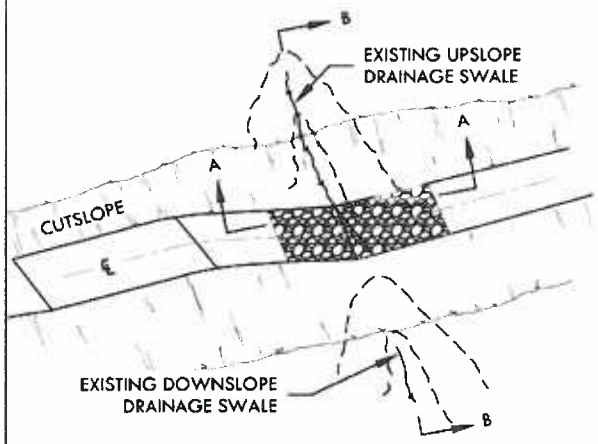


SECTION B-B

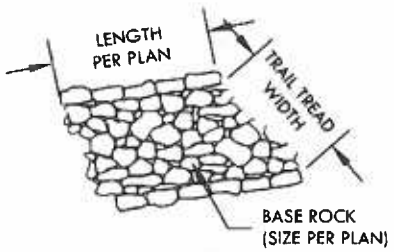
NOTES:

1. GRADE REVERSAL SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL SHALL BE INSTALLED TO FOLLOW NATURAL UNDULATION OF SWALE AT CROSSING, AND TO NOT IMPEDE FLOW THROUGH SWALE.
3. GRADE REVERSAL SHALL BE PLACED AT INTERVALS AS SPECIFIED IN THE PLANS. IF NOT SPECIFIED, GRADE REVERSALS SHALL BE PLACED AT A MAXIMUM 150 FOOT SPACING.
4. MAX CUT SLOPE (BACKSLOPE) AND FILL SLOPE (FRONTSLOPE) INCLINATION OF 1:1 (HORIZONTAL:VERTICAL) IN BEDROCK; 2:1 IN SOIL; ALTERNATIVE STEEPER SLOPES MUST BE APPROVED BY GEOTECHNICAL ENGINEER.
5. IF THESE CUT SLOPE OR FILL SLOPE INCLINATIONS RESULT IN MORE EXTENSIVE GRADING THAN DESIRABLE, AND IF INCREASE TRAIL MAINTENANCE IS ACCEPTABLE, THEN SLOPES COULD BE CONSTRUCTED AT STEEPER INCLINATIONS WHEREVER BEDROCK IS ENCOUNTERED.
6. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
7. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

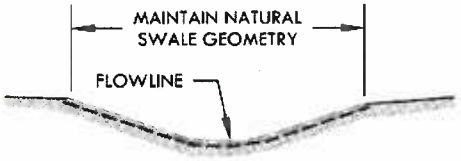
	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 9 GRADE REVERSAL



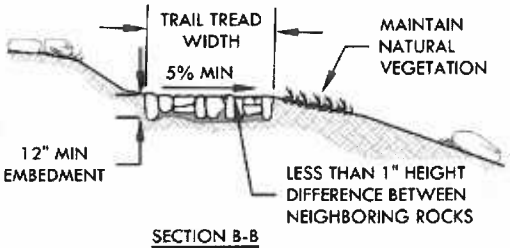
ISOMETRIC VIEW



SURFACING DETAIL



SECTION A-A

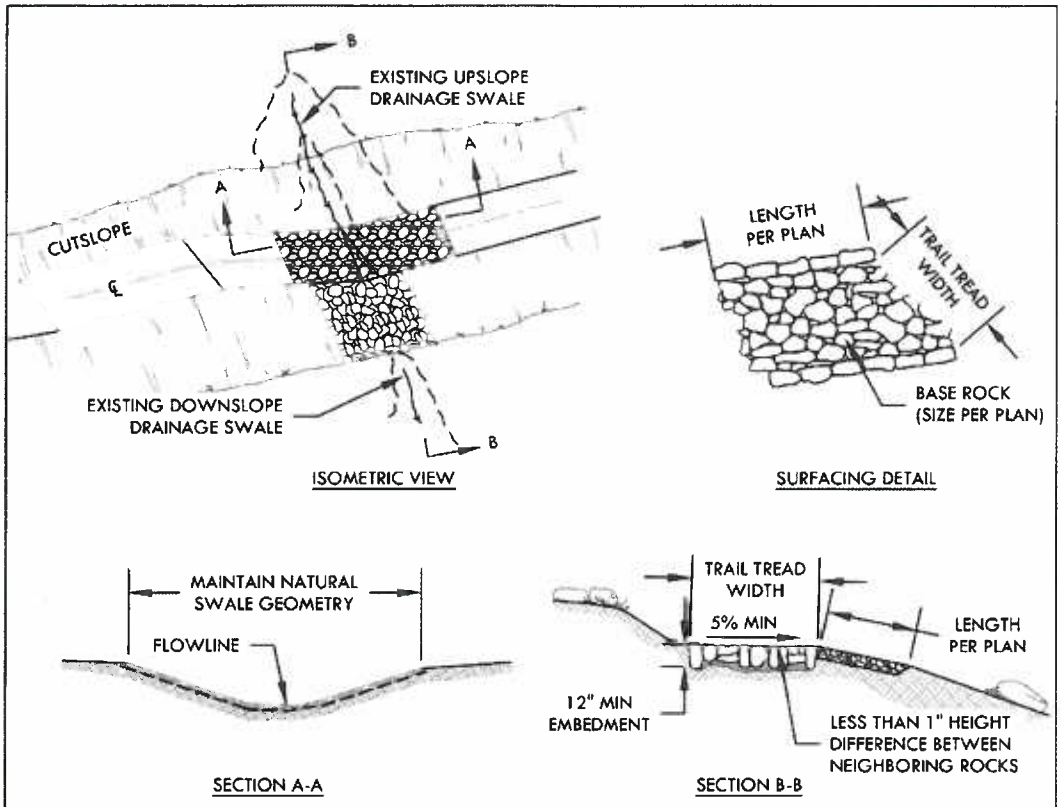


SECTION B-B

NOTES:

1. CROSSING INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL SHALL BE INSTALLED TO FOLLOW NATURAL UNDULATION OF SWALE AT CROSSING, AND TO NOT IMPEDE FLOW THROUGH SWALE.
3. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
4. BACKFILL TO PROVIDE LEVELING AND SUPPORT OF BASE ROCK. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
5. LAY ROCK WITH A MINIMUM OF 3 POINTS OF CONTACT WITH ADJACENT ROCKS.
6. LAY ROCKS IN A RANDOM ARRANGEMENT.
7. FILL VOIDS WITH BROKEN ROCK OR SUITABLE BACKFILL. COMPACT BACKFILL TO PROVIDE A STABLE SURFACE.
8. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
9. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

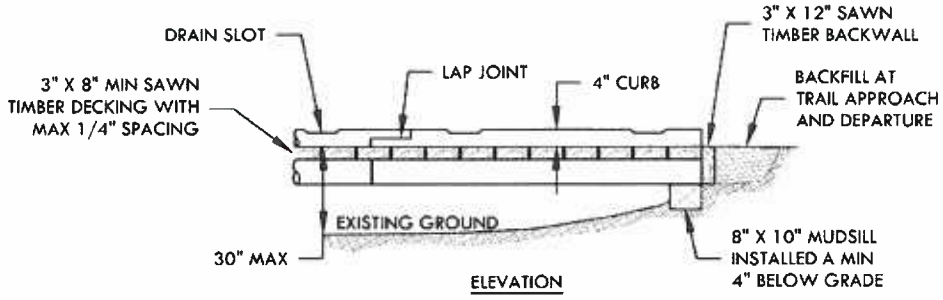
	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 10 ARMORED TRAIL CROSSING



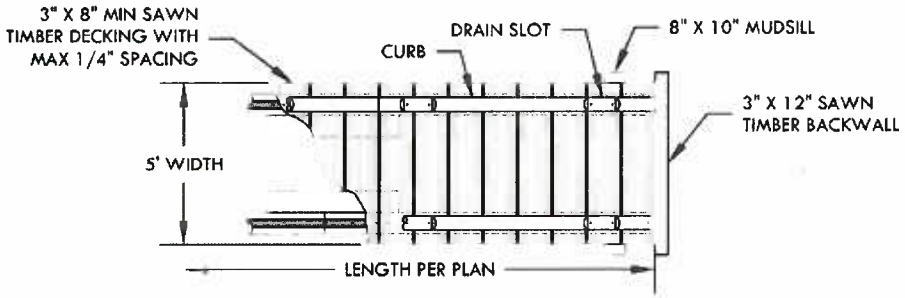
NOTES:

1. CROSSING INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. TRAIL SHALL BE INSTALLED TO FOLLOW NATURAL UNDULATION OF SWALE AT CROSSING, AND TO NOT IMPEDE FLOW THROUGH SWALE.
3. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
4. BACKFILL TO PROVIDE LEVELING AND SUPPORT OF BASE ROCK. BACKFILL MATERIAL SHALL BE ONSITE SOIL, FREE OF ORGANICS AND AGGREGATE LARGER THAN 2 INCHES.
5. LAY ROCK WITH A MINIMUM OF 3 POINTS OF CONTACT WITH ADJACENT ROCKS.
6. LAY ROCKS IN A RANDOM ARRANGEMENT.
7. FILL VOIDS WITH BROKEN ROCK OR SUITABLE BACKFILL. COMPACT BACKFILL TO PROVIDE A STABLE SURFACE.
8. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
9. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

	FALL CREEK ENGINEERING, INC. *Civil•Environmental•Water Resources Engineering*	STANDARD DETAIL 11 ARMORED TRAIL CROSSING WITH DOWNSTREAM ARMOR



ELEVATION



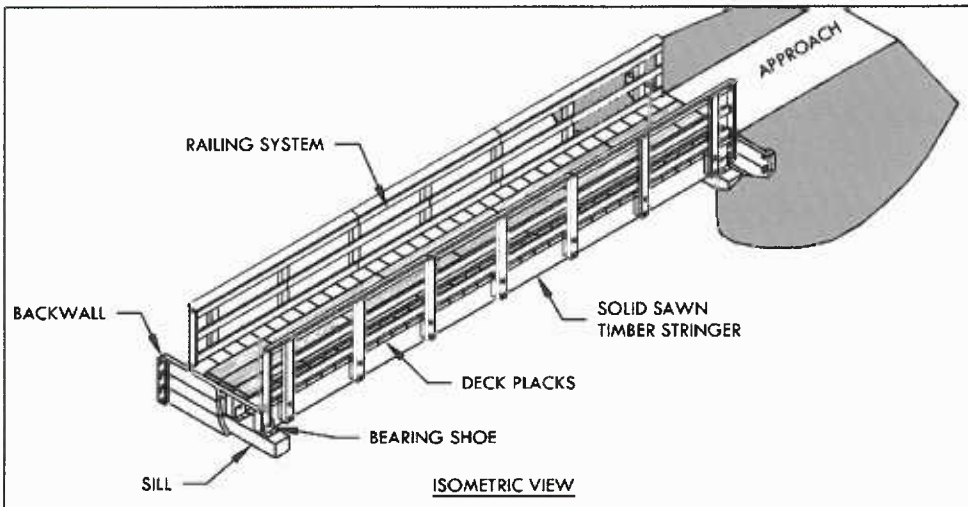
PLAN VIEW

NOTES:

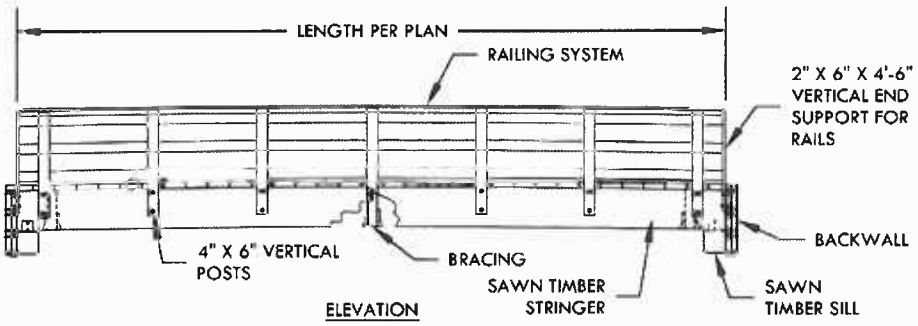
1. CROSSING INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. PRE-DRILL HOLES FOR FASTENERS TO PREVENT SPLITTING OF WOOD.
3. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
4. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
5. INSTALL DECK BOARDS WITH A MAXIMUM SPACING OF 1/4 INCH, SO THAT A MAXIMUM 1/2 INCH SPACING IS ACHIEVED AFTER THE WOOD HAS DRIED.
6. FINAL DECK ELEVATION FOR DECKING SHALL BE NO MORE THAN 1/2 INCH DIFFERENCE IN ELEVATION.
7. WHERE HEIGHT OF PUNCHEON EXCEEDS 30 INCHES, RAILINGS ARE REQUIRED (SEE TYPICAL BRIDGE DETAIL).
8. ALL LUMBER SHALL BE REDWOOD.
9. ALL HARDWARE SHALL BE GALVANIZED.
10. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
11. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

FALL CREEK ENGINEERING, INC.
Civil•Environmental•Water Resources Engineering

STANDARD DETAIL 12
TYPICAL PUNCHEON



ISOMETRIC VIEW



ELEVATION

NOTES:

1. CROSSING INSTALLATION SHALL FOLLOW DETAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR DIRECTED IN FIELD.
2. PRE-DRILL HOLES FOR FASTENERS TO PREVENT SPLITTING OF WOOD.
3. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
4. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
5. INSTALL DECK BOARDS WITH A MAXIMUM SPACING OF 1/4 INCH, SO THAT A MAXIMUM 1/2 INCH SPACING IS ACHIEVED AFTER THE WOOD HAS DRIED.
6. FINAL DECK ELEVATION FOR DECKING SHALL BE NO MORE THAN 1/2 INCH DIFFERENCE IN ELEVATION.
7. ALL LUMBER SHALL BE REDWOOD.
8. ALL HARDWARE SHALL BE GALVANIZED.
9. ALL DISTURBED AREAS OUTSIDE TRAIL TREAD SHALL BE TREATED WITH EROSION CONTROL MEASURES PER PLANS AND SPECIFICATIONS. INSTALL NATIVE SLASH PERPENDICULAR TO TRAIL IN DISTURBED AREAS.
10. THESE DETAILS ARE INTENDED AS A GUIDELINE; MODIFICATIONS MAY BE MADE IN THE FIELD BY ENGINEER.

FALL CREEK ENGINEERING, INC.
Civil•Environmental•Water Resources Engineering

STANDARD DETAIL 13
TYPICAL BRIDGE

PLANTING

All new planting on the property should be native, regionally appropriate, and consistent with any guidelines. Any cut surfaces or fill should be planted with native groundcovers.

SITE FURNISHINGS

In addition to the site furnishings located at the staging area(s), rest stops with benches should be strategically located along trails to emphasize scenic views, encourage a diversity of experiences, and provide shade and other pedestrian comforts. Site furnishings must be located outside of the dripline of redwood trees.

As true for all park features, site furnishings should be made of durable materials, such as concrete, metal, wood, or locally sourced stone, and should have natural or neutral colored finishes. For example, cut log stools for gathering areas.

SIGNAGE

Clear signage should be installed and maintained at the staging area(s), at property boundaries, and on all trails that includes allowable uses, proper trail etiquette, and wayfinding. Trailhead signage should include length, surface type, typical and minimum trail width, and typical and minimum running and cross slopes. Interpretative and educational signage should communicate rules while also fostering a stewardship ethic.

Trail closures must also be identified through clear onsite signage and gates, if warranted.

Signage should be durable and framing/support structures should be made of natural materials, where possible.

CONSTRUCTION PROTOCOLS

Construction protocols to further ensure the protection of biological and cultural resources, and water quality are listed under the corresponding topic.

BIOLOGICAL RESOURCES

A site-specific *Biological Resources Assessment* (BRA) was prepared for the areas with planned development under the Public Access Plan and is included in Appendix 4 (Biological Resources Assessment). Implementation of the following biological resources (BR) construction protocol is required to mitigate adverse impacts to biological resources and ensure the protection of sensitive biological communities:

BR 1 PROTECT SENSITIVE COMMUNITIES

BR 1.1 The construction work area including the staging area shall be minimized to the fullest extent feasible and trails shall be limited to the minimum width necessary to support the proposed use (i.e., hiking, cycling, and horse riding) as defined in Table 7-1 (Trail Dimensions by Use Type).

BR 1.2 Prior to the start of construction, all construction personnel shall be educated on the sensitivity of the biological communities and species at the site by a qualified, County-approved biologist. Environmental awareness training shall include measures to avoid or reduce impacts to the community, reporting and follow-up actions if sensitive biological communities are impacted, and the worker's responsibility under the applicable environmental regulation(s). A designated staff member from the contractor's crew shall provide follow-up training to any employees who begin work after the initial pre-construction training.

BR 1.3 Trails should be routed around sensitive vegetation to the fullest extent feasible. At a minimum, the full width of the trail (i.e., the full extent of vegetation removal and ground disturbance during construction) should avoid the dripline of sensitive vegetation, with greater separation between the trail and sensitive vegetation being preferred. If trails are re-routed, they should be re-routed downslope of any sensitive vegetation to avoid causing erosion or sedimentation issues which could be detrimental to sensitive vegetation.

BR 1.4 Tree and shrub removal in sensitive biological communities shall be minimized to the fullest extent feasible. Where necessary, obtaining a

tree removal permit may be required per Santa Cruz County Municipal Code Chapter 16.34, Significant Trees Protection. Tree removal should be conducted by a licensed arborist or registered professional forester using industry-standard best management practices (BMPs) to prevent the spread of invasive weeds or plant pathogens and avoid damage to vegetation to be retained.

BR 1.5 Trail construction shall incorporate the best available technology and industry-standard Best Management Practices (BMPs) to minimize the potential for detrimental impacts such as erosion or sedimentation and to minimize the need for future maintenance. See Standard Details 5 through 13.

BR 1.6 Any restoration or landscape plantings (e.g., plantings around the proposed parking/staging area) shall use native species appropriate for plant communities found at the site. To the extent feasible, plant material shall be salvaged from trail construction activities at the site. If not possible, plant material shall be propagated by a reputable nursery with protocols in place for minimizing the potential spread of plant diseases (sudden oak death or other *Phytophthora*-related diseases). Any propagated plant material shall be sourced from as close to the site as possible, ideally from within the site itself to avoid genetic variation.

BR 1.7 Stream crossings should ideally be designed and constructed to freespan the channel and be anchored above the top of bank. Crossings of regulated streams that avoid work below the ordinary high water mark do not require a permit from the USACE. When required, notify the CDFW and the Central Coast RWQCB of the crossing, even if located above the top of bank. If the CDFW and/or RWQCB issue authorizations for such work, the measures included in any such authorizations shall be incorporated into the design.

BR 1.8 Where wetlands or streams cannot be avoided, appropriate approvals from the USACE (for impacts to regulated wetlands or areas below the ordinary high water mark of regulated streams) and/or the RWQCB and the CDFW (for impacts to regulated wetlands, riparian vegetation, or areas below the top of bank of regulated streams) shall be secured

prior to initiating work in these areas. The measures included in any such authorizations shall be incorporated into the design.

BR 1.9 Trails constructed near wetlands or streams shall be designed to minimize changes to pre-project hydrology. Avoid erosion or sedimentation by installing BMPs (e.g., silt fencing, wattles, sterile straw, hydromulch, geotextile fabrics, sediment traps, drainage swales, or sand bag dikes) around wetlands and streams. All materials shall be certified weed-free and must be constructed of natural materials. No plastic monofilament netting may be used. The exact location and configuration of BMPs shall be determined by the contractor based on specific site conditions and the type of work being conducted. BMPs shall remain in place until all disturbed ground has been stabilized either through compaction or re-vegetation.

BR 1.10 Equipment used for building new trails should generally have tread width of 48 inches or less and mass less than 10,000 pounds.

BR 1.11 To avoid the introduction and prevent the spread of invasive weeds or plant pathogens, prior to arriving on the site, all construction equipment and vehicles shall be inspected to ensure they are clean..

BR 1.12 Any equipment or vehicles that have been used in areas with known sudden oak death or other *Phytophthora*-related plant diseases shall be sterilized before being used and inspected by a qualified, County-approved biologist prior to entering the job site.

BR 1.13 All disturbed ground shall be stabilized concurrent with or immediately following construction. Stabilization methods may include: compacting the soil (for trail surfaces only), covering disturbed soils with duff and leaf litter as well as branches removed for construction of trails, revegetation using appropriate native plant species, or use of other standard erosion control measures such as weed-free straw or hydromulch. If disturbed areas are to be revegetated, only native plants appropriate for the habitat shall be used per Protocol BR 1.6. If other erosion control materials are to be used, they shall be certified weed-free and as otherwise specified in Protocol BR 1.9.

BR 1.14 The importation of soils for construction of the staging area or other parts of the site shall be minimized to the fullest extent feasible. To the extent feasible, soils shall be salvaged from onsite before being imported from offsite. If it is necessary to import soils, they shall be certified weed-free and from a qualified, County-approved source with protocols in place for minimizing the potential spread of plant diseases (e.g., sudden oak death or other *Phytophthora*-related diseases).

BR 1.15 Equipment and vehicle fueling and maintenance staging areas shall be at least 100 feet from any wetland or stream. A spill containment kit shall be provided at the work site and located within 50 feet of the fueling or maintenance area. All spills shall be cleaned immediately (i.e., within 5 minutes of the spill) and all resulting materials shall be disposed of properly. All construction vehicles shall be inspected daily for leaks of oil, hydraulic fluid, or other potentially hazardous materials by a qualified construction crew member and drip pans shall be placed under parked vehicles during prolonged periods of disuse (e.g., during evenings and weekends).

BR 2 PROTECT SPECIAL-STATUS PLANT SPECIES

In addition to implementing Protocol BR 1.1 through 1.15, the following construction protocols are required to ensure the protection of special-status plant species.

BR-2.1 All occurrences of special-status plants within 50 feet of any work areas shall be flagged by a qualified, County-approved biologist prior to construction. Where work will occur within 10 feet of a special-status plant to be preserved, orange construction fencing (or similar) shall be installed at the edge of the work area and no work shall occur beyond the fence. If there are occurrences of special-status plants downslope from the work area, silt fencing shall be installed at the edge of the work area to prevent soil or other materials from being transported downslope where they may impact special-status plants.

BR-2.2 Occurrences of special-status plants shall be avoided by re-routing the trail alignment to the extent feasible and practicable. Where this is not possible, impacts to special-status plants shall be minimized by

reducing the trail width and associated vegetation removal to the fullest extent feasible. At a minimum, the full width of the trail (i.e., the full extent of vegetation removal) should avoid the dripline of any special-status shrubs and should avoid special-status herbs by a minimum of 10 feet. If trails are re-routed, they should be re-routed downslope, where feasible, of any special-status plants to avoid causing erosion or sedimentation issues which could be detrimental to special-status plants. If not feasible then re-route the drainage away from the special-status plants. If other considerations such as slope or soil stability make it impossible to avoid special-status plants, a qualified, County-approved biologist should develop appropriate mitigation measures based on the species in question, the size and type of the anticipated impact, and the likelihood of success with various minimization approaches approved by the CNPS (1998) including:

a) Avoiding the impact altogether by not taking a certain action

b) Minimizing impacts by limiting the degree or magnitude of the action

c) Rectifying the impact by repairing, rehabilitating or restoring the impacted environment

d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the Project

e) Compensating for the impact by replacing or providing substitute resources or environments *(for example Anderson's manzanita habitat enhancement could be used to offset impacts on-site near disturbance areas by the removal of overstory trees, including non-native trees)*

BR 3 PROTECT SPECIAL-STATUS WILDLIFE SPECIES

BR 3.1 Tree removal and trimming, regardless of size, shall take place outside of both the maternity and hibernation period for special-status bats (between September and October) and avoid the breeding bird window per Protocols BR 3.4 and BR 3.5. Tree removal can take place during this period without a breeding bird or bat roost survey.

BR 3.2 If removal of large trees (e.g., the Diameter at Breast Height [DBH] is greater than 12 inches) occurs during the bat roosting season (November through August), these trees shall be inspected by a qualified, County-approved biologist for the presence of bat roosts. If a maternity roost is detected, up to a 200-foot buffer shall be placed around the maternity site until the bats are no longer utilizing the site. Non-maternity roost sites can be removed under the direction of a qualified, County-approved biologist. Any large tree that will be removed shall be left on the ground for 24 hours before being taken offsite or being chipped. This period will allow any day-roosting bats the opportunity to leave before the tree is either removed from the area or is chipped.

BR 3.3 Consultation with the CDFW shall be initiated to determine appropriate conservation measures if active roosting bat sites are disturbed.

BR 3.4 Conduct pre-construction breeding bird surveys if construction, vegetation removal, or ground disturbance activities occur during the breeding season (February 1 to August 31). Pre-construction surveys shall be conducted by a qualified individual within 14 days of the start of these activities to avoid disturbance of active nests, eggs, and/or young. If these activities stop or lapse for a period of 14 days or more during the breeding season, a follow-up breeding bird survey shall be conducted to ensure no new breeding activity has occurred within the anticipated work area. Outside of the breeding season, no pre-construction breeding bird survey would be required for construction, vegetation removal, or ground disturbance activities.

BR 3.5 If nesting birds are identified, an exclusion zone in which no construction activities would be allowed shall be established around any active nests of any avian species protected by the Migratory Bird Treaty Act and California Fish and Game Code until a qualified, County-approved biologist has determined that all young have fledged. Suggested exclusion zone distances differ depending on species, location, and placement of nest, and shall be at the discretion of the biologist based on the species in question, the proximity of the nest to

the work area, and the type of work being conducted (e.g., use of hand tools versus gas-operated machinery).

BR 3.6 During construction, all workers shall ensure that food scraps, paper wrappers, food containers, cans, bottles, and other trash from the construction area is deposited in covered or closed trash containers. The trash containers shall not be left open and unattended overnight.

BR 3.7 A pre-construction survey of the staging area shall be conducted by a qualified, County-approved biologist to flag and delineate any woodrat middens within the planned disturbance footprint. During construction of the staging area, a biological monitor shall be onsite to ensure vegetation and ground disturbance with heavy equipment shall not impact those delineated resources. When avoidance of woodrat middens is not possible, the qualified, County-approved biologist shall dismantle the nest in accordance with Protocol BR 3.9.

BR 3.8 During construction and trail installation, a qualified, County-approved biologist or trained designee from the contractor's crew shall identify woodrat middens located along the trail alignment. If the latter, a qualified, County-approved biologist shall provide the training prior to the start of each construction phase. To the extent feasible and practicable, the trail alignment shall avoid woodrat middens by re-routing the trail alignment. Where this is not possible, implementation of Protocol BR 3.9would be required.

BR 3.9 When construction of the trail alignment or the staging area would result in a direct impact to a woodrat midden, a qualified, County-approved biologist shall dismantle the nest and scatter the nest material a minimum of 10 feet outside of the trail alignment or the footprint of the staging area. If woodrat middens with young are encountered during the dismantling process, the material shall be placed back on the nest and the nest shall remain unmolested for three weeks in order to give the young enough time to mature and leave on their own accord. After three weeks, the nest dismantling process may resume.

BR 3.10 A qualified, County-approved biologist shall conduct a pre-construction survey immediately prior to the start of any ground-disturbing activities for stream crossings and areas within 100 feet of wetted features. If California red-legged frog (CLRF) are found within the work area, all work shall cease within the immediate vicinity (approximately 25 feet around the work area) until the individual(s) have been allowed to leave the work area on their own. If CRLF cannot passively leave the work area, work shall cease and the USFWS shall be contacted by the qualified, County-approved biologist to determine the appropriate course of action. The qualified, County-approved biologist shall then implement the appropriate course of action as determined by the USFWS.

BR 3.11 Because dusk and dawn are often the times when CRLF are most active and likely to disperse, all construction activities shall cease one half hour before sunset and shall not begin prior to one half hour before sunrise. Furthermore, no mechanized work shall occur during significant rain events, defined here as 0.25 inch or greater within a 24 hour period, when CRLF are more likely to disperse and occur within the work area.

CULTURAL RESOURCES

A site-specific *Cultural Resources Study* was prepared for areas with planned development under the Public Access Plan. The Study includes confidential information regarding the locations of archaeological resources that are protected by law and is therefore, not available to the general public. Implementation of the following cultural resources (CR) construction protocol is based on the findings of the *Cultural Resource Study* and is required to mitigate adverse impacts to cultural resources and ensure the protection of cultural resources:

CR 1 PROTECT ARCHEOLOGICAL RESOURCES

CR1.1 Prior to the start of construction, all construction personnel shall be educated on the identification and treatment of prehistoric and/or historic artifacts that may be discovered by a qualified, County-approved archaeologist who meets the Secretary of Interior standards

or a registered, County-approved forester who has successfully completed the California Department of Forestry and Fire Protection (CAL FIRE) archeology program.

CR1.2 If ground disturbing activity takes place and possible artifacts are discovered, then all construction activities within a 50-foot radius of the find shall be halted immediately and a qualified, County-approved archaeologist who meets the Secretary of Interior standards (including CAL FIRE archeologists) shall be consulted to determine whether the resource requires further study. (Note, it is CAL FIRE policy that registered professional "foresters" do not perform significance evaluations of cultural resources). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps). Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the County of Santa Cruz, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.

CR1.3 When trail building in the vicinity of sites P-44-000069, P-44-000070, P-44-000071, P-44-000123, and P-44-000596 as identified in the Cultural Resources Study dated October 2017 and on file with the County, a County-approved, qualified archaeologist who meets the Secretary of the Interior standards or a County-approved, registered forester who has successfully completed the CAL FIRE archaeology program shall be present during the initial ground-disturbing phase of construction. Selected portions of proposed trail routes may be in close proximity to sites P-44-000069, P-44-000070, P-44-000071, P-44-000123, and P-44-000596, and monitoring at locations shown on Figure 3 and Figure 4 of the Cultural Resources Study is required. If archaeological specimens are discovered, a qualified archaeologist who meets the Secretary of the Interior standards should evaluate their significance.

CR 1.4 For sites P-44-000596 and Camp ZZZ, a post construction monitoring program shall be implemented. This program would assess whether surface artifacts are being destroyed, moved, or removed. The monitoring program requires photographic documentation, sketch/plan maps, and written notes of the location of exposed surface artifacts. A County-approved, qualified archaeologist who meets the Secretary of the Interior standards or County-approved registered forester who has successfully completed the CAL FIRE archaeology program shall check the artifact locations semiannually after trails have been completed and are in use. If artifacts are moved, destroyed, or disappear, then a qualified archaeologist shall develop a treatment plan designed to protect the resources and mitigate impacts caused by hikers and other visitors. The treatment plan might include scientific collection of artifacts, their analysis, and written report preparation.

CR 1.5 If a trail is planned at site P-44-000596, the trail shall be constructed within the old railroad grade wherever possible because no trace of the railroad line, other than the grade is evident. If the trail is planned to be built outside the railroad grade where past land uses have disturbed to ground surface, the construction of the trail is acceptable with the provision that any surface artifacts are avoided and ground disturbance is kept to a minimum (see Construction Protocol CR 1.4). Portions of

known railroad grade segments are depicted in Figures 5a and 5b of the Cultural Resources Study.

CR 1.6 If a trail is planned at the Camp ZZZ site to follow the alignment of the existing gravel road it is acceptable for the trail to follow within the road route because there is no trace of historic-period specimens evident within this alignment.

CR 1.7 The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be "most likely descended" from the deceased Native American. The most likely descendent would then make recommendations regarding the treatment of the remains with appropriate dignity.

Air Quality

A site-specific air quality analysis was prepared for the areas with planned development under the Public Access Plan. While all impacts were determined to be well below the significance standards of the Monterey Bay Unified Air Pollution Control District, implementation of the following Air Quality (AQ) construction protocol would be implemented to further minimize emissions from fugitive dust:

AQ 1 Construction Dust Emissions

AQ 1.1 During the construction of the staging area, construction emissions from fugitive dust shall be minimized to the fullest extent through implementation of the following Best Management Practices (BMPs) as applicable.

- Water all active construction areas as necessary and indicated by soil and air conditions.

- When materials are transported off site, all material will be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container will be maintained.

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, will be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.

- All land clearing, grubbing, scraping, excavation, land leveling, grading, and cut & fill activities will be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.

- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

- Hydroseed or apply similarly effective soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).

- Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.).

- Limit traffic speeds on unpaved roads to 15 miles per hour.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.

- Replant vegetation in disturbed areas as quickly as possible.

- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 20 miles per hour.

TRAIL MAINTENANCE GUIDELINES

All trails in San Vicente Redwoods will require routine maintenance to ensure the trails are functioning properly and to correct problems before they become significant. The goal is to maintain the trail for safe use, correct erosional problems that may impact natural resources, and preserve trail investment. Lack of such maintenance could increase long-term upkeep costs, adversely impact the environment, and result in potential offsite impacts. Effective trail maintenance incorporates trail assessments and work plans, trail maintenance and repairs, and scheduling.

TRAIL ASSESSMENT AND WORK PLAN

TRAIL ASSESSMENT

The first step in trail maintenance and a key component of adaptive management is to inspect all trails on a routine basis to identify and document current conditions, erosion and incision, evidence of sediment deposit into streams or wetlands, unauthorized trails, and any problem areas in need of improvement. Minor problems, such as clearing trail drainage features of debris, can often be corrected during the assessment whereas sites with heavy maintenance needs may require a trail crew to undertake the improvements. It is at these larger sites where documenting the problems is most useful for scheduling and prioritizing repairs.

During the assessment, sites requiring improvements are documented on a Trail Maintenance/Repair Form. This form takes the ambiguity out of the maintenance work and provides a means to identify problem areas and convey that information to crews who will be performing the maintenance. It also provides background information that could be used in a monitoring program. This form should include the following information:

- Trail and site number
- Location / Site map
- Problem description
- Recommended repair

- Priority of repair
- Materials/ Staff required
- Sketch map or photo

Typical problems include infilled and nonfunctioning drainage features, wet and muddy trail segments, failed trail segments, plugged stream crossings, downed trees, informal social trails, rutted/rilled trail segments, and areas of trail widening.

Work Plan

Work plans should be prepared to plan for and schedule any needed upgrades. It may be necessary to prioritize repairs based on available funding or severity of the problem. Upgrades should be completed prior to October 15th each year.

TRAIL MAINTENANCE AND REPAIRS

Vegetation Maintenance at Trails

- Clear brush and trees from the trail corridor to conform to Standard Details.
- All side branches extending into the trail clearing should be cut flush with the parent branch or stem, leaving no stubs.
- Small trees and shrubs within the tread should be grubbed out to prevent tripping — holes should be filled and compacted.
- Fallen branches and trees should be removed from trail tread and placed outside the corridor.

Tread Maintenance

- Remove outside berms and out-slope tread to drain.
- Remove cut-bank slough from the trail tread.
- Remove loose rocks.
- Install appropriately sized, well-graded, angular rock aggregate at chronic wet/muddy segments of trail as needed.

Drainage and Stream Crossing Maintenance

- Remove accumulated debris from all trail drainage features.
- Enlarge grade reversals that appear undersized and at risk for failure.
- Install additional drainage grade reversals in areas where runoff is concentrated.
- Clean infilled ditches.
- Clean culverts of debris.
- Replace failing culverts with alternative improvements such as hardened crossings.
- Inspect and repair puncheons and bridges.

Sign Maintenance

- Sign repair/replacement.

SCHEDULING

Inventory drainage features (grade reversal/rolling dip, bridge, waterbar, culvert, and swale) in April and September and perform major maintenance before summer and winter seasons.

- **Routine Inspection:** Inspect and maintain trails monthly, including vegetation, signs, gates, barriers, etc., to discourage shortcuts, trail widening, and erosion. Ensure that the width and surface of the trail designed for accessibility is appropriately maintained. Incision of the trail tread should be monitored and tracked to ensure erosion and root damage does not become a problem. Additional stormwater runoff management features should be installed where needed to address erosion, and failing trails should be re-routed if necessary.. Spring inspections are necessary to identify failed or poorly functioning drainage structures that may become less evident following summer trail use. Fall inspections are necessary to identify problems that may have arisen following summer trail use and to make a final check of the trail prior to the winter rainy seasons. Inventory drainage features (grade reversal/rolling dip, bridge, puncheons, waterbar, culvert, and swale) in April and September.

- **Winter Inspections:** Perform routine winter season inspections and maintenance monthly from October to April to minimize trail damage and the need to re-route trails in the future. It is also advisable to inspect portions of the trail network during or following major storm events. These inspections would generally focus on watercourse crossings, steep gradient trail reaches, and known problems areas. Assess each drainage feature for evidence of stormwater delivery of sediment to streams or wetlands every winter and remediate any problems
- **Upgrades:** Perform major maintenance before summer and winter seasons. Prescribed trail maintenance should occur prior to October 15th and the winter season. Minor trail maintenance, such as clearing dips and culverts using hand crews may occur at any time, including during routine inspections. Trails should generally be maintained to conform to the standard trail specifications.
- **Repairs.** Maintain high use trails within one week of identifying an issue, and maintain low use trails are maintained within two weeks of identifying an issue.

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8 ACKNOWLEDGEMENTS

We would like to acknowledge the State Coastal Conservancy for providing grant funding to support his planning project, and Land Trust donors who helped make this possible. We would also like to thank our Conservation Partners for the robust collaboration that resulted in this plan.

We would like to acknowledge and express gratitude to our agency partners, to the experts who reviewed drafts of the plan, and to experts consulted through interviews.

AGENCY PARTNER TEAM

The agency partner team is working with the Conservation Partners on emergency management, public safety, and visitor services and will continue to collaborate during the implementation phase.

Angela Bernheisel, CAL FIRE, Forester II – Soquel Demonstration Forest
Jake Hess, Deputy Chief, CAL FIRE San Mateo-Santa Cruz Unit
Jeff Gaffney, Parks Director, Santa Cruz County
Also Gonzalez, Battalion Chief, CAL FIRE San Mateo-Santa Cruz Unit
Rich Sampson, CAL FIRE, Forester II
Eric Strum, Park Superintendent, Santa Cruz County
Craig Wilson, Chief Deputy, Santa Cruz County Sheriff's Office

EXPERT REVIEW

We solicited review of the plan from experts in public access management and the protection of wildlife in the context of recreation management. Their insightful feedback strengthened our approach. Expert review included a conference call, field tour and review of a draft of the Public Access Plan and supporting materials. Each reviewer participated in some or all of these elements. We look forward to future collaboration to ensure implementation is a success.

Ramona Arechiga, San Mateo County Parks, Natural Resource Manager
Angela Bernheisel, CALFIRE, Forester II – Soquel Demonstration Forest
Sarah Birkeland, San Mateo County Parks, Assistant Director
Ben Blom, Bureau of Land Management, Central Coast Field Office Manager
Joe Connors, California State Parks, Supervising Ranger
Jeremy Dertien, Wildlife Conservation Society, Project Coordinator

Will Fourt, Santa Cruz County Parks, Park Planner
Jeff Gaffney, Santa Cruz County Parks, Director
Joanne Kerbavaz, California State Parks, Senior Environmental Scientist
Courtney Larson, Colorado State University Fort Collins, Graduate Research Assistant
Brian Malone, Midpeninsula Regional Open Space District, Land Facilities Manager
Lee Otter, California Coastal Commission, Planner (Retired)
Mike Powers, Bureau of Land Management, Natural Resource Specialist
Juliana Rebagliati, City of Santa Cruz, Planning Director (Retired)
Sarah Reed, Wildlife Conservation Society, Director of Applied Conservation Science for the Americas Program, and Colorado State University Fort Collins, Affiliate Faculty Member
Michelle Reilly, Northern Arizona University, PhD (now Wildlife Biologist and Strategic Habitat Conservation Coordinator at the U.S. Fish and Wildlife Service)
Chris Spohrer, California State Parks, District Superintendent
Chris Wilmers, UC Santa Cruz, Professor and Santa Cruz Puma Project Director
Bill Wolcott, California State Parks, Public Safety Superintendent

INTERVIEWS

To guide development of this plan, we interviewed staff from agencies and organizations with relevant expertise. Interviewees, in addition expert reviewers, included:

Ezekiel Bean, Water Resources Supervisor, City of Santa Cruz Water Department
Rick Bisaccia, Stewardship Director, Ojai Land Conservancy
Rick Cooper, Field Manager, Bureau of Land Management (Retired)
Scott Couture, Lead Resource Specialist III, The Land Conservancy of San Lois Obispo County
Joe Christy, Bonny Doon Fire Safe Council
Joe Clarke, Sargent, Santa Cruz Sheriff Coroner
Paul Houghtaling, wildlife tracker, University of California at Santa Cruz
Terris Kasteen, Wildlife Biologist, California Department of Fish and Wildlife
Ian Larkin, Chief, CalFIRE San Mateo-Santa Cruz Unit
Randy Lavasseur, Chief of Visitor and Resource Protection, Golden Gate National Recreation Area

Brian Martin, Chief Ranger, Bureau of Land Management Hollister Office
David Moore, Outdoor Recreation Planner, Bureau of Land Management
Sky Painter Murphy, Planning & Environmental Coordinator, Bureau of Land Management
Michael Newburn, Visitor Services Manager, Midpeninsula Reginal Open Space District
John Ricker, Director, Santa Cruz County Water Resources Division
Justine Smith, PhD Candidate, University of California at Santa Cruz
John Svahn, Stewardship Director, Tahoe Donner Land Trust

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APPENDIX 1

CONSERVATION VALUES

Overview of Conservation Values

The 2014 Grant Deed of Conservation Easement by Peninsula Open Space Trust and Sempervirens Fund to Save The Redwoods League for the San Vicente Redwoods property identifies the following values as providing a significant public benefit and are worthy of conservation. These values are referred to as the Conservation Values.

1. **Statewide and Regional Conservation Significance.** The Property is identified as a conservation priority in several regional planning efforts, including the Bay Area Open Space Council's *Conservation Lands Network, 2011,* Save the Redwood League's *Master Plan for the Coast Redwoods, 2007*, Land Trust of Santa Cruz County's *Conservation Blueprint, 2011* ("*Conservation Blueprint*"), The Nature Conservancy's *Central California Coast Ecoregional Plan, 2006*, and the Living Landscape Initiative's *Redwood Focal Area, 2011*.

2. **Forests.** The Property includes substantial native forest ecosystems in their natural or relatively natural condition, including second-growth mixed redwood and Douglas-fir forest and live oak forest. The Property's forests are naturally diverse, consisting of a range of age classes and forest structures, including old-growth forest and large individual and contiguous stands of younger trees. The Property contains numerous forest resource values, including but not limited to its capacity to provide raw material for wood, timber and other forest products.

3. **Biodiversity.** The Property encompasses at least eight distinct vegetation types, ranging from vast stands of redwood forest to smaller pockets of the endemic Sandhills community. Populations of locally rare and unique plants such as Santa Cruz manzanita, oracle oak, and Shreve oak occur on the Property. The pockets of Sandhills habitat located on the Property are dominated by sparse stands of the rare maritime form of ponderosa pine forest and by maritime chaparral, and may support at least four federally-endangered plant species found only in the Sandhills, including Ben Lomond spineflower, Santa Cruz wallflower, Ben Lomond buckwheat, and Bonny Doon (silver leaf) manzanita. The Property provides habitat for a wide variety of rare and sensitive animal species, including California red-legged frog, mountain lion, peregrine falcon, steelhead trout, coho salmon and marbled murrelet. The Sandhills are also home to two insects found nowhere else on earth, the Mount Hermon June beetle and the Zayante band-winged grasshopper, as well as the Santa Cruz kangaroo rat and coast horned lizard.

4. **Watershed Protection.** Conservation of the Property is very important for watershed protection. San Vicente Creek originates on the Property and is the sole supply of domestic water to the residents of the town of Davenport. Laguna Creek, which bisects the Laguna parcels, is a critical source of domestic water for the City of Santa Cruz, especially during drought years. Most of the Property is underlain by pervious soils and underground karst formations, which provide for critical groundwater recharge. This recharge helps maintain vital year-round stream flows, which in turn supports aquatic habitat and domestic water supplies. The Property's streams are also a very important conservation priority to sustain populations of steelhead trout, red-legged frog, and other aquatic species, and its

two principal streams - Big Creek (tributary to Scott Creek) and San Vicente Creek - were designated as core coho salmon recovery priorities in the 2010 Draft Coho Recovery Plan prepared by the National Oceanic and Atmospheric Administration, Department of Fisheries, Office of Protected Resources. Mill Creek has both coho salmon and steelhead presence, and is therefore a high priority for conservation. Laguna Creek has a strong steelhead population and historically supported coho salmon, and is a very important conservation priority to sustain populations of steelhead, red-legged frog, and other aquatic species. Together with their tributaries, there are over 19.5 kilometers of critical stream targets on the Property, and 19.7 kilometers of very important streams as designated in the Conservation Blueprint. Conservation and watershed-based management of the Property represents an outstanding opportunity to protect and restore water supply and water quality.

5. **Viewshed Protection.** Much of the Property is visible from Highway 1, Empire Grade Road, Smith Grade Road, County-designated scenic routes, and from public viewpoints in parks and protected lands along the coast and in the Santa Cruz Mountains. Views from Highway 1 in particular reveal the abundant natural resources of the Property, including the extensive native tree cover. The view of these undisturbed natural resources contributes to the scenic panorama and character of the Santa Cruz Mountain range.

6. **Landscape and Habitat Connections.** The Property is located within a nearly 70,000-acre complex of mostly contiguous habitat, including Big Basin Redwoods State Park, the private forestlands just to the west of the Property, and several large adjoining properties comprising approximately 20,000 acres, including Cal Poly Swanton Pacific Ranch, Coast Dairies Property, Bonny Doon Ecological Reserve, Wilder Ranch State Park and the University of California Santa Cruz Campus Natural Reserve. Conservation of the Property will secure the southern portion of this large habitat block and will help maintain connectivity to nearby contiguous habitats, including Ben Lomond Mountain, the Upper San Lorenzo River watershed, and Loch Lomond Reservoir and its headwaters. Protecting the Property through this Conservation Easement will result in over 27,500 acres of contiguous, protected lands.

7. **Public Recreation, Education and Scientific Study.** With over 70 miles of unpaved roads, the Property has outstanding potential for public recreational access, including regional trail connections to Big Basin Redwoods State Park, the Fall Creek Unit of Henry Cowell Redwoods State Park, and the Coast Dairies Property, including the possibility for a new Skyline to the Sea Trail that would connect the California Coastal Trail in Davenport to the main crest of the Santa Cruz Mountains along Empire Grade. Given its proximity to Cal Poly Swanton Pacific Ranch and the university's focus on resource management-related research, the Property provides unparalleled opportunities for scientific research related to restoration forestry, as well as environmental education and interpretation for the public at large. The Property may also present opportunities related to the University of California Natural Reserve Program's system of living laboratories and outdoor classrooms in which a variety of disciplines could pursue fieldwork and educational efforts.

APPENDIX 2

ADAPTIVE MANAGEMENT OVERVIEW

Overview of Constraints, Preventative Strategies, and Adaptive Management Strategies by Conservation Value

Constraints	*Preventative Strategies*	*Adaptive Management Strategies*
Conservation Value 1: Statewide and Regional Conservation Significance		
Preserve the regionally significant conservation values of the property	Perform an extensive planning process and a well-organized and funded implementation	Monitor and enforce rule violations; adjust engagement and enforcement effort
Leave undisturbed large blocks of habitat	Zone public access and closed areas to retain large contiguous closed blocks of habitat	Monitor closed areas for unauthorized access; adjust education and enforcement effort
Provide regionally significant public access	Provide a nature-based recreation opportunity with a skyline-to-the-sea type transect of Ben Lomond Mountain	Track visitor satisfaction; respond to meet expectations to the extent feasible
Conservation Value 2: Forests		
Minimize native tree removal and damage	Preserve large native trees when locating trails Locate the staging area in an area dominated by non-native trees	Maintain trails so they don't widen or erode; adjust effort if problems arise
Do not interfere with forest restoration and timber production	Route trails around large blocks of the Restoration Reserves and Working Forest	Track the satisfaction of working forest and restoration project managers; increase collaboration effort with partners as needed
Do not increase wildfire risk or damage	Close the property on 'red flag' days of exceptionally high fire risk. Maintain a network of fire-fighting water tanks	Track unauthorized visitors on 'red flag day' fire hazard days; adjust patrol effort, engagement and enforcement Monitor and maintain tanks to ensure they are full and in good condition

Constraints	*Preventative Strategies*	*Adaptive Management Strategies*
Conservation Value 3: Biodiversity		
Minimize impacts to mountain lion breeding	Provide large closed areas around mountain lion denning areas	Patrol for unauthorized trail construction; prosecute and/or sue violators; decommission unauthorized trails; impose use restrictions
Avoid increasing populations of predators of marbled murrelets	Manage waste with education and wildlife-proof trash receptacles	Track food waste; adjust visitor engagement and waste management effort
Avoid the introduction of invasive species	Require that contractors clean vehicles of dirt and organic material	Monitor and manage invasive plants in the public access area
Conservation Value 4: Watershed Protection		
Protect municipal water supplies	Route trails away from municipal water intakes with large buffers	Monitor closed areas for unauthorized access; educate and enforce closures
Protect stream water quality	Design and maintain trails to frequently shed water and minimize erosion	Monitor trails for sediment delivery to streams or wetlands; remediate problems promptly
	Close the property following significant rain events until soils dry	Monitor and enforce closures; adjust staffing as needed
Protect aquatic habitat and wetlands	Span streams with bridges and route trails around wetlands unless that results in greater overall impacts	Track and remediate horse and dog waste near streams and wetlands; adjust engagement; impose use restrictions
Conservation Value 5: Viewshed Protection		
Preserve native forest canopy	Design new trails with a narrow tread to retain full canopy cover	Inspect trails routinely for widening and erosion; adjust maintenance effort; adjust alignments and grade
Minimize impacts to roadside aesthetics	Design the parking area to expand to accommodate demand, minimizing road shoulder and neighborhood parking	Track the availability of parking and expand the parking area only as needed

Constraints	*Preventative Strategies*	*Adaptive Management Strategies*
Conservation Value 6: Landscape and Habitat Connections		
Preserve core wildlife habitat	Locate the public access area and the closed area to provide large areas of core habitat	Monitor and enforce closed areas for unauthorized access; adjust patrol and enforcement effort ; impose use restrictions
Preserve corridors for wildlife movement	Locate the public access area to minimize activity in identified corridors, especially at night	Monitor and enforce night time and area closures; adjust patrol and enforcement effort
Conservation Value 7: Public Recreation, Education and Scientific Study		
Manage conflicts between visitor groups	Provide trail use designations that allow visitors to enjoy and avoid specific uses	Survey visitor satisfaction; respond to the extent feasible with changes to trails, including use designations
Manage safety and risk	Maintain trails and facilities; Educate visitors; Patrol, enforce and create a stewardship presence; Maintain incident report system	Track and evaluate incidents and accidents; identify and implement mitigation measures

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APPENDIX 3

QUESTIONNAIRE SUMMARY

San Vicente Redwoods Public Access Plan

Opportunities and Constraints

Expressed by Interview and Questionnaire Participants

Bryan Largay and Jessica Missaghian

Land Trust of Santa Cruz County

July 24, 2014

Purpose

This document summarizes the opportunities and constraints related to public access of the San Vicente Redwoods property as expressed by community members through questionnaires and interviews.

Overview of Opportunities for Participation by the Community

The Land Trust and our conservation partners, the Peninsula Open Space Trust, Sempervirens Fund and Save the Redwoods League, are developing the San Vicente Redwoods Public Access Plan over the next year. We invite community participation throughout the planning process.

Phase 1. Questionnaire and Interviews

During this phase anyone interested in the plan may complete a questionnaire. We will also interview certain affected parties, such as owners of adjacent lands, emergency services, and others. Two small group meetings will be held, one for education and research interests, and one for representatives of recreational user groups. During this period various technical assessments will also be conducted.

Questionnaires are available online at www.LandTrustSantaCruz.org. Paper versions are available on request from the Land Trust of Santa Cruz County, Attn. San Vicente Access, 617 Water Street, Santa Cruz CA 95060. Questionnaires will be accepted until April 30.

Phase 2. Opportunities and constraints summary

The findings from Phase 1 will be combined into a summary of the opportunities and constraints on the property. These will be presented in map format at a Community

Meeting in early spring. Public input will be welcome at that meeting and during the following month.

Phase 3. Draft plan

Public input will be combined with feasibility analysis to develop a draft plan. This will be presented at a Community Meeting planned for September 10, 2014. Public input will be welcome at that meeting and for a few weeks afterwards.

Phase 4. Final plan and implementation

Input from the public, follow-up analysis and decision making by partners will lead to the Final Plan. Components to be implemented will be submitted to Santa Cruz County for regulatory compliance, which is anticipated to take about a year.

Interview and Questionnaire Approach

This document provides a summary of the results of preliminary public and stakeholder engagement conducted in the process of planning for public access on the San Vicente Redwoods property.

In order to understand how people could be affected by the project, the Land Trust of Santa Cruz County conducted a series of interviews and hosted an online questionnaire to provide an opportunity for neighbors, residents, agency staff and others to express their hopes and concerns.

Between October 2013 and June 2014 we interviewed and held small group meetings with 115 people. The online questionnaire was launched in mid-November, and on June 24, 2014, we downloaded the data summarized here. The questionnaire was closed May 1, 2014, but was reopened on request for individuals who were unable to participate previously. We organized feedback into concerns and opportunities, and summarize those here.

The future work of developing the management plan will include addressing concerns expressed and making the most of those opportunities identified by the community.

Results

Overall, the community expressed strong support for access. Of the 2326 valid questionnaires, 97% supported some form of public access, while only 20 respondents (1%) indicated that they did not want to see any recreational access to the property. (The difference consisted of people who either did not respond to the question or who responded 'maybe' to the question).

Affiliations of questionnaire respondents (percent of respondents who indicated each affiliation)	
Resident of Adjacent Property	5%
Resident of Bonny Doon or Davenport	12%
Resident of Santa Cruz County	41%
Hiker	46%
Mountain Biker	33%
Equestrian	41%
Agency Staff	1%
Educator/Researcher	5%
Business Representative	2%
Other Interested Party (please specify)	10%

Common responses to 'Other Interested Party' can be grouped into these categories: dog owner, disc golfer, birder, trail runner, off-road vehicle rider, mushroom gatherer and 'nature lover' or similar.

Concerns

A variety of interviewees and respondents expressed concerns.

Concerns expressed by questionnaire respondents (percent of respondents who expressed each concern)	
Illegal Uses	48%
Trail Conflicts (horses, bikers, hikers, dogs, etc.)	48%
Fire Risks (i.e. campfires)	43%
Wildlife Impacts	35%
Parking	26%
Impacts to Water Quality and/or Supply	21%
Invasive Species	20%
Too Many Users	19%
Private Land Trespassing	14%
Roadway Congestion	14%
Other (please specify)	15%
Cost of Management	12%
Quarry Hazards	8%
Loss of Productive Timberland	7%

Most responses to 'Other' consisted of additional detail on one of the other topics, expressed concerns about the planning process, particularly that one group of users would be unfairly advantaged at the expense of others.

Management Responsibility and Approach

Overarching all other concerns were questions about responsibility for management, including provision of public safety services. Interview participants almost always had numerous questions about how management would be provided, including consideration of costs. Only one in eight questionnaire respondents expressed concern related to the cost of management.

Many process participants expressed the opinion that adverse impacts would occur unless a robust approach was adopted for the implementation phase. Many expressed interest in who was going to be in charge of daily operations and what level of resources would be allocated to managing the property. Many expressed that additional resources would be required for people to use the property safely and for neighbors to not be adversely impacted.

Many residents of Davenport and Bonny Doon we talked to expressed the opinion that local emergency services are under strain. They said that there are relatively few Sheriffs Deputies on patrol, relatively few volunteers available for fire protection, and long response times in emergencies. We heard that private landowners in the area were under pressure from trespass and illegal activities.

Many residents wanted to know how the approach to management of public access would prevent illegal activities from occurring.

Many interviewees provided suggestions to address these management challenges included:

- high investment (dollars, skills and hours)
- on-site presence
- frequent patrols
- modest infrastructure and extent of trail network
- gradual roll-out of facilities
- investment in relationships with both users and neighbors
- monitoring technology.

Health and safety of users and nearby residents

Health and safety of neighbors was far and away the most consistent concern expressed during interviews. Embedded within this concern were several interrelated themes.

Illegal Activities

Illegal activities that were identified as concerns included a variety of criminal and trespass related activities such as:

- trespass
- vandalism
- theft and storage of stolen goods
- marijuana cultivation
- camping
- dumping
- off-road vehicle operation
- mountain bike trail construction
- commercial mushroom harvesting
- commercial firewood harvesting
- commercial landscape materials collection

Nearby residents expressed concern that illegal activities could spread to their property. Business property owners in the area described typically spending thousands to tens of thousands of dollars annually preventing such unauthorized activities. We heard from a variety of people who thought that existing public lands in the area were inadequately

managed with regard to these issues. They provided examples that such lands have been the origin of wildfires, location of extensive unauthorized encampments, and the sites of illegal drug production and consumption.

Many concerned individuals wanted to know the approach to manage these potential impacts.

Fire

Fire was the single greatest and most consistent concern. Two large scale wildfires – and dozens of smaller ones – have burned in the vicinity of the property in the past six years. Arson and carelessness are the primary causes. Numerous people expressed concern that providing access would result in a much greater likelihood of fire. Recreational user activities they identified as related to wildfires included:

- unauthorized camping and cooking,
- camp fires,
- tobacco and marijuana smoking,
- improper use of cook stoves,
- vehicle use in parking lots, and
- arson

While Cal Fire maintains a strong presence in the area, a blaze can cover hundreds of acres very quickly. The communities of Bonny Doon and Davenport have active community-agency partnerships to reduce fire risk and provide, but these are often strained in terms of financing and volunteer hours.

Parking and Roadway Congestion

Parking was of great concern to neighbors. Some neighbors indicated that the provision of a parking lot close to their homes would bring noise, trash and undesirable people who might commit crimes. They also said that the increase in activity would change the character of their neighborhoods. Some recreational users also expressed concern about parking, indicating that many recreational areas in Santa Cruz have road shoulder parking which is unsafe. Many participants indicated that Empire Grade is unsafe for road shoulder parking. Many participants indicated that the residential streets in Davenport and Bonny Doon Road would be inappropriate for road shoulder parking.

A few participants expressed the expectation that traffic associated with opening the property to public access would substantially change the noise levels and safety of roads in the vicinity, including Highway 1, Empire Grade and Bonny Doon Road.

Quarry Hazards

Participants familiar with the quarry expressed considerable concern about the safety hazards posed by quarry and related infrastructure and earthworks. Sinkholes, cliffs, tunnels, aging infrastructure and other features were identified as areas of concern.

User Experience

Trail Conflicts

Numerous participants expressed concern that hikers, bikers, equestrians and dog walkers could not share the same trails without diminishment of the enjoyment. Contributing factors included:

- differences in the speed of the biker and hikers,
- rude behavior by cyclists
- rude behavior by hikers
- the potential for bikes to startle horses
- people not cleaning up after their dogs
- flies and odors associated with horses
- hikers feeling unsafe without their dogs
- dogs behaving aggressively towards other users and wildlife

Numerous suggestions were made to mitigate these impacts, including:

- separate trails for different user groups
- alternating days of use for different user groups
- uni-directional trails for biking, with the uphill direction aligned with
- requirements for leashes on dogs
- trail stewards to educate users and mediate conflict

Natural Resources

Wildlife, Water and Water Quality, and Too Many Users

Many participants expressed concerns related to natural resources and the impact of too many users on those resources. Comments along these lines expressed the importance of leaving parts of the property in a wild state for the benefit of wildlife and preservation of ecologic integrity. A number of Davenport residents expressed concern about the impact of access on the quality of drinking water, which is sourced on the property. Water resource agency staff expressed concerns related potential impacts to the City of Santa Cruz water supply, which is located downstream from the Laguna Parcel.

Participants recommended strategies to reduce impacts to salmonids (manage erosion), mountain lions (avoid denning and migration corridors), and peregrine falcons (manage access to the quarry using fencing).

Access Points

Trailheads and Parking Lots

Many participants expressed concern about how the public would access the property: where they would park and where the trailheads would be located. Most of the concern centered around parking lots, as described above. Participants generally did not want parking lots to be

located in their neighborhoods. Many participants were also concerned about trailheads, again preferring for them to be located in neighborhoods other than theirs. The least favored site for either trailheads or parking was in Bonny Doon. Parking and trailheads at the Coast Dairies property in Davenport were generally preferred, except for by the residents of Davenport. Parking and trailheads at Empire Grade received the broadest – but not strongest – support.

Support for trailheads and parking lots from different areas (percent of respondents who expressed support for the activity in the specified area)		
Area A (Empire Grade) Parking	Bonny Doon	53%
	Davenport	59%
	Santa Cruz	68%
Area A (Empire Grade) Trailhead	Bonny Doon	72%
	Davenport	65%
	Santa Cruz	81%
Area B (Bonny Doon Road) Parking	Bonny Doon	26%
	Davenport	34%
	Santa Cruz	43%
Area B (Bonny Doon Road) Trailhead	Bonny Doon	51%
	Davenport	48%
	Santa Cruz	67%
Area C (Coast Dairies) Parking	Bonny Doon	76%
	Davenport	27%
	Santa Cruz	72%
Area C (Coast Dairies) Trailhead	Bonny Doon	76%
	Davenport	42%
	Santa Cruz	82%

Opportunities

Numerous participants described various opportunities for the property. Participants described preferences for various recreational uses of the property.

Opportunities expressed by questionnaire respondents (percent of respondents who answered 'Yes' to the question of whether the activity should be provided)	
Hiking	85%
Loop Trail	84%
Ridgeline to Ocean Trail	85%
Biking	46%
Horseback Riding	58%
Hike-In Camping	43%
On-Leash Dogs	57%
Off-Leash Dogs	27%

In addition to options offered by the questionnaire, various participants identified:

- a disc golf course
- collecting mushrooms and edible plants
- hosting gatherings and events

- providing a place of quite nature reflection
- providing a place for building communities in concert with nature

Summary

The interviews and questionnaire provided an invaluable window into the hopes and concerns of the community.

Below is a word cloud consisting of the 50 most common words expressed in responses to an open ended question in the questionnaire. The size of each word is proportionate to its frequency in the responses.