

Exhibit 20

Pacific Crest Trail Route Mitigation Plan

*Prepared Pursuant to Sunrise Powerlink
Mitigation Measure WR-2b*

*On behalf of:
San Diego Gas & Electric Company
Sunrise Powerlink*

*By:
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1. INTRODUCTION

This report provides an assessment of potential feasible relocation options for the portion of the Pacific Crest Trail (PCT) that is crossed by the Sunrise Powerlink Project (Sunrise), in satisfaction of Mitigation Measure WR-2b. This report is Exhibit 20 to the Forest Service (USFS) Special Use Permit (SUP).

San Diego Gas & Electric Company (SDG&E) has been working closely with the USFS, Bureau of Land Management (BLM), and Pacific Crest Trail Association (PCTA) to address impacts from Sunrise crossing the PCT in accordance with the terms of mitigation measures WR-2b, WR-2c, and the Final Environmental Impact Statement (FEIS). Mitigation measures WR-2b and WR-2c were adopted with the limited objective of addressing potential impacts to the PCT from the selection of the Modified Route D Alternative as a component of the final Sunrise route approved by the California Public Utilities Commission (CPUC), BLM, and USFS. This report is being submitted in fulfillment of WR-2b's obligation to prepare and submit a report to the BLM and USFS that identifies potentially feasible PCT relocation options.

2. BACKGROUND

The selection by the agencies of the Modified Route D Alternative as part of the Final Environmentally Superior Southern Route (FESSR) co-located Sunrise with an existing 69 kV transmission line that crosses the PCT three times in the Potrero area. The FEIS analyzed this routing, and mitigation measure WR-2b was adopted "to minimize the impact of these multiple crossings on trail users."¹ Specifically, measure WR-2b requires SDG&E to:

Evaluate and Implement PCT Route Revision. SDG&E shall consult and coordinate with the U.S. Forest Service, BLM, and the Pacific Crest Trail Association to develop route options for revising the PCT so it would cross the Modified Route D Alternative only once, rather than three times. SDG&E shall prepare and submit a report to the BLM and U.S. Forest Service prior to energizing the new transmission line. The report shall identify feasible PCT relocation options, and, under the direction of the federal agencies, shall evaluate whether its construction and restoration of the old trail segment would create overall greater impacts than those created by three crossings of the PCT that would occur with the Modified Route D Alternative. If directed by the BLM, SDG&E shall be responsible for constructing the new trail segment and restoring the old trail segment in manner acceptable to the BLM and U.S. Forest Service. Trail construction and restoration shall be completed within one year of energizing the transmission line.²

The terms of WR-2b require SDG&E to provide an evaluation of options the agencies may wish to pursue within the immediate vicinity of the intersection(s) between the PCT and the Modified Route D Alternative. After Sunrise is energized, WR-2b provides that BLM may direct SDG&E

¹ Sunrise FEIS at E.4.5-4; *see also id.* at E.4.5-7.

² Sunrise FEIS at E.4.5-4: Sunrise Mitigation Measure WR-2b.

to be responsible for constructing a new trail segment and restoring the old trail segment.³ SDG&E and USFS executed a Collection Agreement to support these efforts.⁴

Mitigation measure WR-2c specifically concerns impacts arising from Sunrise's crossing of the PCT.⁵ WR-2c requires that, prior to energizing Sunrise, SDG&E prepare and submit a report to the BLM and USFS for approval that identifies compensation options to "off-set the impacts at the Modified Route D Alternative transmission line crossing."⁶ SDG&E will submit a separate report in compliance with WR-2c. After Sunrise is energized, and the agencies have evaluated potential compensation options, WR-2c provides that BLM may direct SDG&E to be responsible for implementing compensation projects.⁷

SDG&E developed several preliminary routing options for the segment of the PCT crossed by Sunrise and presented them to the agencies in May 2010. Although mitigation measures WR-2b and WR-2c are specific in terms of their compliance requirements, USFS and BLM requested in 2010 that work related to the mitigation measures take into account the much broader Optimal Location Review (OLR) process that is now being undertaken by the agencies for a portion of the PCT extending from the United States-Mexico border to Interstate 8, a distance of more than 25 miles. Over the last two years, SDG&E has cooperated in that larger OLR effort with the agencies and, through this collaborative effort, has assisted the agencies with developing and refining a number of potential route revisions for the segment of the PCT intersected by Sunrise. In accordance with the terms of WR-2b, this report discusses and analyzes the preliminary and refined routing options for the segment of the PCT crossed by Sunrise.

3. SUNRISE PROJECT OVERVIEW AND CROSSING IN THE VICINITY OF THE PCT

As approved by the CPUC, BLM and USFS, Sunrise is being constructed along a 117-mile route from Imperial Valley to San Diego. Sunrise transmission structures will be 500-kV lattice steel towers (LSTs) from the origin of Sunrise at the Imperial Valley Substation (Milepost 0) to the Suncrest Substation (Milepost 89), where the transmission line will be constructed using 230-kV LSTs. In the vicinity of the PCT (Sunrise Milepost 69 to 70) all Sunrise structures will be 500-kV LSTs.

Figure 1 shows the general area of the project crossing the PCT. Figure 2 focuses on the existing PCT alignment and the Sunrise Final Environmentally Superior Southern Route. The Sunrise right-of-way (ROW) follows an existing SDG&E 69 kV transmission line located just outside the southern boundary of the Cleveland National Forest (CNF). The 69-kV line is strung on wooden poles and is on the northern boundary of BLM-administered land.

Figure 1. Overview of the Sunrise Powerlink and Pacific Crest Trail

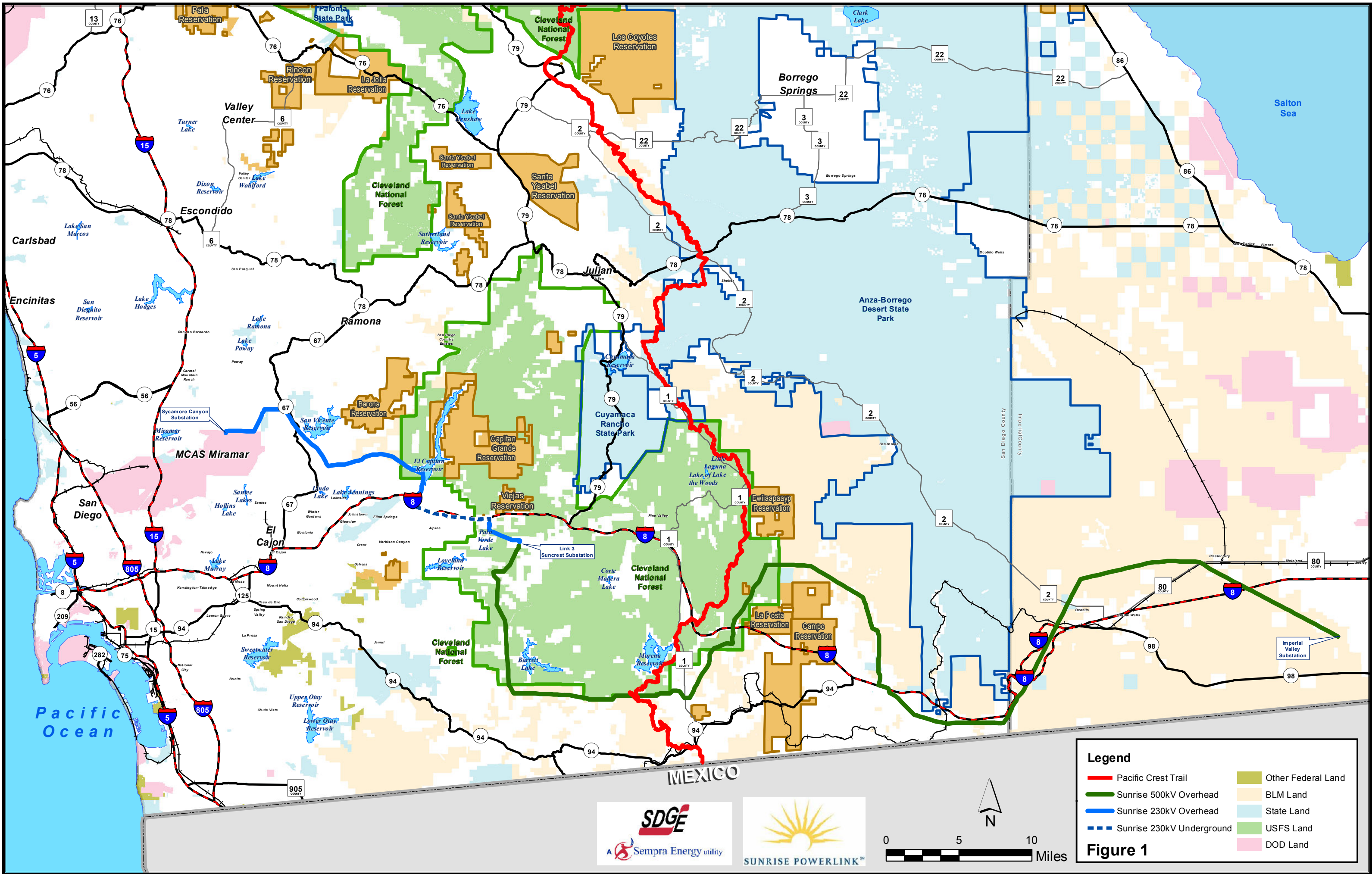
³ Sunrise Mitigation Measure WR-2b.

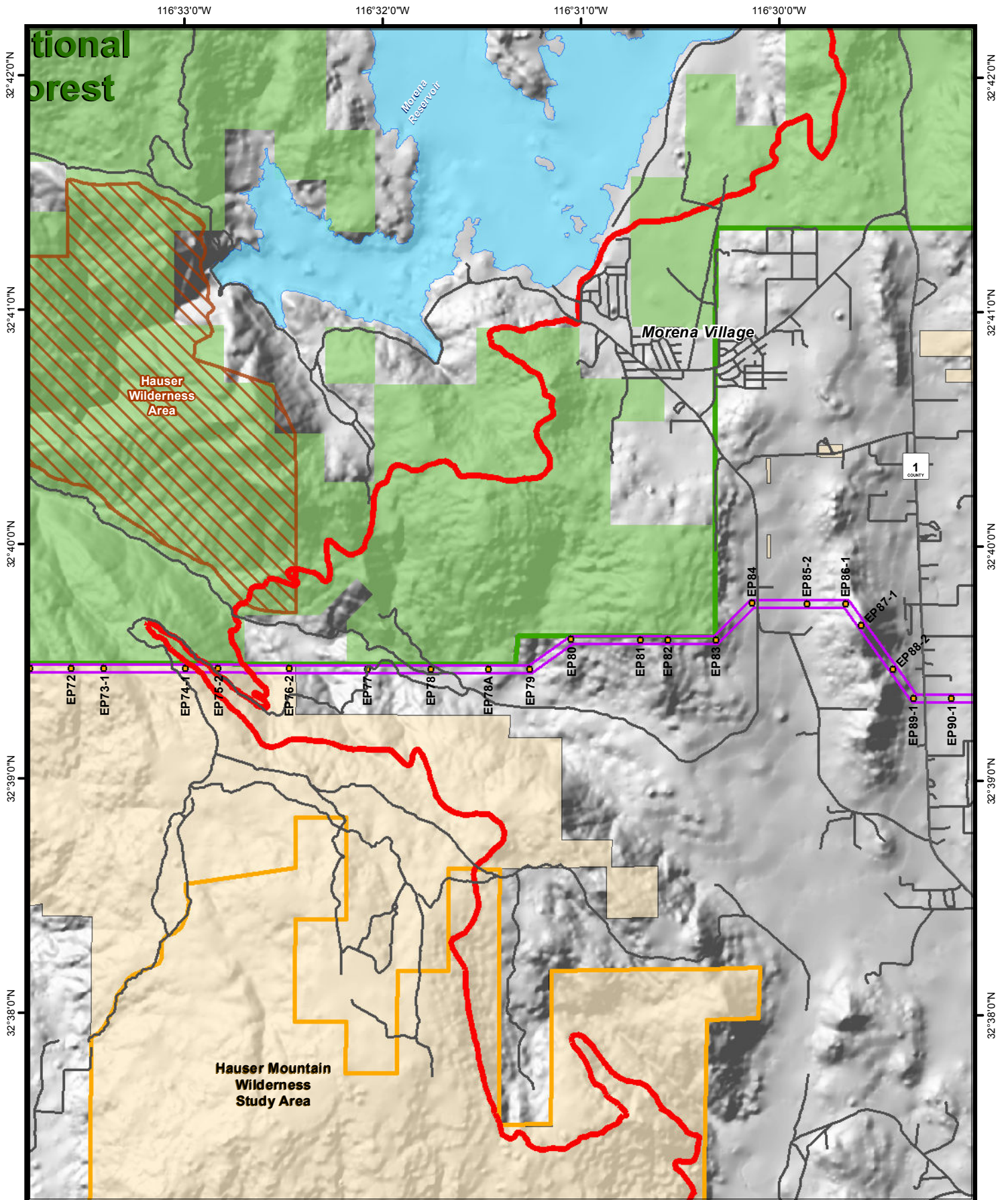
⁴ See Collection Agreement between SDG&E and USFS Cleveland National Forest (July 29, 2011) (USFS Agreement No. 11CO11050200023), which provides, among other things, funding for the construction and demolition/restoration of 3 miles of PCT pursuant to WR-2b.

⁵ See BLM Sunrise ROD at 4 ("BLM worked with the USFS to develop additional mitigation (WR-2c, PCT Route Impact Mitigation) for the PCT crossing that requires compensation to the USFS for the final impacts to the PCT identified by the route revision plan included in Mitigation Measure WR-2b.").

⁶ Sunrise Mitigation Measure WR-2c.

⁷ *Id.*





Legend

- Structure
- Existing Pacific Crest Trail
- ▭ Right of Way
- ▭ BLM-Administered Land
- Roads
- ▭ USFS-Administered Land

Figure 2



1:40,000
1 inch = 3,333 feet

SUNRISE POWERLINK™ **SDGE**
Sempia Energy, LLC

4. DEVELOPMENT OF POTENTIAL ROUTE REVISIONS

A. PACIFIC CREST TRAIL COMPREHENSIVE MANAGEMENT PLAN CRITERIA INFORMING POTENTIAL ROUTE REVISIONS

With the passage of the National Trails System Act of 1968, Congress designated the Pacific Crest National Scenic Trail as one of the first scenic trails in the Nation. The National Trails System Act states that scenic trails “will be extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.”⁸

In 1978, an Amendment to this Act directed the Secretary of Agriculture to prepare and submit to Congress a comprehensive plan for the development, management, and use of the trail. The Secretary assigned planning responsibility to the USFS which serves as the lead managing agency for the trail. As specified in the Act, this plan was developed in consultation with the Pacific Crest Trail Advisory Council, the Governors of affected States, the BLM, and the National Park Service. The Comprehensive Management Plan for the Pacific Crest National Scenic Trail was adopted by the USFS in 1982⁹.

Appendix C of the Comprehensive Management Plan sets forth a number of criteria that inform the overall location and design of the PCT, which were taken into consideration in developing routing options for this report. General trail location criteria include the following statement: “These directions for the location of the trail are intended to assure that it ‘fits’ the land, provides high scenic quality, presents opportunities for quality construction and easy maintenance, has low impact on fragile resources, and does not damage the environment.”

Specific trail location criteria contained in Appendix C of the PCT Comprehensive Management Plan include the following:

General Situation. The trail should be located to:

- Be continuous from Canada to Mexico.
- “Fit” the land in such a manner that the trail and the natural environment tend to complement each other.
- Give the feeling that land mass is below the traveler rather than above it. The trail should follow the “crest” where feasible.
- Prevent monotony by curving with the land rather than cutting across the land, and have a gently undulating grade as opposed to a long uniform grade.
- Complement the current and planned use of the land, and harmonize with the environment.
- Generally avoid, if possible, crossing any watershed of immediate importance for domestic water supply.
- Provide for maximum outdoor recreational potential.

⁸ 16 U.S.C. § 1242(a)(2).

⁹ See PCT Comprehensive Management Plan at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5311111.pdf

- Give consideration to the total cost of providing and operating the trail.
- Provide opportunities for interpretation of interesting natural phenomena, resource management, and natural and human history along the trail corridor.
- When possible, avoid situations where other human activity is potentially dangerous to the trail user.
- Generally avoid, if practical, areas of unstable soil or geology.
- Generally avoid, or protect cultural resources.

Scenic Considerations. The trail should be located to:

- Display a great variety of natural beauty and expanse of panoramic scenery from a position of height.
- Blend with the terrain by taking full advantage of the natural topography and vegetation.
- Present distant views by extending along ridgetops, through sparsely timbered areas, and alongside natural openings.
- Encounter a variety of vegetative types.
- Provide occasional views of the mountain crest, when the trail is located a considerable distance from the crest.
- Provide the most favorable and impressive approach to special scenic attractions.

Archaeological Considerations. The trail should be located to:

- Avoid archaeological sites and districts to extent practical.
- Mitigate adverse effects prior to construction, then proceed with the trail where archaeological sites or districts must be crossed.

Cultural Features. The trail should be located to:

- Retain cultural representation in harmonious blend to promote understanding of total resource management and its importance to the Nation by providing views and sounds of man's activities, when appropriate, such as harvesting timber, mining, raising and harvesting crops, livestock ranching, industry, urban areas, and transportation facilities, without conflicting with these activities.
- Have a natural or planned screen such as topography or vegetation, protecting the user from viewing esthetically objectionable activities.
- Route the trail through new vegetative growth in areas where extensive timber harvesting contiguous to the trail has been necessary because of existing conditions.
- Temporarily, route the trail around active operations where safety may be a factor.

River, Highway, Railroad Crossings. The trail should be located to:

- Provide safe crossings by means of bridges or underpasses except at low volume roads or railroads that can be safely crossed on grade. Special attention should be given to the safety problem that traffic noise can create for equestrians.
- Provide adequate visibility when roads or railroads of low traffic volume are crossed at grade.
- Take advantage of natural or existing features to afford an easy and quick crossing without breaking the continuity of the trail.

- Utilize, where practical, existing crossings of multi-laned freeways or major rivers (such as the Columbia River), where the cost of providing an exclusive crossing would be prohibitive. Plans should be coordinated with future highway construction to make the crossings as esthetically pleasing as possible, and also to effect economics through joint planning.
- Cross man-made features such as roads, aqueducts, and power transmission lines at right angles to avoid prolonged visual contact with them.
- Provide parking areas, campgrounds, stock handling facilities, and access where the trail crosses roads or other transportation facilities, as determined by analysis of resource capability and user demand.

Provisions For User Facilities. The trail should be located to:

- Provide access at varying distances along the trail so users can choose different trips of varying lengths.
- Take advantage of opportunities to provide drinking water for users as well as stock.
- Provide areas where stock may be controlled away from camping sites.
- Take advantage of nearby areas where parking areas, campgrounds, stock handling, or other trailhead facilities could be located.
- Allow space for horse tie rails, near the trail, so riders can secure their mounts at rest stops and scenic places.
- Be near areas where adequate sanitary facilities can be provided along the more heavily used portions of the trail.

Trail Dimensions.

- Generally, the trail tread will be from 18 to 24 inches wide. Eighteen inches will be the minimum width at all locations. Twenty-four inches should be the maximum width unless additional width is required for safety. Along a precipice, or hazardous area, the trail should be at least 48 inches wide in order to provide safety to the traveler, and allow horses to pass without difficulty.
- Special trail sections, such as fords through small streams or built-up sections across flat areas, should have usable tread of at least 36 inches wide. At switchback landings, graded trails should be 8 feet wide. Switchbacks should be designed to minimize the amount of excavation and cut-bank exposure. The specific details of the trail's dimensions are shown in illustrations in Appendix C of the Comprehensive Management Plan.

PCT Vegetation Clearing.

- As a general rule, all projecting limbs, brush, down logs, debris, and sapling trees will be cleared to a minimum width of 8 feet. If trees larger than 10 inches in diameter cannot be avoided, they shall be cut in order to provide a minimum cleared width of 6 feet. The overhead clearance shall be a minimum of 10 feet above the travel tread.
- A loop trail, designed for hikers only will be cleared of all small trees, brush, down logs, and debris to a minimum width of 4 feet. Generally, trees larger than 10 inches in diameter should not be cut. The trail should be routed around them. The overhead clearance shall be a minimum of 8 feet above the trail tread. All stumps within the trail clearing width shall be cut flush, as practical, with the ground.

- “Travelway Clearing” illustration (at pg. 104 of 129 in Appendix C of the Comprehensive Management Plan) shows the clearing dimensions graphically.
- Clearing, beyond that necessary for adequate room along the trail, may be desirable to provide openings so that the traveler can enjoy a particular scene. These clearings should be planned to give the appearance of a natural opening.
- Additional clearing width may be needed through areas of high fire hazard, such as the brush fields of Southern California and the heavy-forested areas along the trail.
- Remove “hazard” trees which would endanger trail users.

B. TRAIL RELOCATION OPTIONS DEVELOPED IN 2010

With the PCT Comprehensive Management Plan criteria for optimal trail placement and construction in mind, a field visit was conducted by representatives of SDG&E and the USFS in April 2010. The team studied the existing trail alignment, terrain, rock outcrop patterns, side-slopes, vegetation patterns, topography maps, and private land parcel maps. From the upper end of South Boundary Road where the PCT joins the road, the team laid out conceptual route options that would cross under Sunrise only one time. The field team went off-road and off-trail in several locations to climb onto large rock outcrops near South Boundary Road that afforded views of Hauser Canyon and possible creek crossing locations, as well as possible routes up the mountainside on the north and south sides of Hauser Canyon.

The creek at the bottom of Hauser Canyon is called Cottonwood Creek. The habitat over most of the slopes and uplands on either side of Cottonwood Creek is mature or climax chaparral and sage scrub. The more easterly portions of the canyon area are characterized as oak woodland in areas of private ownership and there are riparian areas in the drainage towards the west. The field team noted the large water impoundment on Cottonwood Creek and the abundance of large shade trees on private property near the pond. There was agreement on the desirability of this area as a camping site or lunch opportunity, and that it is only a few hours north of the Southern Terminus, and less than two hours south of Morena Village. The team also hiked the trail at the north side of Cottonwood Creek and looked back at the existing 69 kV transmission line and Sunrise ROW, developing and evaluating where the various optional routes could be sited. The field team noted that, on the north side of Cottonwood Creek, the PCT climbs through a series of switchbacks directly next to an existing mine, which has created significant scars on the landscape. They noted that there is no tall vegetation and therefore no shade on this south facing slope as trail users make their way up the switchbacks. The mine appeared to be inactive in April 2010.

Panoramic photographs were taken from the existing trail during the April 2010 field visit to document the existing conditions prior to the construction of Sunrise. These photographs and descriptions are attached in Appendix A of this report.

After further evaluation of the terrain and potential routing options in the vicinity of where Sunrise would cross the PCT, including consideration of terrain slopes, viewsheds, cultural and biological conditions such as the potential presence of federally and state listed threatened and endangered species, relationship to private and federal lands, and proximity to identified golden

eagle buffer zones, SDG&E devised four potential routing options, shown as Options “E” “F” “G” and “H” on Figure 3.

As shown on Figure 3, the Sunrise Final Environmentally Superior Southern Route is labeled “A” and it follows the alignment of the existing 69 kV transmission line, which is labeled “B.” The existing PCT is labeled “C” and where it is co-located on South Boundary Road, the PCT is labeled “D.”

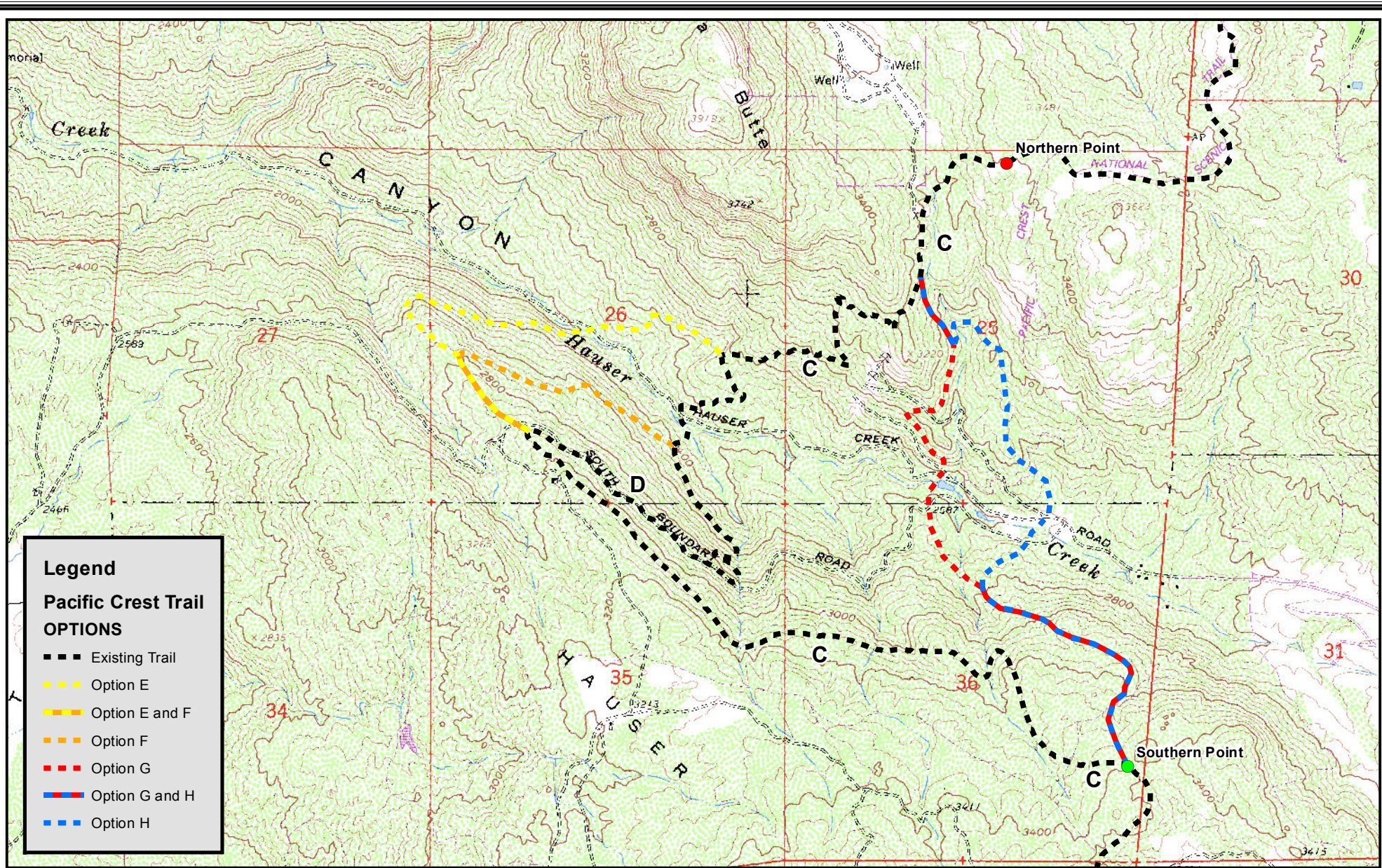
Route Option “E” departs from the PCT where the trail crosses South Boundary Road, then goes downhill on a ridgetop, curves around the nose of the ridge, drops into Hauser Canyon, and proceeds uphill on the opposite side of the canyon joining the PCT at an existing switchback on the north side of Cottonwood Creek. Option “E” is entirely on federal lands administered by the CNF.

Route Option “F” departs from the PCT at the same location as Option “E” and proceeds downhill on the same ridgetop, but switches back sooner, connecting to the PCT at a switchback on the south side of Cottonwood Creek. This route is located entirely on federal lands administered by the CNF.

Route Option “G” diverges from the PCT on BLM-administered land approximately 2 miles east of the intersection of the PCT and South Boundary Road, then drops into private property in Hauser Canyon, crosses under Sunrise at South Boundary Road, goes near a large impoundment of water at Cottonwood Creek on private land, then enters the CNF and climbs up the south facing slope of Hauser Canyon and rejoins the PCT on USFS-administered land approximately 1 mile south of Morena Reservoir. This route crosses some private lands at the bottom of Hauser Canyon.

Route Option “H” departs from the PCT on BLM-administered land at the same location as Option “G” and heads downhill in a similar fashion, enters private property and crosses South Boundary Road, Hauser Canyon, and then under Sunrise further east than Option “G.” Option “H” then enters federal land managed by the CNF and climbs up the south facing slope and rejoins the PCT at the same location as Option “G.” This route crosses some private lands at the bottom of Hauser Canyon.

Pursuant to mitigation measure WR-2b, each of these four short route options crosses under Sunrise only one time and each was determined to be a feasible option to construct. These route options were presented to the USFS, BLM, and the PCTA in comparative form on May 26, 2010.



Legend

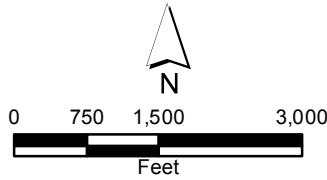
Pacific Crest Trail OPTIONS

- ■ ■ Existing Trail
- ■ ■ Option E
- ■ ■ Option E and F
- ■ ■ Option F
- ■ ■ Option G
- ■ ■ Option G and H
- ■ ■ Option H

**Sunrise Powerlink Alignment
California, USA**



Date Printed: 5/23/2012 Author: mtvaneck
Name: 10-237_PCT_OPTIONS_USGS_TOPO_FIGURE3_NO_OPT_I.Mxd



**Sunrise Powerlink
PCT Trail Route Options
2010**

Figure 3

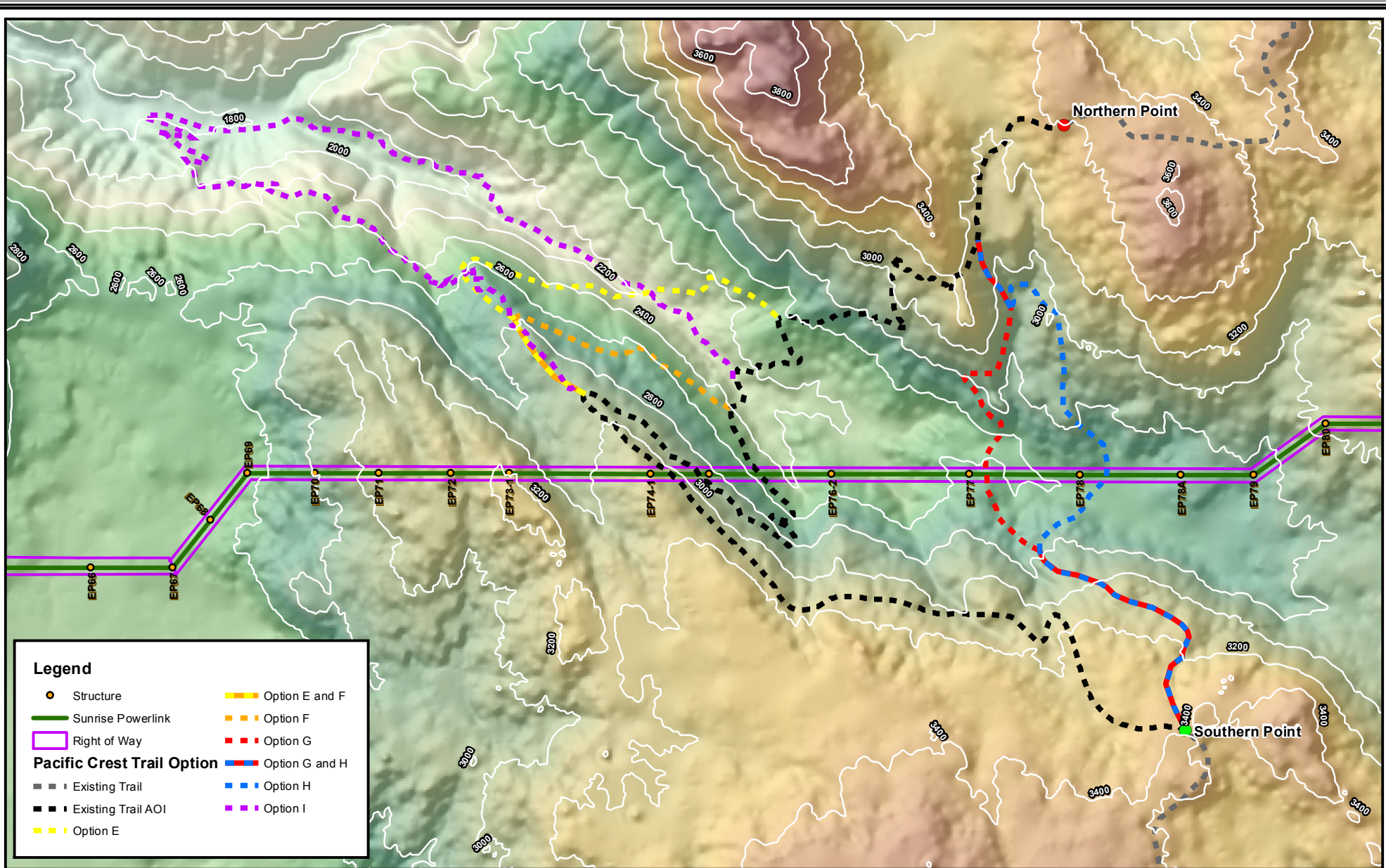
C. DEVELOPMENT OF REFINED ROUTE OPTIONS

Since the 2010 presentation of potential routing options, SDG&E has worked with the USFS, BLM, and PCTA to further refine potential routing options as part of the agencies' broader OLR process for an approximately 25 mile segment of the PCT running from the United States – Mexico border to Interstate 8. This work has included several site visits with representatives from the USFS, BLM, PCTA, and SDG&E, the development of objectives for the OLR, evaluation criteria for trail relocation alternatives, a desktop review of possible trail relocation alternatives and field work to “ground-truth” these alternatives and refine alternative trail alignments.

Although there are a number of potential alternative routes covering the entire 25 mile extent of the OLR through BLM- and USFS-administered lands that are being analyzed, the collaborative OLR process identified use of the ridge immediately north of Sunrise as a preferred potential routing down Cottonwood Creek towards the west of the existing PCT¹⁰. This one segment has been “ground-truthed” by trail experts from the USFS and the PCTA and appears to be supported by all OLR participants. In order to facilitate that option as part of the larger OLR, SDG&E is proposing a new routing option, which is shown as Route Option “I” that is based upon current input from the OLR process and the goal of rejoining the PCT within a 3 mile area of Sunrise. Option “I” is shown on Figure 4. As shown Option “I” departs from the PCT on federal land administered by the CNF, at the same location as Options “E” and “F” and proceeds downhill over the same ridgetop. Option “I” continues down this ridge and further west, a total of 2.29 miles, until it intersects with Cottonwood Creek downstream of an unnamed creek that outflows from Morena Reservoir. There is an historic era concrete water works at this unnamed creek, with adequate water for hikers and equestrians. In order to re-connect with the existing PCT, at this juncture, Option “I” would turn east and proceed 1.99 miles east to the existing PCT using Cottonwood Creek Road, a primitive 2-track USFS administrative road that is closed to public vehicular use. This road is used by the Border Patrol and USFS, but is passable only with high-clearance vehicles or OHVs, and is very lightly used by administrative vehicles. A locked gate protects this portion of the road from public vehicular use.

If constructed, Option “I” would meet the objective of mitigation measure WR-2b by passing under Sunrise only one time and additionally would be compatible with potential future plans to accomplish a far broader alternative PCT alignment that is currently being evaluated by the USFS, BLM, and PCTA in the larger OLR process. SDG&E proposes that Option “I” could be viewed as a temporary reroute of the PCT to avoid crossing under Sunrise three times (and which would also facilitate other larger potential realignments of the PCT routing currently under consideration by the agencies) or as a permanent realignment of the PCT that allows most of the existing trail alignment to remain in use. Additionally, the portion of Option “I” that drops down

¹⁰ The OLR process has also generated an extended alternative that would realign the entire 25.6 mile segment of the PCT from the International Border to Interstate 8, require a new trail terminus, and potentially cross Sunrise between EP73 and EP74, further to the west than any of the current crossings. This extended realignment is still being evaluated by the responsible agencies. Pursuant to the specific and limited scope of measure WR-2b, all of the re-route options analyzed here provide for reconnection to the existing PCT.



Legend

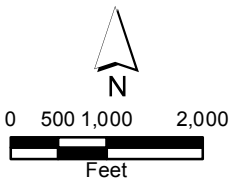
- Structure
- Sunrise Powerlink
- Right of Way
- Pacific Crest Trail Option
- Existing Trail
- Existing Trail AOI
- Option E
- Option E and F
- Option F
- Option G
- Option G and H
- Option H
- Option I

**Sunrise Powerlink Alignment
California, USA**



Date Printed: 5/23/2012 Author: mtvaneck

Name: 10-237 Options Map Color Coded Figure4.Mxd



**Sunrise Powerlink
PCT Options
2012**

Figure 4

the ridge from South Boundary Road to Cottonwood Creek would allow for the adoption of a trail alignment that is being proposed by the OLR process and that would ultimately go through the Hauser Wilderness on USFS-administered lands and to the west side of Morena Reservoir. Based upon field review in November 2011 by SDG&E, USFS, BLM and PCTA, and detailed field review by USFS and PCTA again in April and May 2012, Option “I” has been determined feasible to construct and 100% of this option is on USFS-administered land.

5. ANALYSIS AND COMPARISON OF ROUTE OPTIONS

Mitigation Measure WR-2b requires that this report “shall identify feasible PCT relocation options and, under the direction of the federal agencies, shall evaluate whether its construction and [the] restoration of the old trail segment would create overall greater impacts than those created by three crossings of the PCT that would occur with the Modified Route D Alternative.” SDG&E performed a detailed comparative analysis of the five route options presented in this report, taking the existing location of the PCT and location criteria identified in the PCT Comprehensive Management Plan into consideration. SDG&E used a “Southern Point” and “Northern Point” as common points to begin and end trail comparisons and analysis of evaluation criteria. SDG&E also used GIS data to study differences among various horizontal alignments and vertical profiles of the PCT and the five route options. Figure 4, above, shows Option “I” as a purple line, the existing PCT as a black line, Route Option “E” is shown in yellow, Route Option “F” is shown in orange, Route Option “G” is shown in red, and Route Option “H” is shown in blue.

A. LENGTH OF ROUTE OPTIONS

The existing PCT is 29,383 feet (5.56 miles) from the Southern Point to Northern Point (Figure 5). Option “E” is 27,861 feet (5.27 miles) from the Southern Point to Northern Point. Option “F” is 27,720 feet (5.25 miles) from the Southern Point to Northern Point. Option “G” is 12,822 feet (2.42 miles) from the Southern Point to Northern Point. Option “H” is 13,572 feet (2.57 miles) from the Southern Point to Northern Point. Option “I” is 43,531 feet (8.24 miles) from the Southern Point to Northern Point. All proposed crossings under Sunrise would be no further than 0.25 miles west or 0.85 miles east of the three existing PCT crossings under Sunrise.

B. TERRAIN SLOPES OF ROUTE OPTIONS

SDG&E analyzed terrain slopes crossed by the PCT and the five route options, based on the three slope classes presented in Appendix C of the Comprehensive Management Plan (at pg. 94 of 129) in order to assess the placement of the trail on the physical terrain (Figure 6)

In general, mountain-tops, with ground slopes that are below 10% do not normally provide scenic vistas. Likewise, in valley bottoms, ground slopes that are below 10% do not provide a crest experience and may not provide scenic vistas. PCT locations on mountainsides with ground slopes of 10% to 70% are generally optimal for hikers and equestrians to maximize scenic vistas. Ground slopes above 70% are considered to be too steep for optimum trail location, and would normally require extraordinary construction techniques and unusually high maintenance costs. Figure 7 provides a breakdown of the consideration for placement of the trail route options relative to topography in the project area.

Pacific Crest Trail Options
Trail Profiles
Sunrise Powerlink Project

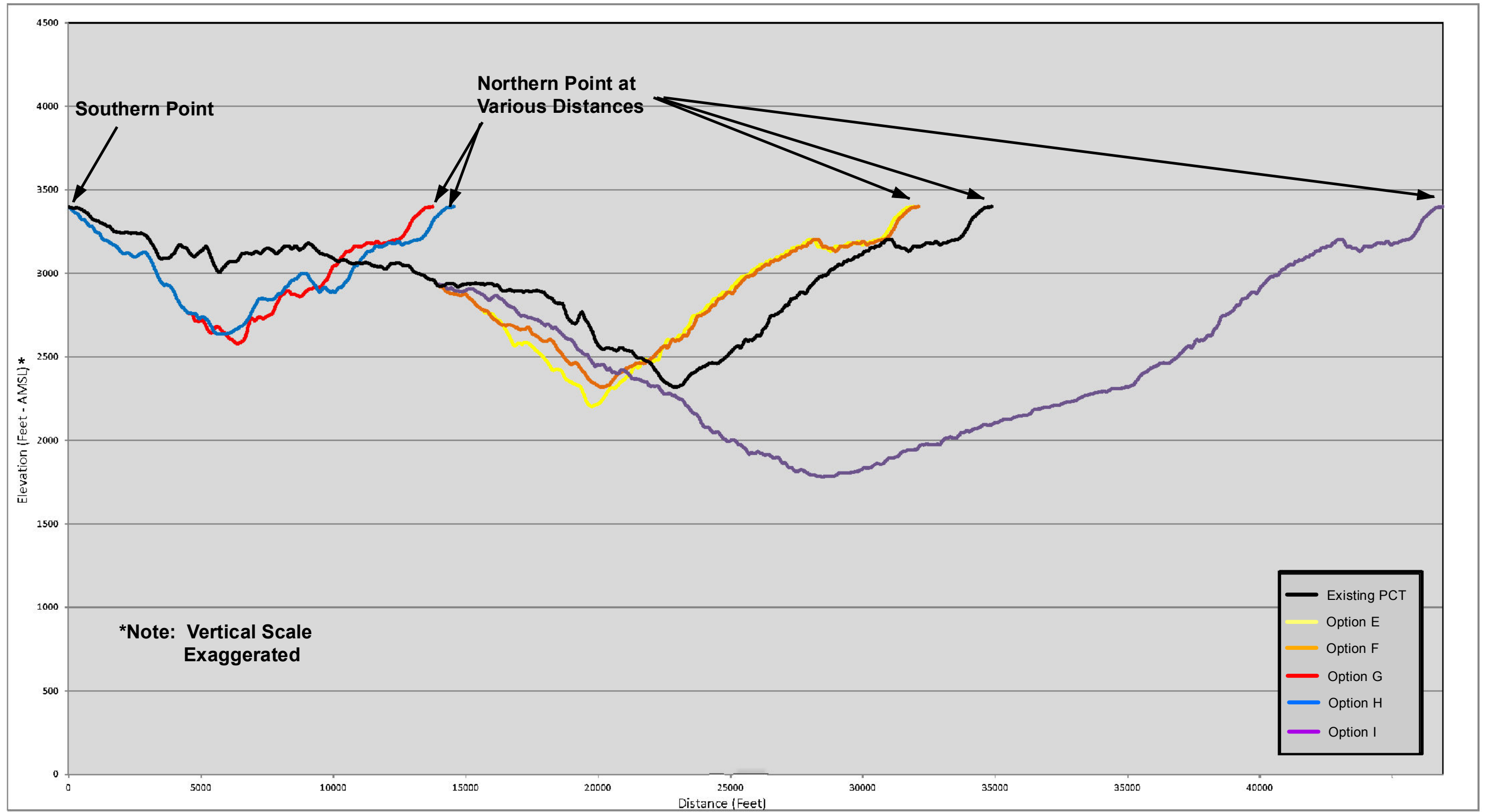


Figure 5

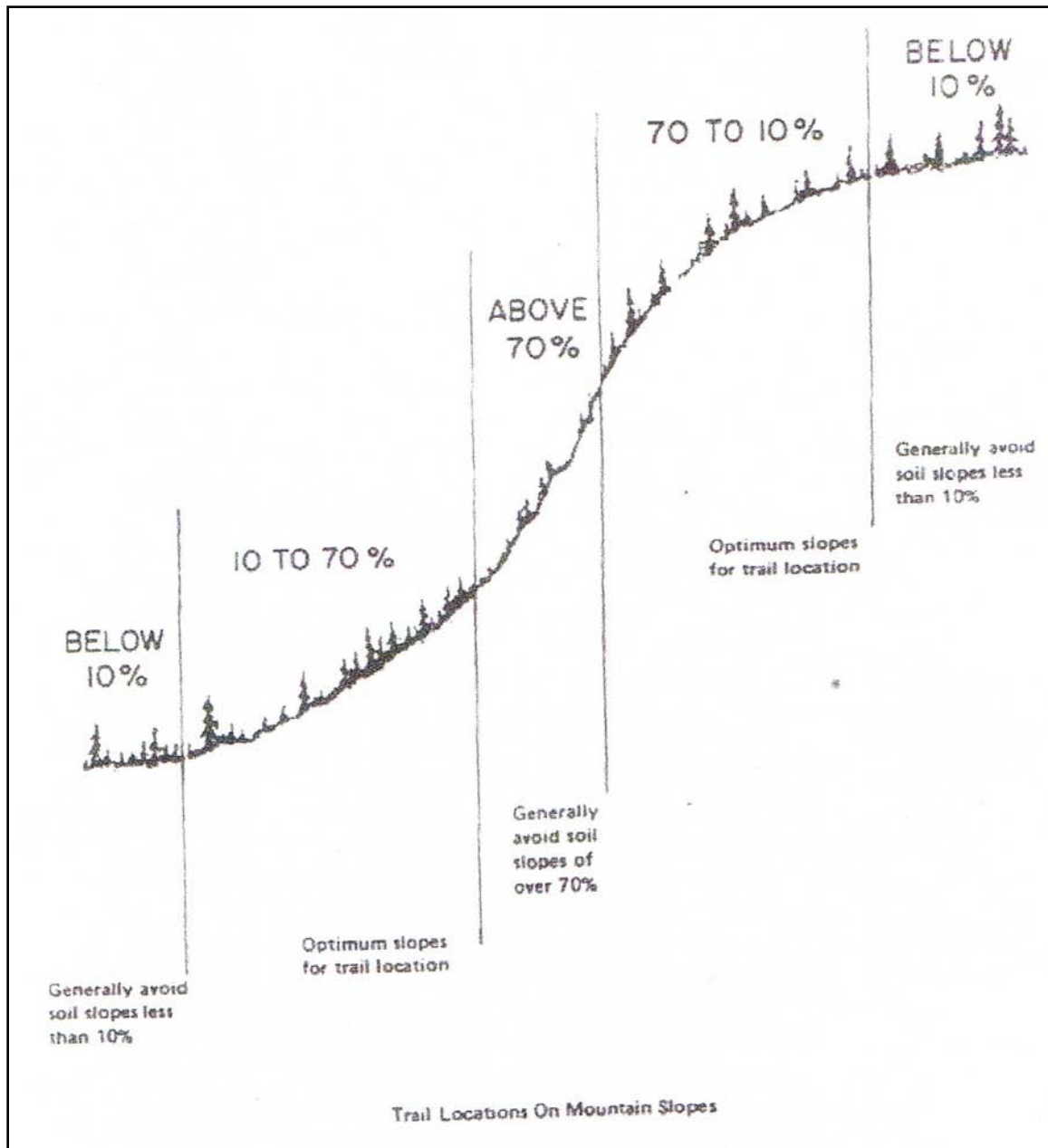
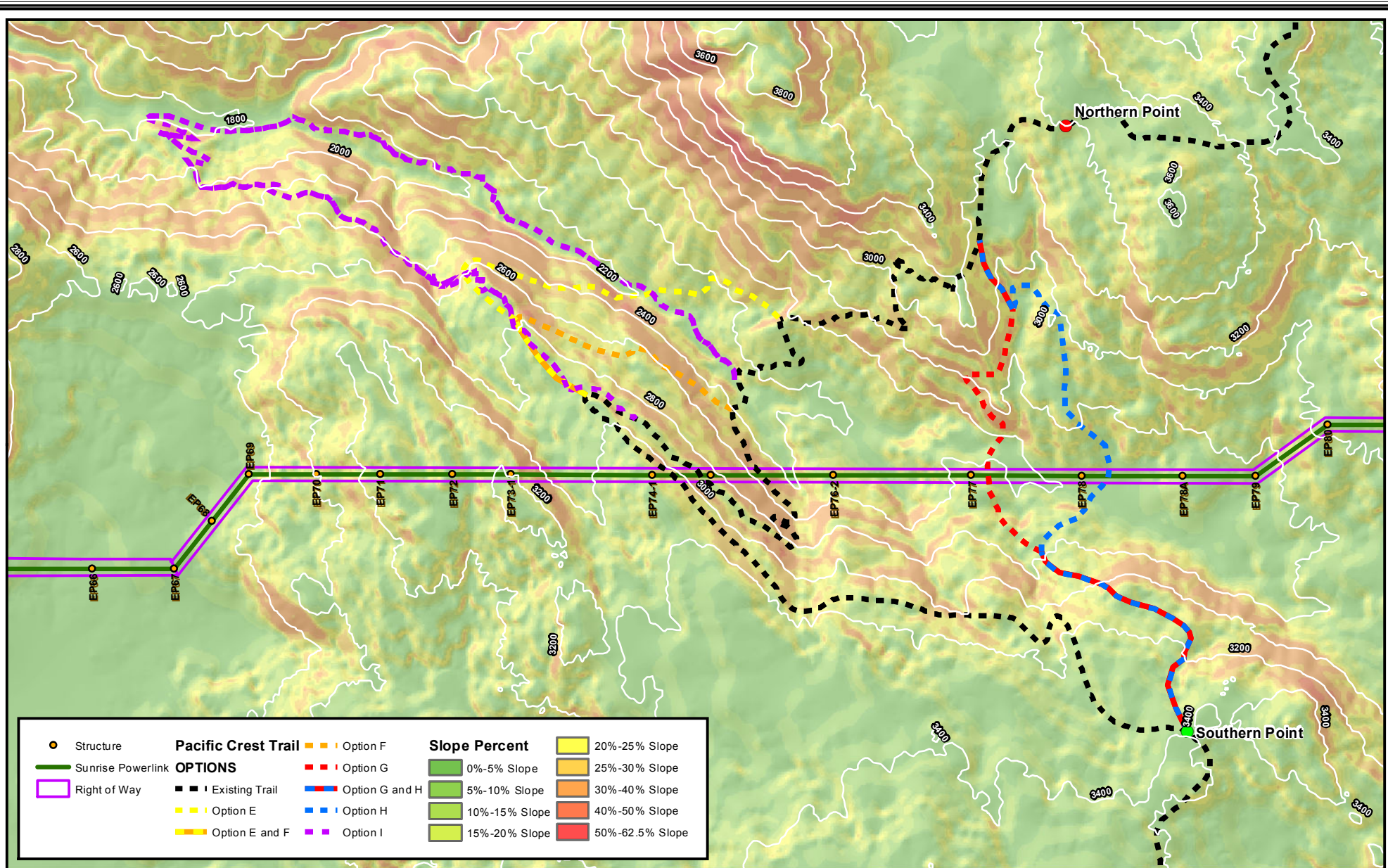


Figure 6. Terrain Cross Slopes from Comprehensive Management Plan



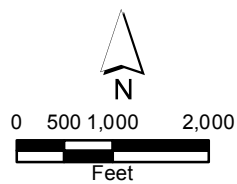
**Sunrise Powerlink Alignment
California, USA**



Date Printed: 5/23/2012

Author: mtvaneck

Name: 10-237 Options Map Color Coded_FIGURE7.Mxd



**Sunrise Powerlink
Slope Classification**

Figure 7

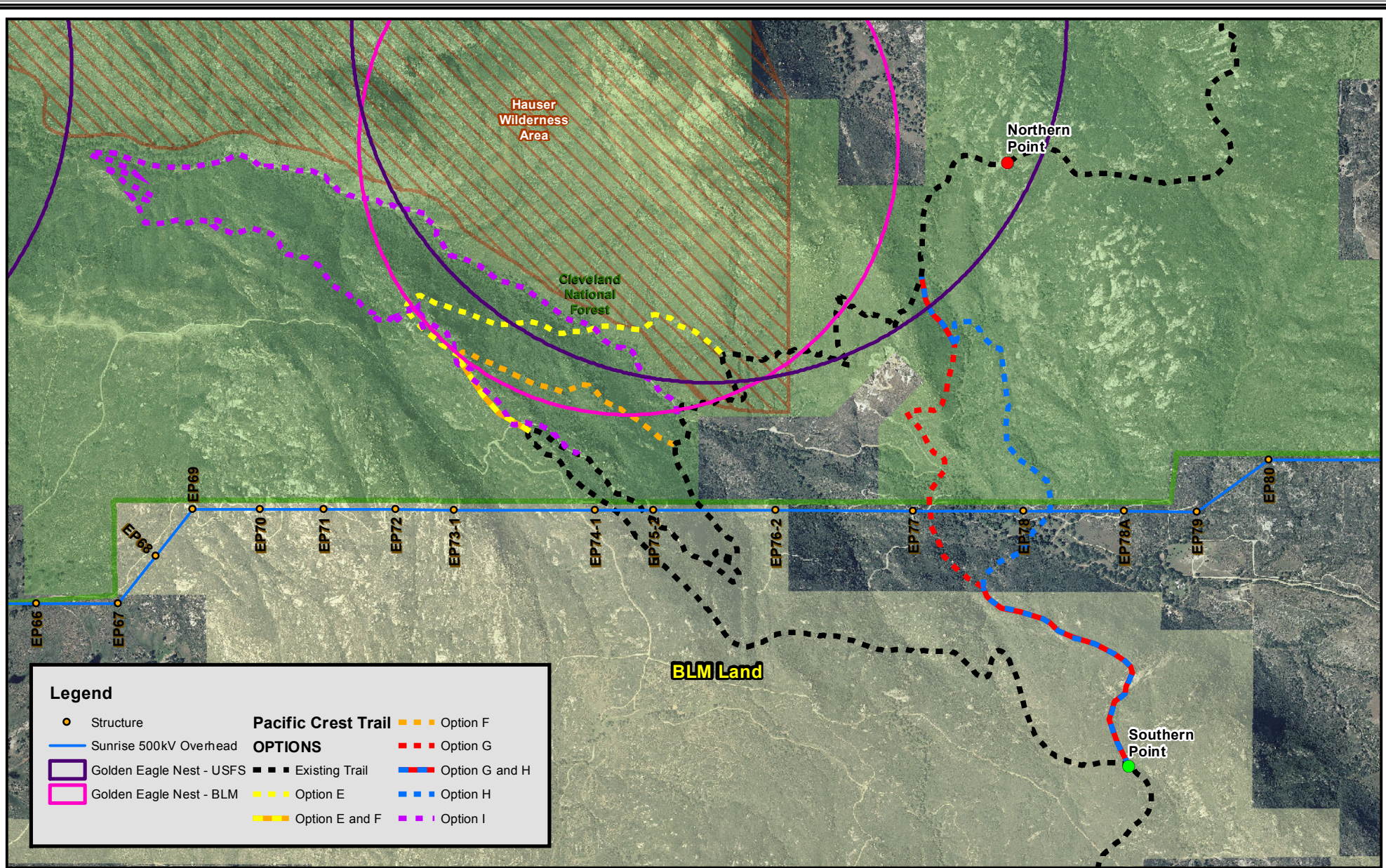
As shown in Figure 7, of the five Route Options, Option “E” and “F” and the existing alignment of the PCT follow the longest distances across slopes greater than 50%, followed by Option “I” which crosses only small, scattered areas of slopes greater than 50%. Options “G” and “H” occupy more gentle slopes in the upper end of Hauser Canyon with “H” having the greatest distance across slopes in the range of 10-20%. Based on GIS terrain analysis, SDG&E determined that there are no slopes greater than 70% in the vicinity of the PCT – Sunrise intersection and the five Optional Routes. In fact, the steepest slopes in this area do not exceed 63%.

C. BIOLOGICAL EVALUATION FOR ROUTE OPTIONS

Regarding biological issues, the following similarities and differences exist between the various Options. Option “I” is the western most of all the options and as such it would cross Cottonwood Creek in a more narrow and steep location than Options “G” and “H” and to a lesser degree of difference than Options “E” or “F”. The upland vegetation community that would be impacted by Option “I” is southern mixed chaparral which in this area is at climax conditions and is the same setting as compared to the original 4 options. Immediately west of this location, just beyond Sunrise tower EP74-1 the vegetation community transitions to chamise chaparral.

At the drainage crossing, Option “I” is closer to a mapped riparian community and there are records for Least Bell’s Vireo, an endangered species, in the vicinity of this crossing and some potential for seasonal nesting. There are also records indicating the potential for Arroyo Toad, an endangered species, in the vicinity of the drainage crossing associated with Option “I” due to habitat type. Tecate tarplant is mapped on South Boundary Road near the intersection with Harts Ranch Road. Tecate tarplant is a special status, rare plant, although it is not a listed species.

SDG&E also studied the lengths of trail segments for the existing PCT alignment and the five Route Options with regard to the location of Golden Eagle nest buffers identified for Sunrise in relationship to land ownership, as shown on Figure 8. Route Options “E” “F” “I” and the existing PCT alignment occupy the longest extents within Golden Eagle nest buffers, but are entirely on federally managed lands (BLM and USFS). Options “G” and “H” are on more gentle slopes in the upper end of Hauser Canyon; both of these routes cross private land ownership(s) and are not in eagle nest buffer areas except for a few hundred feet at the northern end of the segment (see Figure 8).



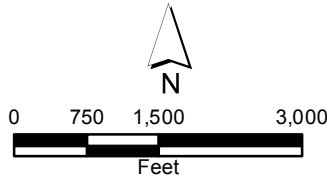
Legend

● Structure	Pacific Crest Trail	Option F
— Sunrise 500kV Overhead	OPTIONS	Option G
— Golden Eagle Nest - USFS	Existing Trail	Option G and H
— Golden Eagle Nest - BLM	Option E	Option H
	Option E and F	Option I

**Sunrise Powerlink Alignment
California, USA**

Date Printed: 5/23/2012 **Author: mtvaneck**

Name: 10-237_PCT_OPTIONS_GOE_A_NESTS_FIGURE8.Mxd



**Sunrise Powerlink
PCT Options
Property Boundaries and
Golden Eagle Nesting**

Figure 8

D. CULTURAL EVALUATION FOR ROUTE OPTIONS

The cultural resources information related to Option “I” indicates that there will be one historic era cultural resources site in close proximity to this option. The site is SDI-9134H which is the water management/Cottonwood Flume which is recorded as dating to between 1880 and 1914 or from 1914-1945 with the exact date of construction unknown. This flume is both concrete and rock construction and appears to be associated with the Old Hauser Campground, east of the Marine Memorial. This location provides a source of potable water. There are previously recorded cultural resources sites in the vicinity of Options “E” “G” and “H” and while none of these resource areas appear to be directly in the path of any of these proposed alternatives, adjustments or refinements to these choices, in particular Options “G” or “H”, could potentially result in an impact because of the proximity to recorded archaeological sites. Given the thickness of the vegetation, which may be masking archaeological resources and the presence of a reliable fresh water source and which is known as an important component for prehistoric and historic era site selection, there is potential for as yet unknown cultural resources sites or features in this area. None of the recorded sites has been evaluated for National or California Register eligibility.

E. VISUAL EVALUATION OF ROUTE OPTIONS

Implementation of Options “G” or “H” would create less visual exposure to the existing mine operations on private property and would provide more shade and less solar exposure on southwest facing slopes, as compared to the existing trail or any of the other optional routes. Implementation of Options “E” “F” or “I” would have the same visual exposure to the existing mine operations on private property as the existing PCT alignment.

F. SUMMARY COMPARISON OF ROUTE OPTIONS

The five options SDG&E developed in 2010 and 2012 compare and contrast to the existing PCT in the following ways shown in Table 1.

Table 1. Evaluation Criteria for Existing PCT and Five Route Options

Evaluation Criterion	Existing PCT Route (C+D)	Lower Western Option (E)	Upper Western Option (F)	Lower Eastern Option (G)	Upper Eastern Option (H)	Lowest Western Option (I) (from OLR)
1. Number of times PCT would be crossed by Sunrise T/L	3	1	1	1	1	1
2. PCT stays on a trail bed, not on South Boundary Road for 0.75 miles	No	Yes	Yes	Yes	Yes	Yes
3. Less visibility of new Sunrise T/L for PCT hikers & equestrians	No	Yes	Yes	Yes	Yes	Yes
4. Ease of new trail construction and probably less solid rock construction	N/A	No	No	Yes	Yes	No
5. Land ownership – PCT stays on public lands administered by BLM & USFS	Yes	Yes	Yes	No	No	Yes
6. Retains investment in existing solid rock trail bed on Hauser Mountain	Yes	Yes	Yes	No	No	Yes
7. Shortens overall trail length with a more direct crossing of Cottonwood Creek	N/A	No	No	Yes	Yes	No
8. Less vertical decent/ascent from 3400' (Southern Point) to creek to 3400' (Northern Point)	N/A	No	No	Yes	Yes	No
9. Less visual exposure to existing mine tailings on private property	No	No	No	Yes	Yes	No

Evaluation Criterion	Existing PCT Route (C+D)	Lower Western Option (E)	Upper Western Option (F)	Lower Eastern Option (G)	Upper Eastern Option (H)	Lowest Western Option (I) (from OLR)
10. Less solar exposure on southwest facing slopes	No	No	No	Yes	Yes	No
11. Length of old trail segment requiring restoration	None	5,553 feet	2,968 feet	22,725 feet	22,725 feet	3,507 feet
12. Length of PCT from 3400' elev on Hauser Mtn. to 3400' elev near Morena Reservoir	29,383 feet	27,861 feet	27,720 feet	12,822 feet	13,572 feet	43,531 feet
13. Total amount of new disturbance for new 18" to 24" wide trailbed	None	7,973' (1.51 mi)	5,227' (0.99 mi)	10,190' (1.93 mi)	10,930' (2.07 mi)	12,115' (2.29 mi)
14. Total amount of vegetation removal for trail clearing at 8 feet wide	None	7,973' x 8' = 1.46 acres	5,227' x 8' = 0.96 acres	10,190' x 8' = 1.87 acres	10,930' x 8' = 2.01 acres	12,115' x 8' = 2.22 acres
15. Amount of vertical decent from 3400' contour to Cottonwood Creek	1,074 feet	1,192 feet	1,074 feet	838 feet	773 feet	1,160 feet
16. Approximate elevation of Cottonwood Creek crossing	2,326' amsl	2,208' amsl	2,326' amsl	2,562' amsl	2,627' amsl	2,240' amsl
17. Biological Impacts	No new biological impacts	1.46 acres scrub and chaparral removed; 0 acres riparian and 3 known sensitive species in the general area	0.96 acres scrub and chaparral removed, 0 acres riparian and 3 known sensitive species in the general area	1.87 acres scrub and chaparral removed, 0 acres riparian and 3 known sensitive species in the general area	2.01 acres scrub and chaparral removed, 0 acres riparian and 3 known sensitive species in the general area	2.22 acres scrub and chaparral removed. 0 acres of riparian and 3 known sensitive species in the general area
18. Cultural Resources Impacts	No new cultural resource impacts	1 historic era site in the general area	0 sites	5 sites in the general area	5 sites in the general area	1 historic site at the crossing of Cottonwood Creek

G. EVALUATION OF ROUTE OPTIONS' POTENTIAL IMPACTS

Implementation of any one of the five feasible relocation options would decrease visual impacts and auditory impacts – the sights and sounds – of a high voltage transmission line and a co-located 69-kV transmission line for trail users, as compared to leaving the trail in its current location. Implementation of any one of the five options would create a single trail crossing under these transmission lines. In addition, implementation of any one of the five options would

eliminate a 0.75 mile road-walk on South Boundary Road. For Options “G” and “H” there would be a reduced view of the mining operation on the south facing slope of Morena Butte. These are the advantages of implementing any one of the five feasible relocation options.

Disadvantages of implementing any one of the five feasible relocation options include increased soil disturbance from new trail construction, increased vegetation disturbance from new trail clearing, increased wildlife habitat disturbance, increased potential human interaction with certain wildlife, potential disturbance of cultural resources and cultural sites and increased costs of construction and environmental restoration. The exact amount of soil disturbance varies by optional route, but these amounts are available for investigation in Table 1, above. The same is true for vegetation clearing, wildlife habitat disturbance, wildlife harassment, and potential for cultural resources disturbances: the amounts vary by optional route, but these amounts are available for review in Table 1, above.

Depending on the route selected, the total amount of the “old” trail that would be abandoned and the total amount of restoration varies as shown in Table 1, but for each optional route, the amount of both categories would be greater than if the existing trail were to remain unchanged. Leaving the PCT in its current location retains the original investment in the existing solid rock trail bed on Hauser Mountain. Based on field observations, it may not be feasible to restore any of the old trail bed because of undocumented alien use, which results in keeping existing trails and pathways open and cleared of revegetation as well as creating additional pathways.

Implementation of Option “I” would create a 1.99 mile road-walk on Cottonwood Creek Road, which may not be desirable to PCT travelers, as compared to the 0.75 road-walk on South Boundary Road. Implementation of Option “I” would increase the trail length by 14,148 feet, or 2.68 miles.

If either relocation Options “G” or “H” were adopted, the amount of vertical descent from the 3400-foot contour to Cottonwood Creek and back up to the 3400-foot contour would be reduced and the trail would be shorter, which might be preferable for through hikers who prefer that there are not needless ascents and descents as compared to the existing trail alignment or Options “E” “F” or “I”. Implementation of Options “G” or “H” would require a right of way across private land, or acquisition of private land, and in either case, this would incur greater overall costs and overall greater impacts to private property rights than those created by three crossings of the PCT if left in its current location.

Implementation of Option “I” will most likely require the use of blasting to create a trail over areas of exposed rock. Blasting requires special consideration for human and animal safety and may have seasonal restrictions for nesting birds including Golden Eagle.

6. CONCLUSION

Based on the analysis of all factors considered and displayed in Table 1, SDG&E concludes that construction of any of the five feasible reroute options and restoration of the “old” trail segments would create overall greater impacts than those created by three crossings of the PCT that would occur with the Modified Route D Alternative.

7. REFERENCES

CPUC Vote and Notice of Determination

<http://www.cpuc.ca.gov/environment/info/aspensunrise/D08-12-058.pdf>

Mitigation Monitoring Requirements

<http://www.cpuc.ca.gov/environment/info/aspensunrise/sunrise.htm>

National Trails System Act of 1968, Public Law 90-543, 16 U.S. Code 1241 et. seq., as amended through P.L. 103-145, November 17, 1993

http://www.fs.fed.us/r1/recreation_r1/trails/natl_trails_system_act_1968.pdf

Project Description at CPUC website

<http://www.cpuc.ca.gov/environment/info/aspensunrise/sunrise.htm>

Project Description at SDG&E website

<http://www.sdge.com/sunrisepowerlink/>

Project Modification Report

http://www.cpuc.ca.gov/environment/info/aspensunrise/toc-pmr_determination.htm

Revisions to Mitigation Measures

http://www.sdge.com/sunrisepowerlink/docs/ROD_SDGE_%20SpecialUse.pdf

sanGIS. San Diego County GIS data.

<http://www.sangis.org/>

SDG&E Sunrise Powerlink Project: Home at:

<http://www.cpuc.ca.gov/environment/info/aspensunrise/sunrise.htm>

Sunrise Powerlink Mitigation Monitoring, Compliance, and Reporting Program

http://www.cpuc.ca.gov/environment/info/aspensunrise/mmcrp/mmcrp_main.pdf

USFS Record of Decision (ROD)

http://www.sdge.com/sunrisepowerlink/docs/ROD_SDGE_%20SpecialUse.pdf

U.S. Forest Service, January 1982. Comprehensive Management Plan for the Pacific Crest National Scenic Trail, 142 pages.

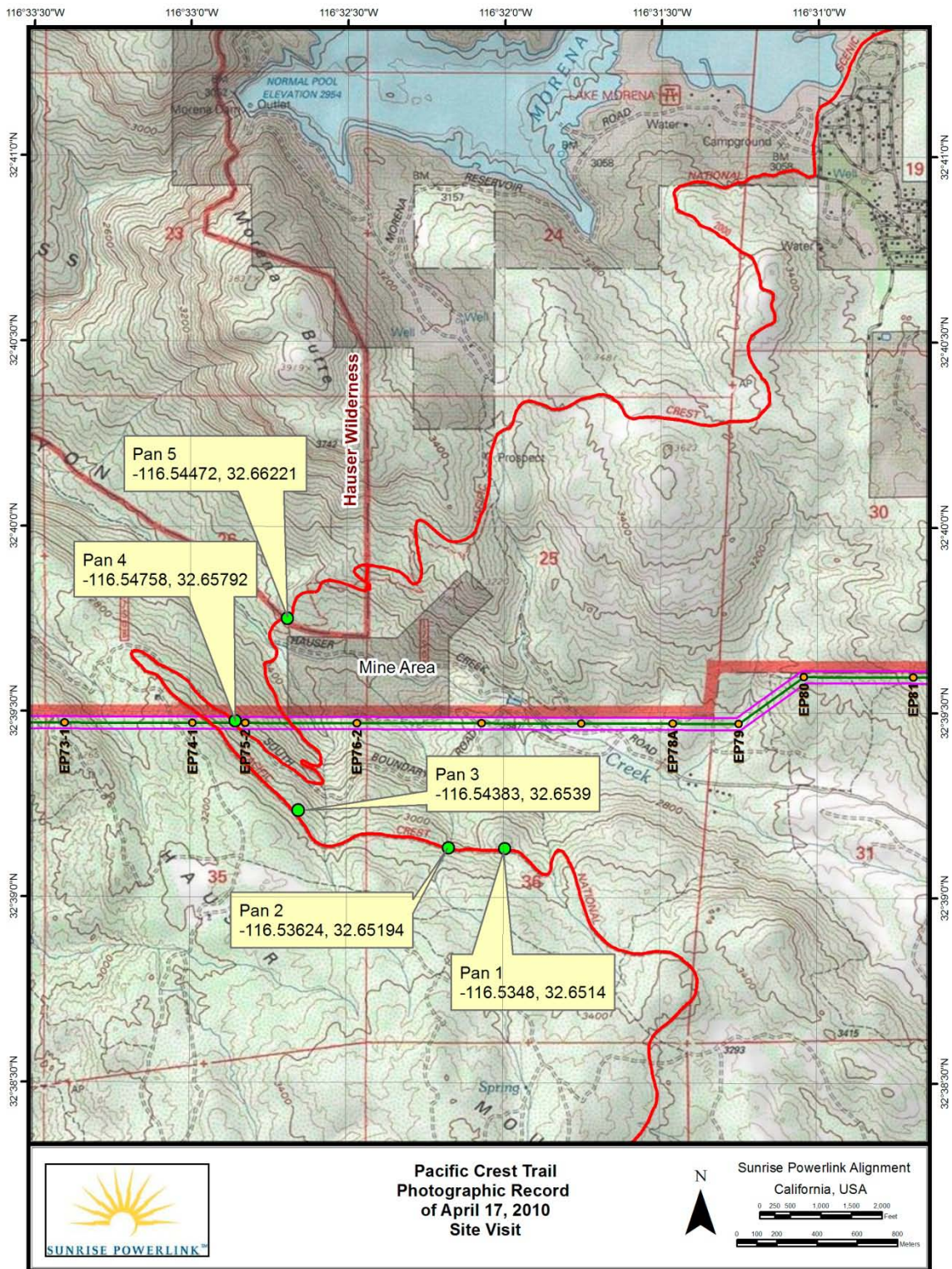
U.S. Forest Service, September 2011. Pacific Crest National Scenic Trail Optimal Location Review Process Guidelines, 15 pages.

U.S. Geologic Survey (USGS) Topographic Map, 1:24,000. Morena Reservoir Quadrangle

Appendix 1

Introduction

On April 17, 2010, Lee Anderson, accompanied by Daniel Walsh, CNF Recreation Technician, and Kermit Johansson, USFS consulting landscape architect, made a site visit to the PCT, including field time in the vicinities of South Boundary Road, Hauser Canyon, Morena Reservoir, and the Southern Terminus Trailhead at the International Border. At South Boundary Road, the PCT is co-located on the road for approximately 0.75-miles. While in the area of South Boundary Road and Hauser Canyon, the field team hiked the PCT south from South Boundary Road for approximately 1.5-miles in order to study the future Sunrise alignment and to take panoramic photographs of the affected landscape. The following provides a map of the location points from which photographs were taken and the various photographs are provided for reference.



Panorama #1 was taken from the PCT looking northwest toward Morena Butte, the tallest mountain in the vicinity, with its steep slopes dotted by granite boulders and rocky outcroppings. Chaparral and coastal sage are the primary vegetative communities in this vicinity. Across the canyon, a large area of mining activity on private land creates a visual scar in this landscape. As the PCT heads north and rises out of the bottom of Hauser Canyon, it follows a series of switchbacks along the left (west) side of the mine.



Panorama #2 was taken from further north on the PCT, looking north toward the mining area.



Panorama #3a was taken from further north on the PCT, looking north toward the mining area. The switchbacks of the PCT are visible as the trails skirts along the west (left) side of the mine area.



Panorama #3b was taken from the same location as Panorama #3a, looking further east up to the flatter landform slopes at the upper end of Hauser Canyon. The light tan soils indicate the location of the access road that leads to the existing 69 kV transmission line. Sunrise will follow the same alignment along the south (right) side of that transmission line.



Panorama #4 was taken from the PCT where it is collocated on South Boundary Road and where Sunrise will cross over the road/trail. The view looks east toward the mining area and the gentle slopes of upper Cottonwood Creek (see photo location map). Conductors of the existing 69 kV line are visible in the lower left of this photograph, crossing against the dark colored vegetation. Once built, Sunrise towers and conductors will head straight east, directly away from this camera position. At the bottom of Hauser Canyon is an existing road with light tan colored soil. This road is just outside the south boundary of Hauser Wilderness. The second road in the photo is South Boundary Road and access roads for the existing 69 kV line. Sunrise towers will be helicopter-constructed in this vicinity. Across the canyon, PCT switchbacks are visible on the left (west) side of the mine.



The field team also visited the bottom of Hauser Canyon and hiked up to the second switchback north of Cottonwood Creek, where the 5th set of panoramic photographs were taken, looking south and uphill to the PCT and the 69 kV line. Panorama #5a looks southeast and uphill to South Boundary Road where the PCT is a “road-walk.” Wood poles of the 69 kV line are barely visible in this photo. Sunrise will be constructed just south of and beyond the transmission line.



Panorama #5b looks to the right of #5a, south and uphill to South Boundary Road, the PCT, and three wood poles of the existing 69 kV line. Chaparral vegetation and boulder outcrops are prominent scenic features in this landscape.



Panorama #5c looks to the right of #5b, southwest and downhill to the bottom of Hauser Canyon. Riparian vegetation provides shade and shelter in the canyon bottom.