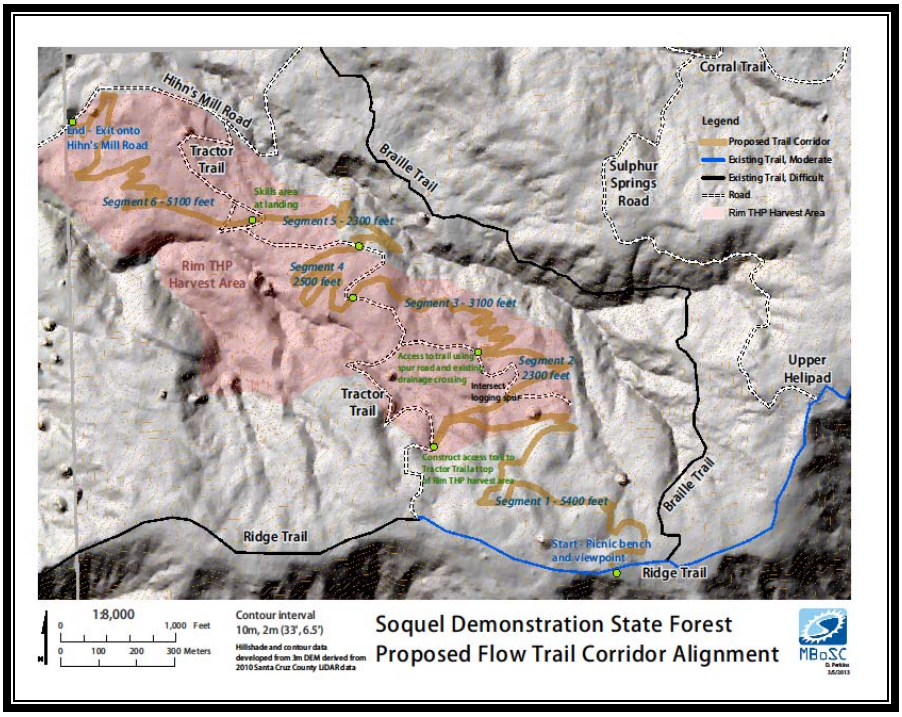
DRAFT Initial Study/Negative Declaration
for the proposed
Soquel Demonstration State Forest
Flow Trail
Santa Cruz County, California
State Clearinghouse Number 2013122040



Prepared by:

The California Department of Forestry and Fire Protection
The Lead Agency Pursuant to Section 21082.1 of the
California Environmental Quality Act

CAL FIRE's Resource Management Program
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December 18, 2013

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NEGATIVE DECLARATION

Introduction and Regulatory Context

Stage of CEQA Document Development

☐ **Administrative Draft.** This California Environmental Quality Act (CEQA) document is in preparation by California Department of Forestry and Fire Protection (CAL FIRE) staff.

☒ **Public Document.** This completed CEQA document has been filed by CAL FIRE at the State Clearinghouse on December 18, 2013, and is being circulated for a 30-day agency and public review period. The public review period ends on January 16, 2014. Instructions for submitting written comments are provided on Page 7 of this document.

☐ **Final CEQA Document.** This Final CEQA document contains the changes made by the Department following consideration of comments received during the public and agency review period. The changes are displayed in strike-out text for deletions and underlined text for insertions. The CEQA administrative record supporting this document is on file, and available for review, at CAL FIRE's Sacramento Headquarters which is located in the Natural Resources Building, 1416 Ninth Street, 15th Floor, Sacramento, California.

Introduction

This Initial Study/ Negative Declaration (IS/ND) describes the environmental impact analysis conducted for the proposed project. This document was prepared by CAL FIRE staff utilizing information gathered from a number of sources including research and field review of the proposed project area and consultation with environmental planners and other experts on staff at other public agencies. Pursuant to PRC § 21082.1 of CEQA, the lead agency, CAL FIRE, has prepared, reviewed, and analyzed the IS/ND and declares that the statements made in this document reflect CAL FIRE's independent judgment as lead agency pursuant to CEQA. CAL FIRE further finds that the proposed project, which includes revised activities and mitigation measures designed to minimize environmental impacts, will not result in significant adverse effects on the environment.

Regulatory Guidance

This IS/ND has been prepared by CAL FIRE to evaluate potential environmental effects that could result following approval and implementation of the proposed project. This document has been prepared in accordance with current CEQA Statutes (PRC § 21000 *et seq*.) and current CEQA Guidelines (14 CCR § 15000 *et seq*.).

An Initial Study is prepared by a lead agency to determine if a project may have a significant effect on the environment (14 CCR § 15063(a)) and to determine the appropriate environmental document. In accordance with 14 CCR § 15070, a "public agency shall prepare…a proposed negative declaration or mitigated negative declaration…when: (a) The Initial Study shows that there is no substantial evidence…that the project may have a significant impact upon the environment, or (b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions will reduce potentially significant effects to a less-than-significant level." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the proposed project will not have a significant effect on the environment and, therefore, does not require the preparation of an Environmental Impact Report. This IS/ND conforms to these requirements and to the content requirements of 14 CCR § 15071.

Purpose of the Initial Study

CAL FIRE has primary authority for carrying out the proposed project and is the lead agency under CEQA. The purpose of this IS/ND is to present to the public and reviewing agencies the environmental consequences of implementing the proposed project and to describe the adjustments made to the project to avoid significant environmental effects or to reduce them to a less-than-significant level. This disclosure document is being made available to the public, and reviewing agencies, for review and comment. The IS/ND is being circulated for public and agency review and comment for a review period of 30 days as indicated on the ***Notice of Intent to Adopt a Negative Declaration*** (NOI). The 30-day public review period for this project begins on December 18, 2013 and ends on January 16, 2014.

The requirements for providing an NOI are found in 14 CCR § 15072. These guidelines require CAL FIRE to notify the general public by utilizing at least one of the following three procedures:

- Publication in a newspaper of general circulation in the area affected by the proposed project.
- Posting the NOI on and off site in the area where the project is located.
- Direct mailing to the owners and occupants of property contiguous to the project.

CAL FIRE has elected to utilize posting of the NOI at four locations. The NOI is posted at four prominent locations on and off site in the area where the project is located.

The four locations where the NOI is posted during the 30-day public review period are:

1. At the CAL FIRE Soquel Demonstration State Forest public entrance signboard at 29400 Highland Way, Los Gatos, California.
2. At the CAL FIRE San Mateo-Santa Cruz Unit Headquarters, Resource Management Office at 6059 Highway 9, Felton, California.
3. At the CAL FIRE Soquel Demonstration State Forest Office at 4750 Soquel-San Jose Road, Soquel, California.
4. At the Santa Cruz County Clerk/Recorder's Office in Santa Cruz, California.

A complete copy of this CEQA document will be made available for review by any member of the public requesting to see it at Locations #2 and #3 above. An electronic version of the NOI and the CEQA document are made available for review for the entire 30-day review period on the CAL FIRE website at:

http://www.fire.ca.gov/resource_mgt/resource_mgt_EPRP_PublicNotice.php.

If submitted prior to the close of public comment, views and comments are welcomed from reviewing agencies or any member of the public on how the proposed project may affect the environment. Written comments must be postmarked or submitted on or prior to the date the public review period will close (as indicated on the NOI) for CAL FIRE's consideration. Written comments may also be submitted via email (using the email address that appears below) but comments sent via email must also be received on or prior to the close of the 30-day public comment period. Comments should be addressed to:

Christopher E. Browder, Deputy Chief, Environmental Protection
California Department of Forestry and Fire Protection
Resource Management – Environmental Protection Program
P.O. Box 944246
Sacramento, CA 94244-2460
Phone: (916) 653-4995
Email: sacramentopubliccomment@fire.ca.gov

After comments are received from the public and reviewing agencies, CAL FIRE will consider those comments and may (1) adopt the Negative Declaration and approve the proposed project; (2) undertake additional environmental studies; or (3) abandon the project. If the project is approved and funded, CAL FIRE could design and construct all or part of the project.

PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

Project Location

The project is located in Soquel Demonstration State Forest (SDSF) in Santa Cruz County, California and is for the construction of a new trail that is called the Flow Trail. The Flow Trail will start near the picnic bench on Ridge Trail, approximately 200 feet downhill from the intersection of Ridge Trail and Braille Trail (lat. 37.07336, long. -121.99976). The trail will end at Hihn's Mill Road between Tractor Trail and Sawpit Trail (lat. 37.08440, long. -121.90590). The trail is located in the vicinity of Tractor Trail and the bottom three quarters of the trail is located in the Rim Timber Harvesting Plan (THP) area.

Background and Need for the Project

The proposed Flow Trail is intended to replace the past recreation trail experience and role of Tractor Trail. Tractor Trail was an old logging road that had become a narrow trail in the decades since its construction. During a recent timber harvesting operation (the Rim THP), the trail was temporarily closed to the public while it was widened and converted back to a logging haul road. It will be now be maintained as a forest road and as a consequence no longer provides a narrow recreation trail experience. The new trail will be constructed in the vicinity of Tractor Trail and will intersect Tractor Trail in 4 locations. The trail will provide separate recreational access from Ridge Trail to Hihn's Mill Road and will provide an alternate recreation trail that can be used when portions of Tractor Trail are used for timber operations in the future.

Tractor Trail is one of the least difficult routes connecting Ridge Trail and Hihn's Mill Road and is attractive to beginner mountain bikers and for hiking. Tractor Trail is also the main trail utilized for mountain bikers to ride uphill to get back up to Ridge Trail and access Sawpit Trail and Braille Trail for riding in a loop. Corral, Braille, and Sawpit Trails all contain steep and technically difficult sections that require advanced mountain biking skills to ride. The new Flow Trail will provide lower gradient and flowing turns that will be more attractive to beginner and intermediate mountain bikers. The Flow Trail will have a design that is oriented towards mountain biking, but will also be open to hiking and equestrian traffic like all the other trails at SDSF. The Flow Trail will add diversity to the type of trails available to recreational users at SDSF.

Because SDSF is a working forest, it is understood that trails need to be closed from time to time to accommodate forest management activities. The new Flow Trail will provide an additional opportunity for diverse trail use when Sawpit Trail, Braille Trail or Corral Trail is temporarily closed.

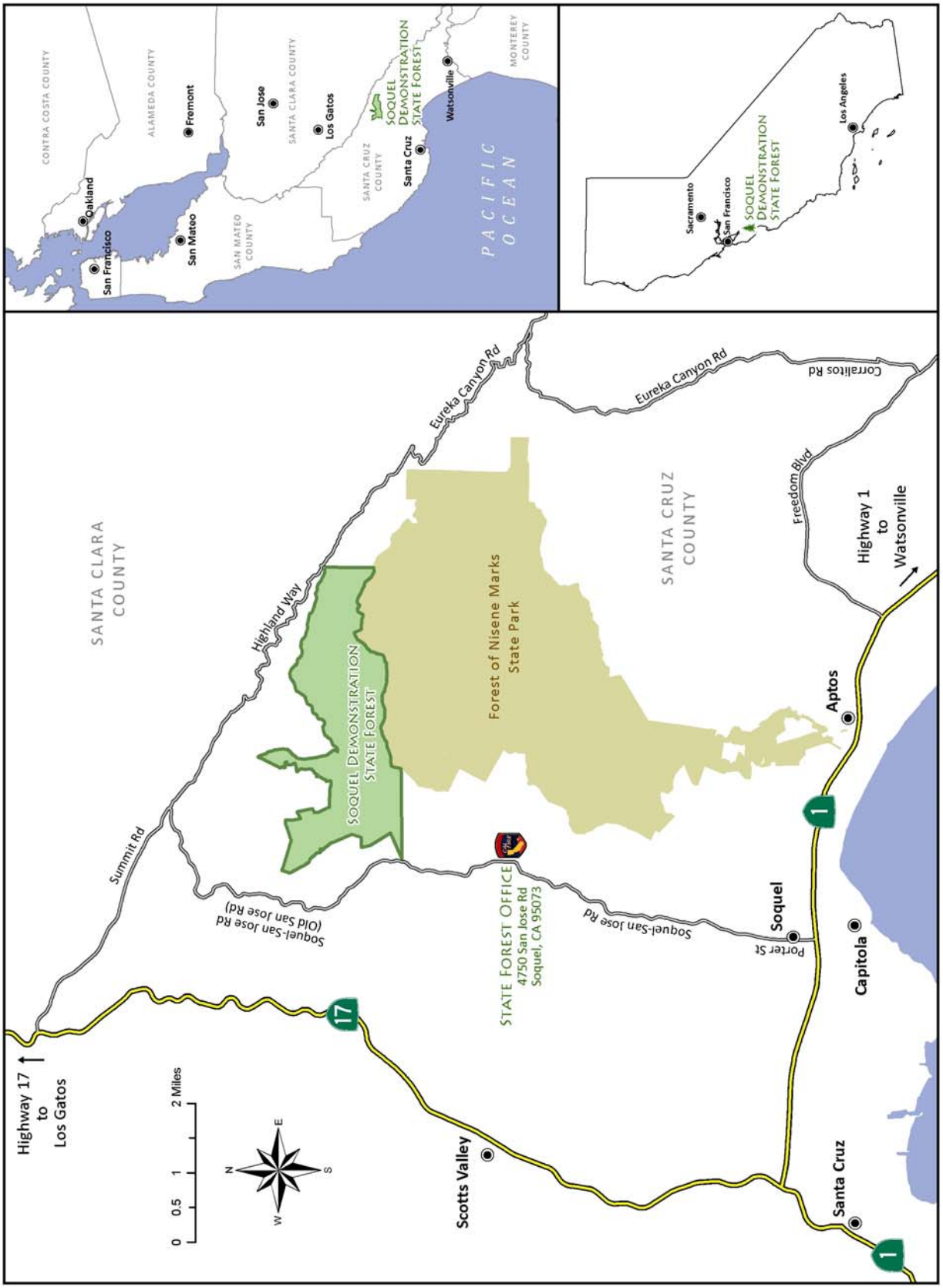


Figure 1. SDSF Locator map.

Project Objectives

The project is for the construction of an approximately 4-mile-long natural-surface trail connecting Ridge Trail and Hihn's Mill Road. The trail will have an average gradient of approximately five to six percent. The design of the trail allows cyclists traveling down the trail to keep momentum while minimizing pedaling and braking. This trail will appeal all levels of riders from beginner to advanced. The International Mountain Bicycling Association Flow Country Trails program identifies several aspects of a Flow Trail experience listed below.

Synergy with the landscape: Making the most of what the natural terrain provides by using the trail to explore the topography and features present (rocks, trees, waterways). Some describe a trail with good flow as one that has been revealed, not so much as constructed.

Opposition to user forces: Flow trails maximize the efficiencies afforded by using a bicycle, and are designed to counteract forces that direct a user off the trail. Bermed turns and cambered tread surfaces, for example, promote traction, safety, sustainability, and enjoyment.

Conservation of momentum: The ideal trail avoids 'flow killers' such as sharp turns, incongruent features, and disjointed climbs and descents. Instead, it utilizes undulations and cambered turns to reward smooth, deliberate riding and maximize forward motion. A flow trail encourages a better understanding of the bicyclist/bicycle interface, allowing riders to reach that unique sensation of floating through the landscape.

Leading the user forward: A sense of discovery, combined with a design that maximizes a rider's forward momentum, helps to draw the user forward. The trail is never repetitive or predictable, nor is it 'awkward,' with variety and innovation combining to create an intuitive feel.

Modern trail construction and design techniques to be utilized include: low average gradient, a contouring route across the hillside instead of down it, frequent grade reversals and undulations. These design features will limit erosion and minimize maintenance requirements. Most of the existing trails at SDSF are steep, fall-line-oriented (perpendicular to the contours instead of parallel), and typically utilize legacy logging infrastructure, which was not designed for year-round recreational use. The lower average grade of the Flow Trail also reduces user speeds and provides for safety.

Project Start Date

Anticipated start date to begin trail construction is winter of 2014. Construction may take more than one year to complete. Construction may occur during dry periods in the winter season when soils are not saturated. Construction during the wet season is necessary to provide ample moisture for soil cohesion and compaction during construction.

Project Description

DEMONSTRATION AND DESIGN

The Flow Trail provides for an important demonstration opportunity at SDSF. The trail design and construction techniques are progressive. While the trail provides fun and playful opportunities for bicyclists, it also minimizes potential for erosion and other environmental impacts common to trails. The trail will be designed in a way that effectively utilizes and controls the bicycle rider's momentum to minimize pedaling and braking and will appeal to both beginner and advanced cyclists.

Features will be designed so that beginner-to-advanced riders will be able to enjoy the features according to their ability and riding speed. For example, jumps will be sited and built with long landings that allow riders to jump at a speed they are comfortable with and have a safe landing area. Landing areas will be cleared of sticks, rocks, logs and other hazards. This design style also minimizes skidding and abrupt changes in trail direction and speeds that can cause excessive trail wear.

The new trail will be integrated into the landscape as much as possible, using natural features to guide the design and anchor the trail. Areas disturbed by construction will be re-naturalized, and the trail corridor will be narrowed after construction using logs, duff, and by transplanting small plants. The trail is intended to feel integrated into the terrain rather than imposed on the terrain. User speed and sight lines will be carefully considered in the placement and design of trail features to maximize enjoyment and minimize trail wear from abrupt changes in speed.

This Flow Trail proposal represents a type of trail that does not currently exist on public lands within the greater San Francisco Bay Area. This project will provide a demonstration for land managers of a low impact and low maintenance trail that incorporates advanced bicycle-oriented trail design and construction techniques. We believe that significant long-term benefits can be realized not only in the Santa Cruz Mountains area, but also on a state-wide and regional scale by showcasing the benefits of modern trail construction techniques. The Flow Trail will provide an example of the viability of providing a mountain biking trail that is intentionally built to be fun and safe while protecting natural and cultural resources.

TRAIL CORRIDOR DESCRIPTION

The Flow Trail will start at one of the most heavily visited spots in SDSF: near the picnic bench and vista point on Ridge Trail near the Braille Trail intersection. It will end on Hihn's Mill Road between Sawpit Trail and Tractor Trail. The Flow Trail will sweep back and forth across the harvested area and cross Tractor Trail at a few strategic locations. Where the Flow Trail crosses Tractor Trail, the intersections will be designed so that riders on the Flow Trail will be traveling slightly uphill and moving more slowly, and downhill traffic on Tractor Trail will have a long, clear sightline to the crossing location.

The Flow Trail will have an average gradient of around five-to-six percent, a length of approximately 4 miles and a net elevation loss of 1,280 feet. This low average gradient will provide a beginner-friendly experience and a fun descent with minimal pedaling or braking. The low average gradient also requires less maintenance to maintain drainage, erodes less and is more sustainable over time. The expected trail width will be approximately 3 feet on straight segments and somewhat wider on banked turns or in areas where a narrower trail causes safety concerns (landing area for jumps, for example). This width can accommodate two-way traffic and provides access for CAL FIRE's ATV, which is used for administrative and emergency access.

The trail alignment corridor is generally on mild slopes under 35%, which allows for following contours, as well as easing turn construction. Less than 20% of the alignment is on slopes greater than 40-50%. The trail will be sited to minimize the need for advanced construction techniques like retaining walls or tread armoring. The entire trail is located under forest canopy.

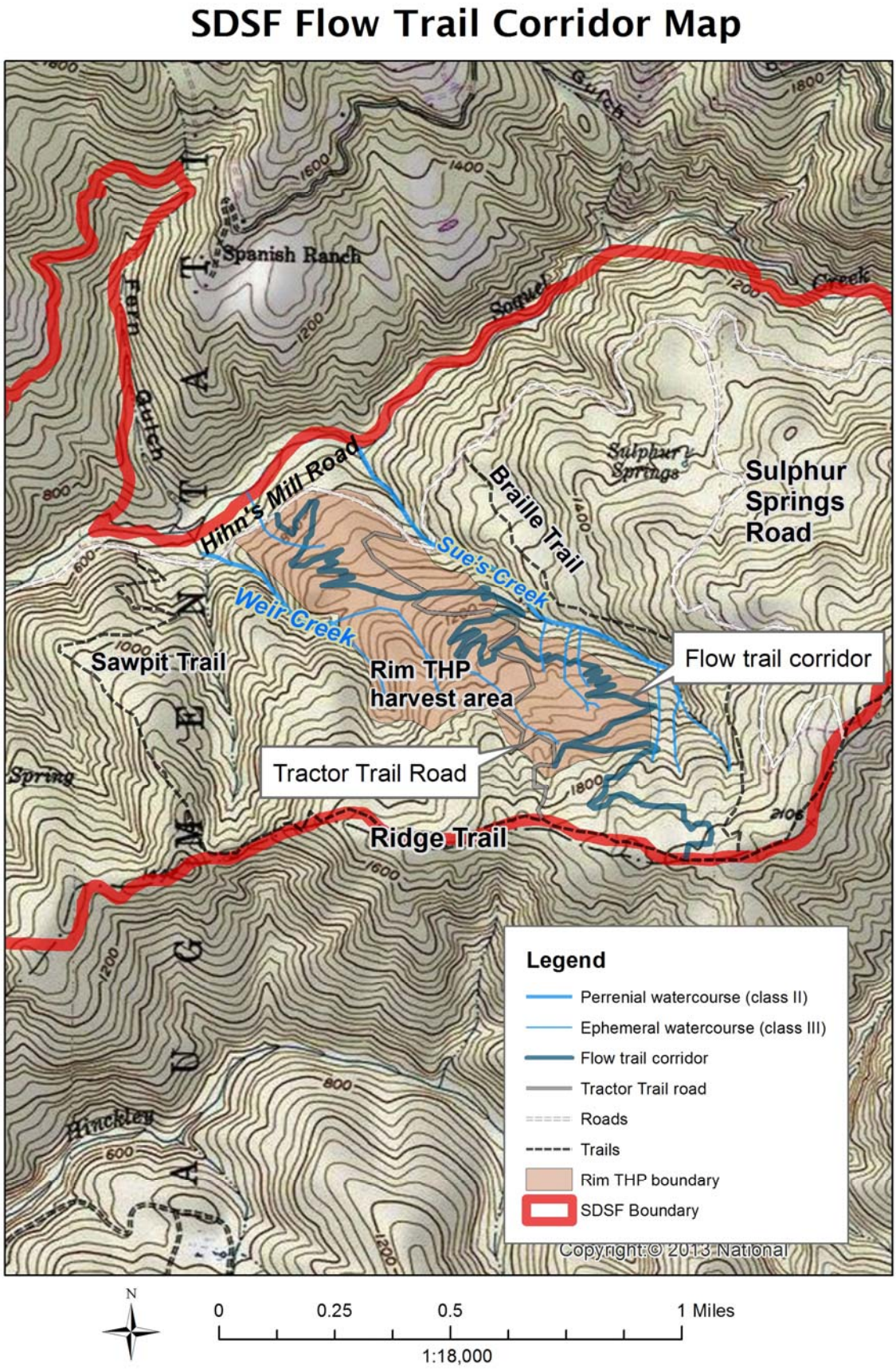


Figure 2. Flow Trail Corridor Map with SDSF and Rim THP Boundaries.

No perennial watercourses will be crossed by the proposed trail. Ephemeral drainage and swale crossings are at existing skid trail crossings or other locations where the drainage can be crossed with an at-grade crossing with no excavation of the channel or banks required. **A small wooden bridge will be constructed at all ephemeral drainage crossing locations to minimize impacts that could potentially result from wet weather use.** No California Department of Fish and Wildlife Streambed Alteration Agreement Permits are expected to be required for this project.

SEGMENT DESCRIPTIONS

The trail corridor is divided up into six segments. Each begins or ends at a location where equipment and emergency responders can access the trail.

Segment 1 (5400 feet): Connects the picnic bench on Ridge Trail with the top of the graded section of Tractor Trail. This segment consists of three long traverses across the slope and dips in and out of several swales. This segment crosses some of the steepest terrain in the identified corridor and over two thousand feet are located on slopes over 40% and several hundred feet on slopes over 60%. The switchback at the end of this segment will connect to the top of Tractor Trail with a short access trail. This section is intended to be mostly traditional singletrack with minimal constructed features besides the switchbacks connecting the traverses. It also features several remnant old growth redwood trees. **Prior to construction of Segment 1 a botanical survey will be conducted to identify any sensitive plant species that require protection. Any identified sensitive plants will be avoided by the trail construction corridor.**

Segment 2 (2300 feet): Connects the top Tractor Trail roaded portion to two access points on the southeastern spur road used for the Rim Timber Harvest. The first few hundred feet of this segment traverses steeper slopes (40-60%) and the rest is on slopes under 40%. This segment will cross the southeastern spur logging road for an additional access point.

Segment 3 (3100 feet): Connects the southeastern spur road to the first crossing of Tractor Trail. This segment traverses mostly gentle terrain (<40% sideslope) and switchbacks several times between two drainages and provides many opportunities for cambered turn construction. The trail then crosses a drainage at an existing skid trail crossing and descends with two more switchbacks and another swale crossing. The trail then traverses back towards Tractor Trail, finishing with a short climb to the intersection point where there is good visibility along Tractor Trail.

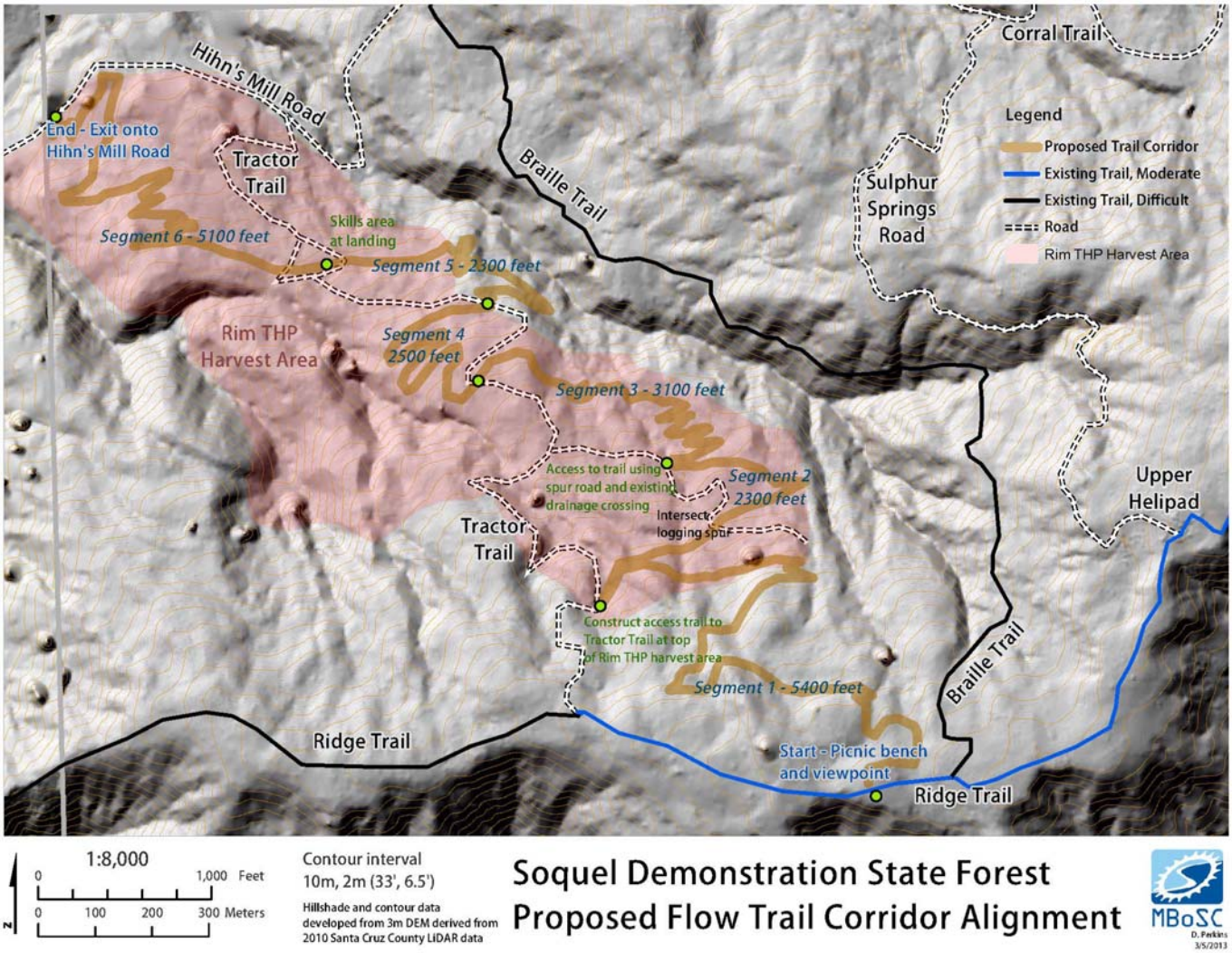
Segment 4 (2500 feet): After crossing Tractor Trail, this segment makes several turns on gentle terrain before making four longer traverses. This segment features several large madrone trees and some very large and beautiful second growth redwoods. This segment finishes on Tractor Trail again with a slight uphill on very gentle terrain at a location with a long sight distance.

Segment 5 (2300 feet): Once across Tractor Trail, this segment starts out with a dramatic change in terrain as the trail dives over the shoulder of the hill onto some steep slopes that are outside the Rim THP harvest area. After a short section along a steep sideslope (~80%) the trail passes an old growth Douglas-fir tree and drops into a hummocky area where the trail can be located with minimal bench excavation. This segment ends on a flat skid trail that leads to a large cleared landing, which has been identified as a location for a skills development area.

Segment 6 (5100 feet): After departing the skills area, this segment starts with a long contouring traverse across mild terrain. After reaching a switchback at a flat ridge, it descends through several series of stacked

switchbacks on gentle (<20%) terrain, threading around and through groves of redwoods. The trail enters another bowl with a series of linked turns before traversing down towards Hihn's Mill Road. The final few hundred feet of the trail descends through a live oak stand with a series of five incrementally tighter turns that gradually slow the rider before exiting onto Hihn's Mill Road.

Figure 3. Map of proposed trail corridor.



SKILLS AREA

Included with this project is a plan for a bike skills development area on a large flat landing on Tractor Trail near the lowest intersection of the new Flow Trail. This flat area and adjacent hillside provides for construction of balance features, a small jump/pump line, and some progressive drop lines. This area will be at the top of the last segment of the new trail, which is intended to be the most intensely constructed and feature-rich segment of the trail. This skills area has cell phone reception and will be accessible by emergency vehicles. There is also room for a picnic table and benches to make an inviting rest point, and interpretive signage about SDSF and timber harvesting history.

Figure 4. Example balance feature at Camp Tamarancho Skills Area

FUTURE LOGGING

The Flow Trail is designed so that it directly intersects the upper extent of the grading of Tractor Trail for the Rim THP. When the area around Segment 1 is harvested in the future it will be closed and trail users will be routed down the Ridge Trail to the upper portion of Tractor Trail to bypass active timber harvesting operations. Here users can connect back onto the Flow Trail where it travels through the completed harvest area and can avoid log truck traffic on Tractor Trail.

The management plan for SDSF calls for periodic harvests of timber in most areas within the forest, on a 10-to-20 year re-entry cycle. The Rim THP area will continue to grow healthy, robust trees that will once again be harvested at a future date, requiring temporary closure of the trail at that time. Mountain Bikers of Santa Cruz and Stewards of Soquel Forest are working with SDSF staff on a long-term recreation and trail plan that will plan for and coordinate timber harvesting and recreation.

ACCESS

The Flow Trail will meet or cross Tractor Trail in four locations and short access trails will be developed to connect the Flow Trail to Tractor Trail where feasible, using logging road spurs off of Tractor Trail or by adding additional singletrack spurs. These access points are shown on the map and are the beginning and end of each segment. These access points will provide for access for equipment, construction personnel, and for transporting any necessary materials for construction to the trail. Access points from Tractor Trail will also provide several locations where emergency services can easily and quickly access the trail. Additionally, these multiple access points will allow for repeated riding of one or more segments of the trail by looping back up the Tractor Trail.

To provide long term emergency and construction access to the trail and skills area in the winter, the lower portion of Tractor Trail will be upgraded. Upgrades will include rerouting a portion of the road away from a wet area designated as Workstation 1 in the Rim THP, as well as rocking the road to the intersection with

Hihn's Mill Road. Forest staff consulted with staff from the California Geologic Survey who recommended treatment of this area with rock and filter fabric to build up the road base above the saturated area (see attached report). Since that time an alternate treatment of rerouting approximately 400 feet of road has been considered and will be proposed and evaluated through an amendment to the THP. Moving the road location out of a through-cut situation onto gentle side slopes with an outsloped road will be proposed to improve drainage and ease of maintenance. The road upgrade and reroute will occur as part of timber operations under the Rim THP in an amendment to be submitted in early 2014 and not as part of the Flow Trail project. Timing for the road work will be during the 2014 THP operating season (between May 1st and October 15th).

CONSTRUCTION

The trail will be constructed with a mini-excavator, a mini-skid steer with a bucket and/or blade as well as with hand tools and labor.

The final trail location will be flagged with pin flags indicating the top of cut. An area above and below the flags will be cleared of downed logs, slash, understory vegetation and duff by hand (it is likely a CAL FIRE conservation crew will perform this work). **No trees greater than 16 inches dbh will be removed unless they are identified as hazard trees. Hazard trees identified by the Forest Manager along the trail may be felled for safety. Hardwood trees felled as part of the Flow Trail project within the Rim THP area may be utilized for firewood, and operations for removal of the firewood will comply with the provisions contained in the Rim THP. Any operations for utilizing hardwood trees that are felled as part of the Flow Trail project will be coordinated with the licensed timber operator responsible for conducting fuelwood operations on the Rim THP area. Any trees felled outside the THP area will be left on site. Any trees proposed for removal will be inspected for nests, platforms, whitewash or other indicators of wildlife use prior to falling. No trees with nests or platforms will be felled.**

Upon approval of the Flow Trail project, the Rim THP will be amended to clearly describe the proposed Flow Trail project activities. This will include clearly describing those activities that will occur as a part of timber operations associated with the Rim THP, for which the licensed timber operator will be responsible, and those activities that will occur as a result of the Flow Trail project, for which another SDSF staff will be responsible.

In order to ensure no impacts to California red-legged frogs (CRLF) during construction, trail workers will be trained on the recognition of CRLFs. If any CRLF is found during construction activities, the Forest Manager will be notified and all work will stop until the CRLF has moved out of the area. This method of mitigating for CRLF's has been recently employed for fuel reduction projects in the region consistent with California Department of Fish and Wildlife biologist recommendations. **In order to identify any sensitive plant species that will need to be protected or avoided during construction an appropriately seasonal botanical survey will be conducted along Segment 1 where the previous botanical survey for the Rim THP did not cover. Any identified sensitive plants will be avoided by the trail construction corridor.**

The San Francisco dusky-footed woodrats build large stick nests at the bases of trees or shrubs and prefer forested habitat with a moderate canopy. **The trail alignment will be routed away from any woodrat nests and nests will not be disturbed during construction activities.**

The area cleared for the trail corridor will range from 3 to 4 feet on gentle slopes to 2 feet above the flag and six feet below it on steep slopes. Clearing the duff from the trail area allows construction of a partial bench trail (see Construction Specifications for cross-section and more detail) without incorporating organic material into the trail bed or burying soft organic matter on the outer edge of the trail. Partial bench construction minimizes the amount of excavation needed to cut the trail, decreases the height of the cutbank,

minimizes sidecast and minimizes the area disturbed by construction. The downhill duff berm helps minimize downhill travel of sidecast, and the duff can then be pulled back up to the edge of the trail to re-naturalize the trail area and minimize colonization of invasive species. Additionally, clearing duff before excavation ensures that all excavated dirt is clean and can be used to construct trail features like cambered turns, grade reversals, rollers, and jumps that will compact well and hold up with regular use.

The construction process might vary slightly depending on what machines are available for construction. One goal of this project is to do as much work as possible utilizing machine power so that volunteer efforts can be utilized most effectively on tasks that cannot be efficiently done with machines like trail re-naturalization, construction of wood features and final shaping and compaction of dirt features.

The initial bench will be cut with a mini-excavator (similar to a Tachiuchi TB016 or John Deere D17) or a Morrison Trail Blazer. The excavator will likely have a width of 30 to 40 inches. The excavator will cut a rough bench as narrow as is necessary for safe passage of the machine. Very steep slopes (80%+) will likely require full bench construction. The trail will generally be constructed using a combination of sub-bench construction and full bench construction (see Figure 7 in construction specifications for diagram). If spoils from a full bench construction can be utilized in the vicinity for grade reversals, switchback turns, or other trail features, a full bench trail will be cut. In areas where the spoils cannot be fully utilized, the soil will be spread and compacted onto the full bench cut. This practice lowers the cut-bank height and minimizes sidecast and the area of disturbance, while still providing a stable, wear-resistant surface. Split partial bench trail construction will generally not be used except on very shallow slopes as the fill portion is not well-knit into the native soil and tends to slough away.

The excavator will also rough-in the backslope of the trail to a slope between 1:1 and 1:2. The excavator is followed by the mini-skid steer (Ditch Witch SK650 or similar) with a six-way blade to smooth out the rough-cut and establish the final grade of the trail. The mini-skid steer also establishes the outslope and shapes turns and grade reversals. A bucket on the skid steer can be used to efficiently transport material to build up large grade-reversals, cambered turns, rollers, and jumps.

Other equipment likely needed for construction include power wheelbarrow, ATV and dump trailer, plate compactor, rammer-compactor, small generator, drill, demo hammer with compaction plate, chainsaw with carbide chain and/or sawzall for cutting roots, winches, griphoist, and basic hand tools.

Figure 5. Morrison Trail Blazer

Figure 6. Tacheuchi TB016 mini-excavator

Figure 7. Ditch witch SK650 with 6-way blade

Examples of mini-sized equipment used for trail construction.

EROSION CONTROL

Following excavation, shaping and compaction of a section of trail, the duff and organic material removed from the trail corridor will be spread over any bare soil exposed below and above the trail bench, narrowing the trail down to approximately three feet wide. This organic material and duff will protect any loose soil from raindrop impacts and potential erosion. The narrow trail width, outsloping, low gradient, contouring alignment, and frequent grade reversals (typically 20-50 feet, maximum 100 feet) will minimize erosion on the tread surface.

Operations will occur during dry periods in the winter when soils are not saturated. No excavation will occur when rain is falling or when soil moisture is too high for proper compaction. Recently excavated areas that have not been shaped and compacted may be tarped during rain events to minimize erosion and keep soils dry enough to work. Fine flagging, corridor clearing, wooden feature construction, fine tuning of trail shape for drainage, and trail corridor re-naturalization are all activities that can be performed during wet periods when soils are too wet for excavation.

DRAINAGE CROSSINGS

The trail crosses several intermittent drainages. These crossing locations have been sited so that all are at grade and no excavation or fill in the channel will be needed to cross the drainage. Several of them are located at temporary skid trail crossings used in the Rim THP. All drainages that have evidence of water and

sediment transport or a defined channel will be crossed with a small wooden bridge to minimize impacts resulting from use of the trail in wet weather. These bridges will be constructed out of rot resistant material found on site. Bridges may be made out of redwood slabs, logs with a flattened top surface, or constructed with stringers and decking. Decking may be sawn with a chainsaw mill or made from split redwood. These small bridges will span the entire channel and will not obstruct flow of water and debris through the crossing.

Staff from the California Geologic Survey conducted a site review and provided recommendations for drainage crossings. They are incorporated into the plan and construction specifications.

ADAPTIVE MANAGEMENT

The trail also crosses several un-channelized swales or other areas (seeps, etc.), which may remain wet for long periods during the winter. If winter use of the trail across these areas causes rutting or other impacts, the areas will be armored with rock or a small wooden puncheon bridge will be constructed. Construction during the winter will generally allow identification and treatment of these locations before the trail opens.

Additionally, **areas on the trail that experience any significant surface erosion (rilling, etc.) will be modified through either construction of additional drainage features (grade reversals), armoring with rock or concrete turf blocks, or realignment.** The goal of this project is construction of the trail that requires a minimal amount of long-term maintenance and minimizes potential for sediment delivery to watercourses and associated impacts to aquatic habitat.

CONSTRUCTION SPECIFICATIONS

TRAIL CROSS SECTION

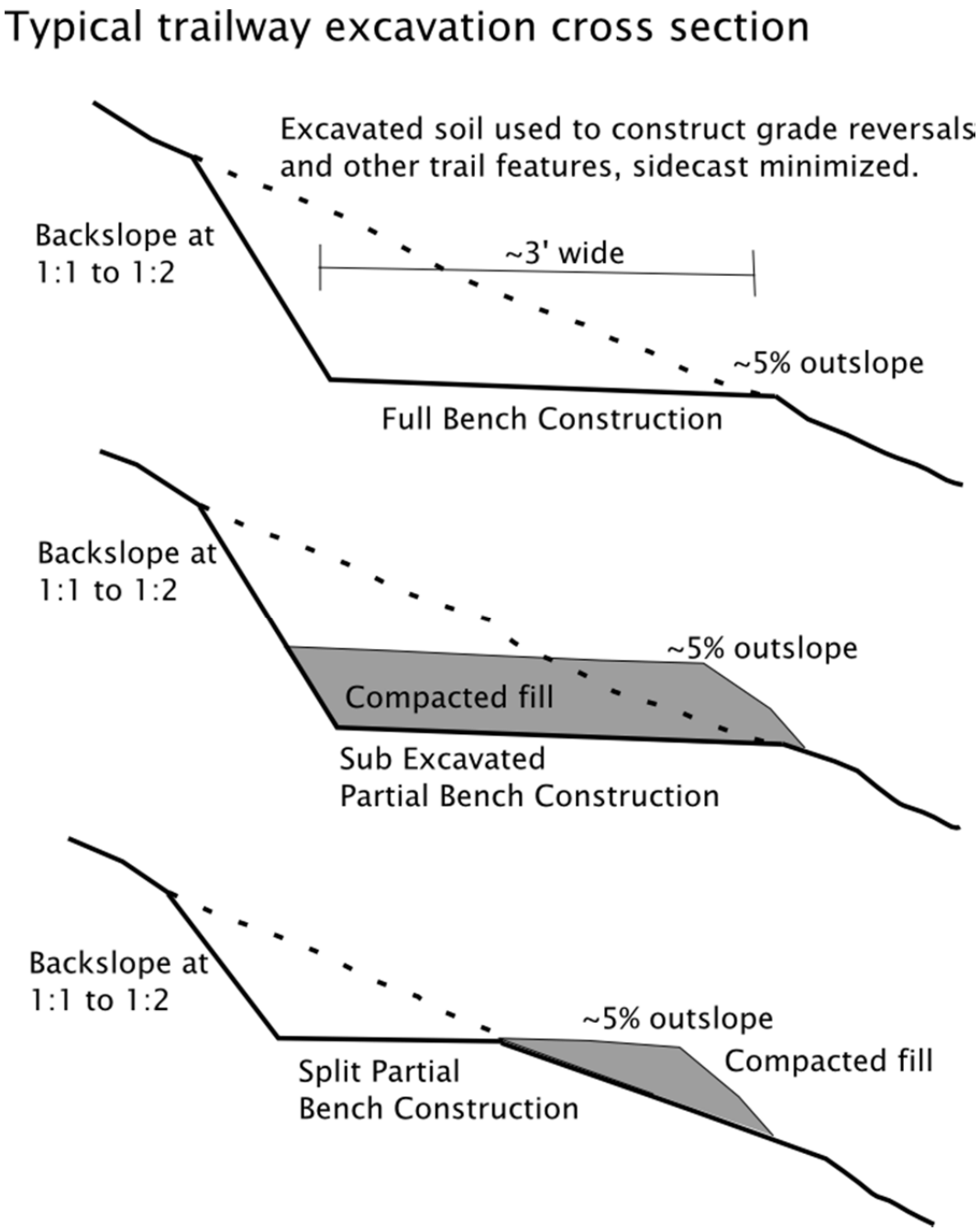


Figure 8. Typical trailway excavation cross section.

CONSTRUCTED GRADE REVERSAL FEATURE

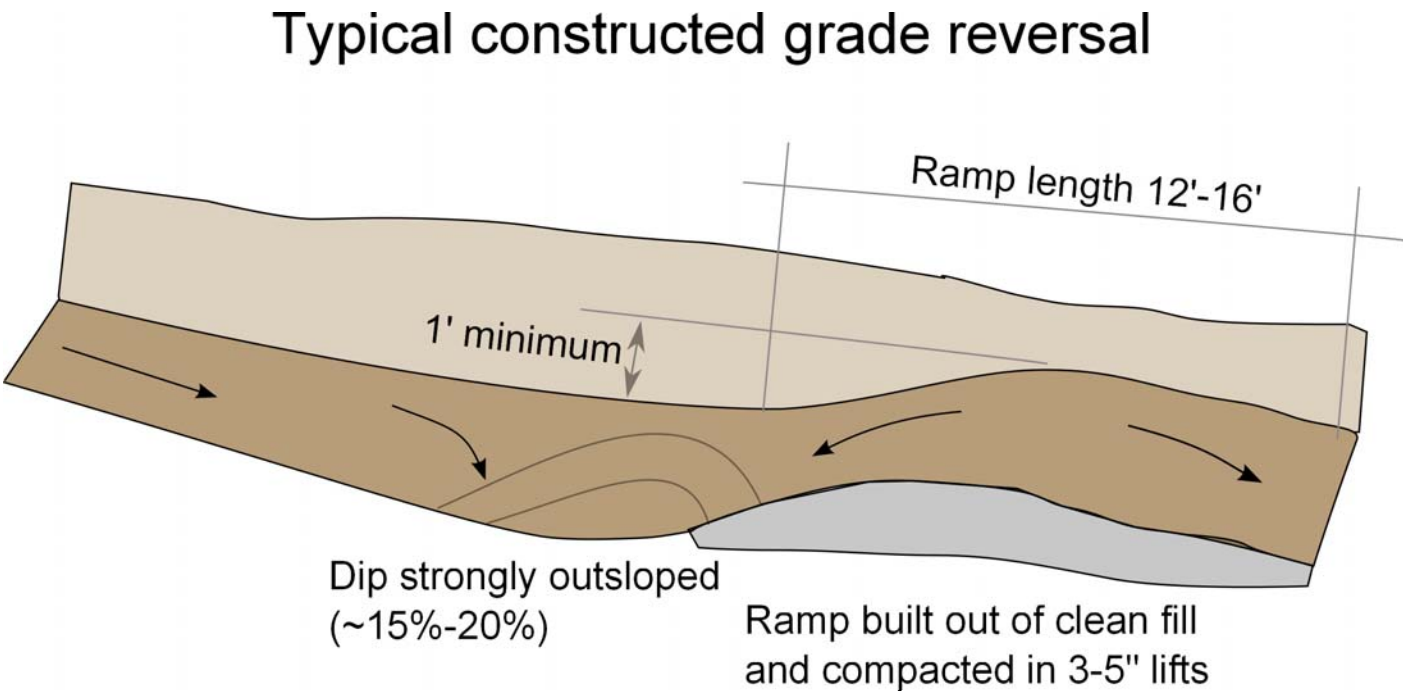


Figure 9. Typical constructed grade reversal

SWITCHBACK TURN

Switchback turns have been located in relatively flat locations where excavation necessary to construct the proper radius is minimized. Switchbacks on steeper slopes may incorporate a low retaining wall to minimize the amount of excavation needed. Switchbacks will have large grade reversals before and after the turns and will be cambered to direct bicycles around the turn without skidding and displacement of soil.

Figure 10. Example of cambered switchback turn with grade reversal at exit.

SMALL WOODEN BRIDGE

Trail bridges will be built with native, rot-resistant materials found on site and have a rustic, natural appearance. Bridges will be overbuilt with quality materials and a high degree of craftsmanship. Bridges may be naturally-formed slabs, split logs, whole logs with a flattened running surface, or constructed with stringers and decking. A significant amount of downed old-growth redwood logs were left in the forest after the initial clearcut and these provide excellent source material for bridge construction. Additionally, many damaged and sub-commercial-sized redwood logs are left from the Rim THP logging, which are appropriate for bridge construction.

Bridges will be constructed of sound, rot-free material. Wood used for ground contact applications should be sound heart redwood. Concrete pier blocks may be brought in for use as bridge abutments. Bridges shall be sufficiently wide for safe travel and should be oriented in the direction of travel for bicycles to minimize the chance of slipping while turning on wet wood. The surface shall be roughened to provide traction when the wood is wet. If stringers are used they shall be a minimum eight inches diameter and all sapwood will be removed from surfaces that contact sills and decking. The ends of stringers will be protected from ground contact by a backing plate of rot resistant wood. If decking is used, it will be split redwood or other rough cut lumber (chainsaw mill). All hardware used shall be adequately sized and treated for rust resistance.

Figure 11. Example of log stringer bridge with split redwood decking.

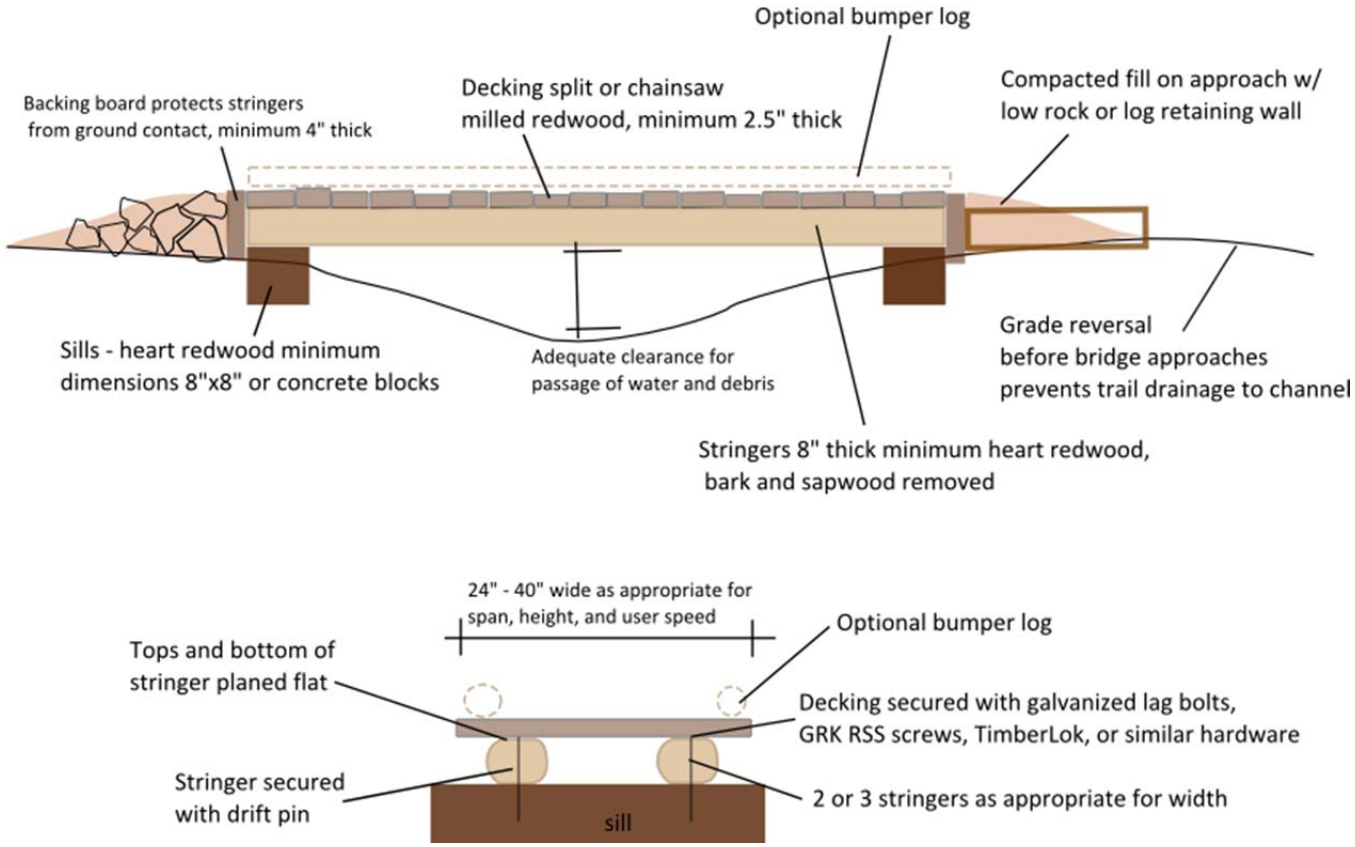


Figure 12. Typical stringer bridge specifications.

LEAK AND SPILL PREVENTION

All machines will be checked for leaks at the start of work each day and at each refueling. Any leaks discovered must be corrected before construction can resume. A drip catcher will be placed under any leaks and the collected fluid will be disposed of properly. A spill response kit will be kept with the trail construction machines at all times. The kit will contain a winch and rigging capable of righting the machine if it tips over, a shovel, rubber gloves, rags, absorbent pads and several large heavy duty plastic bags. After righting, the machine will be cleaned and all spilled fluids and contaminated soil will be removed and placed in the bags for transport to an appropriate disposal site. Any fluids spilled during maintenance or refueling will also be disposed of in a similar manner.

All refueling and maintenance of equipment will occur at least 100 feet away from any watercourse.

HISTORICAL OR ARCHAEOLOGICAL DISCOVERY

An Archaeological Survey Report for the Soquel Demonstration State Forest Flow Trail was completed by Angela Bernheisel on October 21, 2013. State Archaeologist Chuck Whatford reviewed and approved the report. There are no known sites within the proximity of the Flow Trail alignment requiring protection.

SDSF is a very culturally rich landscape with a high likelihood of encountering new archaeological sites (mainly historic logging sites) during project activities. Because of this, **prior to the beginning of trail construction, trail workers will receive basic training in identifying potential archaeological sites that have been commonly found in the area. This training will be provided by an RPF with archaeological training and experience. If any new sites are found during trail construction, construction activities will stop and the Forest Manager or Assistant Forest Manager (both RPF's with CAL FIRE Archaeological Training) will be immediately notified to determine protection measures in consultation with the CAL FIRE Archaeologist. New sites that are encountered will avoided by rerouting the trail construction away from the location of the find. If avoidance is not possible, alternative protection measures recommended by the CAL FIRE Archaeologist shall be added to the project as an addendum to the IS/ND. Work shall not commence within 100 feet of the site until protection measures have been determined.**

In accordance with the California Health and Safety Code, if human remains are discovered during ground-disturbing activities, CAL FIRE shall immediately halt potentially damaging excavation in the area of the burial and notify the Santa Cruz County Coroner and a qualified professional archaeologist to determine the nature and significance of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050(c)). Following the coroner's findings, the archaeologist and the Most Likely Descendent (designated by the Native American Heritage Commission) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities of Santa Cruz County and CAL FIRE to act upon notification of a discovery of Native American human remains are identified in PRC § 5097.

Environmental Setting of the Project Region

SDSF is located in northeastern Santa Cruz County in coastal California. The project area is forested and dominated by second growth redwood along with Douglas-fir, tan oak, madrone, and other associated species. The virgin forest was harvested 70-90 years ago and only a few remnant old growth trees remain. The project is located on the north side of Santa Rosalia Mountain near the San Andreas Fault Zone and drains into the East Branch of Soquel Creek. SDSF is managed by CAL FIRE to demonstrate conservation and protection of wildlife, fisheries, vegetation, soil, and watershed resources as well, as recreation and sustained-yield forest management activities.

SDSF is bordered by both state and private property. The Forest of Nisene Marks State Park borders the State Forest for three and one-half miles along Santa Rosalia Ridge to the south. Approximately three-hundred-forty acres directly east of the Forest boundary are owned by Roger and Michelle Burch. This land is managed by Redwood Empire and includes the main entrance and parking area for SDSF off Highland Way. To the north and west, the adjacent ownerships are private rural-residential parcels, including the large holding of Spanish Ranch. Most of these parcels range in size from 1 to 80 acres. On the southwest border is the property containing the Olive Springs Quarry, owned by the CHY Company.

Description of the Local Environment

SETTING/TOPOGRAPHY

The project area is a north-facing slope in the central part of the Soquel Demonstration State Forest, in a portion of Shoquel Augemntation, T10S, R1W, MDBM. The proposed trail traverses the relatively gentle terrain on the shallow ridge between two deeply-incised perennial tributaries to the East Branch of Soquel Creek, Weir Creek to the west, and Sue's Creek to the east. A majority of the trail will be built on slopes between 15% and 50%. The lower three quarters of the trail alignment are within the boundaries of the Rim THP (#1-09-107 SCR), which was harvested for conifers in 2011 and 2012 and hardwoods in 2013.

VEGETATION

The Forest Management Plan (2013) identifies the following four WHR vegetation types in the project area: Redwood 4D, Douglas-fir 4D, Montane Hardwood-Conifer 3D and Montane Hardwood-Conifer 4D.

The majority of the trail is located in the Redwood 4D vegetation type. Primary overstory species present are redwood, tanoak, Douglas-fir, big leaf maple and madrone. The forest is a second growth stand that has regenerated from coppice sprouting after the initial clearcut logging between the 1920s and 1940s. There are scattered remnant old growth trees in the project area. The area adjacent to the lower three quarters of the trail was selectively harvested in 2011 to 2013 in the Rim THP. The harvest removed approximately 40% of the volume from the stand. Understory vegetation is dominated by small diameter tanoak and redwood sprouts, redwood sorrel, western sword fern, and California hazelnut.

On drier sites along the ridge and on convex slopes the vegetation is composed of the Douglas-fir 4D and Montane Hardwood-Conifer 3D and 4D vegetation types. Vegetation in these areas is dominated by Douglas-fir, tanoak, madrone, Shreve oak, black oak, and big leaf maple along with occasional clumps of smaller diameter redwood. Understory vegetation includes snowberry, poison oak, yerba buena, toyon, California blackberry, and small diameter hardwoods.

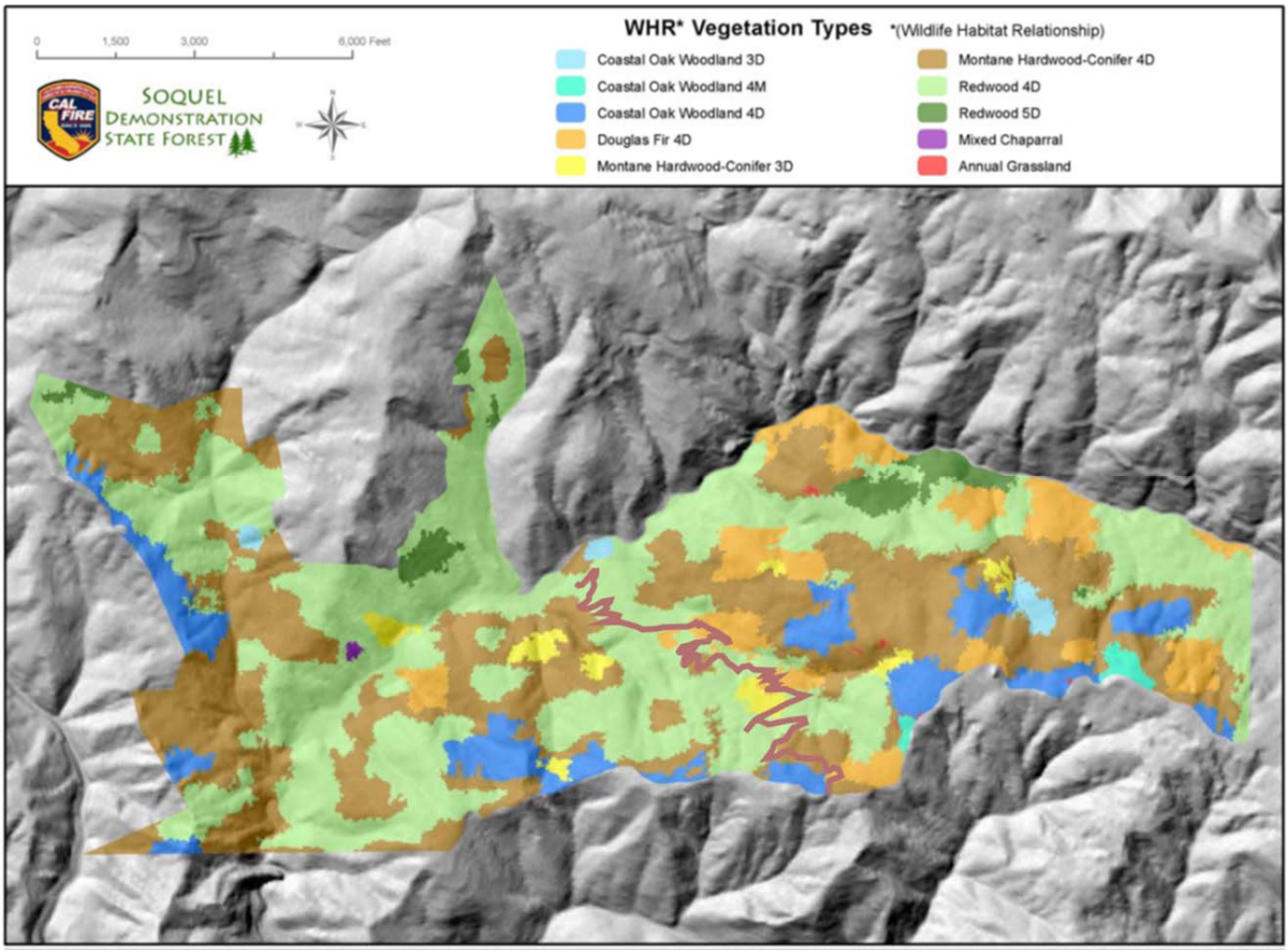


Figure 13. SDSF CWHR vegetation type map with trail corridor shown in red.

SOILS AND GEOLOGY

The project area is located near the San Andreas Rift Zone and is bounded by the San Andreas strike slip fault to the north and the Zayante thrust fault to the south. The rocks in this area are extensively folded and faulted and large deep seated landslides dominate the landscape. The underlying bedrock in the project area is mapped by McLaughlin et. al. (2001) as the Rices Mudstone member (Tsr) of the San Lorenzo Formation and the Vaqueros Formation (Tv); much of the project area is mapped within a large rotational landslide (Qls).

San Lorenzo Formation (Oligocene and Eocene)—Consists of:

Tsr - Rices Mudstone Member (Oligocene and late Eocene)—Nodular light-gray mudstone, locally bioturbated and glauconitic. Contains fish scales and benthic foraminifers indicative of middle bathyal depths and an Oligocene (early Zemorrian) age (K. McDougall, written commun., 1989). Lower part of unit in Loma Prieta quadrangle is massive, fine-grained glauconitic arkosic sandstone containing locally abundant mollusks indicative of neritic depths and a late Eocene (Refugian) age.

Tv - Vaqueros Formation (lower Miocene and Oligocene)—Thick-bedded to massive, yellowish-gray, fine- to coarse-grained arkosic sandstone with thick glauconitic sandstone bed in lower part. Upper beds contain *Dosinia* and *Ostrea* biostromes indicative of shallow-marine conditions. Benthic foraminifers in lower part of unit are diagnostic of bathyal depths and an early Zemorrian (Oligocene) age.

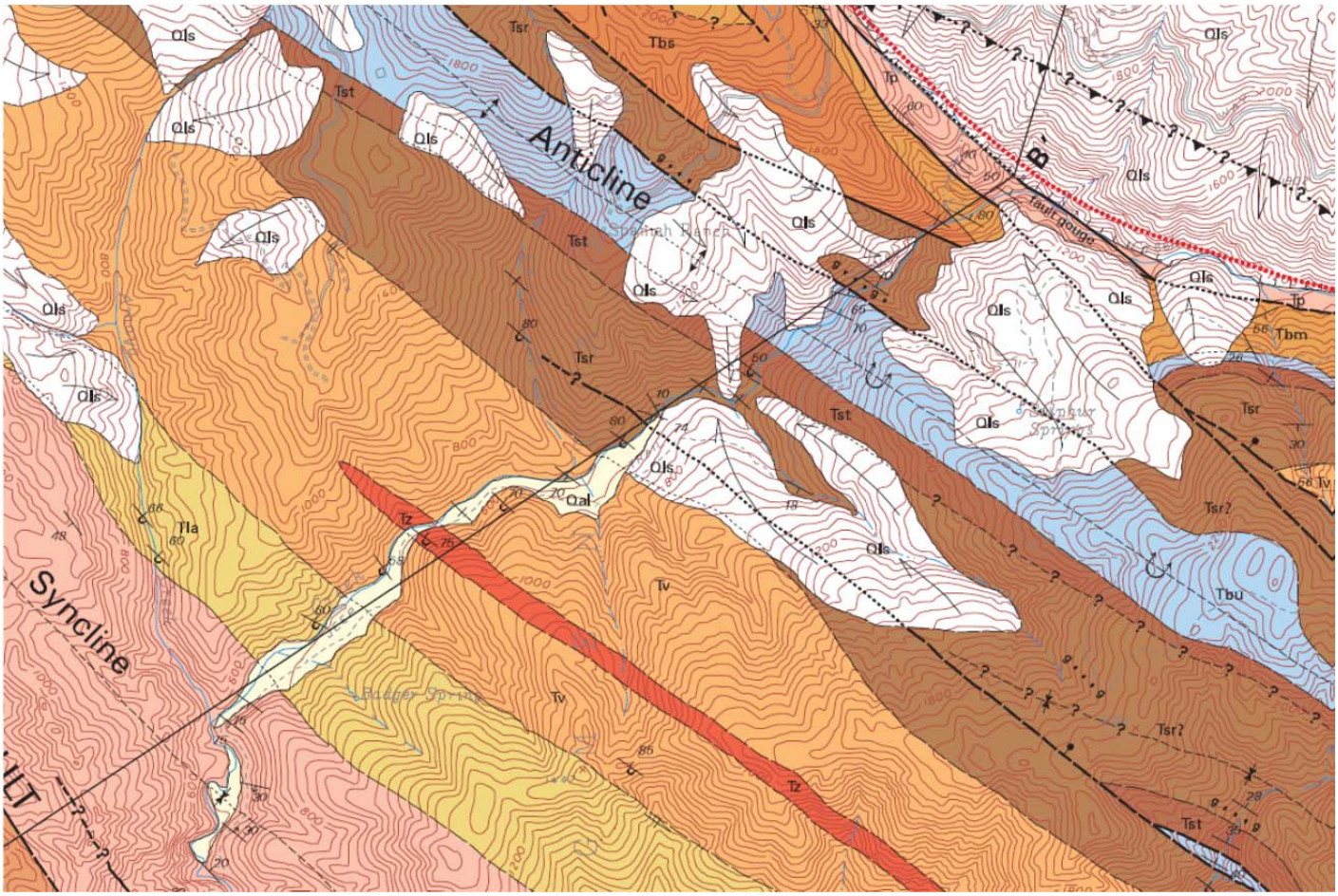


Figure 14. Excerpt from Laurel Quadrangle Geologic Map showing project vicinity (McLaughlin et. al. 2001)
Source:
R.J McLaughlin, J.C. Clark, E.E. Brabb, E.J. Helley, and C.J. Colón. *Geologic maps and structure sections of the southwestern Santa Clara Valley and southern Santa Cruz Mountains, Santa Clara and Santa Cruz Counties, California*. US Geological Survey Miscellaneous Field Studies Map MF-2373. 2001.

Soils in the project area are mapped as Lompico-Felton complex and Ben Lomond Series.

Lompico-Felton Complex: This soil is mapped in the majority of the project area. The Lompico soil is a moderately deep and well drained loam. It formed from residuum derived from sandstone, shale siltstone, mudstone. Highly weathered sandstone occurs at depth of about 37 inches. Permeability is moderate. Effective rooting depth is 20 to 40 inches. Available water capacity is 3 to 7 inches. The Felton soil is deep and well drained sandy loam. It formed in residuum from sandstone, shale, siltstone, or schist. Weathered sandstone occurs at a depth of 63 inches. Permeability is moderately slow. Effective rooting depth is 40 to 70 inches. Available water holding capacity is 5.5 to 10 inches.

Ben Lomond Sandy Loam: This deep, well-drained soil is on long and complex or convex side slopes. The soil forms in residuum derived from sandstone or granitic rock. Weathered sandstone occurs at a depth of 46 inches. Permeability is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water-holding capacity is 4 to 8.5 inches.

All three of these soils are well-suited to trail construction. Based on experience from other trails in SDSF, these soils compact well and resist wear from heavy traffic in the summer but still drain well and are not muddy in winter.

STREAMS AND WATERSHED CONDITIONS

The project area is on the north-facing slope of Santa Rosalia Mountain and drains to the East Branch of Soquel Creek via two perennial (class II) drainages identified in the Rim THP, one to the east (Sue's Creek) and one to the west of the project area (Weir Creek). The East Branch is a Class I stream and supports runs of both steelhead and coho salmon. Class II drainages support aquatic life (amphibians, macroinvertebrates, etc.) but do not support fish. Several ephemeral (class III) drainages that drain into these class II drainages are mapped within the project area in the Rim THP. Class III drainages transport water and sediment but do not support aquatic life and are usually dry except during rain events. Another class III drainage drains the lower project area (segment 6) directly into the East Branch of Soquel Creek.

The class II drainages are deeply-incised and exhibit inner gorge characteristics immediately adjacent to the streambanks, especially in Sue's Creek to the east of the project area.

Current Land Use and Previous Impacts

The proposed project is located in an area of SDSF that is managed for timber production and associated uses including recreation, education, research, wildlife habitat, and watershed protection. The lower three quarters of the trail is located within the Rim THP harvest boundary, and the area adjacent to the upper quarter of the trail will be harvested in the future. The Rim THP was logged in 2011 and 2012, and firewood operations occurred during the summer of 2013. Firewood operations will continue in 2014. The area where the Flow Trail is located will meet or exceed the stocking standards required in the Rim THP. Watercourse protection measures for canopy retention required in the Rim THP will also be met or exceeded.

The project area was clearcut in the 1930s. The name of Tractor Trail resulted from this part of the forest being one of the first areas that was logged in the East Branch of Soquel Creek after the transition from steam donkey logging to tractor based logging. The project area is traversed by extensive road and skid trail cuts from this early logging.

The Rim THP selectively harvested approximately 40% of the conifer volume from the harvest area. The entire harvest area was logged with ground-based equipment. Tractor Trail was used as the primary haul route for this harvest. The Rim THP included several upgrades to the legacy road and skid trail network to correct drainage issues and reduce potential for sediment delivery to watercourses from eroding road segments and crossings.

CONCLUSION OF THE NEGATIVE DECLARATION

Environmental Permits

The proposed project may require the following environmental permits and CAL FIRE may be required to comply with the following State regulations:

No additional permits are expected.

Summary of Findings

This IS/ND has been prepared to assess the project's potential effects on the environment and an appraisal of the significance of those effects. Based on this IS/ND, it has been determined that the proposed project will not have any significant effects on the environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project will have no effect related to aesthetics, agricultural and forest resources, cultural resources, greenhouse gas emissions, land use and planning, mineral resources, population and housing, public services, transportation/traffic and utilities and service systems.

2. The proposed project will have a less than significant impact on air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise and recreation.

The Initial Study/Environmental Checklist included in this document discusses the results of resource-specific environmental impact analyses, which were conducted by the Department. This Initial Study revealed that potentially significant environmental effects could result from the proposed project, however, CAL FIRE has revised the project to eliminate impact or reduce environmental impacts to a less than significant level. CAL FIRE has found, in consideration of the entire record, that there is no substantial evidence that the proposed project, as currently proposed, would result in a significant effect upon the environment. The IS/ND is therefore the appropriate document for CEQA compliance.

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION	
1. Project Title:	Soquel Demonstration State Forest Flow Trail
2. Lead Agency Name and Address:	California Department of Forestry and Fire Protection P.O. 944246, Sacramento, CA 94244-2460
3. Contact Person and Phone Number:	Angela Bernheisel, Forest Manager (831) 475-8643
4. Project Location:	Soquel Demonstration State Forest, Santa Cruz County
5. Project Sponsor's Name and Address:	California Department of Forestry and Fire Protection Soquel Demonstration State Forest 4750 Soquel-San Jose Road, Soquel, CA 95073
6. General Plan Designation:	Mountain Residential
7. Zoning:	TPZ
8. Description of Project: See Pages 8 - 26 of this document	
9. Surrounding Land Uses and Setting:	Timber production, quarry, state park, rural residential
10: Other public agencies whose approval may be required:	None anticipated

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below are the ones which would potentially be affected by this proposed project and were more rigorously analyzed than the factors which were not checked. The results of this analysis are presented in the detailed Environmental Checklist which follows.

☒	Aesthetics	☒	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology / Soils
☒	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials	☒	Hydrology / Water Quality
☒	Land Use / Planning	☐	Mineral Resources	☒	Noise
☐	Population / Housing	☐	Public Services	☒	Recreation
☒	Transportation / Traffic	☐	Utilities / Service Systems	☒	Mandatory Findings

					of Significance

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Christopher E. Browder

December 18, 2013

Date Signed

Christopher E. Browder
Environmental Protection Program
Department of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460
(916) 6653-4995
chris.browder@fire.ca.gov

ANALYSIS OF POTENTIAL ENVIRONMENTAL IMPACTS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Will the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

a) Will the project have a substantial adverse effect on a scenic vista?

No Impact. Project is located in forest canopy and not visible from any scenic vista. No large trees will be removed.

b) Will the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Project is not located within a state scenic highway.

c) Will the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. Some understory vegetation and/or saplings would be removed, and hazard trees may be removed, but significant amounts of vegetation would not be removed. The minor amounts that would be removed would not result in an adverse effect on the surrounding visual character, as the overall wooded character along the trail would not be altered.

d) Will the project create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?

No Impact. Project will not create new source of light or glare.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California				

Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. Project is forest land and no agricultural land will be impacted.

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. Project does not conflict with existing zoning or Williamson Act contract.

c) Would the project conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g)).

No Impact. Project is in land zoned for timber production and is actively managed for timber production. A majority of the project area was recently logged and is expected to be re-entered within 15 to 20 years. Recreational use is an allowed and appropriate use of forestland and does not conflict with existing zoning. The trail will be closed for safety purposes during logging operations, and the trail will not prevent use of existing and future timber harvesting infrastructure.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project area will remain as forest land and will continue to be managed for timber production. The trail will be three to four feet wide and routed to avoid removal of established trees. Construction of the trail will not remove any significant area from productive forestland.

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

No Impact. The project area will remain a working forest, and the project will not cause conversion of forestland to non-forest use.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations. Will the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Information about Air Quality

Discussion

a) Will the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The project consists of construction of a trail in Soquel Demonstration State Forest, and the project would not result in new population or growth or inconsistencies with the existing air quality management plan for the region.

b) Will the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than significant impact. The project consists of construction of a trail on public land for hikers, mountain bikers and equestrians. The project may result in more visitors to the forest and a minimal increase in traffic on Hwy 17, Summit Road, and Highland Way. This small increase in trips to the forest would not

significantly increase emission of pollutants. Project construction could result in short-term, localized small increases in dust and PM10 emissions due to construction activities. This is considered a less-than-significant impact.

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

No Impact. The North Central Coast Air Basin (NCCAB), in which the project site is located, is under the jurisdiction of the Monterey Bay Unified Air Pollution Control District and includes Santa Cruz, Monterey and San Benito Counties. Under the Federal Clean Air Act, as of March 2006, the NCCAB is designated an attainment area for the federal 8-hour ozone standard. (The federal 1-hour ozone standard was revoked in the basin on June 15, 2005.) The basin is designated unclassified/attainment for all other Federal standards, including those for carbon monoxide, nitrogen dioxide, inhalable particulates (PM10), and fine particulates (PM2.5).

Under the California Clean Air Act, the NCCAB is classified as nonattainment for the State 1-hour ozone standard. The air basin is also a nonattainment area for the State inhalable particulate (PM10) standard. The basin is an attainment area or is unclassified for all other State standards, including those for carbon monoxide, nitrogen dioxide, sulfur dioxide, and fine particulates (PM2.5). The project will not create a considerable net increase in any of these pollutants.

d) Will the project expose sensitive receptors to substantial pollutant concentrations?

No Impact. The project will not expose any sensitive receptors to substantial pollutant concentrations.

e) Will the project create objectionable odors affecting a substantial number of people?

No Impact. The project will not create any objectionable odors.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Will the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological	☐	☐	☐	☒

interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Information about Biological Resources

Discussion

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less than significant impact. The scoping process for identification of listed species potentially impacted by the project includes querying the CNDDB within the Laurel and Loma Prieta quadrangles; reviewing recent THPs prepared for SDSF (Rim THP, Fern Gulch THP, and Comstock Mill THP), and reviewing the SDSF General Forest Management Plan and EIR. The following listed animal species are potentially found in the vicinity of the project area. The listed plant species have potential habitat within the project area.

Fauna	**Protection Status**
steelhead - central California coast	Federally threatened
coho salmon - southern Oregon / northern California ESU	Federally threatened; state threatened; state species of special concern
California red-legged frog	Federally threatened; state species of special concern
foothill yellow-legged frog	State species of special concern
southwestern pond turtle	State species of special concern
marbled murrelet	Federally threatened; state endangered
coopers hawk	State watch list
sharp-shinned hawk	State watch list
San Francisco dusky-footed woodrat	State species of special concern
Flora	
California bottlebrush grass	CNPS 4.3 (no state or federal listing)
Dudley's lousewort	State rare; CNPS 1B.2; no federal listing
maple-leafed checkerbloom	CNPS 4.2 (no state or federal listing)
mountain lady slipper	CNPS 4.2 (no state or federal listing)
Santa Clara red ribbons	CNPS 4.3 (no state or federal listing)
Santa Cruz mountains beardtongue	CNPS 1B.2 (no state or federal listing)
Santa Cruz manzanita	CNPS 1B.2 (no state or federal listing)
white-flowered rein orchid	CNPS 1B.2 (no state or federal listing)
western leatherwood	CNPS 1B.2 (no state or federal listing)

Steelhead – central California coast (*Oncorhychus mykiss irideus*)

Steelhead are found in the East Branch of Soquel Creek from the mouth to Ashbury Falls, 1.6 miles upstream of the project area. Resident rainbow trout are found upstream of this area. No work associated with this project will occur in the riparian area of the East Branch of Soquel Creek or the tributary class II drainages. The design of the trail incorporates a low average gradient, narrow trail width, frequent grade reversals, hydrologically disconnected design, and armored or bridged drainage crossings. These design strategies minimize potential for erosion and delivery of sediment to Soquel Creek and potential impacts to steelhead. Construction will occur during dry periods when soils are not saturated. Access to the construction area will occur with light duty vehicles (passenger cars or light trucks) on a surfaced all-weather road (Hihn's Mill Road) or via ATV and will not cause sediment delivery to Soquel Creek.

Coho salmon – southern Oregon/northern California ESU (*Oncorhychus kisutch*)

Coho salmon were observed in Soquel Creek in the vicinity of Hinckley Creek in 2008. The potential impacts from the proposed project to coho are similar to the potential impacts to steelhead discussed above.

California red-legged frog (*Rana aurora draytonii*)

The nearest recorded sighting of a CRLF is approximately ½ mile and other sightings of CRLFs have been documented in the East Branch of Soquel Creek. The Flow Trail is a distance of approximately 500 feet from the nearest location to the East Branch of Soquel Creek. CRLFs prefer still or slow-moving water in streams, ponds and springs and avoid ephemeral and high gradient streams. CRLFs have the ability to move through upland habitat away from watercourses during wet periods. During 2012 and 2013 SDSF implemented a habitat enhancement project in the East Branch of Soquel Creek at four locations. Due to the nature of the project, detailed and systematic biological surveying and monitoring practices were required. Qualified biologists conducted surveys for CRLFs every day before operations for approximately two weeks in September 2012 and six weeks in August and September 2013, and no CRLFs were found. The biologists consulted regarding the likelihood of finding CRLFs indicated that due to the steep gradient and ephemeral watercourses located in the Flow Trail project area that it is unlikely that a CRLF would be encountered. Due to the proposed operations period to begin during the winter, mitigations have been incorporated for CRLFs similar to those used for fuel reduction projects in the region that occur during the winter. All crew leaders will be trained in the recognition of CRLFs. If a CRLF is found in the project area the Forest Manger will be informed and all work will stop until the frog has moved out of the project area. No adverse impacts are expected to occur to CRLFs from the project.

Foothill yellow-legged frog (*Rana boylii*)

The foothill yellow-legged frog is found in low gradient cobble and gravel streams in open sunlight. Suitable habitat for this species exists in Soquel Creek. Foothill yellow-legged frogs are rarely found farther than 50m from a stream and would likely not be found within the project area.

Southwestern pond turtle (*Actinemys marmorata pallida*)

Suitable habitat for the southwestern pond turtle exists in Soquel Creek downstream of the project area and in upland sag ponds in the forest. No habitat exists in the project area, and no impacts to this species from the proposed project are likely.

Marbled murrelet (*Brachyramphus marmoratus*)

This project is in the range of the marbled murrelet, however, marbled murrelets have not been documented in the Soquel Creek watershed. The old growth stand at Badger Springs has been identified by CDFW as

potential nesting habitat. This stand is approximately 1 mile west of the project area. No impacts to marbled murrelets from the proposed project are likely.

Coopers hawk (*Accipiter cooprii*) and **Sharp-shinned hawk** (*Accipiter striatus*)

Both hawks are known to nest, roost, and forage within the project area. Trail construction activities and use of the trail after construction could provide a minor disturbance to these species. No large trees are proposed for removal and no hazard trees containing nests will be removed. Any trees proposed for removal will be inspected for nests, platforms, whitewash or other indicators of wildlife use prior to falling, and no trees with nests or platforms will be felled. Construction activities will involve operation of small excavating equipment and chainsaw use. Expected construction rate for clearing and excavating machine operation is 500-1000 feet per day; any noise impacts will be temporally and spatially temporary. No significant impacts are expected to these species.

San Francisco dusky footed woodrat (*Neotoma fuscipes annectens*)

The San Francisco dusky-footed woodrats build large stick nests at the bases of trees or shrubs and prefer forested habitat with a moderate canopy. The trail alignment will be routed away from any woodrat nests and nests will not be disturbed during construction activities.

Flora

No special status plant species were identified in the project area during surveys conducted for the Rim THP. Santa Cruz manzanita was identified in the Rim THP project area (CNPS 1B.2) but has not been identified along the proposed trail corridor. The plants listed below have potential habitat within the project area. Any identified sensitive plants will be avoided by the trail construction corridor. In order to identify any sensitive plant species that will need to be protected or avoided during construction an appropriately seasonal botanical survey will be conducted along Segment 1 where the previous botanical survey for the Rim THP did not cover. Any identified sensitive plants will be avoided by the trail construction corridor.

The project is construction of a narrow trail and a small area will be disturbed where the trail is constructed. No significant changes in plant habitat will occur as a result of the project. Areas disturbed by construction will be re-naturalized with native duff and organic material to minimize colonization of invasive species.

California bottlebrush grass (*Elymus californicus*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

Dudley's lousewort (Pedicularis dudleyi)

Potential habitat was identified adjacent to Soquel Creek in the Fern Gulch THP to the northwest of the project area. No plants were detected in a 2002 survey. No plants were identified in the Rim THP. There is a record of a population in the CNDDB 4.2 miles southwest of the project area.

Maple-leafed checkerbloom (*Sidalcea malecroides*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

Mountain lady slipper (*Cypripedium montanum*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

Santa Clara red ribbons (*Clarkia concinna automixa*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

Santa Cruz manzanita (*Arctostaphylos andersonii*)

The Rim THP reports Santa Cruz manzanita is present in the vicinity of the harvest. The entire trail corridor is under forest canopy and no manzanita have been identified along the trail corridor.

Santa Cruz Mountains beardtongue (*Penstemon rattanii var. kleei*)

Potential habitat exists within the project area. Two populations have been recorded in the CNDDB; 2 miles east of the project, and 2.25 miles northeast of the project. No plants were identified in the Rim THP area.

Western leatherwood (*Dirca occidentalis*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

White-flowered rein orchid (*Piperia candida*)

Potential habitat exists within the project area. No populations have been identified in the project vicinity in the CNDDB. No plants were observed in the Rim THP project area.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

No Impact. The trail project will not occur in a riparian area or cause any significant erosion that would impact a riparian area. No other sensitive natural communities exist within the project area.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are not wetlands within the vicinity of the project area and the project will not cause any changes in hydrology that could impact wetlands below the project.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than significant impact. Redwood habitat and its mixed hardwood elements in the project area support a range of wildlife species, including potential roosting, feeding and nesting habitat suitable for Cooper's (*Accipiter cooperii),* red-shouldered (*Buteo lineatus*) and sharp-shinned hawks (*Accipiter striatus*), great-horned owls (*Bubo virginiatus*) and other local nesting birds. Trail construction activities and use of the trail could potentially have an impact on nesting of these and other birds and other wildlife, however this impact is considered a less than significant impact.

Trail construction will occur primarily between the months of November and May. Besides initial clearing, which will require some chainsaw operation, construction activity will utilize low volume, mini-sized

construction equipment and hand tools. This will limit potential disturbance to nesting activity. Additionally, the estimated construction rate during machine operation is estimated at 500-1,000 feet per day which means disturbance to any one area will be temporally limited. In addition, any trees proposed for removal will be inspected for nests, platforms, whitewash or other indicators of wildlife use prior to falling. No trees with nests or platforms will be felled.

Use of the trail after completion also has a potential impact. Use is expected to be highest during the weekend daytime hours. Due to the remote nature of the forest, use during the week is limited to usually a few dozen users per day at most. The forest is closed from sunset to sunrise and no use will occur at night when most wildlife is active. For these reasons, potential of significant disturbance to wildlife from use of the trail is unlikely.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. No local tree preservation policy exists in this portion of Santa Cruz County.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed project site is not within the boundaries of a Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plan. The project does not conflict with implementation of any such plan in this part of Santa Cruz County.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Will the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Information about Cultural Resources

Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No impact. An archaeological survey report was prepared for the Flow Trail project by Angela Bernheisel on October 8, 2013. The report was reviewed and approved by CAL FIRE Archaeologist, Chuck Whatford on October 22, 2013. No sites requiring mitigation were found.

The trail alignment avoids known historic sites and no significant impacts to historic resources are expected. Construction specifications have been incorporated into the project plan that provide instructions if any historic resources are discovered during construction as well as a requirement that trail workers receive training in identifying typical artifacts know to occur at SDSF.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No impact. An archaeological survey report was prepared for the Flow Trail project by Angela Bernheisel on October 8, 2013. The report was reviewed and approved by CAL FIRE Archaeologist, Chuck Whatford. No sites requiring mitigation were found.

The trail alignment avoids known archaeological sites and no significant impacts to archaeological resources are expected. Construction specifications have been incorporated into the project plan that provide instructions if any historic resources are discovered during construction as well as a requirement that trail workers receive training in identifying typical artifacts know to occur at SDSF.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No impact. No known paleontological or unique geologic features have been identified in the project area. The project will involve excavation in the first few feet of soil where any fossils will have been destroyed by soil formation processes. No rock outcrops or other unique geologic features have been identified in the trail alignment.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

No impact. Several pre-historic resources have been identified in the project area in the confidential archaeological addendum of the Rim THP 1-09-107 SCR. Additionally, a concentrated archaeological survey was conducted along the trail alignment. No evidence of burial sites has been identified, however, because the project involves excavation a construction specification has been incorporated that provides instructions in the event historic resources, archaeological resources, or human remains are found.

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

(Refer to California Geological Survey Special Publication 42.)				
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion

The project was reviewed by Geologists from the California Geologic Survey (CGS) and they did not find any potential significant impacts of the project to the environment or public safety. The CGS report dated August 19, 2013 is located in Appendix A.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Less than significant impact. The project is located adjacent to the San Andreas Fault Zone and is subject to very intense shaking during earthquake events. Large, deep-seated landslides are found in the project area and across the forest and are likely related to earthquake activity. The project will not create new structures or expose existing structures to potential hazards. People recreating on the trail could potentially be harmed if an earthquake or landslide occurred while they were in the forest. This is considered a less than significant impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than significant impact. The project incorporates design characteristics that will minimize potential for erosion. The low average gradient, narrow width, and frequent grade reversals will minimize

potential for erosion from the trail bed. All swale and drainage crossings will feature constructed bridges or rocked fords to prevent sediment delivery during wet weather use. The trail alignment has been located to avoid crossing perennial streams.

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

Less than significant impact. The project area is located in an area with numerous deep seated landslides. These landslides create hummocky topography, seep zones, sag ponds, and disorganized drainages, all features that are found in the project area. These large landslides do not appear to have been recently active. Inner gorge characteristics and evidence for more recent landsliding (tilted trees, unvegetated scarps, etc.) exist adjacent to Sue's Creek to the east of the project area. The trail alignment enters this area in segment 5 and traverses across the flat bench at the top of the inner gorge where minimal excavation will be required to construct the trail. Minor excavation from construction activities is unlikely to influence the landslides in this area.

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

No Impact. The project is not located on expansive soils.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. No wastewater will be produced by the project.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Information about Greenhouse Gas Emissions

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact. Project is construction of a natural surface trail and will not produce greenhouse gas emissions that will have a significant impact on the environment. Construction of the trail will utilize

power equipment that will utilize small amounts of fuel. Trail workers and volunteers will likely drive to the forest to construct the trail. The trail may attract additional users who drive to the forest, however no significant changes from current usage patterns are expected.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. Project does not conflict with any plans, policies or regulations adopted for the purpose of reducing greenhouse gases.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, Would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, Would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact. Fuel, oil and grease will be transported to the work area in portable containers. No other hazardous materials will be transported, used, or disposed of.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than significant impact. The machines used for construction have the potential to overturn, break hydraulic hoses, or leak in other ways that may cause release of hazardous materials into the environment. Potential for spilling gasoline and/or diesel exists during transportation and fueling of machines. A section addressing leaks and spills has been developed for the project and is incorporated into the construction specifications. A spill kit will be kept on hand at all times when machines are being used on the project. All spilled hazardous material and contaminated soil will be collected and disposed of properly. Machines will be inspected for leaks before operation each day and will not be operated until leaks are corrected.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. Project is not within ¼ mile of an existing or proposed school.

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

No Impact. Project is not located on a hazardous materials site.

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

No Impact. Project is not located within an airport land use plan or within 2 miles of a public airport.

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

No Impact. Project is not located within the vicinity of a private airstrip.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Project is construction of a narrow trail in a forested landscape and will not impair implementation of or physically interfere with an adopted emergency response or evacuation plan.

h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The proposed project is in a wildland area and people using the trail may be exposed to a wildfire. CAL FIRE would close public access to the forest if there was an active fire in the area. The project would provide a use similar to those currently in the forest and would not create new sources of ignition that could threaten neighboring properties.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level that will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial on- or off-site erosion or siltation?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a) Would the project violate any water quality standards or waste discharge requirements?

No impact. Soquel Creek is not listed on the Central Coast Regional Water Quality Control Board's 303(d) list of impaired waterbodies. Soquel Lagoon is listed for nutrients, pathogens, and sediment/siltation. Construction/land development identified as a potential source for the sediment/siltation listing. The proposed trail has a low average gradient, frequent grade reversals, narrow width, and avoids drainage crossings, which are all design features that will minimize potential for

erosion and delivery of sediment. The project will not violate any water quality standards or waste discharge requirements.

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

No impact. Project is a narrow natural surface trail and will not impact groundwater resources.

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

Less than significant impact. Trail construction would not alter existing hydrologic patterns although drainage from the proposed trail and crossings could result in erosion and degradation of water quality if proper drainage and erosion control measures are not implemented. The proposed trail has a low average gradient, frequent grade reversals, narrow width, and minimizes drainage crossings, which are all design features that will minimize potential for erosion and delivery of sediment. All drainage crossings are at ephemeral watercourses, which only flow during and immediately after rain events, and will feature rocked fords or log bridges. With implementation of proposed project drainage and erosion controls, runoff would not result in hydrological changes or potential erosion. Thus, the impact would be less than significant.

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

No impact. The project will not substantially alter the existing drainage pattern in a way that would result in on- or off-site flooding. The project is designed to be hydrologically disconnected from the drainage network and will not significantly impact routing of water to the drainage network or soil infiltration rates that could cause increases in peak flows.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No impact. The project is not in a developed area and will not impact any existing or planned stormwater drainage systems. The project is designed to minimize potential for erosion and delivery of sediment from the trail and will not provide substantial additional sources of polluted runoff.

f) Would the project otherwise substantially degrade water quality?

No impact. Besides potential for erosion and sedimentation discussed above, no other impacts to water quality are likely to result from the project.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No impact. Project does not involve construction of housing or structures or work in a flood hazard area.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No impact. Project does not involve construction of housing or structures or work in a flood hazard area.

i) Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No impact. Project does not involve construction of housing or structures or work in a flood hazard area.

j) Would the project result in inundation by seiche, tsunami, or mudflow?

No impact. Is not located in an area potentially inundated by seiche, tsunami, or mudflow. The project is located along the San Andreas Fault Zone and may be impacted by large landslides in the event of earthquakes or significant rainfall events.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) Would the project physically divide an established community?

No impact. Project will not divide an established community as it is construction of a trail in a state forest.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No impact. The proposed project does not conflict with the Soquel Demonstration State Forest General Plan and is discussed in the 2013 update to the plan currently under review by the Soquel State Forest Advisory Committee and the Board of Forestry. The project does not conflict with any other land use

plans, policies, or regulations. The SDSF is zoned as TPZ and construction of facilities for outdoor recreation is an allowed use.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No impact. Project does not conflict with any habitat conservation plans or natural community conservation plans.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No impact. No known mineral resources in the project area.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No impact. No locally important mineral resources recovery sites are identified in the project area.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project	☐	☐	☐	☒

vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

The construction of the proposed trail will not result in development of new structures that would be subject to noise or result in increased ambient noise levels in the vicinity. The trail would be constructed with a small trail building piece of equipment and with hand tools that would not generate substantial noise levels. Nor are there any residential or other sensitive users in the area that would be subject to noise.

a) Would the project create exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

No impact. Project will involve use of chainsaws and small construction equipment that will create minor increases in noise. There are no structures within the vicinity of the project area and the nearest structures are 0.5 mile away from closest point in the project area. No persons will be exposed to noise levels in excess of standards in the Santa Cruz County general plan.

b) Would the project create exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No impact. No groundborne vibrations or groundborne noises will be created by the project.

c) Would the project create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No impact. No permanent sources of noise will be created by the project.

d) Would the project create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant impact. Project will involve use of chainsaws and small construction equipment that will create a small increase in ambient noise levels in the project vicinity during construction above levels existing without the project. Construction rates are estimated at 500 to 1000 feet per day and no area will be subject to excessive noise levels for an extended period of time. No residences or other structures are located within the vicinity of the project that would be impacted by construction noise. No noise complaints were received by the forest during harvest activities and fuelwood operations for the Rim THP or Fern Gulch THP. This is a less than significant impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the

project expose people residing or working in the project area to excessive noise levels?

No impact. Project is not located within an airport land use plan or within two miles of a public airport.

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

No impact. Project is not in the vicinity of a private airstrip.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No impact. Project is construction of a narrow natural surface trail and will not induce new population growth.

b) Would the project displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No impact. The project does not displace any homes.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No impact. The project does not displace people.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

No impact. The proposed trail will not result in new development that would result in new public service demands. Recreation use of the proposed trail will not significantly change current levels of emergency response calls to the forest. The new trail will generally be safer and slower than the existing trails and will not increase the chances for serious accidents that require emergency response. The trail has been planned to include better access for emergency response than currently exists on other recreation trails.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of	☐	☐	☒	☐

recreational facilities that might have an adverse physical effect on the environment?

Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No impact. The construction of the proposed trail will not result in population growth or new housing demands or displace existing housing units or people. The new trail will expand recreational uses at SDSF and provide an alternate route from Ridge Trail to Hihn's Mill Road for mountain bikers, hikers and equestrians.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than significant impact. The project is a recreation facility and potential impacts to the environment are discussed in this negative declaration. No significant impacts to the environment have been identified resulting from this project.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion

a) Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No impact. Project is a natural surface trail in a remote area of the county and will not impact traffic circulation patterns.

b) Would the project conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No impact. Project is a natural surface trail in a remote area of the county and will not impact traffic circulation patterns.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No impact. Project is a natural surface trail in a remote area of the county and will not impact air traffic circulation patterns.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant impact. The project incorporates some bicycle-specific design features that allow bicyclists to challenge themselves. These features are designed to be safe and accessible to riders of all levels and safe fall zones will be created and maintained around the features, but there is a chance they could be hazardous in certain situations or conditions. The new trail is designed to be less difficult and safer than the existing trails at SDSF and is designed to reduce user speed, minimize blind turns, and provide a smoother, less technically challenging trail experience.

e) Would the project result in inadequate emergency access?

No impact. Emergency access to the trail will be provided via Hihn's Mill Road and Tractor Trail. The new trail intersects Tractor Trail or the southwest spur road in five locations providing easy access to the trail. Hihn's Mill Road is an all-season road and the lower portion of Tractor Trail will also be rocked to the first trail intersection as part of the Rim THP (amendment to be submitted in early 2014). The trail will be wide enough for ATV access or ATV go-arounds will be provided; this width also provides space for removal via wheel litter. Additionally, there are two helicopter landing zones in the forest, at the top and bottom of Sulfur Springs Road. Emergency access to the new trail will generally be better than to other trails in SDSF.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No impact. Project is a natural surface trail in a remote area of the county and will not impact public transit, bicycle or pedestrian transportation facilities.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No impact. Project is a natural surface and will not produce wastewater.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No impact. Project is a natural surface trail and will not require construction of new water or wastewater treatment facilities.

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No impact. Project is a natural surface trail and will not require construction or expansion of storm water drainage facilities.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No impact. Project is a natural surface and does not require water supplies. Construction will occur during the months of October – May when soil moisture is adequate for proper construction conditions. Any water required for construction activities will be transported to the forest via water truck or water trailer.

e) Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

No impact. Project is a natural surface trail and will not produce wastewater.

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

No impact. Project is a natural surface trail and will not produce solid waste.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

No impact. Project is a natural surface trail and will not produce solid waste.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Authority: Public Resources Code Sections 21083 and 21083.05.

Reference: Government Code Section 65088.4, Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21083.05, 21083.3, 21093, 21094, 21095, and 21151; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors (1990)*, 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San* Francisco (2002) 102 Cal.App.4th 656.

Discussion

a) Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Less than significant impact. The project will not result in significant biological impacts as described in the project description and this Initial Study. Implementation of the proposed project could have potential impacts to special status wildlife species and nesting species at a less than significant level. The project would not remove habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce or restrict the range of a rare or endangered species. The project would not result in significant impacts to cultural resources and would not eliminate important examples of major periods of California history or prehistory.

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

Less than significant impact. The project is construction of a new trail in SDSF. The project will result in short-term, temporary impacts related to construction activities, but with proposed management and maintenance, the project would not result in permanent impacts as a result of use of the trail. Because it provides a new desirable alternative route between Ridge Trail and Hihn's Mill Road, the new trail will likely reduce traffic and wear on Braille Trail and Sawpit Trail. This reduction in traffic will help reduce maintenance requirements and impacts from unsustainable portions of Braille and Sawpit trails, which are mostly constructed on legacy logging infrastructure. A long-term goal of SDSF is development of a trail and recreation plan that may identify additional future new trails or reroutes of existing unsustainable trail segments that may be constructed in the forest. These trails will be built with modern sustainable design and construction methods and will not result in significant impacts either individually or cumulatively.

Forest management activities have occurred in the recent past and will continue on the forest. These activities also have potential to cause erosion and sedimentation. However, modern logging practices and upgrades to legacy logging infrastructure associated with future harvests reduce the potential for significant amounts of erosion and delivery of sediment to Soquel Creek.

The impacts of the construction and use of the proposed project, when viewed cumulatively with future trail construction on the forest and continuation of forest management activities as described in the Forest Management Plan, will not have significant cumulative impacts.

c) Would the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

No impact. The proposed project is construction of a narrow natural surface trail and no significant direct or indirect adverse impacts to humans are expected.

Appendix A

DEPARTMENT OF CONSERVATION
STATE OF CALIFORNIA

CALIFORNIA GEOLOGICAL SURVEY

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EDMUND G. BROWN, Jr.,
GOVERNOR

August 19, 2013

Ms. Angela Bernheisel
Soquel Demonstration State Forest
Manager
4750 Soquel-San Jose Road
Soquel, CA 95073

Dear Ms. Bernheisel:

At your request the California Geological Survey conducted a review on July 17, 2013 of a proposed bike trail that is being considered in the Soquel Creek Watershed, Soquel Demonstration State Forest, Santa Cruz County. The purpose of this review is to assist you in identifying geologic issues that may need to be included and addressed in the bike path construction plans. The area inspected is on the Laurel 7.5 Minute quadrangle in T10S; R1W. The trail is divided into 6 segments and runs from the intersection of Ridge Trail and Braille Trail to Hihn's Mill Road between Tractor Trail and Sawpit Trail. The plan area is centered over slopes that drain to an unnamed Class II tributary to Soquel Creek. The inspection evaluated the impact of proposed operations to adjacent areas along the length of the trail. It is not the intent of this letter to disclose or review proposed operations on all on-site unstable, landslide, and/or erosion areas.

General Observations:

1) The proposed bike trail is proposed to be approximately 3 to 5 feet wide. It is anticipated that cuts and fills associated with the trail construction will be on the order of 2 to 3 feet in height or less. The bike path is proposed to follow existing topography and minimize the amount of grading. The level of disturbance resulting from the proposed construction will likely be significantly less than that of a road or skid trail designed for vehicle travel or heavy equipment.

2) The proposed bike trail is located within the area of THP 1-09-107 SCR. Regional geologic mapping by Clark and others (Figure 1) indicate a dormant deep-seated translational rockslide complex underlies the plan area. Observations by CGS (2010) concur that the large landslide feature is dormant. CGS (2010) identified two rotational landslides which are adjacent to bike path segment 6 and the intersection of segments 1 and 2. The eastern bike path area (Segments 2, 3, 4 and 5) contains several unstable areas that were not mapped.

The unmapped unstable areas along the eastern trail area were observed to generally consist of what appeared to be deep-seated landslide areas corresponding to the dormant-young to dormant-old morphological age classification of Keaton and Degraff (1996). In general the unstable areas consist of broad swale areas several hundreds of feet wide and long. The swales contained weathered and rounded head and side scarps and did not exhibit evidence of recent ground movement (for example fresh scarps, exposed soils,

bulging ground). Old growth redwood stumps and second growth redwood conifers growing from the stumps within the unstable area appeared straight standing suggesting that significant ground movement in these areas occurred several hundreds of years ago. Because the proposed bike path construction is proposed to follow topography and will involve minimal amounts of cuts and fills, mass balance of the deep-seated landslide is not anticipated to be offset by the proposed grading.

3) The trail crosses several swales and Class III watercourses. Bike tires may possibly rut and erode swale thalwegs and watercourse channels during wet weather. It was suggested that placing split redwood logs or low height trail bridges across the channels and thalwegs would minimize rutting of the watercourse or swales when they are wet. Numerous redwood logs observed on the ground surface appeared readily available to be used for such construction.

4) Draining the proposed bike path such that runoff is minimized from being concentrated into the axis of the unstable areas will help decrease the potential for scour and possible sediment delivery. Trail construction occurs nearby and above unstable areas at several locations along Segments 3, 4, and 5. The plan proposes to follow existing topography in an effort to minimize the amount of cutting and filling and to allow for frequent drainage minimizing the potential for sediment delivery to watercourses. The proposed bike path construction appears to be designed to minimize adverse impacts to slope stability of the unstable areas. An adaptive management plan which includes monitoring the performance of the bike path after construction can help identify and mitigate unforeseen erosion concerns and will likely minimize the potential for chronic sediment delivery.

Specific Observations: *(keyed to Figure 2).*

Map Point 2: A low point in a seasonal road (known as Tractor Trail) ponds water during wet weather and ruts when equipment and trucks traverse it, requiring frequent repairs. CGS (2010, Map point Way Station 1, Figure 3) included recommendations to improve installation of a proposed subdrain. You indicated that the installed subdrain does not appear to be adequate enough to minimize saturation of the road surface. Topography in the area appears hummocky. What appeared to be a small ephemeral sag pond located just upslope from the road may percolate water into the road prism when the pond fills with water.

Raising road grade with rock and geotextile fabric may reduce the potential for rutting and pumping by separating the road prism from saturated ground. Additionally, draining upgradient road segments will likely minimize the amount of runoff that can pond in the area.

Map Point 4: The proposed bike path runs approximately 5 feet upslope of a small unstable area approximately 6 feet deep and 10 feet across above a Class II watercourse. The trail as marked during the inspection did not cross the

unstable area at any point. The section of the slope above the unstable area where construction will occur did not appear to be impacted by the slope movement. Minimizing runoff from the bike trail from flowing into the unstable area will minimize the potential for adverse impacts to slope stability of the unstable area and possible resultant sediment delivery.

General Recommendations:

1) None

2) None

3) Low height foot/bike bridges should be utilized to cross watercourses and swales in an effort to minimize rutting and erosion of watercourse or swale thalwegs during wet weather. Where feasible on-site materials should be used for such construction. The bike path construction plans should include a sketch or typical schematic of such construction.

4) The proposed bike path plans should include an adaptive management plan that allows for monitoring and mitigation of erosion points after the path has been constructed.

Specific Recommendation:

Map Point 2: Road grade should be raised a minimum of 12 inches with durable cobble sized rock separated from native material by a woven geotextile fabric (e.g. Mirafiâ500X). A 4 to 6 inch perforated drain pipe placed in a dip graded beneath the rock may be needed if considerable seepage water is encountered. The outlet of the drain should be located downslope of the area of road ponding. Road surfacing material should be placed on top of the rock that is again separated by a woven geotextile fabric. Rock and road surfacing should be compacted with heavy equipment. The condition of the road surface shall be monitored throughout the wet season to ensure that the placement of fabric and rock is effective. A rolling dip should be constructed upgrade from the low point in the road in an effort to minimize runoff from concentrating at the map point.

Map Point 4: The trail should be insloped where it crosses above the unstable area to minimize runoff from being concentrated into the unstable area.

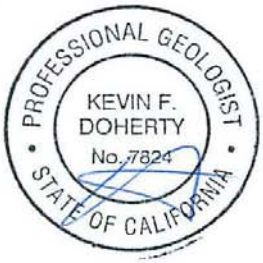
Reference:

California Geological Survey (CGS), 2010, Engineering Geologic Review of Timber Harvesting Plan 1-09-107 SCR, Memorandum to William E. Snyder, Deputy Director for Resource Management California Department of Forestry and Fire Protection, 135 Ridgeway Avenue, Santa Rosa, CA 95401, prepared by Don R. Braun, dated February 18, 2010

Clark, J.C., Brabb, E.E., and McLaughlin, R.J., 1989, Geologic Map and Structure Sections of the Laurel 7-1/2' Quadrangle, Santa Clara and Santa Cruz Counties, California : A Digital Database, USGS Miscellaneous Field Studies Map MF-2373, Sheet 2 of 8, scale 1:24,000.

Keaton, J.R., and DeGraff, J.V., 1996, Surface Observation and Geologic Mapping, in Turner, A.K. and Schuster, R.L., editors, Landslides, Investigation and Mitigation, Transportation Research Board, National Research Council Special Report 247.

Original signed by
Kevin F. Doherty, PG # 7824
Engineering Geologist



Concur
08/19/2013 original signed by
Date, David Longstreth, CEG # 2068
Senior Engineering Geologist

Attachments: Figures 1, 2 and 3

Explanation

Tsr	Purisima Formation
Tsl	Lambert Shale
Tv	Vaqueros Sandstone

Geologic contact, dashed where approximately located

Rotational/Translational Landslide

Earthflow

Debris Slide

Debris Flow/Torrent Track

Debris Slide Amphitheater/ Slope

Inner gorge

Disrupted ground

Slopes >70 percent

75 Strike and dip of bedding

Path of proposed bike trail

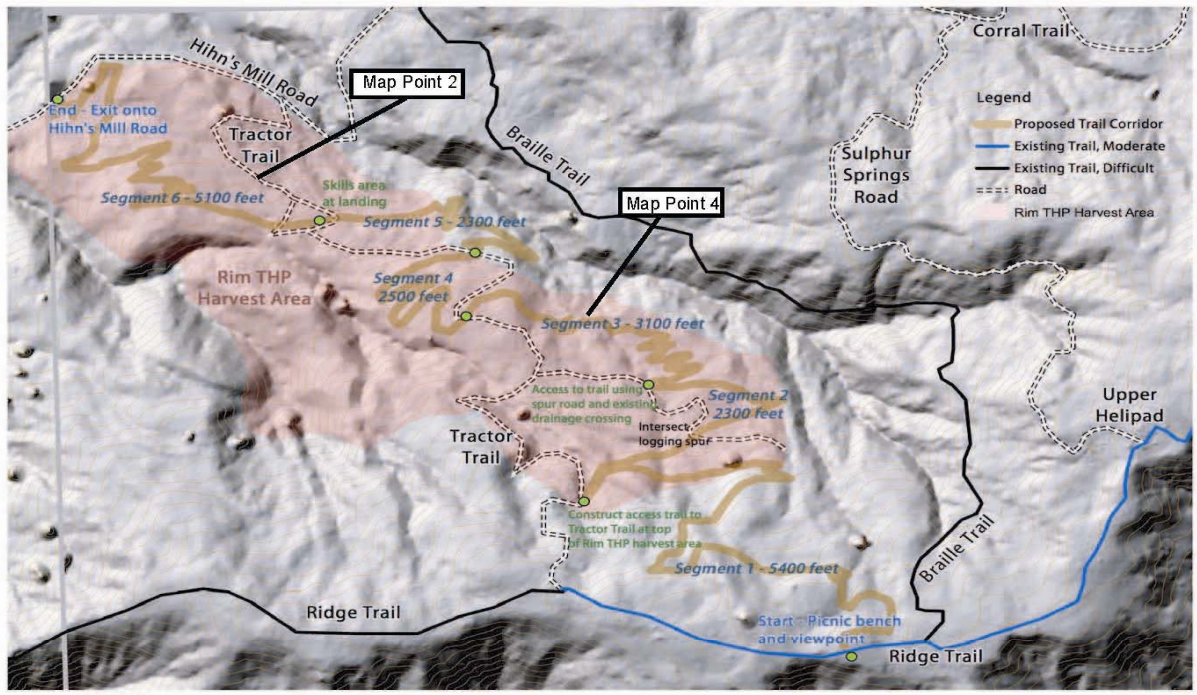
Shaded area represents estimated limits of 1-09-107 SCR harvest area

N

0 500' 2500'

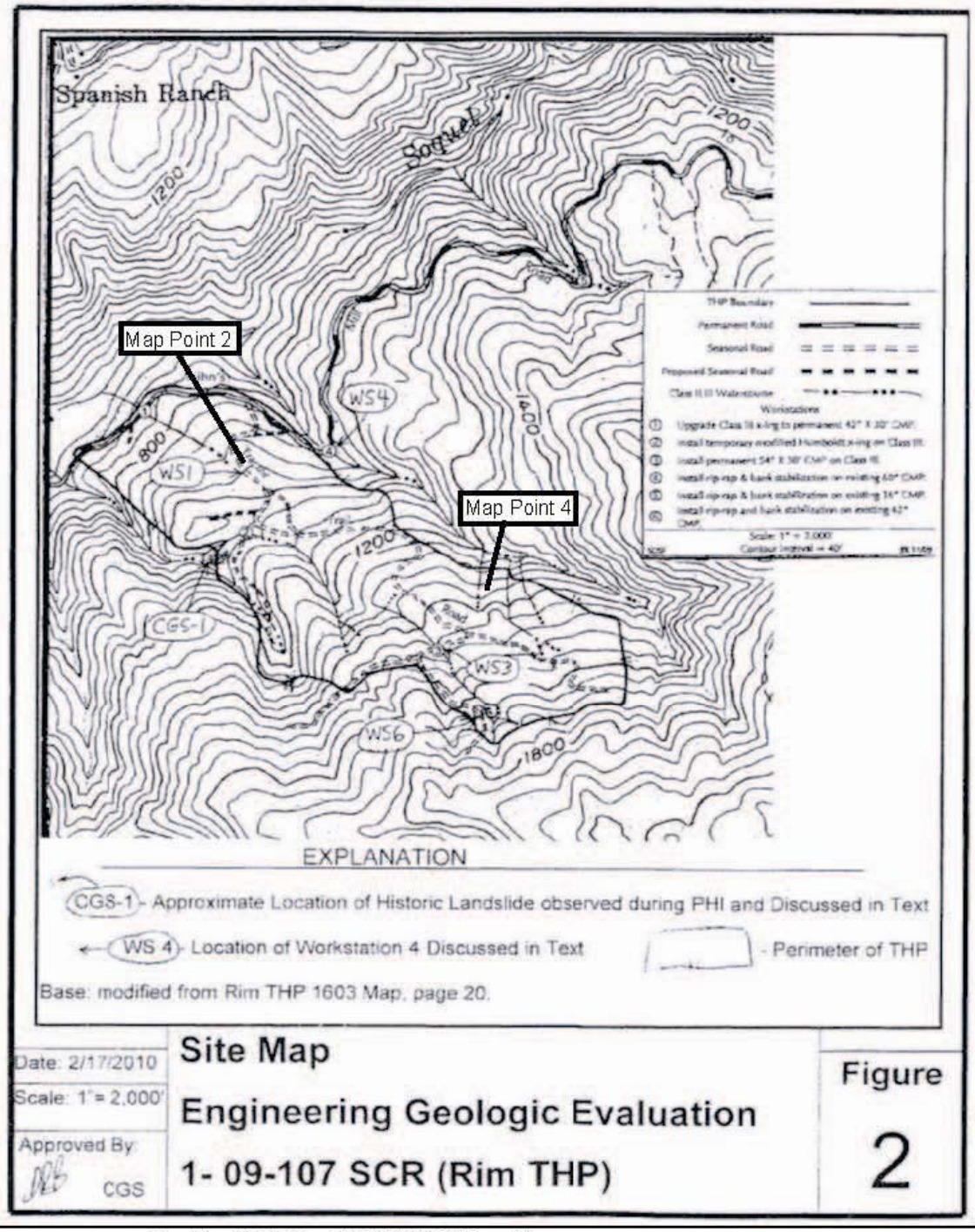
Base Map: Modified from Clark, J.C., Brabb, E.E., and McLaughlin, R.J., 1989, Geologic Map and Structure Sections of the Laurel 7-1/2' Quadrangle, Santa Clara and Santa Cruz Counties, California : A Digital Database, USGS Miscellaneous Field Studies Map MF-2373, Sheet 2 of 8, scale 1:24,000.

Date: Aug. 2013	Regional Geologic Map	Figure:
Scale: 1" = 2500'	To Accompany	1
Approved By: CGS	Engineering Geologic Review of SDSF Flow Trail	



Base Map: Modified from Draft Initial Study/Negative Declaration for the proposed SDSF Flow Trail Santa Cruz County, California, pg. 14.

Date: Aug. 2013 Scale: 1" = Approved By: CGS	Trail Map To Accompany Engineering Geologic Review of SDSF Flow Trail	Figure: 2



Base Map: Modified from THP 1-09-107 SCR, pg. 09.

Date: Aug. 2013		Figure: 3
Scale: 1" =	N	
Approved By: CGS		

LIST AND DEFINITION OF ACRONYMS AND SYMBOLS USED IN THIS DOCUMENT

Acronyms

CAL FIRE	California Department of Forestry and Fire Protection
CCR	California Code of Regulations
CDF	California Department of Forestry and Fire Protection (changed to CAL FIRE in 2007)
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CNDDB	California Natural Diversity Data Base
CWHR	California Wildlife Habitat Relationships
DBH	Diameter at Breast Height
EIR	Environmental Impact Report
IS	Initial Study
IS/ND	Initial Study/Mitigated Negative Declaration
LSAA	Lake or Streambed Alteration Agreement
LTO	Licensed Timber Operator
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MDBM	Mount Diablo Base Meridian
N/A	Not Applicable
NCCAB	North Central Coast Air Basin
NCUAQMD	North Coast Unified Air Quality Management District
n.d.	no date
NDDB	Natural Diversity Data Base
NRHP	National Register of Historic Places
NOI	Notice of Intent (to adopt a negative declaration or mitigated negative declaration)
PRC	Public Resources Code
RPF	Registered Professional Forester
RWQCG	Regional Water Quality Control Board
SDSF	Soquel Demonstration State Forest
THP	Timber Harvesting Plan
USGS	United States Geological Survey

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